



the dedet

Department:  
Economic Development, Environment and Tourism  
MPUMALANGA PROVINCIAL GOVERNMENT

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

(For applicant / EAP to complete)

File Reference Number:

17/2/3/GS-73

Project Title:

The establishment of a 54m high lattice mast – T8954  
Grasdal Farm

Name of Responsible Official:

Mr. Bheki Mndawe

(For official use only)

NEAS Reference Number:

Date Received:

**Kindly note that:**

1. Required information must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. Tables can be extended as each space is filled with typing.
2. Where applicable **black out** the boxes that are not applicable in the form.
3. An incomplete report may be returned to the applicant for revision.
4. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
5. All reports (draft and final) must be submitted to the Department at the address of the relevant **DISTRICT OFFICE** given below or by delivery thereof to the relevant **DISTRICT OFFICE**. Should the reports not be submitted at the relevant district office, they will not be considered.
6. No faxed or e-mailed reports will be accepted.
7. One copy of the draft version of this report must be submitted to the relevant district office. The case officer may request more than one copy in certain circumstances.
8. **Copies of the draft report must be submitted to the relevant State Departments / Organs of State for comment.** In order to give effect to Regulation 56(7), proof of submission/delivery of the draft documents to the State Departments / Organs of State must be attached to the draft version of this report.
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. All specialist reports must be appended to this document, and all specialists must complete a declaration of independence, which is obtainable from the Department.

## SECTION A: BACKGROUND INFORMATION

<b>Project applicant:</b>	MTN (Pty) Ltd		
<b>Trading name (if any):</b>	MTN (Pty) Ltd		
<b>Contact person:</b>	Marius Jansen van Rensburg		
<b>Physical address:</b>	Building 1 Commerce Square, 39 Rivonia Road , Sandton		
<b>Postal address:</b>	Building 1 Commerce Square, 39 Rivonia Road , Sandton		
<b>Postal code:</b>	0046	<b>Cell:</b>	083 260 5702
<b>Telephone:</b>	011 911 5452	<b>Fax:</b>	011 911 5460
<b>E-mail:</b>	Rensbu_m@mtn.co.za		

<b>Environmental Assessment Practitioner:</b>	Torbiose Solutions		
<b>Contact person:</b>	Wilbert van't Foort		
<b>Postal address:</b>	P.O. Box 32017, Totiusdal		
<b>Postal code:</b>	0134	<b>Cell:</b>	083 560 8410
<b>Telephone:</b>	(012) 804 1504	<b>Fax:</b>	086 690 0441 / 086 690 0468
<b>E-mail:</b>	admin@torbiousolutions.co.za		
<b>Qualifications:</b>	9 Years Environmental Impact Assessment evaluations		
<b>Professional affiliations (if any):</b>	-		

## SECTION B: DETAILED DESCRIPTION OF THE PROPOSED ACTIVITY

Describe the activity, which is being applied for, in detail. The description must include the size of the proposed activity (or in the case of linear activities, the length) and the size of the area that will be transformed by the activity.

**Regulation 546 Activity 3: The Establishment of a new 54m high MTN (Pty) Ltd telecommunication lattice mast painted red & white (T8954 Grasdal Farm) including a new 81m<sup>2</sup> telecommunication base station, equipment containers and associated equipment.**

## SECTION C: PROPERTY/SITE DESCRIPTION

Provide a full description of the preferred site alternative (farm name and number, portion number, registration division, erf number etc.):

**Portion 1 of the farm Grasdal 94 IT**

Indicate the position of the activity using the latitude and longitude of the centre point of the preferred site alternative. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate

accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection. The position of alternative sites must be indicated in Section B of this document.

Latitude (S):		Longitude (E):	
26°	18.282'	30°	21.017'

**In the case of linear activities:**

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

Latitude (S):		Longitude (E):	
0	'	0	'
0	'	0	'
0	'	0	'

**SITE OR ROUTE PLAN**

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

The site or route plans must be at least A3 and must include the following:

- 6.1 a reference no / layout plan no., date, and a legend / land use table
- 6.2 the scale of the plan which must be at least a scale of 1:2000;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all indigenous trees taller than 1.8 metres and all vegetation of conservation concern (protected, endemic and/or red data species);
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - watercourses and wetlands;
  - the 1:100 year flood line;
  - ridges;
  - cultural and historical features;
- 6.9 10 metre contour intervals

**SITE PHOTOGRAPHS**

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached as an appendix to this form.

**FACILITY ILLUSTRATION**

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

## SECTION D: BASIC ASSESSMENT REPORT

Prepare a basic assessment report that complies with Regulation 22 of the Environmental Impact Assessment Regulations, 2010. The basic assessment report must be attached to this form and must contain all the information that is necessary for the competent authority to consider the application and to reach a decision contemplated in Regulation 25, and must include:

(Checklist  
for official  
use only)

1.	A description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.	
2.	An identification of all legislation and guidelines that have been considered in the preparation of the basic assessment report.	
3.	Details of the public participation process conducted in terms of Regulation 21(2)(a) in connection with the application, including – (i) the steps that were taken to notify potentially interested and affected parties of the proposed application; (ii) proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given; (iii) a list of all persons, organisations and organs of state that were registered in terms of regulation 55 as interested and affected parties in relation to the application; and (iv) a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;	
4.	A description of the need and desirability of the proposed activity;	
5.	A description of any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community that may be affected by the activity;	
6.	A description and assessment of the significance of any environmental impacts, including— (i) cumulative impacts, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the activity; (ii) the nature of the impact; (iii) the extent and duration of the impact; (iv) the probability of the impact occurring; (v) the degree to which the impact can be reversed; (vi) the degree to which the impact may cause irreplaceable loss of resources; and (vii) the degree to which the impact can be mitigated;	
7.	Any environmental management and mitigation measures proposed by the EAP;	
8.	Any inputs and recommendations made by specialists to the extent that may be necessary;	
9.	A draft environmental management programme containing the aspects contemplated in regulation 33;	

10. A description of any assumptions, uncertainties and gaps in knowledge;	
11. A reasoned opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation	
12. Any representations, and comments received in connection with the application or the basic assessment report;	
13. The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants;	
14. Any responses by the EAP to those representations, comments and views;	
15. Any specific information required by the competent authority; and	
16. Any other matters required in terms of sections 24(4)(a) and (b) of the Act.	

**The basic assessment report must take into account -**

- (a) any relevant guidelines; and
- (b) any departmental policies, environmental management instruments and other decision making instruments that have been developed or adopted by the competent authority in respect of the kind of activity which is the subject of the application.

\* In terms of Regulation 22(4), the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in subregulation 22(2)(h), exist.

Have reasonable and feasible alternatives been identified, described and assessed?	YES	<b>NO</b>
If NO, the motivation and investigation required in terms of Regulation 22(4) must be attached as an Appendix to this document		

# 1. A DESCRIPTION OF THE ENVIRONMENT

This section describes the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity in terms of *Regulation 22 sub-regulation 2 (d) of the EIA Regulations, 2010.*

## PHYSICAL ENVIRONMENT

### Gradient of the Site

Indicate the general gradient of the site.

#### Alternative S1:

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

#### Alternative S2 (if any): Applied for Exemption

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

#### Alternative S3 (if any): Applied for Exemption

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

### Location in landscape

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

- 2.1 Ridgeline
- 2.2 Plateau
- 2.3 Side slope of hill/mountain
- 2.4 Closed valley
- 2.5 Open valley
- 2.6 Plain
- 2.7 Undulating plain / low hills
- 2.8 Dune
- 2.9 Seafront

### Groundwater, Soil and Geological stability of the site

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

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO

Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

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

## BIOLOGICAL ENVIRONMENT

### Groundcover

Indicate the types of groundcover present on the site:

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

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

If any of the boxes marked with an “<sup>E</sup>” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

## SOCIAL AND ECONOMICAL ENVIRONMENT

### Land use character of surrounding area

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

5.1 Natural area

**5.2 Low density residential**

5.3 Medium density residential

5.4 High density residential

5.5 Informal residential<sup>A</sup>

5.6 Retail commercial & warehousing

5.7 Light industrial

5.8 Medium industrial<sup>AN</sup>

5.9 Heavy industrial<sup>AN</sup>

5.10 Power station

- 5.11 Office/consulting room
- 5.12 Military or police base/station/compound
- 5.13 Spoil heap or slimes dam<sup>A</sup>
- 5.14 Quarry, sand or borrow pit
- 5.15 Dam or reservoir
- 5.16 Hospital/medical centre
- 5.17 School
- 5.18 Tertiary education facility
- 5.19 Church
- 5.20 Old age home
- 5.21 Sewage treatment plant<sup>A</sup>
- 5.22 Train station or shunting yard<sup>N</sup>
- 5.23 Railway line<sup>N</sup>
- 5.24 Major road (4 lanes or more)<sup>N</sup>
- 5.25 Airport<sup>N</sup>
- 5.26 Harbour
- 5.27 Sport facilities
- 5.28 Golf course
- 5.29 Polo fields
- 5.30 Filling station<sup>H</sup>
- 5.31 Landfill or waste treatment site
- 5.32 Plantation
- 5.33 Agriculture**
- 5.34 River, stream or wetland
- 5.35 Nature conservation area
- 5.36 Mountain, koppie or ridge
- 5.37 Museum
- 5.38 Historical building
- 5.39 Protected Area
- 5.40 Graveyard
- 5.41 Archaeological site
- 5.42 Other land uses (describe) – Farmland**

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity? **No**

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? **No**

If YES, specify and explain:

If YES, specify:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity. **No**

If YES, specify and explain:

If YES, specify:



## Waste, effluent, emission and noise management

### (a) Solid waste management

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

YES	NO
-----	----

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

2m <sup>3</sup> (6 weeks construction period only)
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How will the construction solid waste be disposed of (describe)?

**Loaded and transported by a suitable, roadworthy commercial vehicle to the nearest registered landfill site.**

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

**At a suitable registered landfill site within the immediate area.**

Will the activity produce solid waste during its operational phase?

YES	NO
-----	----

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

m <sup>3</sup>
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How will the solid waste be disposed of (describe)?

-

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

-

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

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

YES	NO
-----	----

If yes, inform the competent authority and request a change to an application for scoping and EIA.

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

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

### (b) Liquid effluent

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

YES	NO
-----	----

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

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

Yes	NO
-----	----

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

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

YES	NO
-----	----

If yes, provide the particulars of the facility:

Facility name:

-
---

Contact person:

-
---

Postal address:

-
---

Postal code:

-
---

Telephone:

-
---

Cell:

-
---

Telephone:

-
---

E-mail:

-
---

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

waste water, if any:

-
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**(c) Emissions into the atmosphere**

Will the activity release emissions into the atmosphere?

YES	NO
YES	NO

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

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

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

**Non-ionised electromagnetic fields with power density < 10W/m<sup>2</sup> (Department of Health Guidelines based on International Commission on Non-Ionising Radiation Protection (ICNIRP) and World Health Organisation (WHO) guidelines.**

**(d) Generation of noise**

Will the activity generate noise?

YES	NO
YES	NO

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

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

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

**Minimum noise generation will emanate from the installed air conditioners at a <60dB noise level. The level of noise generation is well within the acceptable norm and will not cause a disturbance to the surrounding environment.**

**(e) Water Use**

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

municipal	water board	groundwater	river, stream, dam or lake	other	<b>the activity will not use water</b>
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month:

litres	
YES	NO

Does the activity require a water use permit from the Department of Water Affairs?

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

**(f) Energy Efficiency**

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

**High technological mobile telecommunication operating systems are in principle designed for minimum, cost effective energy consumption in order to preserve resources and to optimise the financial yield generated by the base station.**

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

**Alternative energy sources have not been taken into account in the design of the activity.**

## CULTURAL ENVIRONMENT

### Cultural/Historical Features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES	NO
	Uncertain	
If YES, explain:		
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		
Briefly explain the findings of the specialist:		
Will any building or structure older than 60 years be affected in any way?	YES	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO
If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.		

### 2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES – IN TERMS OF Regulation 22 sub-regulation 2 (e) of the EIA Regulations, 2010

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

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act (NEMA) No. 107 of 1998 & related regulations & guidelines	Mpumalanga Province Department of Economic Development, Environment and Tourism	27/11/1998
Civil Aviation Act, 2009 (Act No. 13 of 2009)	South African Civil Aviation Authority	2009
Approval in terms of town planning schemes and/or National Building Regulations	Gert Sibande District Municipality (Msukaligwa Local Municipality)	2007
Occupational Health and Safety Act (No. 85 of 1993)	Department of Labour	1993
National Veld and Forest Fire Act (No. 101 of 1998)	Department of Water and Environmental Affairs	1998
National Heritage Resources Act (No. 25 of 1999)	South African Heritage Resources Agency	1999

### 3. PUBLIC PARTICIPATION – IN TERMS OF *Regulation 22 sub-regulation 2 (f) of the EIA Regulations, 2010*

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

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  - (i) the site where the activity to which the application relates is or is to be undertaken; and
  - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
  - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  - (v) the municipality which has jurisdiction in the area;
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
  - (i) one local newspaper; or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  - (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

## **Content of Advertisements and Notices**

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
  - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
  - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
  - (iii) the nature and location of the activity to which the application relates;
  - (iv) where further information on the application or activity can be obtained; and
  - (v) the manner in which and the person to whom representations in respect of the application may be made.

## **Placement of Advertisements and Notices**

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

Advertisements and notices must make provision for all alternatives.

## **Determination of Appropriate Measures**

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

## **Comments and response report**

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

## Authority Participation

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input.

List of authorities informed:

<b>Msukaligwa Local Municipality</b> <b>Gert Sibande District Municipality</b> <b>Ward Councillor</b> <b>South African Civil Aviation Authority</b> <b>South Africa Historical Resources Agency</b>
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List of authorities from whom comments have been received:

<b>South African Civil Aviation Authority</b>
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## Consultation with other Stakeholders

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

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?

YES	NO
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If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

The SACAA requires day & night markings: the 54m high mast has to be painted red & white with red navigation lights on top of the mast.
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## 4. NEED AND DESIRABILITY– IN TERMS OF *Regulation 22 sub-regulation 2 (g) of the EIA Regulations, 2010*

### ACTIVITY MOTIVATION

#### 1(a) Socio-economic value of the activity

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

R 500 000
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What is the expected yearly income that will be generated by or as a result of the activity?

Unknown
---------

Will the activity contribute to service infrastructure?

YES	NO
-----	----

Is the activity a public amenity?

YES	NO
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How many new employment opportunities will be created in the development phase of the activity?

0
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What is the expected value of the employment opportunities during the development phase?

R0
----

What percentage of this will accrue to previously disadvantaged individuals?

0%
----

How many permanent new employment opportunities will be created during the operational phase of the activity?	<b>0</b>
What is the expected current value of the employment opportunities during the first 10 years?	<b>R0</b>
What percentage of this will accrue to previously disadvantaged individuals?	<b>0%</b>

**(b) Need and desirability of the activity**

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

<b>NEED:</b>			
1.	Was the relevant provincial planning department involved in the application?	<b>YES</b>	NO
2.	Does the proposed land use fall within the relevant provincial planning framework?	<b>YES</b>	NO
3.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		
	-		

<b>DESIRABILITY:</b>			
1.	Does the proposed land use / development fit the surrounding area?	<b>YES</b>	<b>NO</b>
2.	Does the proposed land use / development conform to the relevant structure plans, SDF and planning visions for the area?	<b>YES</b>	NO
3.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	<b>YES</b>	NO
4.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation: The surrounding area is farm land with open grass land and tall trees on selected areas. The proposed site falls within an open grassveld area. This means the mast will have a high visual impact as it will stand out against the sky background on the short to medium distance. Although the mast will be highly visible from the short to medium distance, the significance of the impact is considered to be low due to the low amount of people who will be exposed to the mast visually. Thus, although the structure doesn't fit in with the surrounding area from a visibility point of view, it is modern day technology that will improve the communication network and is necessary infrastructure similar to the electricity or telephone lines in the area.		
5.	Will the proposed land use / development impact on the sense of place?	<b>YES</b>	NO
6.	Will the proposed land use / development set a precedent?	YES	<b>NO</b>
7.	Will any person's rights be affected by the proposed land use / development?	YES	<b>NO</b>
8.	Will the proposed land use / development compromise the "urban edge"?	YES	<b>NO</b>
9.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation. The sense of place or esthetical value of the environment will be negatively affected by the visibility of the structure. However, the telecommunication mast is identified as necessary modern infrastructure to improve telecommunication in the area. It is further argued that the possible negative visual impact is outweighed by the positive benefits of the mast. <ul style="list-style-type: none"> <li>• A 54m high telecommunication mast will have a negative visual impact</li> </ul>		

on the surrounding environment. Although much can be done to disguise lower structures or masts, very few can be done to hide a 54m high mast. The South Africa Civil Aviation Authority prescribe that all masts above 45m must be marked with day and night markings, *i.e.* red and white paint with red lights on top. This is required for tall structures to prevent aircraft accidents. Unfortunately, masts that need to be highly visible from the air to prevent aircraft accidents cannot be disguised easily to decrease visibility from the ground. The only long term solution is to plant tall trees around the mast to decrease visibility of the mast from the ground.

- The 54m high lattice mast painted red and white will be highly visible from the air and from the ground on the short to medium range. The design of the mast cannot be disguised as a tree because of the SACAA required day and night markings. A tree type mast cannot be painted red and white. The only other possible design alternative would be a 54m high monopole type mast painted red and white. This design would result in a significantly higher visual impact because of the lower blending capability of the more solid type structure against the sky background. The proposed lattice type mast will have a lower visual impact on the medium to long range due to the higher blending capability of the more transparent type structure against the sky background. The monopole design would also not be suitable for this application due to the higher limitations with regard to antennae placement and associated supply cables as well as lower wind load capacity on a monopole type mast. The lattice type mast is more suitable for the required antennae and associated equipment in terms of space and wind load capacity.
- The significance of the visual impact will further be determined by the amount of people who are exposed to the visibility of the mast:
  1. The short range visual impact is limited to the local residents on the property (low density residential), the staff working on the farm and the travellers using the Chrissiesmeer road to Lothair. The short range visual impact is high due to the high visibility of the mast but considered to be of low significance due to low amount of people who are exposed to it.
  2. The medium range impact is limited to the same individuals as the short range impact. The medium range visual impact is high but considered to be of low significance due to the small amount of people who are exposed to it.
  3. The long range visual impact includes the same individuals as the short and medium range impact as well as travellers on the N17. Due to the more transparent type of mast (lattice structure), the blending capability against the sky background increases with distance away from the mast. The visual impact of the mast on the N17 is considered to be of low significance as it is more than 5km from the road. Further blending capability is enhanced by the surrounding vegetation and topography of the landscape. Therefore the significance of the long range visual impact is considered to be low.

Overall significance of visual impact on the short, medium and long range is considered to be low due to the relatively low amount of people exposed to the mast, the screening of the mast by surrounding vegetation, topography and manmade structures as well as the high blending capability of the more transparent type structure against the sky background.



**5. ALTERNATIVES– IN TERMS OF Regulation 22 sub-regulation 2 (h) of the EIA Regulations, 2010**

**FEASIBLE AND REASONABLE ALTERNATIVES – Please refer to the motivation that no feasible and reasonable alternatives exists in this instance attached in Appendix G of this Basic Assessment Report.**

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

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

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

**ACTIVITY POSITION**

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

**Latitude (S):                      Longitude (E):**

**Alternative:**

Alternative S1<sup>1</sup> (preferred or only site alternative)

Alternative S2 (if any)

Alternative S3 (if any)

<b>26°</b>	<b>18.282'</b>	<b>30°</b>	<b>21.017'</b>
0	'	0	'
0	'	0	'

**In the case of linear activities:**

**Alternative:**

Alternative S1 (preferred or only route alternative)

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

**Latitude (S):                      Longitude (E):**

0	'	0	'
0	'	0	'

<sup>1</sup> “Alternative S..” refer to site alternatives.

- End point of the activity
- |   |   |   |   |
|---|---|---|---|
| 0 | € | 0 | € |
|---|---|---|---|
- Alternative S2 (if any)
- Starting point of the activity
  - Middle/Additional point of the activity
  - End point of the activity
- |   |   |   |   |
|---|---|---|---|
| 0 | € | 0 | € |
| 0 | € | 0 | € |
| 0 | € | 0 | € |
- Alternative S3 (if any)
- Starting point of the activity
  - Middle/Additional point of the activity
  - End point of the activity
- |   |   |   |   |
|---|---|---|---|
| 0 | € | 0 | € |
| 0 | € | 0 | € |
| 0 | € | 0 | € |

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

**A. PHYSICAL SIZE OF THE ACTIVITY**

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

**Alternative:**

Alternative A1<sup>2</sup> (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

or, for linear activities:

**Size of the activity:**

<b>81m<sup>2</sup></b>
m <sup>2</sup>
m <sup>2</sup>

**Length of the activity:**

**Alternative:**

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

m
m
m

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

**Alternative:**

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

**Size of the site/servitude:**

<b>1198.6109 H</b>
H
m <sup>2</sup>

**B. SITE ACCESS**

Does ready access to the site exist?

<b>YES</b>	<b>NO</b>
-	

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

Describe the type of access road planned:

-
---

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

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

### C. SITE OR ROUTE PLAN

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

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.11 the positions from where photographs of the site were taken.

### D. SITE PHOTOGRAPHS

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

### E. FACILITY ILLUSTRATION

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

### F. ADVANTAGES AND DISADVANTAGES OF THE PROPOSAL AND ALTERNATIVES

ADVANTAGES:			
1.	Will the land use / development have any benefits for society in general?	YES	NO

2.	Explain: <b>The immediate benefits of the activity to society in general can be summarized as follows:</b> <ul style="list-style-type: none"> <li>• <b>Increased and improved national MTN coverage footprint enabling users to communicate on the MTN network where ever they are.</b></li> <li>• <b>Additional fulfilment of one of government’s objectives to ensure the establishment of national communication network grids and services as part of a sustainable economic growth pattern.</b></li> </ul>		
	-		
	-		
3.	Will the land use / development have any benefits for the local communities where it will be located?	<b>YES</b>	NO
4.	Explain: <b>The motivation and benefits to society in general above apply to the local community directly. It will furthermore ensure that the communication capability and capacity of the local community will keep pace with the ever growing and availability of communication facilities nationwide.</b>		
<b>DISADVANTAGES:</b>			
1.	Will the land use / development have any disadvantages for society in general?	<b>YES</b>	NO
	Explain: Aesthetics: The sense of place or esthetical value of the environment will be negatively affected by the visibility of the structure. However, the telecommunication mast is identified as necessary modern infrastructure to improve telecommunication in the area. Due to the relatively low number of people travelling through or working in the area surrounding the mast, the disadvantage of the visual impact is considered to be low. It is further argued that the possible negative visual impact is outweighed by the positive benefits of the mast. Therefore the aesthetical/visual impact is considered to be of low significance.		
2.	Will the land use / development have any disadvantages for the local communities where it will be located?	YES	<b>NO</b>
	Explain: The motivation and benefits to society in general also apply to the local community directly. It will furthermore ensure that the communication capability and capacity of the local community will keep pace with the ever growing and availability of communication facilities nationwide.		

**6 & 7. IMPACT ASSESSMENT– IN TERMS OF Regulation 22 sub-regulation 2 (i) – (j) of the EIA Regulations, 2010**

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

**ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES**

List the main issues raised by interested and affected parties.

**Requested all current information on the proposed development, specifically the map and alternatives with specific reference to the type of mast and if anchoring cables are required for the mast.**

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

Registered as I&AP.

Sent map with information on the request for exemption on the alternatives.

Sent information regarding the type of mast without anchoring cables.

Sent copy of Draft BAR for comments. No further comments received on the Draft BAR.

Sent copy of Final BAR for comments.

## **IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES**

List the potential direct, indirect and cumulative property/ activity/ design/ technology/ operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

### **IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE**

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, including impacts relating to the choice of site alternatives.

#### **Alternative S1:**

*Direct impacts:*

##### **PHYSICAL:**

1. Safety aspects: The following safety aspects were taken into consideration in planning the base station:
  - Position & height in terms of official airports, helipads and air traffic routes as determined by SACAA. Mitigated in terms of the SACAA prescribing day & night markings to prevent aircraft accidents.
  - General installation safety for the general public, owners, technicians etc.: Engineering services incorporated in the design of the mast, foundations and other design and construction safety aspects of the base station;
  - Base station to be surrounded with a 2.4m high steel palisade fence to prevent unauthorised access to the base station area and mast.
2. Visual impact: Evaluation of structure type, height & position, taking into consideration the purpose and objective of the planned activity in terms of mobile telecommunication coverage area and quality of coverage. Establishment of 54m high lattice telecommunication mast painted red & white selected as most appropriate based on:
  - Investigation of sharing existing infrastructure:
    - The specific site requirements needed by MTN are:
      - Physical space for two sets of antennae (=6), and 12 feeder cables;
      - Wind load capacity for above mentioned equipment;
      - Minimum height of 54m to reach required coverage objectives;
      - Space and load capacity for future upgrading or advances in technology.
    - No existing facility or infrastructure within range that can fulfil the required capacity in terms of the coverage objectives.
  - 54m height required to achieve maximum coverage objectives in the specific environment and therefore reducing the need for additional base stations to

- achieve/maintain the same coverage within the coverage target area;
- Lattice type structure suitable to fulfil the coverage objectives of the base station due to the coverage range required and the flexibility of utilising the mast height for varying antennae installation configurations due to the specific characteristics of the area;
- Lattice design mast painted red & white provides maximum mitigation from the air to prevent aircraft accidents by increased visibility. Red & white lattice mast provides low mitigation of the visual impact from the ground on the short to medium range viewpoints due to the high visibility of the structure. The lattice structure provides high mitigation on the long range due to the high blending capability of the more transparent type mast against the sky background. The overall significance of the actual visual impact of the mast is considered to be low due to the low population density in the direct area surrounding the mast and will further be screened by the topography, the surrounding vegetation and buildings.
- 2.4m high steel palisade fence to provide maximum mitigation of the short to long range visual impact of the telecommunication base station due to the blending capability with the railway and station.

**BIOLOGICAL:**

No expected or proven biological impacts will result from the proposed development. The base station is situated in an area that is already disturbed by human activity. No endangered plants or tall trees will need to be removed from the 81m<sup>2</sup> footprint site.

**SOCIO-ECONOMIC:**

Site position has been determined based on the requirement to deliver mobile telecommunication signal coverage and availability within the target area enabling the residents, business entities and the general public within the area to select and maintain quality telecommunication services and connectivity via the MTN mobile telecommunication network. MTN (Pty) Ltd is obliged to fulfil their licence terms and conditions, as determined by government, in providing mobile telephony and related services on a reliable national network grid.

*Indirect impacts:*

The property coverage and development potential has been taken into consideration in selecting the position of the activity. The exact position of the activity on the property was determined, in consultation with the property owner, to minimise the possible impact on existing operations and future development plans or phases. Therefore the commercial value of the property is maintained. Electricity will be supplied from the existing electricity supply grid. Minimum usage due to economical and energy efficient design.

*Cumulative impacts:*

No cumulative impacts relating to the design and planning phases are applicable.

**Alternative S2**

**Applied for exemption**

**Alternative S3**

**Applied for exemption.**

**No-go alternative (compulsory)**

*Direct impacts:*

- Status quo: Unacceptable mobile telecommunication coverage and quality standards on the MTN (Pty) Ltd network within the target area;
- Status quo: Limitations in terms of mobile telecommunication network choice

<p>for residents, businesses and the general public;</p> <ul style="list-style-type: none"> <li>No visual impact on the base station, specifically the mast structure, on the short, medium and long distance visual impact.</li> </ul> <p><i>Indirect impacts:</i></p> <ul style="list-style-type: none"> <li>Non performance in terms of the MTN (Pty) Ltd license conditions as prescribed by government.</li> <li>Potential loss of income for businesses and individuals in the area currently contracted on the MTN (Pty) Ltd network as well as potential losses on commercial opportunities, clients etc. for the network operator.</li> </ul> <p><i>Cumulative impacts:</i></p> <ul style="list-style-type: none"> <li>Potential negative economical impact on the mobile telecommunication coverage target area.</li> <li>MTN (Pty) Ltd not fulfilling the applicable required license conditions.</li> <li>Incomplete MTN (Pty) Ltd mobile telecommunication network.</li> </ul>
---

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

<b>Alternative S1</b>	<b>Alternative S2</b>	<b>Alternative S3</b>
<ol style="list-style-type: none"> <li><b>1. Prescribed SACAA day &amp; night markings to prevent aircraft accidents.</b></li> <li><b>2. Lattice type mast painted red &amp; white to provide maximum mitigation on visual impact.</b></li> <li><b>3. 2.4m high steel palisade fence enclosure to prevent unauthorised access to the mast.</b></li> <li><b>4. Provision for infrastructure sharing.</b></li> </ol>	<b>Applied for exemption</b>	<b>Applied for exemption.</b>

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase:

**Alternative A1**

<p><i>Direct impacts:</i>  <b>There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.</b></p> <p><i>Indirect impacts:</i>          -</p> <p><i>Cumulative impacts:</i>          -</p>
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**Alternative A2**

<b>Applied for exemption</b>
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**Alternative A3**

<b>Applied for exemption.</b>
-------------------------------

**No-go alternative (compulsory)**

<p><i>Direct impacts:</i>  <b>Status quo</b></p> <p><i>Indirect impacts:</i>  <b>Status quo</b></p>
---

**Cumulative impacts:****Status quo**

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

**Alternative A1:****Alternative A2:****Alternative A3:**

**There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.**

**Applied for exemption**

**Applied for exemption.**

**IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the construction phase:

**Alternative S1***Direct impacts:*

Construction of the telecommunication base station will extend over a period of approximately 6 weeks only;

1. Increased activity and traffic at the property including material delivery and work team movements.
2. Minimum disruption of operations within the vicinity as the base station is located in an area with low activity.
3. Increased workplace accident risk due to the mere occurrence of the activity.
4. Creation of dust and disturbance of specific soil layers due to earthwork activities.
5. Erosion and contamination of topsoil.
6. Generation of standard building rubble & the transportation thereof to the appropriate licensed landfill site.
7. Generation of construction noise created by earthwork machinery and other applicable tooling used for the establishment of the base station.

*Indirect impacts:*

Additional waste at appropriately certified dumping site.

*Cumulative impacts:*

Construction activity.

**Alternative S2**

**Applied for exemption**

**Alternative S3**

**Applied for exemption.**

**No-go alternative (compulsory)***Direct impacts:*

**Status quo**

*Indirect impacts:*

**Status quo**

*Cumulative impacts:*

**Status quo**

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

**Alternative S1****Alternative S2****Alternative S3**

1. Specific arrangements

**Applied for exemption**

**Applied for exemption.**



<p>with property owner to minimise disruption of normal activities.</p> <ol style="list-style-type: none"> <li>2. Implement &amp; maintain specific construction site safety measures in accordance with the applicable clauses of the OHS Act.</li> <li>3. Implement specific construction measures to prevent dust e.g. regular sprinkling bare areas with water as needed.</li> <li>4. Prevent and minimise construction waste generation. Transport construction waste on a regular basis to the appropriate landfill site.</li> <li>5. Store topsoil separately for appropriate landscaping distribution on completion of construction. Prevent pollution and contamination and erosion of topsoil by covering it with water proof covering when experiencing rainy or windy conditions. Service construction vehicles and machinery before construction to ensure that no oil or fuel will leak onto soil.</li> <li>6. Minimise noise generation to absolute minimum. Service vehicles and machinery before start of construction to ensure proper working condition. Construction activities should not be allowed outside normal working hours or on Sundays and Public Holidays.</li> </ol>		
--	--	--

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the construction phase:

**Alternative A1**

***Direct impacts:***

**There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.**

**Indirect impacts:**

-

**Cumulative impacts:**

-

**Alternative A2**

**Applied for exemption**

**Alternative A3**

**Applied for exemption.**

**No-go alternative (compulsory)**

**Direct impacts:**

**Status quo.**

**Indirect impacts:**

**Status quo.**

**Cumulative impacts:**

**Status quo.**

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

**Alternative A1:**

**Alternative A2:**

**Alternative A3:**

**There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.**

**Applied for exemption**

**Applied for exemption.**

## **IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the operational phase:

**Alternative S1**

**Direct impacts:**

1. Noise generation by air conditioning units and by backup generator if electricity supply fails.
2. Non-ionising electromagnetic fields emissions on allocated frequency.
3. Increase in potential air traffic obstacles.
4. Visual impact of the 54m lattice mast painted red & white on short, medium and long distance observation.
5. Increased mobile telecommunication network capacity.

**Indirect impacts:**

1. Increased use of quality telecommunication services with the appropriate revenue increase and potential increased economic activity and financial returns.

**Cumulative impacts:**

1. Increased telecommunication infrastructure availability and quality.

**Alternative S2**

**Applied for exemption**

**Alternative S3**

**Applied for exemption.**

**No-go alternative (compulsory)**

<p><b>Direct impacts:</b>  <b>Status quo.</b>  <b>Indirect impacts:</b>  <b>Status quo.</b>  <b>Cumulative impacts:</b>  <b>Status quo.</b></p>
---

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

<b>Alternative S1</b>	<b>Alternative S2</b>	<b>Alternative S3</b>
<p>1. Scheduled preventative maintenance program implementation and control.</p> <p>2. Maintain level of non-ionising electromagnetic field emissions within International Commission on Non-Ionising Radiation Protection (ICNIRP) &amp; World Health Organisation (WHO) guidelines.</p> <p>3. Installation/application and maintenance of day &amp; night markings as prescribed by SACAA to reduce potential air traffic safety impact.</p> <p>4. Lattice design mast painted red &amp; white provides maximum mitigation due to the high blending capability of the transparent type structure against the sky background. The significance of the visual impact of the mast is considered to be low due to the low population density in the direct area surrounding the mast and will further be screened by the buildings, surrounding vegetation and topography.</p>	<p><b>Applied for exemption</b></p>	<p><b>Applied for exemption.</b></p>

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the operational phase:

<p><b>Alternative A1</b>  <b>Direct impacts:</b></p>
--

There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.  
*Indirect impacts:*  
 -  
*Cumulative impacts:*  
 -

**Alternative A2**

Applied for exemption

**Alternative A3**

Applied for exemption.

**No-go alternative (compulsory)**

*Direct impacts:*  
 Status quo.  
*Indirect impacts:*  
 Status quo.  
*Cumulative impacts:*  
 Status quo.

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

<b>Alternative A1</b>	<b>Alternative A2</b>	<b>Alternative A3</b>
There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.	Applied for exemption	Applied for exemption.

**IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE**

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the decommissioning or closure phase:

**Alternative S1**

*Direct impacts:*  
 1. Establishment of new mobile telecommunication infrastructure elsewhere to fill the network coverage gap caused by decommissioning.  
 2. Creation of waste due to decommissioning.  
 3. Disturbed area.  
*Indirect impacts:*  
 Potential waste of resources.  
*Cumulative impacts:*  
 None

**Alternative S2**

Applied for exemption

**Alternative S3**

Applied for exemption.

**No-go alternative (compulsory)**

*Direct impacts:*  
 Status quo.  
*Indirect impacts:*  
 Status quo.

**Cumulative impacts:**  
**Status quo.**

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

<b>Alternative S1</b>	<b>Alternative S2</b>	<b>Alternative S3</b>
<b>1. Ensure planned base station fulfils planned and required network parameters i.e. prevent decommissioning.</b> <b>2. If decommissioning is required the site area must be rehabilitated to its original state.</b>	<b>Applied for exemption</b>	<b>Applied for exemption.</b>

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the decommissioning and closure phase:

**Alternative A1**  
**There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.**  
**Direct impacts:**  
 -  
**Indirect impacts:**  
 -  
**Cumulative impacts:**  
 -

**Alternative A2**  
**Applied for exemption**

**Alternative A3**  
**Applied for exemption.**

**No-go alternative (compulsory)**  
**Direct impacts:**  
**Status quo.**  
**Indirect impacts:**  
**Status quo.**  
**Cumulative impacts:**  
**Status quo.**

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

<b>Alternative A1</b>	<b>Alternative A2</b>	<b>Alternative A3</b>
<b>There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.</b>	<b>Applied for exemption</b>	<b>Applied for exemption.</b>

## ENVIRONMENTAL IMPACT STATEMENT

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

### Alternative 1

The positive impact of the proposed activity will, taking into consideration the implementation of mitigating measures to minimise the negative impacts on the environment, have a positive overall impact.

Physical impacts:

1. The negative impacts during the construction phase, as indicated earlier in the assessment report, are temporary and will not have a long term effect on the proposed development or immediate area. These impacts will last for a maximum of approximately 6 weeks only.
2. The planning & design of the telecommunication base station is considerate of operational and public demand needs and is done on the principle of minimising any negative impacts on the receiving environment.
3. The permanent visual impact of the lattice telecommunication mast is the highest contributing negative impact of the proposed activity on the receiving environment. Lattice design mast painted red & white provides maximum mitigation from the air due to the higher visibility to aircraft. Red & white lattice mast provides high mitigation of the visual impact on the short to long range viewpoints due to the higher blending capability of the more transparent type mast against the sky background. The significance of the visual impact of the mast is considered to be low due to the low population density in the direct area surrounding the mast and will further be screened by the buildings and the surrounding vegetation and topography.
4. 2.4m high steel palisade fence to provide maximum mitigation of the short to long range visual impact of the telecommunication base station due to the blending capability with the surrounding railway and station.
5. The site is designed for use by additional telecommunication service providers. This mitigation measure will possibly prevent the establishment of additional base stations by other operators within the immediate area.

Biological impacts:

6. No expected or proven biological impacts will result from the proposed development. The base station is situated in an area that is already disturbed by human activity. No endangered plants or tall trees will need to be removed from the 81m<sup>2</sup> footprint site.

Socio-economic impacts:

7. Site position has been determined based on the requirement to deliver mobile telecommunication signal coverage and availability within the target area enabling the residents, business entities and the general public within the area to select and maintain quality telecommunication services and connectivity via the MTN mobile telecommunication network. MTN (Pty) Ltd is obliged to fulfil their licence terms and conditions, as determined by government, in providing mobile telephony and related services on a reliable national network grid.

### Alternative 2

Applied for exemption

### Alternative 3

Applied for exemption.

### **No-go alternative (compulsory)**

If the activity does not take place, MTN (Pty) Ltd will not be in a position to fulfil certain commitments in terms of their license conditions, as issued by government, within the target area in question. This will implicate an incomplete network hampering and restricting communication quality and quantity on the network. The status quo will remain which defeats the objective of the planned activity.

8. **ANY INPUTS AND RECOMMENDATIONS MADE BY SPECIALISTS TO THE EXTENT THAT MAY BE NECESSARY – IN TERMS OF *Regulation 22 sub-regulation 2 (k) of the EIA Regulations, 2010* - Not in the scope of this application**
9. **THE EMPR IS ATTACHED AS APPENDIX F - IN TERMS OF *Regulation 22 sub-regulation 2 (l) of the EIA Regulations, 2010***
10. **ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE – IN TERMS OF *Regulation 22 sub-regulation 2 (m) of the EIA Regulations, 2010***

The information in this report is sufficient for the purposes of providing the department with sufficient information to make an informed decision to grant approval or not.

The nature of an impact study is always based on predicting the impacts of a proposed activity / development based on knowledge that can be substantiated and where there are gaps in knowledge, there are uncertainties and assumptions are also made.

There are no significant gaps in knowledge in this impact study. The only uncertainty due to a gap in knowledge in this impact study includes the health effects of non-ionised electromagnetic fields with power density < 10W/m<sup>2</sup> emitted from telecommunication antennae (operational phase), but not the listed activity i.e. the mast. We refer to the Department of Health Guidelines based on the International Commission on Non-Ionising Radiation Protection (ICNIRP) and the World Health Organisation (WHO) guidelines. According to these guidelines the non-ionised electromagnetic fields emitted by antennae mounted on telecommunication masts are well below the recommended level and is therefore improbable to have harmful effects on the health of human beings.

11. **A REASONED OPINION AS TO WHETHER THE ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED, AND IF THE OPINION IS THAT IT SHOULD BE AUTHORISED, ANY CONDITIONS THAT SHOULD BE MADE IN RESPECT OF THAT AUTHORISATION – IN TERMS OF *Regulation 22 sub-regulation 2 (n) of the EIA Regulations, 2010***

The Environmental Assessment Practitioner is of the opinion that the activity may be authorised due to:

Increased and improved national MTN coverage footprint enabling users to communicate on the MTN network where ever they are.

Additional fulfilment of one of government's objectives to ensure the establishment of national communication network grids and services as part of a sustainable economic growth pattern.

The motivation and benefits to society in general above apply to the local community directly. It will furthermore ensure that the communication capability and capacity of the local community will keep pace with the ever growing and availability of communication facilities nationwide.

Should the activity not be authorised it will result in an incomplete network hampering and restricting communication quality and quantity on the network.

The possible negative impacts on the surrounding environment are of low significance.

Recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

1. Establishment of a 54m lattice telecommunication mast painted red & white to be established on the Alternative 1 proposed position as indicated on attached plans.
2. Measures to be implemented for the duration of the construction period to prevent unauthorised access to the construction site.
3. Dust suppression measures to be implemented during earthworks.
4. Construction only to take place within normal daytime working hours.
5. Appropriate arrangements to be made with the property owner for the use of existing sanitation facilities by construction workers or otherwise the contractor must provide chemical toilets during the construction phase.
6. Telecommunication base station to be enclosed with a 2.4m high steel palisade fence.
7. Required electricity connection point to be established in consultation with the property owner and electricity supplier.
8. Topsoil to be stored separately for appropriate landscaping distribution on completion of construction.
9. All the prevention and mitigation measures described in this report and in the EMPR must be implemented and monitored.

**SECTION E: CONSULTATION WITH OTHER STATE DEPARTMENTS – IN TERMS OF Regulation 22 sub-regulation 2 (f) (iii) of the EIA Regulations, 2010**

Provide a list of all State Departments / Organs of State that have been consulted and registered as interested and affected parties, and to whom draft reports have been submitted for comment. **Proof of submission / delivery of the draft report to all State Department / Organs of State must be attached to this document.**

<b>Department:</b>	<b>Msukaligwa Local Municipality</b>		
<b>Contact person:</b>	<b>Mr. T. Dlamini</b>		
<b>Postal address:</b>	<b>P O Box 48, Ermelo</b>		
<b>Postal code:</b>	<b>2350</b>	<b>Cell:</b>	<b>-</b>
<b>Telephone:</b>	<b>017 801 3851</b>	<b>Fax:</b>	<b>017 801 3851</b>
<b>E-mail:</b>	<b>-</b>		

<b>Department:</b>	<b>Msukaligwa Local Municipality</b>		
<b>Contact person:</b>	<b>Cir KH Dladla (Ward 12)</b>		
<b>Postal address:</b>	<b>P O Box 48, Ermelo</b>		
<b>Postal code:</b>	<b>2350</b>	<b>Cell:</b>	<b>-</b>
<b>Telephone:</b>	<b>-</b>	<b>Fax:</b>	<b>017 801 3851</b>
<b>E-mail:</b>	<b>-</b>		



<b>Department:</b>	<b>Gert Sibande District Municipality</b>		
<b>Contact person:</b>	<b>Mr M Ngcobo</b>		
<b>Postal address:</b>	<b>P O Box 1748, Ermelo</b>		
<b>Postal code:</b>	<b>2350</b>	<b>Cell:</b>	<b>-</b>
<b>Telephone:</b>	<b>017 801 7000</b>	<b>Fax:</b>	<b>017 811 1207</b>
<b>E-mail:</b>	<b>-</b>		

<b>Department:</b>	<b>South African Heritage Resources Agency</b>		
<b>Contact person:</b>	<b>Mr P Hine</b>		
<b>Postal address:</b>	<b>PO Box 4637, Cape Town</b>		
<b>Postal code:</b>	<b>8000</b>	<b>Cell:</b>	<b>-</b>
<b>Telephone:</b>	<b>021 462 4502</b>	<b>Fax:</b>	<b>021 462 4509</b>
<b>E-mail:</b>	<b>phine@sahra.org.za</b>		

<b>Department:</b>	<b>South Africa Civil Aviation Authority</b>		
<b>Contact person:</b>	<b>Lizell Stroh</b>		
<b>Postal address:</b>	<b>Private Bag X73, Halfway House</b>		
<b>Postal code:</b>	<b>1685</b>	<b>Cell:</b>	<b>-</b>
<b>Telephone:</b>	<b>011 545 1000</b>	<b>Fax:</b>	<b>011 545 1451</b>
<b>E-mail:</b>	<b>-</b>		

<b>Department:</b>	<b>-</b>		
<b>Contact person:</b>	<b>-</b>		
<b>Postal address:</b>	<b>-</b>		
<b>Postal code:</b>	<b>-</b>	<b>Cell:</b>	<b>-</b>
<b>Telephone:</b>	<b>-</b>	<b>Fax:</b>	<b>-</b>
<b>E-mail:</b>	<b>-</b>		

## **SECTION F: APPENDICES**

The following appendices must be attached to the basic assessment report as appropriate:

Appendix A: Site plan(s) – **IN TERMS OF Regulation 22 sub-regulation 2 (c) of the EIA Regulations, 2010**

Appendix B: Photographs – **IN TERMS OF Regulation 22 sub-regulation 2 (c) of the EIA Regulations, 2010**

Appendix C: Facility illustration(s) – **IN TERMS OF Regulation 22 sub-regulation 2 (c) of the EIA Regulations, 2010**

Appendix D: Specialist reports – **IN TERMS OF Regulation 22 sub-regulation 2 (k) of the EIA Regulations, 2010 – No specialist input required**

Appendix E: Comments and Response Report – **IN TERMS OF Regulation 22 sub-regulation 2 (f) (iv) and 2 (o) and (q) of the EIA Regulations, 2010**

Appendix F: Environmental Management Programme (EMPr) – **IN TERMS OF Regulation 22 sub-regulation 2 (l) of the EIA Regulations, 2010**

Appendix G: Other information

G1: Public Participation – **IN TERMS OF Regulation 22 sub-regulation 2 (f) of the EIA Regulations, 2010**

G1 (a) – Public Participation - Proof of Site Notice

G1 (b) – Public Participation – Written Notices to I&AP

G1 (c) – South African Civil Aviation Authority Approval

G1 (d) – Public Participation – Proof of Newspaper Advertisement

G2: Motivation for exemption of assessing reasonable or feasible alternatives, as contemplated in subregulation 22 (2) (h) - **IN TERMS OF Regulation 22 sub-regulation 4 of the EIA Regulations, 2010**