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FINAL BASIC ASSESSMENT REPORT FOR

FOR

PROPOSED TELECOMMUNICATION MAST – KZN17 PARK RYNIE

(REMAINDER OF ERF 583 PARK RYNIE)

REF NR: LOK2017/012

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I, Elaine Minnaar (6904260204083) declare under oath that of –
The correctness of the information provided in the reports;
The inclusion of comments and inputs from stakeholders and I&AP's;
The inclusion of inputs and recommendations from the specialist reports where relevant;
Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs by interested and affected parties.

_____ March 2018
Signature Date

Executive Summary

Introduction

CommCo Holdings (Pty) Ltd appointed Lokisa Environmental Consulting CC to obtain authorisation from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZN EDTEA) for the proposed development of a telecommunication mast on the remainder of Erf 583 Park Rynie within the jurisdiction of Umdoni Local Municipality.

Project Description

The project entails the construction of a 45m Lattice Mast within the footprint size of 8m x 8m area and a support container.

The site is to accommodate three service providers.

Regulatory Environmental Requirements

KZN EDTEA is the lead authority carrying out the authorisation process in accordance with the National Environmental Management Act (Act No. 107 of 1998, "NEMA") (as amended).

The EIA process, applicable to this application, is determined by the Amendments to the Environmental Impact Assessment Regulations, 2014, published in Government Notice R326 in Government Gazette No 40772 of 7 April 2017 promulgated under Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

The EIA regulations inter alia describe the procedure for EIA and provides a description of activities that would require authorisation through either 1) a Basic Assessment (in terms of Government Notices R327 and R324 of 2017) or 2) Scoping and Environmental Impact Assessment (in terms of Government Notice R325 of 2017).

The activities associated with the proposed development fall within GN R324. The Basic Assessment (BA) procedure will apply to this application.

Basic Assessment Report

The required Basic Assessment (BA) process which is being conducted in 3 phases namely:

Phase 1: Project inception;

Phase 2: Basic Assessment and Environmental Management Programme; and
Phase 3: Authority review and response.

The report provides a description of the activity, description of property and location and a description of environment, legislation, need and desirability, significant impacts and management as well as mitigation.

Alternatives

Nationally the search for a suitable cellular site starts with the identification of the need for improved cellular coverage in the identified area. The Radio Planners indicate the optimal position and sites within a 100m of this position is investigated.

A team investigates all possible positions within the 100m radius and approach land owners in order to lease a portion of their land for the structure. Several options are investigated before a lease agreement is reached. In this instance PRASA has identified a need for Cellular coverage at their stations and CommCo Holdings (Pty) Ltd was appointed to undertake the required authorisations.

Should the no-go option be followed, cellular coverage will remain the same or even deteriorate. Furthermore it has a possibility of shifting the development activity to a different location where there could be greater loss of sensitive features. This denies the optimal use of the site for the rights approved.

Public Participation

Lokisa Environmental Consulting CC conducted the Public Participation Process (PPP) for the proposed telecommunication mast development. During the Public Participation, it was noted that engaging stakeholders even before developments are built could achieve the best impacts. It is for this reason that the PPP that forms part of the EIA becomes the basis for stakeholder engagement process.

For the PPP, the aim was to ensure that the full range of stakeholders was informed about the development throughout the period in question. In order to achieve this, a number of key activities have taken place and will continue to take place.

Environmental Impact Assessment

The impacts of the project activities were determined by identifying the environmental aspects and then undertaking an environmental risk assessment to determine the significant environmental aspects.

The environmental impact assessment has considered all phases of the project, namely, construction and operational phases. Should the site however be developed for the purpose as per the BAR, being that for telecommunication mast purposes, it seems unlikely that decommission will be required at a later stage.

The rating system used is applied to the potential impact on the receiving environment and includes an objective evaluation of the mitigation of the impact. During the EIA, the impact of the proposed development on the biophysical and socio-economic environment was assessed. It was this assessment that allowed the EAP to make an informed analysis and provide an opinion on the proposed development.

Conclusion

In line with the requirements of the NEMA EIA Regulations (2014) (as amended 2017), this report provides, an explanation of the activities undertaken during the BA process and information on PPP was also provided. Importantly the report addresses the impacts identified that were anticipated for the development, as well as providing mitigation measures to ensure for the environmentally sustainable development of the development.

Should the proposed mitigation measures be implemented correctly, the proposed telecommunications development will be a viable development. The findings conclude that there are no significant environmental fatal flaws that could prevent the proposed development to proceed, provided that the mitigation and management measures contained on the EMPr are implemented.

Table of Contents

List of Tables

List of Figures

List of Annexures

Definitions

Activity (Development)	An action either planned or existing that may result in environmental impacts through pollution or resource use. For the purpose of this report, the terms 'activity' and 'development' are freely interchanged.
Alternatives	Different means of meeting the general purpose and requirements of the activity, which may include site or location alternatives; alternatives to the type of activity being undertaken; the design or layout of the activity; the technology to be used in the activity and the operational aspects of the activity.
Applicant	The project proponent or developer responsible for submitting an environmental application to the relevant environmental authority for environmental authorisation.

Biodiversity	The diversity of animals, plants and other organisms found within and between ecosystems, habitats, and the ecological complexes.
Construction	The building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.
Cumulative Impact	The impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.
Decommissioning	The demolition of a building, facility, structure or infrastructure.
Derelict Land	means abandoned land or property where the lawful/legal land use right has not been exercised during the preceding ten year period (Regulation R326 of NEMA, 1998 (Act No. 107 of 1998));
Direct Impact	Impacts that are caused directly by the activity and generally occur at the same time and at the same place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally quantifiable.
Ecosystem	A dynamic system of plant, animal (including humans) and micro-organism communities and their non-living physical environment interacting as a functional unit. The basic structural unit of the biosphere, ecosystems are characterised by interdependent interaction between the component species and their physical surroundings. Each ecosystem occupies a space in which macro-scale conditions and interactions are relatively homogenous
Environment	In terms of the National Environmental Management Act (NEMA) (No 107 of 1998)(as amended), “Environment” means the surroundings within which humans exist and that are made up of: a) the land, water and atmosphere of the earth; b) micro-organisms, plants and animal life; c) any part or combination of (i) of (ii) and the interrelationships among and between them; and d) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.
Environmental Assessment	The generic term for all forms of environmental assessment for projects, plans, programmes or policies and includes methodologies or tools such as environmental impact assessments, strategic environmental assessments and risk assessments.
Environmental Authorisation	An authorisation issued by the competent authority in respect of a listed activity, or an activity which takes place within a sensitive environment.
Environmental Assessment Practitioner (EAP)	The individual responsible for planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instrument introduced through the EIA Regulations.
Environmental Management	Ensuring that environmental concerns are included in all stages of development, so that development is sustainable and does not exceed the carrying capacity of the environment.

Environmental Management Programme (EMPr)	A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive impacts and limiting or preventing negative environmental impacts are implemented during the life cycle of a project. This EMPr focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.
Environmental Impact	Change to the environment (biophysical, social and/ or economic), whether adverse or beneficial, wholly or partially, resulting from an organisation's activities, products or services.
Environmental Issue	A concern raised by a stakeholder, interested or affected parties about an existing or perceived environmental impact of an activity.
Fatal Flaw	Issue or conflict (real or perceived) that could result in developments being rejected or stopped. In the context of an environmental impact assessment a fatal flaw can be termed as an environmental issue that cannot be mitigated by any means
General Waste	Household water, construction rubble, garden waste and certain dry industrial and commercial waste, which does not pose an immediate threat to man or the environment.
Groundwater	Water in the ground that is in the zone of saturation from which wells, springs, and groundwater run-off are supplied.
Hazardous Waste	Waste that may cause ill health or increase mortality in humans, flora and fauna.
Hydrology	The science encompassing the behaviour of water as it occurs in the atmosphere, on the surface of the ground, and underground.
Important Areas	Sites that are important for the conservation of biodiversity in Gauteng; (Gauteng C-Plan Version 3)
Indirect Impacts	Indirect or induced changes that may occur as a result of the activity. These types if impacts include all of the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.
Integrated Environmental Management	A philosophy that prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development and decision making process. The IEM philosophy (and principles) is interpreted as applying to the planning, assessment, implementation and management of any proposal (project, plan, programme or policy) or activity - at local, national and international level – that has a potentially significant effect on the environment. Implementation of this philosophy relies on the selection and application of appropriate tools for a particular proposal or activity. These may include environmental assessment tools (such as strategic environmental assessment and risk assessment), environmental management tools (such as monitoring, auditing and reporting) and decision-making tools (such as multi-criteria decision support systems or advisory councils).
Interested and Affected Party (I&AP)	Any person, group of persons or organisation interested in or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.
Irreplaceable Areas	Sites, which are essential in meeting targets set for the conservation of biodiversity in Gauteng; (Gauteng C-Plan Version 3)
Mitigate	The implementation of practical measures designed to avoid, reduce or remedy adverse impacts or enhance beneficial impacts of an action.

No-Go Option	In this instance the proposed activity would not take place, and the resulting environmental effects from taking no action are compared with the effects of permitting the proposed activity to go forward.
Public Participation Process	A process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters.
Rehabilitation	A measure aimed at reinstating an ecosystem to its original function and state (or as close as possible to its original function and state) following activities that have disrupted those functions.
Sensitive Environments	Any environment identified as being sensitive to the impacts of the development.
Significance	Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. magnitude, intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgements and science-based criteria (i.e. biophysical, social and economic).
Stakeholder Engagement	The process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities.
Sustainable Development	Development which meets the needs of current generations without hindering future generations from meeting their own needs.
Undeveloped	Means that no facilities, structures or infrastructure have been effected upon the land or property during the preceding 10 years.
Urban Areas	Means areas situated within the urban edge (as defined or adopted by the competent authority), or in instances where no urban edge or boundary has been defined of adopted, it refers to areas situated within the edge of built-up areas (Regulation R325 of NEMA,1998 (Act No. 107 of 1998));
Vacant	Means not occupied for the purpose of its lawful land use during the preceding ten year period.
Virgin Soil	Means land not cultivated for the preceding 10 years. (Regulation R325 of NEMA,1998 (Act No. 107 of 1998);
Watercourse	Means (a) a river or spring; (b) a natural channel in which water flows regularly or intermittently; (c) a wetland, pan, lake or dam into which, or from which, water flows; and any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks. (Regulation R327 of NEMA, 1998 (ACT NO. 107 OF 1998).;
Wetland	Means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil. (Regulation 327 of NEMA,1998 (ACT NO. 107 OF 1998).

Abbreviations

BID	Background Information Document
CC	Close Corporation
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
Ha	Hectares
HIA	Heritage Impact Assessment
I & AP's	Interested and Affected Parties
IDP's	Integrated Development Plans
Km	Kilometres
KZN EDTEA	KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs
m	Meters
NEMA	National Environmental Management Act
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NGO's	Non-Governmental Organisations
(Pty) Ltd	Proprietary Limited
SDF	Spatial Development Framework

1 INTRODUCTION

CommCo Holdings (Pty) Ltd appointed Lokisa Environmental Consulting CC to obtain authorisation from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZN EDTEA) for the proposed development of a telecommunication mast on the remainder of Erf 583 Park Rynie within the jurisdiction of Umdoni Local Municipality.

The Basic Assessment (BA) procedure will apply to this application. An application is submitted in terms of Chapter 4 of the EIA Regulations (as amended 2017) promulgated in terms of the National Environmental Management Act ("NEMA", Act No. 107 of 1998 as amended).

The project entails the construction of a 45m Lattice Mast within the footprint size of 8m x 8m area and a support container. The site is to accommodate three service providers.

The site is approximately 1.9km south of Scottburgh South, 1.6km to the east of the N2 Highway and 90m east of Marine Drive, at the Park Rynie Train Station, Park Rynie.

Access to the site is from Marine Drive east of the site and from the Park Rynie Train Station. The site is currently developed for commercial, light industrial uses on the west and the immediate surrounding area is the Park Rynie Train Station.

Figure 1: Locality map

2 NEED AND DESIRABILITY

Due to the increased development in the area there has also been an increased amount of cellular users. This growth in traffic has placed an increased load on the existing network.

To relieve the network congestion it has become essential to provide a new cellular base station in the area. A three sectored base station will provide the adequate capacity requirement and reduce the traffic load on surrounding base stations thereby improving the connection success.

The benefits that the activity will have for society in general are:

- Better cellphone Network/ signal coverage and Cellular Communication
- Security
- Socio-economic development
- Improved medical response

The benefits that the activity will have for the local communities where the activity will be located are:

- Better cell phone Network/ signal coverage and Cellular Communication
- Security
- Socio-economic development
- Improved medical response

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.

3 APPROACH TO THE EIA STUDIES – TERMS OF REFERENCE

This section provides a brief description of the EIA process, based on the National Environmental Management Act, No 107 of 1998 and relevant amendments, which are to be undertaken.

3.1 Legal Framework for EIA

The EIA process, applicable to this application, is determined by the Amendments to the Environmental Impact Assessment Regulations, 2014, published in Government Notice R326 in Government Gazette No 40772 of 7 April 2017 promulgated under Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

The EIA regulations inter alia describe the procedure for EIA and provides a description of activities that would require authorisation through either 1) a Basic Assessment (in terms of Government Notices R327 and R324 of 2017) or 2) Scoping and Environmental Impact Assessment (in terms of Government Notice R325 of 2017).

The following activities are triggered by the proposed development:

Table 1 : Listed activities trigered by the proposed development

Number and date of the relevant notice	Activity no (s)	Description of listed activity
GN R324 7 April 2017	Activity 3	The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower — (a) is to be placed on a site not previously

		used for this purpose; and (b) will exceed 15 metres in height — d. KwaZulu-Natal xiii. Inside urban areas: (aa) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined; (dd) Areas within 1 kilometre from terrestrial protected areas identified in terms of NEMPAA.

The proposed development triggers activities that require a Basic Assessment; an application is submitted in terms of Chapter 4 of the EIA Regulations to the KZN Department of Economic Development, Tourism and Environmental Affairs (EDTEA).

3.2 The Basic Assessment Process

The required Basic Assessment (BA) process which is being conducted in 3 phases namely:

Phase 1: Project inception;

Phase 2: Basic Assessment and Environmental Management Programme; and

Phase 3: Authority review and response.

The report provides a description of the activity, description of property and location and a description of environment, legislation, need and desirability, significant impacts and management as well as mitigation.

3.3 Public Participation Process

The Public Participation Process (PPP) allows all I&AP's to voice their concerns and issues regarding the project. The manner of undertaking the PPP is varied and is dependent on the nature of the project but require the following:

- The proposed development to be advertised in a local newspaper and on site;
- The adjacent landowners, tenants and resident's associations to be informed directly, in writing, of the application for environmental authorisation for the proposed development;
- Interested & affected parties and Stakeholders to be given a 30 day period within which to lodge any objections;

- After the 30 day period has expired a report is to be written on how any objections and/or comments raised by interested and affected parties together with an indication as to how the objections will be addressed, if at all.

3.4 Role of Interested & Affected Parties (I&AP's)

Registered I&AP's have the right to bring to the attention of the Environmental Authority any issues that they believe may be of significance to the consideration of the application.

The rights of the I& AP's are qualified by certain obligations, namely:

- I&AP's must ensure that their comments are submitted within the timeframes that have been approved or set by the competent authority, or within any extension of a timeframe agreed to by the applicant or Environmental Assessment Practitioner (EAP);
- A copy of comments submitted directly to the competent authority must be served on the applicant or EAP; and
- Any direct business, financial, personal or other interest that they might have in the approval or refusal of the application must be disclosed.

The role of I&APs in a Public Participation Process usually include one or more of the following:

- Assist in the identification and prioritization of issues that need to be investigated;
- Make suggestions on alternatives and means of preventing, minimizing and managing negative impacts and enhancing project benefits;
- Assist in/ or comment on the development of mutually acceptable criteria for the evaluation of decision options;
- Contribute information on public needs, values and expectations;
- Contribute local and traditional knowledge; and
- Verify that their issues have been considered.

3.5 Specialist Studies

Specialist studies are to be undertaken to provide a detailed and thorough examination of key issues and environmental impacts. Specialists gather relevant data to identify and assess environmental impacts that might occur on the specific component of the environment that they are studying (e.g.

vegetation, water quality, and pollution). For the proposed development, no specialist studies are applicable as the site is completely disturbed and transformed.

3.6 Assessment of the Significance of Impacts

It is necessary to determine the significance, or seriousness, of any impacts on the natural or social environment. The report will adopt a significance rating scale that determines the special, temporal, severity and certainty of any impact occurring which will allow the determination of the overall significance of an impact or benefit.

The overall intent of undertaking a significance assessment is to provide the relevant authority with information on the potential environmental impacts and benefits, thus allowing them to make a balanced and fair decision.

3.7 Mitigation measures and recommendations

Critical to an environmental assessment is the provision of practical and reasonable mitigation measures and recommendations that establish the actions that are needed in order to avoid or minimise any negative impacts from the development.

3.8 Environmental Management Programme

An Environmental Management and action programme will be based on the findings and recommendations set out in the BAR. The Environmental Management Programme (EMPr) consists of a set of practical and actionable mitigation, monitoring and institutional measures to be taken into account during construction and operation of a development. The aim is to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. These plans will include:

- The standards and guidelines that must be achieved in terms of environmental legislation,
- Mitigation measures and environmental specifications which must be implemented at 'ground level' (i.e. during construction and operation),
- Provide guidance through method statements to achieve the environmental specifications,
- Define corrective action that must be taken in the event of non-compliance with the specifications of the EMPr,
- Prevent long-term or permanent environmental degradation.

The EMPr is attached as Appendix E: EMPr

3.9 Environmental Authorisation and Appeals Process

Upon thorough examination of the BAR, the authority will issue an Environmental Authorisation or reject the application. Should authorisation be granted, it usually carries Conditions of Approval.

The proponent is obliged to adhere to these conditions.

I&AP's will be notified of the decision in terms of the NEMA Regulations and should an I&AP wish to appeal any aspect of the decision, they must within twenty (20) days of the date of notification of the decision, submit their appeal including supporting documents to the appeal administrator.

4 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

In terms of the NEMA (as amended), an EAP is defined as "…the individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental management instruments introduced through regulations." The EAP must be independent, objective and have expertise in conducting environmental impact assessments. Such expertise should include knowledge of all relevant legislation and of any guidelines that have relevance to the proposed activity.

In order to be independent an EAP or person compiling a specialist report or undertaking a specialised process is to perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant. All material information in the possession of the EAP or person compiling a specialist report /undertaking a specialised process that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority in terms of these regulations are to be disclosed to the applicant and competent authority. Furthermore the objectivity of any report, plan or document to be prepared by the EAP or person compiling a specialist report or undertaking a specialised process, in terms of these regulations for submission to the competent authority should furthermore also be disclosed to the applicant and competent authority.

In order to comply with this requirement an Information Sheet was provided that provides information on the author of this report being Elaine Minnaar, Senior Environmental Consultant with Lokisa Environmental Consulting CC (Lokisa).

Lokisa Environmental Consulting CC is an Environmental Consulting Company based in Pretoria that provides a broad range of environmental consulting services to the private and public sector since 2001.

Elaine Minnaar has been involved in environmental consulting since 1998 and has expertise in a wide range of environmental disciplines including Environmental Impact Assessments, Environmental Management Plans/Programmes, Auditing and Monitoring, Public Participation and Facilitation.

Faith Makena is a Junior Environmental Consultant and has been with Lokisa Environmental Consulting for three years. She has gained experience in the environmental field which includes Environmental Impact Assessments, Environmental Management Programmes, Environmental Auditing and Monitoring, Public Participation, and Environmental Mitigation and Control

All reports are reviewed and approved by Elaine Minnaar of Lokisa Environmental Consulting CC (Refer to Appendix H for Curriculum Vitae).

5 ASSUMPTIONS AND GAPS IN KNOWLEDGE

- All information provided by CommCo Holdings (Pty) Ltd to the EAP was correct and valid at the time it was provided.
- The EAP does not accept any responsibility in the event that additional information comes to light at a later stage of the process.
- All data from unpublished research is valid and accurate.
- The scope of this investigation is limited to assessing the potential environmental impacts associated with telecommunication masts.

6 LEGAL REQUIREMENTS

In order to protect the environment and ensure that the proposed activity operate in an environmentally responsible manner, there are a number of significant pieces of environmental legislation and guidelines that need to be taken into account during this study. These include:

6.1 The Constitution of South Africa

The development has to comply with environmental right in the Bill of Rights in the Constitution of the Republic of South Africa (Act 108 of 1996), which reads as follows (Chapter 2, section 24): "Everyone has the right a) to an environment that is not harmful to their health or well-being: and b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:

i) prevent pollution and ecological degradation;

ii) promote conservation; and

iii) secure sustainable development and use of natural resources while promoting justifiable economic and social development."

6.2 National Environmental Management Act (No 107 of 1998)

NEMA establishes the basis for environmental governance and sets out the principles for decision-making on matters affecting the environment. The principles of the Act are provided in Section 2 and it is the responsibility of all organs of state to take these principles into account when making decisions that could affect the environment.

In terms of the NEMA principles, the following are of particular relevance to the development:

a) Environmental management must place people and their needs at the forefront of its concern and serve their physical, psychological, developmental, cultural and social interest equitably.
b) Development must be socially, environmentally and economically sustainable.
c) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option (section 2(4)(b)).
d) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (section 2(4)(c)).

e) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination (section 2(4)(d)).
f) The participation of all Interested and Affected Parties in environmental governance must be promoted, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured (section 2(4)(f)).
g) Decisions must take into account the interests, needs and values of all Interested and Affected Parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge (section 2 (4) (g)).
h) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment (section 2(4)(i)).
i) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure (section 2(4)(r)).

Sustainable development requires the integration of social, economic and environmental practices in the planning, implementation and evaluation of decisions. This integration will ensure that development serves present and future generations. Development has to be done in the manner provided for in the National Environmental Management Act and based on the following environmental management principles:

- Prevention of pollution and ecological degradation,
- Promotion of conservation;
- Secure ecologically sustainable development and use of natural resources;
- Promotion of justifiable economic and social development.

It is obvious from the Act that government is ultimately responsible for environmental impact assessments and for taking action to prevent harm to, or the degradation of, natural, socio-economic and cultural environment.

6.3 EIA Regulations

The NEMA EIA Regulations (2014), which replaced the EIA Regulations (2010), were promulgated and came into effect on 04 December 2014. The Amendments to the EIA Regulations, 2014, published in Government Notice R326 in Government Gazette No. 40772 came into effect on 7 April 2017. These Regulations regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.

6.4 National Water Act (No 36 of 1998)

The purpose of this act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which takes into account amongst other factors:

- Meeting the basic human needs of present and future generations,
- Promoting equitable access to water;
- Redressing the results of past racial and gender discrimination;
- Promoting the efficient, sustainable and beneficial use of water in the public interest;
- Facilitating social and economic development;
- Providing for growing demand for water;
- Protecting aquatic and associated ecosystems and their biological diversity;
- Reducing and preventing pollution and degradation of water resources;
- Meeting international obligations;
- Promoting dam safety;
- Managing floods and drought.

In terms of the act "Pollution" means the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it:

a) less fit for any beneficial purpose for which it may reasonably be expected to be used; or
b) harmful or potentially harmful –
    - to the welfare, health or safety of human beings;
    - to any aquatic or non-aquatic organism;
    - to the resource quality; or
    - to property.

"Water resource" includes a watercourse, surface water, estuary or aquifer.

Section 19 deals with the situations where pollution of water resources occurs or might occur as a result of activities on land. The person who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources.

"Waste" is defined as "any solid material or material that is suspended, dissolved or transported in water (including sediment) and which is spilled or deposited on land or into a water resource in such volume, composition or manner as to cause, or to be reasonably likely to cause, the water resource to be polluted".

A Water Use Application (WULA) is a legislature process governed by the Department of Water Affairs for the authorisation of all water uses defined in section 21 of the National Water Act (Act No 36 of 1998) [NWA]. This document describes a methodology for the assessment of a Section 21 (b), water uses. No water use application is required for the proposed development as the activity will not use water or affect any watercourses.

6.5 National Aviation Act (No. 74 of 1962)

The main objective of this Act is to consolidate the laws enabling effect to be given to certain International Aviation Conventions and making provision for the control, regulation and encouragement of flying within the Republic of South Africa and for other matters incidental thereto.

In order to comply with the requirements of this Act, an Application for approval of obstacles has been made with the competent authority and their response or approval is awaited.

6.6 National Heritage Resources Act (No 25 of 1999)

Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and, as they are valuable, finite, non-renewable and irreplaceable, they must be carefully managed to ensure their survival.

Every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interest of all South Africans.

The Act provides for four categories of protected areas:

- National and provincial heritage sites;
- Protected areas;
- Heritage areas; and
- Archaeological and paleontological sites.

The Act stipulates that any person who intends to undertake a development "must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with detail regarding the location, nature and extent of the proposed development".

The heritage resources authority must, within 14 days of receiving notification, request the submission of an impact assessment report if there is reason to believe that heritage resources will be affected by such development.

Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and, as they are valuable, finite, non-renewable and irreplaceable, they must be carefully managed to ensure their survival.

It is not expected that the proposed development will impact on any heritage resources however should any heritage resources be discovered a chance find procedure will be followed whereby:

- If during the duration of the project, any person employed by the developer, one of its subsidiaries, contractors and sub-contractors, or service provider, finds any artifact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area.
- The senior on-site Manager will inform the EC of the chance find and its immediate impact on operations. The EC will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.

6.7 National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)(NEM:WA)

The NEM:WA provides reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development. One of its main objectives is to protect health, wellbeing and the environment by providing reasonable measures for securing ecologically sustainable development while promoting justifiable economic and social development.

The proposed development does not occur in contrast with the objectives of the Act.

6.8 Model Noise Regulations published under the Environment Conservation Act (Act No 73 of 1989)

The Regulations provides a number of prohibition of noise nuisance conditions one which states: “No person shall – erect a building or structure on residential premises or allow it to be erected there if this may cause a noise or nuisance”.

The proposed telecommunication mast will not produce noise or nuisance in any form.

6.9 National Health Act (Act No 63 of 1977)

The National Department of Health has over the years endorsed that Telecommunication Infrastructure (TI) or combination of Infrastructure may not at any time cause the public to be exposed to radio frequency levels that exceed the International Commission on Non-Ionizing Radiation Protection (ICNITRP).

6.10 Occupational Health and Safety Act (Act No. 85 of 1993)

The Occupational Health and Safety Act provides for the health and safety of persons at work and for the health and safety of persons in connection with the use of machinery; the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work.

The proposed development site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) [OHSA] and the National Building Regulations.

6.11 National Building Regulations and Building Standards Act, 1997 (Act No. 103 of 1997)

Section 7 of the National Building Standards and Building Regulations Act states that "council must be satisfied that buildings or structures are not dangerous to life or property"
The proposed development is in line with the act as the structure is not deemed dangerous to life or property.

6.12 Electronic Communications Act, 20015 (Act No 36 of 2005)

The Electronic Communications Act (36 of 2005) and ICASA regulate all forms of telecommunication infrastructure and the issue of approvals and licences. Transmitting power levels must be in compliance with ICASA licence conditions. The design and operation of the infrastructure should be in accordance with the licensing requirements of ICASA, with physical isolation and control of public access to public exposure hazard zones and use of minimum power levels consistent with quality services.

6.13 National Development Plan 2030

The National Development Plan (NDP) offers a long-term perspective. It defines a desired destination and identifies the role different sectors of society need to play in reaching that goal.

As a long-term strategic plan, it serves four broad objectives:

- Providing overarching goals for what the nation want to achieve by 2030.
- Building consensus on the key obstacles to us achieving these goals and what needs to be done to overcome those obstacles.
- Providing a shared long-term strategic framework within which more detailed planning can take place in order to advance the long-term goals set out in the NDP.
- Creating a basis for making choices about how best to use limited resources.

The Plan aims to ensure that all South Africans attain a decent standard of living through the elimination of poverty and reduction of inequality. The core elements of a decent standard of living identified in the Plan are:

- Housing, water, electricity and sanitation
- Safe and reliable public transport
- Quality education and skills development
- Safety and security
- Quality health care
- Social protection
- Employment
- Recreation and leisure
- Clean environment
- Adequate nutrition

The proposed development does not take place in contrast with the objectives of the NDP, in fact the proposed development supports the objectives of the NDP.

7 PROJECT DESCRIPTION

7.1 Location of the activity

The site is approximately 1.86km south of Scottburgh South, 1.7km to the east of the N2 Highway and 90m east of Marine Drive, at the Park Rynie Train Station, Park Rynie.

The 21 digit Surveyor General Code of the proposed site:

N	**O**	**E**	**T**	**0**	**2**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**8**	**3**	**0**	**0**	**0**	**0**	

Figure 2: Locality of the site

The coordinates for the proposed development are: S: 30°18'57.46" E: 30°44'30.34"

Access to the site is from Marine drive east of the site and from the Park Rynie Train Station.

7.2 Description of the site

The site is developed for a train station and railway by PRASA.

Vegetation in the area is described by Mucina and Rutherford (*The Vegetation of South Africa, Lesotho and Swaziland*, South African National Biodiversity Institute, Kirstenbosch, August 2006) as that of the Maputaland Coastal Belt, characterised by a wide range of interspersed non forest communities including dry grasslands. A coastal plain is densely forested in some places.

The site is however fully transformed with light building structures and power lines, and no longer in its pristine state.

Figure 3: Photo of the site

The site is situated between the railway line and site frame and no natural vegetation remains. A railway crossing is situated to the north of the mast position.

7.3 Surrounding Land Uses

The proposed site is located at the Park Rynie Train Station. The adjacent land uses include the following:

- Railway line and station;
- Railway housing;
- Commercial and residential

The coastal line of the Indian Ocean is directly east of the site.

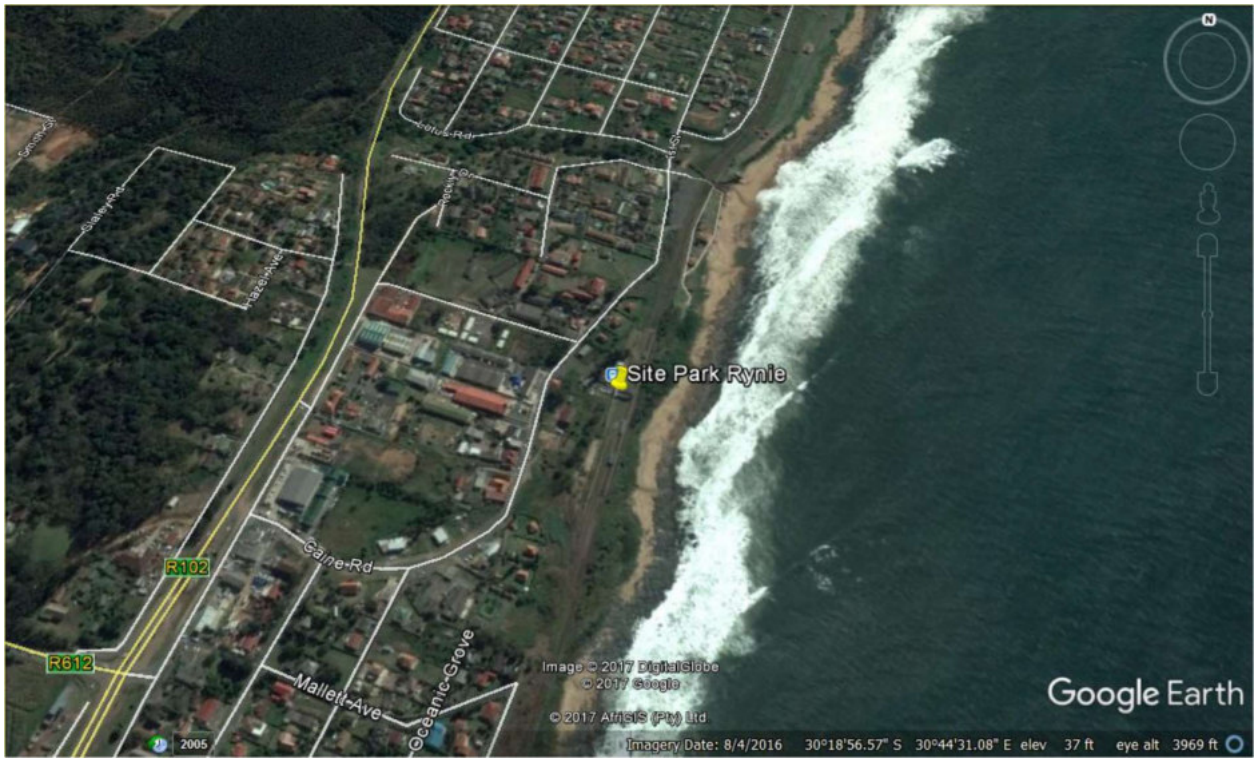


Figure 4: Proposed site and immediate surrounds

7.4 Nature of the development

The project entails the construction of a 45m Lattice Mast within the footprint size of 8m x 8m rea and a support container. The site is to accommodate three service providers.

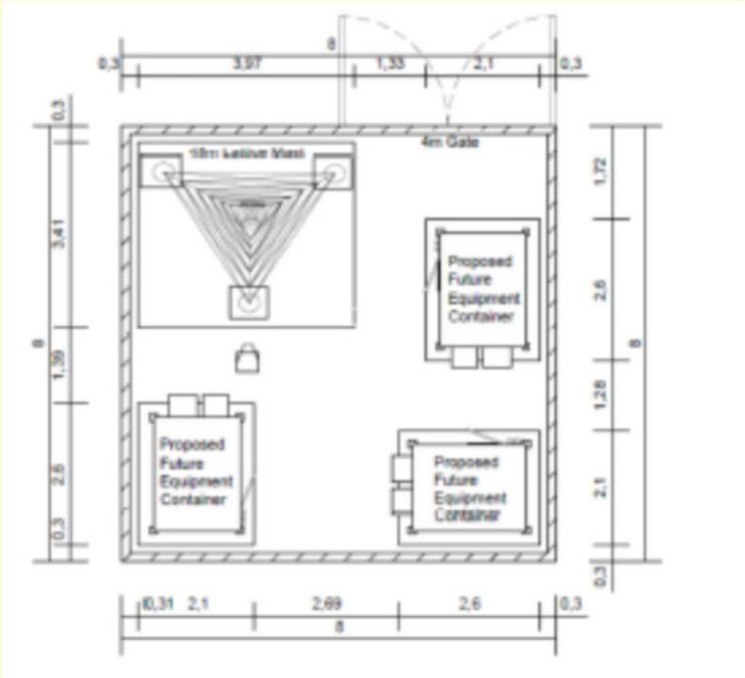


Figure 5: Top view

The structure will be fenced to limit public access to it. The base station will be a secured building; sufficient precaution will be made to prevent access to the antenna support structure. Access to the area will be strictly controlled through a locked gate.

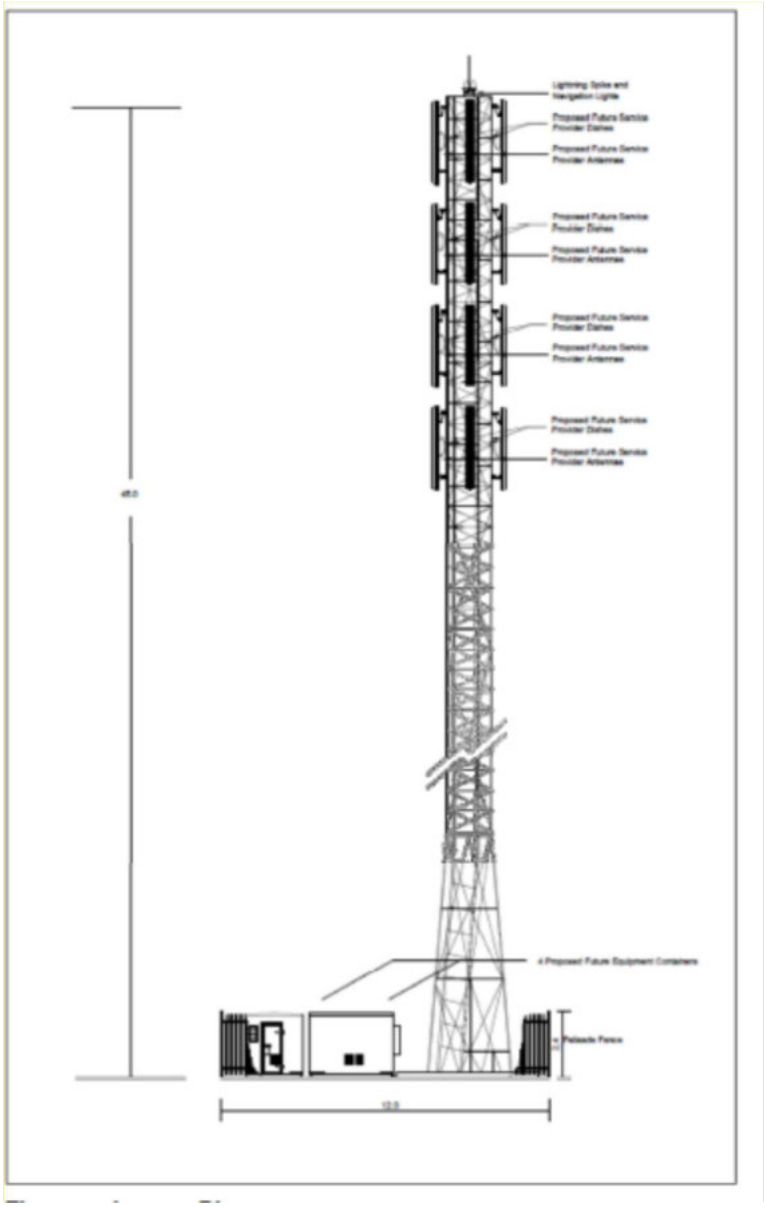


Figure 6: Layout plan

8 PROJECT ALTERNATIVES

In terms of the NEMA Regulations, 2014 (as amended, 2017), the definition of alternatives is given as:

'Alternatives' in relation to a proposed activity, means different means of meeting the general purpose and requirement of the activity, which may include alternatives to the –

(a) property on which or location where the activity is proposed to be undertaken;

(b) type of activity to be undertaken;

(c) design or layout of the activity;
(d) technology to be used in the activity; or
(e) operational aspects of the activity;
and includes the option of not implementing the activity;

The following alternatives were investigated:

8.1 Location alternative

The search for a suitable site starts with the identification of the need for improved cellular coverage in the identified area. The Radio Planners indicate the optimal position and sites within a 100m of this position is investigated.

A team investigates all possible positions within the 100m radius and approach land owners in order to lease a portion of their land for the structure. Several options are investigated before a lease agreement is reached.

The proposed site was deemed suitable for the proposed telecommunication mast and no location alternatives were therefore investigated.

8.2 Type of activity alternatives

The project entails the construction of a 45m Lattice Mast Mast within the footprint size of a 8m x 8m area and a support container. The site is to accommodate three service providers to provide coverage for the area.

No reasonable or feasible alternatives in terms of the type of activity to be undertaken were therefore be investigated.

8.3 Design / Layout alternatives

The following design Alternatives were evaluated: Alternative 1: 30m Monopole Mast and Alternative 2: 30m Lattice Mast.

8.3.1 Alternative 1

Due to the comments received form the I&AP who identified the height of the mast as an issue, the applicant is in the process of investigating the feasibility of reducing the height of the mast.

The results of this investigation will therefore be discussed in the Final Basic Assessment Report.

8.4 Technology alternatives

The construction of the telecommunication mast is governed by approved procedures and SABS standards, thus there is limited scope for introducing alternatives to this aspect, however, the construction materials to be utilised can be varied.

Use of energy efficient, sustainable and environmentally-friendly building materials and products is highly recommended.

8.5 Operational alternatives

The project entails the construction of a 45m Monopole Mast within the footprint size of a 8m x 8m area and a support container. The site is to accommodate three service providers to provide coverage for the high density residential surroundings.

No reasonable or feasible alternatives in terms of the operational aspects of the activity were investigated.

8.6 No-go option

Should the no-go option be followed, cellular coverage will remain the same or even deteriorate in the area. It might only shift the development activity to a different location, where there could be a greater loss of sensitive features. The no-go alternative will entail leaving the site in its present vacant state.

9 PUBLIC PARTICIPATION PROCESS

9.1 Aims of the Public Participation Process

The primary aims of the public participation process are:

- to inform interested and affected parties (I&APs) and key stakeholders of the proposed application and environmental studies;
- to initiate meaningful and timeous participation of I&APs;
- to identify issues and concerns of key stakeholders and I&APs with regards to the application for the development (i.e. focus on important issues);
- to promote transparency and an understanding of the project and its potential environmental (social and biophysical) impacts (both positive and negative);
- to provide information used for decision-making;
- to provide a structure for liaison and communication with I&APs and key stakeholders;
- to ensure inclusivity (the needs, interests and values of I&APs must be considered in the decision-making process);
- to focus on issues relevant to the project, and issues considered important by I&APs and key stakeholders; and
- to provide responses to I&AP queries.

9.2 Identification of Interested and Affected Parties

Lokisa Environmental Consulting CC developed a database of I&AP's based on past projects and experience in the area. Additional I&AP's were identified during the process via various discussions with authorities and key I&AP's. The neighbouring properties were identified and a Deeds search was undertaken to determine the property owners.

9.3 Procedure by which I&APs were afforded the opportunity to participate

All identified I&AP's, State Departments, NGOs and Service Providers were notified of the proposed project by e-mail, fax and registered letters on 4 and 5 May 2017 (See Appendix D – Appendix 2).

Notices were hand delivered to properties where registered addresses were not available on 4 May 2017. The intended activity was furthermore advertised in the local newspaper "South Coast Herald" on 05 May 2017. Notices were also placed on and around the site on 24 November 2016. (See Appendix E – Appendix 1).

The Draft Basic Assessment was made available for review and comments to I&AP's from 20 September 2017 whereby a 30 day comment period was provided as per Section 8 of Chapter 2 of the EIA regulations 2014 (as amended 2017).

The Final Basic Assessment was made available for review and comments to I&AP's from 5 March 2018 to 10 April 2018.

9.4 Authority Consultation

The KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZN EDTEA) is the competent authority for reviewing the project and providing environmental authorisation.

The application for environmental authorisation in terms of the EIA Regulations (2014) (as amended 2017) as well as the Draft Basic Assessment Report will be submitted to KZN EDTEA.

9.5 Issues raised by interested and affected parties

Comments were received from I&AP's and a register was opened to register any and all interested and affected parties that provided comments or issues in writing (Refer to Appendix D – Appendix 6).

All the various issues and comments have been noted and response thereto is provided in the comments and response Report (Refer to Appendix E – Appendix 5).

Issue	Commentator	Date	Response
Public Participation			
1. As the Ward 15 councillor, she represents the residents of ward 15, the majority of whom are against the proposed site of the mast for various reasons. The dominant concerns are the negative impacts of their health and well being, devaluation of their property value. There are many more suitable sites in less densely populated spaces.	**Shara Singh** **Ward 15 Councilor** **Umdoni Local Municipality**	4 June 2017	**<u>Health</u>** According to the World Health Organisation. A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date no adverse health effects have been established as being caused by mobile

Issue	Commentator	Date	Response
			phone use (http://www.who.int/mediacentre/factsheets/fs193/en/) **Devaluation property** No mitigation is possible as it is uncertain to what extent the telecommunication mast will impact on the property values, however it is understood that if the mitigation measures for the visual impact are adequately implemented, then this potential impact might be offset.
2. Kindly forward me the dropbox link for the report	**Cllr Shara Singh**	09 October 2017	On 9/10/17 the Dropbox Link to the Park Rynie Draft Report was provided.
3. The department has the following comments with regards to the proposed project: 3.1 It is noted on page 1 that the applicant intends to erect a 30m Monopole mast accompanied by support container at a site located in Kingsburgh within eThekwini Municipality. 3.1.1 The applicant must be authorised by this Department prior to the commencement of any activities which trigger water uses as defined in the NWA. 3.1.2 It is the responsibility of the Applicant to identify all water uses applicable to the project in terms of Section 21 of the NWA and ensure that all applicable water uses are authorised as such. The applicant must consult with this department if clarity is required with regard to water uses and water use authorisations. 3.1.3 Ms. Zama Hadebe (031 336 2700/2767) of this Department's Water use Authorisation Section must be contacted for a pre-application meeting to determine the type of authorisations required and the requirements thereof. The onus is on the Applicant to timeously submit a complete water use licence application to this Department	**Mr N Leburu/ Ms TF Dlamini Kwazulu-Natal - Department of Water & Sanitation**	11 December 2017	1.1 No activities will take place that trigger a water use as defined in NWA. 1.2 See above response 1.3 No activities will take place that trigger a water use as defined in NWA. 1.4 Noted 2 No water is required for the operational phase of the development. Water required during the construction phase will be delivered via tanker. Cement is brought to site via a ready mix truck and contractors normally have a small water tank on site that can be used for the small quantities of water that may be required.

Issue	Commentator	Date	Response
for water uses as stipulated under Section 21 of the NWA in time to avoid unnecessary delays. 3.1.4 Please note that if one or more of the water uses for this project requires a water use licence authorisation then by default all other water uses for the project, even those that are within ambit of a General Authorisation, must be all applied for in a single Integrated Water Use License (IWUL) application. 3.2 This Department demands to know the source of water for this intended development. The Applicant must clearly indicate where and how the water the water required for construction will be sourced and brought to site. 3.2.1 A copy of the Service Level Agreement (SLA) and / or proof of communication between the Applicant and the Water Services Provider which indicates that there would be enough capacity to cater for the construction needs of the project must be included in the Report. 3.2.2 Should the Applicant require to abstract water from a water resource for construction, then this will constitute a water use in terms of Section 21(a) of the NWA and the Applicant will require prior authorisation from this Department before commencement of any abstraction. 3.2.3 Further to item 2.2 above the Applicant must indicate the proposed source to be used as well as details of the sustainability of that source in relation to the proposed abstraction rates and volumes. 3.3 Page 11 of the EMPr states, "There will be ablution facilities provide on the construction site for use by the construction personnel". It is required that these toilets must be situated out of the 1:00 year floodline of a watercourse or outside 100 metres from riparian zone, whichever is greatest distance. 3.3.1 The report must clearly indicate who will be responsible for the management of the chemical and where contents of these toilets will be emptied and safely disposed of. 3.3.2 The Applicant must indicate how the pollution of water resources from the use of these facilities will be prevented and/ or mitigated. There must be no unacceptable health hazards or impacts arising from the disposal of sewage and wastewater during and post construction. 3.3.3 The Applicant must indicate using a construction site layout maps where the chemical toilets will be positioned during the construction phase of the project in order to			3 The EMP has been amended to indicate that: 3.1 A local contractor will be appointed to provide and maintain the chemical toilets required during the construction phase. The contents of the toilets are to be disposed of at the nearest sewerage treatment plant and a contract is to be entered into with the contractor to this extent. 3.2 No surface water bodies are in close proximity to the site and no water pollution from the chemical toilets are expected. 3.3 The toilets are to be situated adjacent to the layout footprint. 4 Waste is to be stored in a skip and will be collected by a local contractor. 4.1 Waste is to be disposed of at a licensed facility and way bills are to be presented by the contractor of proof of disposal. 4.2 The site manager is responsible for waste and will oversee the contractor. 4.3 Once the contractor is appointed this information can be provided. 5 The area that is disturbed is 100m2 and the site falls in the station site. No impact on stormwater is expected as the station stromwater system is to be utilized. 6 The site is to be rehabilitated and grass is to be planet in order to ensure soil erosion does not take place. Inspections are required after the rainy season and

Issue	Commentator	Date	Response
ensure that they do must not cause any pollution to water resources as well as pose a health hazard. 3.4 Page 11 of the EMPr states "No waste will be illegally dumped on site". The Applicant must elaborate on the following with respect to management of waste generated during the project: 3.4.1 Where will the waste generated be sorted prior to collection for disposal and how will these areas be demarcated in order that they are clearly identified to ensure proper separation of waste and access control. 3.4.2 The responsible personnel for the collection of the different waste streams generated from the project and where the different waste streams will be disposed of. 3.4.3 Should the Applicant wish to make use of private contractor instead of eThekwini Municipal Services to dispose the waste generated from the project, the following would apply: • The details of the contractor must be made available to this Department. • Safe disposal certificates from a permitted waste disposal site must be kept at hand and must be furnished to this Department when request. 3.5 It is vitally important that stormwater is managed along the construction route both during and after construction. The Applicant must develop a stormwater management plant. 3.5.1 Where applicable, wetlands must be included as part of the detailed stormwater management plan should a certain percentage of stormwater from the site be allowed to drain towards the wetlands. It is important that any stormwater discharging to the wetland is dissipated prior to entering the permanent, seasonal or temporary zone of the wetland so that it does not cause gully erosion or negatively impact on the hydrological functioning of the wetland. 3.5.2 The Applicant must also demonstrate in the plan how the following will be achieved: • The separation of stormwater drainage network system away from the waste water (water containing waste) system. • How the construction route will be contoured to ensure free flow of runoff and to prevent the ponding of water. • How drainage will be controlled to ensure that runoff from the construction route will not culminate in off-side pollution or result in damage to properties downstream of any stormwater discharge. 3.6 The Applicant must also elaborate on measures to: • Prevent or minimise soil erosion on site i.e. pre-, during- and post – construction activities. • What and how erosion control measures will be implemented in areas sensitive to erosion.			where needed areas are to be rehabilitated.

All registered I&AP's were given fair opportunity to comment on the Draft Basic Assessment Report. The Final Basic Assessment Report is to be released for public comment before it is finalised and forwarded to the relevant authorities. A 30 day comments period will be provided.

9.6 Final Basic Assessment Report

The final stage in the Basic Assessment process will entail the capturing of responses and comments from I&APs on the Draft BAR in order to refine the BAR, and ensure that all issues of significance are addressed. The Final BAR will be submitted to the competent authority for review and decision-making.

10 GENERAL DESCRIPTION OF THE STUDY AREA

10.1 Soils and Geology

According to Mucina and Rutherford (*The Vegetation of South Africa, Lesotho and Swaziland*, South African National Biodiversity Institute, Kirstenbosch, August 2006) the area is characterised by up to about 18 000 years old Quaternary sediments of marine origin, namely yellowish and argillaceous redistributed sands.

Soils are nutritionally very poor and well leached, except in the interdune depressions where organic rich soils are sometimes found.

10.2 .Climate

The area normally receives about 829mm of rain per year, with most rainfall occurring mainly during mid-summer. The average midday temperatures for the area range from 22°C in July to 27.2°C in February. The region is the coldest during July.

10.3 Vegetation

Vegetation in the area was described by Mucina and Rutherford (*The Vegetation of South Africa, Lesotho and Swaziland*, South African National Biodiversity Institute, Kirstenbosch, August 2006)

as that of the Maputaland Coastal Belt, characterised by a wide range of interspersed non forest communities including dry grasslands.

Vegetation on site has been disturbed as the site is consists of the existing railway line, power lines and existing buildings and paving. Areas planted with grass (Kikuyu) are present on the site.

Figure 7: A view of the site

10.4 Hydrology

The site is not affected by surface water bodies.

10.5 Cultural and social features

According to the National Heritage Resources Act, 1999 (Act No. 25 of 1999) provisions are made to protect national heritage and this forms an integral part of the environmental assessment process.

The site has been fully developed and no sites of cultural heritage significance were identified within the development boundary; therefore no specific mitigation measures are needed for the development. Care should however be taken when the construction phase of the project commences. If any historical

site features or artefacts are discovered, a qualified archaeologist will be commissioned to investigate and SAHRA or Amafa aKwaZulu-Natali will be informed.

11 ENVIRONMENTAL IMPACT ASSESSMENT

The impact of the related project activities have been determined by identifying the environmental aspects and then undertaking an environmental risk assessment to determine the significance of the environmental impacts during the construction and operational phases of the proposed development.

Due to the nature of the development it is anticipated that the infrastructure will be permanent, thus not requiring decommissioning or rehabilitation.

The table below provides a summary of all the environmental aspects and potential environmental impacts that have been identified and need to be avoided, managed and mitigated.

Table 2: Summary of Environmental Impacts identified

Environmental Aspect	**Probable Impact**
Topography	Visual Impacts due to clearance of site and cut and fill
Geology and Soils	Soil erosion, loss of topsoil, deterioration of soil quality Soil pollution Disturbance of surface geology
Hydrology	Storm water flow and drainage
Aesthetics, Landscape Character and Sense of Place	Noise Visual
Social Well-Being and Quality of the Environment	Safety and Security Job opportunities Air quality during construction phase
Historical Environment	Destruction of cultural / heritage sites
Infrastructure and Services/Waste	Potential Impact on existing infrastructure
Waste	Construction waste

11.1 Methodology

The potential environmental impacts associated with the project will be evaluated according to the nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- **Nature:** A brief written statement of the environmental aspect being impacted upon by a particular action or activity.
- **Extent:** The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- **Duration**: Indicates what the lifetime of the impact will be;
- **Intensity:** Describes whether an impact is destructive or benign;
- **Probability:** Describes the likelihood of an impact actually occurring; and
- **Cumulative:** In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

The tables below provide a description of the methodology utilised in the rating of the significance of impacts.

Table 3: Methodology

Rating	Definition of Rating	Score
A. Extent – *the area in which the impact will be expected*		
None		0
Local	Confined to project or study area or part thereof (eg. site)	1
Regional	The region, which may be defined in various ways, eg. Cadastral, catchment, topographic	2
(Inter) national	Nationally or beyond	3
B. Intensity – *the magnitude or size of the impact*		
None		0
Low	Natural and/or social functions and processes are negligibly altered	1
Medium	Natural and/or social functions and processes continue albeit in a modified way	2
High	Natural and/or social functions or processes are severely altered	3
C. Duration – *the time frame for which the impact will be experienced*		

None		0
Short term	Up to 2 years	1
Medium term	2 – 15 years	2
Long Term	More than 15 years	3

The combined score of these three criteria corresponds to a Consequence Rating, as set out in the table below:

Table 4: Method used to determine the consequence score

Combined score (A+B+C)	**0 - 2**	**3 - 4**	**5**	**6**	**7**	**8-9**
Consequence Rating	Not significant	Very low	Low	Medium	High	Very high

Once the consequence is derived, the probability of the impact occurring is considered, using the probability classifications indicated in the table below:

Table 5: Method used to determine probability

Probability of impact – the likelihood of the impact occurring	
Improbable	< 40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

The overall significance of impacts is determined by considering consequence and probability using the rating system indicated in the table below:

Table 6: Impact significance rating

Significance Rating	**Consequence**		**Probability**
Insignificant	Very low	&	Improbable
	Very low	&	Possible
Very Low	Very low	&	Probable
	Very low	&	Definite
	Low	&	Improbable
	Low	&	Possible
Low	Low	&	Probable
	Low	&	Definite

	Medium	&	Improbable
	Medium	&	Possible
Medium	Medium	&	Probable
	Medium	&	Definite
	High	&	Improbable
	High	&	Possible
High	High	&	Probable
	High	&	Definite
	Very high	&	Improbable
	Very high	&	Possible
Very High	Very high	&	Probable
	Very high	&	Definite

In conclusion the impacts are also considered in terms of their status (positive or negative impact) and the confidence in the ascribed impact significance rating. The prescribed system for considering impacts status and confidence (in assessment) is indicated in the table below.

Table 7: Impact status and confidence classification

Status of Impact	
Indication of where the impact is adverse (negative) or beneficial (positive)	+ ve (positive – a 'benefit')
	- ve (negative – a 'cost')
	Neutral
Confidence of assessment	
The degree of confidence in predictions based on available information, EAP's judgement and/or specialist knowledge	Low
	Medium
	High

The impact significance rating was considered in the Impact Assessment process based on the implications of ratings ascribed below:

- Insignificant: the potential impact is negligible and will not have an influence on the decision regarding the proposed activity / development;
- Very low: the potential impact should not have any meaningful influence on the decision regarding the proposed activity / development;
- Low: the potential impact may not have any meaningful influence on the decision regarding the proposed activity / development;
- Medium: the potential impact should influence the decision regarding the proposed activity / development;

- High: the potential impact will affect the decision regarding the proposed activity / development;
- Very high: The proposed activity should only be approved under special circumstances.

11.2 Impacts that may result from the construction and operational phase

The tables below provide a description of the potential impacts, the significance rating of the impacts, proposed mitigation and significance rating of the impacts after mitigation that are likely to occur as a result of the proposed development.

Table 8: Potential impacts for Alternative 1 during the Construction and Operational phases

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
CONSTRUCTION PHASE								
1. ISSUE: AIR QUALITY								
1.1 Dust/Air pollution - The generation of fugitive dust associated with construction activities & earthworks	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Definite	Very Low & Definite = Very Low	-ve	High
2. ISSUE: VISUAL IMPACTS								
2.1 Visual impacts due to clearance of site cut and fill	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Probable	Very Low & Probable = Very Low	-ve	Medium
3. ISSUE: GEOLOGY AND SOILS								
3.1 Disturbance of surface geology for development foundations	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Definite	Very Low & Definite = Very Low	-ve	High
3.2 Soil erosion, loss of topsoil, deterioration of soil quality	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Definite	Very Low & Definite = Very Low	-ve	High
3.3 Soil and ground water pollution	Local (1)	High (3)	Short term (1)	Low (5)	Probable	Low & Probable = Low	-ve	High
4. ISSUE: FAUNA AND FLORA								

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
4.1 Degradation, destruction of habitats/ecosystems.	Local (1)	Low (1)	Short term (1)	Very Low (3)	Probable	Very Low & Probable = Very Low	-ve	High
4.2 Impacts on fauna and flora	Local (1)	Low (1)	Short term (1)	Very Low (3)	Probable	Very Low & Probable = Very Low	-ve	Medium
5. ISSUE: HYDROLOGY								
5.1 Storm water flow and drainage - Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Probable	Very Low & Probable = Very Low	-ve	Medium
6. SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT								
6.1 Noise and vibration	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Definite	Very Low & Definite = Very Low	-ve	Medium
6.2 Job opportunities	Region (2)	High (3)	Short term (1)	Medium (6)	Definite	Medium & Definite = Medium	+ve	Medium
6.3 Destruction of cultural/heritage sites	None (0)	None (0)	None (0)	Not Significant (0)	Improbable	Not significant & Improbable = Not significant	-ve	Medium
7. ISSUE: SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT								
7.1 Safety and Security	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Probable	Very Low & Probable = Very Low	-ve	Medium
8. ISSUE: INFRASTRUCTURE AND SERVICES/WASTE								
8.1 Waste	Local (1)	High (3)	Short term (1)	Low (5)	Definite	Low & Definite = Low	-ve	Medium
OPERATIONAL PHASE								

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
1. ISSUE: FAUNA AND FLORA								
1.1 Alien invasion	Local (1)	Medium (2)	Long term (3)	Medium (6)	Probable	Medium & Probable = Medium	-ve	High
2. ISSUE: SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT								
2.1 Safety and Security	Local (1)	Medium (2)	Long term (3)	Medium (6)	Probable	Medium & Probable = Medium	-ve	High
3.ISSUE: TRAFFIC								
3.1 Structure might impact on air traffic if it does not have day night markings	Local (1)	High (3)	Long term (3)	High (7)	Probable	High & Probable = High	-ve	High
4. ISSUE: VISUAL								
4.1 Visual impact on adjacent land users.	Local (1)	Medium (2)	Long term (3)	Medium (6)	Definite	Medium & Definite = Medium	-ve	High
5. ISSUE: HEALTH								
5.1 Electromagnetic radiation	Local (1)	Medium (2)	Long term (3)	Medium (6)	Probable	Medium & Probable = Medium	-ve	High
6. ISSUE: PROPERTY VALUES								
6.1 Devaluation of properties	Local (1)	Medium (2)	Long term (3)	Medium (6)	Probable	Medium & Probable = Medium	-ve	High

Table 9: Impact significance for the Construction and Operational phase

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
CONSTRUCTION PHASE			
1. ISSUE: AIR QUALITY			
1.1 Dust/Air pollution - The generation of fugitive dust associated with construction activities & earthworks.	Very Low	• Dust generation should be kept to a minimum. • Dust must be suppressed on construction areas during dry periods by the regular application of water or a biodegradable soil stabilisation agent.	Very Low

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		• Speed limits must be implemented in all areas, including public roads and private property to limit the levels of dust pollution. • It is recommended that the clearing of vegetation from the site should be selective and done just before construction so as to minimise erosion and dust. • Excavating, handling or transporting erodible materials in high wind or when dust plumes are visible shall be avoided. • All materials transported to site must be transported in such a manner that they do not fly or fall off the vehicle. This may necessitate covering or wetting friable materials. • No burning of refuse or vegetation is permitted.	
2. ISSUE: VISUAL IMPACTS			
2.1 Visual Impacts due to clearance of site cut and fill.	Very Low	• Site development to be limited to footprint area.	Very Low
3. ISSUE: GEOLOGY AND SOILS			
3.1 Disturbance of surface geology for development foundations	Very Low	• Strip topsoil prior to any construction activities. • Reuse topsoil to rehabilitate disturbed areas. • Topsoil must be kept separate from overburden and must not be used for building purposes or maintenance or access roads. • Appropriate erosion and storm water management structures must be installed around the construction site.	Very Low
3.2 Soil erosion, loss of topsoil, deterioration of soil quality	Very Low	• Ensure correct position of construction caps, equipment yards, refueling depots, concrete batching plant etc. to avoid areas susceptible to soil and water pollution. • Ensure appropriate handling of hazardous substances • Remediate polluted soil. • All construction vehicles, plant, machinery and equipment must be properly maintained to prevent leaks.	Very Low

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		• Plant and vehicles are to be repaired immediately upon developing leaks. Drip trays shall be supplied for all repair work undertaken on machinery on site or campsite area. • Drip trays are to be utilised during daily greasing and re-fueling of machinery and to catch incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness, and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. • Vehicles to be used during the construction phase are to be kept in good working condition and should not be the source of excessive fumes. • Fuels and chemicals must be stored in adequate storage facilities that are secure, enclosed and bunded. • All excavations and foundations must be inspected regularly.	
3.3 Soil and ground water pollution	Low	• Site development to be limited to footprint area.	Very Low
4. ISSUE: FAUNA AND FLORA			
4.1 Degradation, destruction of habitats/ecosystems.	Very Low	• Minimise construction footprints prior to commencement of construction and control all edge effects of construction activities (proliferation of alien vegetation, disturbance of soils, dumping of construction waste). • Ensure that erosion management and sediment controls are strictly implemented from the beginning of site clearing activities. • Clearly demarcate areas to be cleared and ensure that vegetation clearing only occurs within the demarcated areas	Very Low
4.2 Impacts on fauna and flora	Very Low	• The contractor must ensure that no fauna species are disturbed, trapped, hunted or killed during the construction phase.	Very Low

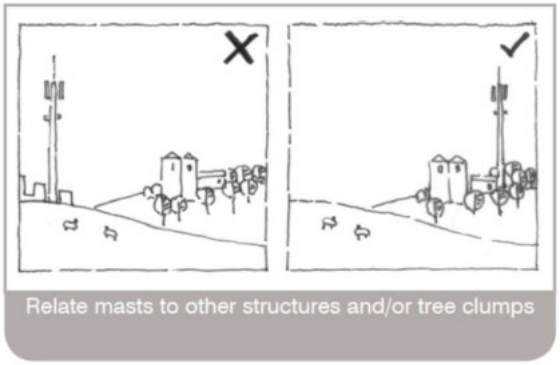
Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		• The illegal hunting or capture of wildlife will not be tolerated. Such matters will be handed over to the relevant authorities for prosecution. • Disturbance to birds, animals and reptiles and their habitats should be prevented at all times. • All Declared Weeds and invaders must be removed. • Rehabilitation with indigenous species, should it be required.	
5. ISSUE: HYDROLOGY			
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation.	Very Low	• Storm water measures to be implemented prior to construction taking place on site: • All measures should be implemented during the construction of earthworks (terraces and roadways) to ensure that disturbed soil is not transported into any water course or system where storm water is to flow. Building rubble and other products that can cause contamination must be managed according to best practice and monitored by the site's environmental control officer (ECO).	Very Low
6. SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT			
6.1 Noise and vibration	Very Low	• Noise levels shall be kept within acceptable limits, and construction crew must abide by National Noise Laws and local by-laws regarding noise. • No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site. • Construction / management activities involving use of the service vehicle, machinery, hammering etc, must be limited to the hours between 7:00am and 5:30pm weekdays; 7:00am and 1:30pm on Saturdays; no noisy activities may take place on Sundays or Public Holidays.	Very Low

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		• Activities that may disrupt neighbours (e.g. delivery trucks, excessively noisy activities etc.) must be preceded by notice being given to the affected neighbours at least 24 hours in advance. • Equipment that is fitted with noise reduction facilities (e.g. side flaps, silencers etc.) must be used as per operating instructions and maintained properly during site operations	
6.2 Job opportunities	Medium	• Make use of local labour • Provide clear and realistic information regarding employment opportunities and other benefits for local communities in order to prevent unrealistic expectations.	Medium (Positive)
6.3 Destruction of cultural/heritage sites	Insignificant	• Ensure that construction staff members are aware that heritage resources could be unearthed and the scientific importance of such finds. • Ensure that heritage objects are not to be moved or destroyed without the necessary permits from the South African Heritage Resources Agency (SAHRA) in place.	Insignificant
7. ISSUE: SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT			
7.1 Safety and Security	Very Low	• Signs should be erected on all entrance gates to the site camp indicating that no temporary jobs are available, thereby limiting opportunistic labourers and crime. • The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations • All structures that are vulnerable to high winds must be secured (including toilets). • Potentially hazardous areas such as trenches are to be cordoned off and clearly marked at all times.	Very Low

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		• The Contractor is to ensure traffic safety at all times, and shall implement road safety precautions for this purpose when works are undertaken on or near public roads. • Necessary Personal Protective Equipment (PPE) and safety gear appropriate to the task being undertaken is to be provided to all site personnel (e.g. hard hats, safety boots, masks etc.). • All vehicles and equipment used on site must be operated by appropriately trained and / or licensed individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA). • An environmental awareness training programme for all staff members shall be put in place by the Contractor. Before commencing with any work, all staff members shall be appropriately briefed about the EMP and relevant occupational health and safety issues. • All construction workers shall be issued with ID badges and clearly identifiable uniforms. • Access to fuel and other equipment stores is to be strictly controlled. • Emergency procedures must be produced and communicated to all the employees on site. This will ensure that accidents are responded to appropriately and the impacts thereof are minimised. This will also ensure that potential liabilities and damage to life and the environment are avoided. • Adequate emergency facilities must be provided for the treatment of any emergency on the site. • The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. Emergency	

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		contact numbers are to be displayed conspicuously at prominent locations around the construction site and the construction crew camps at all times. • The Contractor must have a basic spill control kit available at each construction crew camp and around the construction site. The spill control kits must include absorptive material that can handle all forms of hydrocarbon as well as floating blankets / pillows that can be placed on water courses. • The Contractor shall make available safe drinking water fit for human consumption at the site offices and all other working areas. • Washing and toilet facilities shall be provided on site and in the Contractors camp. • Adequate numbers of chemical toilets must be maintained in the Contractors camp to service the staff using this area. At least 1 toilet must be available per 20 workers using the camp. Toilet paper must be provided. • The chemical toilets servicing the camp must be maintained in a good state, and any spills or overflows must be attended to immediately. • The chemical toilets must be emptied on a regular basis. • The Contractors site must be located on the high side of the site so any leakages or spillages will be contained on site. • HIV AIDS awareness and education should be undertaken by all Contractor staff.	
8. ISSUE: INFRASTRUCTURE AND SERVICES/WASTE			
8.1 Waste	Low	• No burning of waste. • Waste will be collected and removed off-site to a registered waste site.	Very Low
OPERATIONAL PHASE			
1. ISSUE: FAUNA AND FLORA			

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
1.1. Alien invasion	Medium	• Site to be kept neat and weed free.	Low
2. ISSUE: SOCIAL WELLL BEING AND QUALITY OF THE ENVIRONMENT			
2.1 Safety and Security	Medium	• Site to be secured. • Regular checkup on fencing.	Low
3. ISSUE: TRAFFIC			
3.1 Structure might impact on air traffic if it does not have day night markings	High	• Mast to have Markings	Medium
4. ISSUE: VISUAL			
4.1 Visual impact on adjacent land users.	Medium	• The proposed monopole structure, is compatible with the surrounding land uses. • Telecommunication infrastructure should be designed and sited to minimise any potential adverse visual impact on the character and amenity of the local environment, in particular impacts on prominent landscape features, general view in the locality and individual significant views. • Telecommunication infrastructure (TI) must be designed and sited to minimise, mitigate or avoid adverse impacts on the visual character and amenity of residential areas. • Techniques which may be used to minimise adverse visual impacts may include: ➢ Adjustment of the overall size; ➢ Colour coding to match the predominant background (e.g. sky, vegetation); ➢ Designing the infrastructure as a work of urban art/as another structure (e.g. flagpole, signpost, tree) ➢ Cables should be placed underground, unless it is impractical to do so and there would be no significant effect on visual amenity. ➢ TI support structures should be located where vegetation (trees), landforms or other features of a site will adequately screen or	Low

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		reduce the impact of the TI from public areas and reduce the visual impact. (i.e. locate TI within industrial, commercial or business areas where possible)  Figure 8: Mitigate visual impacts 1 **Source:** ***www.emrsa.co.za/wp-content/uploads/2016/09/20150817-TMIP-final-approved.pdf***  Figure 9: Mitigate visual impacts 2	

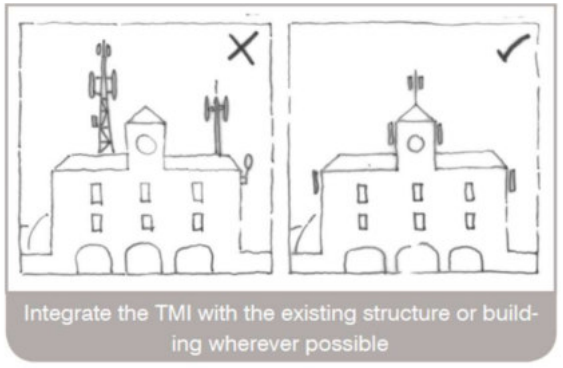
Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		Source: *www.emrsa.co.za/wp-content/uploads/2016/09/20150817-TMIP-final-approved.pdf*  Figure 10: Mitigate visual impacts 3 **Source: *www.emrsa.co.za/wp-content/uploads/2016/09/20150817-TMIP-final-approved.pdf***	
5. ISSUE: HEALTH			
5.1 Electromagnetic radiation	Medium	• Site to be inspected regularly • Routine maintenance • Regular measurement of levels	Low
6. ISSUE: PROPERTY VALUES			
6.1 Devaluation of properties	Medium	• No mitigation is possible as it is uncertain to what extent the telecommunication mast will impact on the property values, however it is understood that if the mitigation measures for the visual impact are adequately implemented, then this potential impact might be offset.	Low

Table 10: Impact Significance Rating for Alternative 2 for the Construction and Operational phase

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
CONSTRUCTION PHASE			

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
1. ISSUE: AIR QUALITY			
The impacts of Alternative 2 are similar to that of Alternative 1 with the following exception:			
4. ISSUE: VISUAL			
4.1 Visual impact on adjacent land users.	High	• The lattice structure, is not as compatible with the surrounding land uses as the monopole structure. • Telecommunication infrastructure should be designed and sited to minimise any potential adverse visual impact on the character and amenity of the local environment, in particular impacts on prominent landscape features, general view in the locality and individual significant views. • Telecommunication infrastructure (TI) must be designed and sited to minimise, mitigate or avoid adverse impacts on the visual character and amenity of residential areas. • Techniques which may be used to minimise adverse visual impacts may include: ➢ Adjustment of the overall size; ➢ Colour coding to match the predominant background (e.g. sky, vegetation); ➢ Designing the infrastructure as a work of urban art/as another structure (e.g. flagpole, signpost, tree) ➢ Cables should be placed underground, unless it is impractical to do so and there would be no significant effect on visual amenity. ➢ TI support structures should be located where vegetation (trees), landforms or other features of a site will adequately screen or reduce the impact of the TI from public areas and reduce the visual impact. (i.e.	Medium

Potential Impacts	Significance rating of impacts before mitigation	Mitigation	Significance rating of impacts after mitigation
		locate TI within industrial, commercial or business areas where possible)	

11.3 Cumulative impacts associated with the Construction and Operation phases of the proposed development

The following cumulative impacts were identified:

- Disturbance of the site might lead to alien plant infestation.
- Visual impact of the mast. The proposed type of structure, the colour and the position must be compatible with the surrounding land uses.
- There is a socio-economic need for an effective and efficient telecommunication network in the area for economic and safety purposes. Therefore the proposed project will accommodate the interests of the applicant, community and economy.

11.4 Gaps in knowledge or assumptions made in the assessment

No impact assessment can be completely certain of the exact nature and extent of the various impacts that would result from a given development activity. However, this assessment strives to limit any uncertainties by optimising the collection of base data, and by following a rigorous impact assessment methodology.

11.5 Overall summary and reasons for selecting the proposal

- It is understood that the site has already been disturbed for the development of the train station, therefore it is no longer in its pristine state.
- There are no special or sensitive habitats or other natural features present on site.
- The proposed development will not produce any waste during its operational phase.
- The proposed development will not require any water during its operational phase.
- The proposed monopole structure is compatible with the surrounding land uses.

12 ENVIRONMENTAL IMPACT STATEMENT

As a necessary part of infrastructure and a business service, this development is bound to have a positive effect on the surrounding area in terms of communication, and it will provide a needed service to the immediate area.

From a purely biophysical perspective the area to be impacted on by the mast is relatively small and the site has already been disturbed for the development of a train station and there are no sensitive habitats on site.

The construction phase has the greatest impact on the environment even with mitigation. The negative impacts associated with the construction phase include:

- Soil and Ground Water pollution
- Increased run off of water
- Visual Intrusion & Light Pollution
- Destruction of Flora & Fauna
- Noise Pollution
- Atmosphere pollution and odours resulting from dust and construction equipment
- Safety & Security on the site
- Spread of Alien Vegetation

The construction phase will be associated with positive socio-economic impacts in terms of job creation. A number of mitigation measures to reduce or improve these impacts have been identified and are presented in the tables above. A key environmental imperative of the construction phase would be to prevent soil, air, water and noise pollution and erosion on the site.

The negative impacts relating to the operational phase include the following:

- Due to the disturbance of the site alien plants will be able to establish and could become a problem by infesting neighbouring land.
- The visual impact ;

A number of mitigation measures to reduce or improve these impacts have been identified and are presented in the tables above.

The primary positive impacts relate to the improved communications network in the area.

The construction phase will be of short duration and operational phase will have limited environmental impacts if constructed according to the conditions outlined in this report and if managed according to the EMPr.

12.1 Recommendation from Environmental Assessment Practitioner

Based on the information provided it is the opinion of Lokisa Environmental Consulting CC that no fatal flaws have been identified for the proposed development and that the information contained in this report is sufficient enough to allow KZN EDTEA to make an informed decision.

Lokisa Environmental Consulting CC therefore recommends that Environmental Authorisation be granted for the proposed development based on the following recommendations:

- The proposed activity is not anticipated to have significant environmental impacts.
- The following recommendations should be implemented in order to ensure that potential impacts associated with the establishment and operation of the site are minimised:
  - Any areas disturbed during construction and operation must be rehabilitated.
  - The structure is to be removed when the structure ceased to be used for telecommunications purposes and the site rehabilitated.
  - Construction to take place during working hours.
  - Trampling and disturbance associated with construction should be limited to within 5m (five metres) of the footprint of the site.
  - On completion of the project all litter and construction debris shall be immediately removed from the site.
  - Mitigation measures to reduce the potential visual impact should be implemented as far as possible.

12.2 Environmental Management Programme

An Environmental Management Programme (EMPr) (Appendix H) has been produced and provide a set of practical and actionable mitigation, monitoring and institutional measures to be taken into account during the construction and operational phases of the proposed telecommunication mast, should environmental authorisation be granted. The aim of EMPr is to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels.

13 References

Mucina and Rutherford, 2006. The Vegetation of South Africa, Lesotho and Swaziland, South African National Biodiversity Institute, Kirstenbosch.

www.emrsa.co.za/wp-content/uploads/2016/09/20150817-TMIP-final-approved.pdf

Appendix A

Site plan(s)

Aerial Photo

KZN17 - Park Rynie

CommCo holdings pty ltd

SITE DETAIL

SITE NAME - NO.

KZN17
Park Rynie

SITE ADDRESS

Remainder of Erf 583,
Park Rynie Station,
Park Rynie,
Kwazulu-Natal

LATITUDE	LONGITUDE	ASL
-30.315962°	30.741761°	12m

APPROVAL

RADIO ENGINEER	
NAME	SIGN

PLANNER	
NAME	SIGN

ENGINEER	
NAME	ECSA No.

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P.O. Box 44512
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DRAWN BY	CHECKED BY
NAME: J.Loots	NAME: W. Petterson
DATE: 14-09-2016	DATE: 14-09-2016

REVISION

No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	JL	14-09-2016

AERIAL MAP

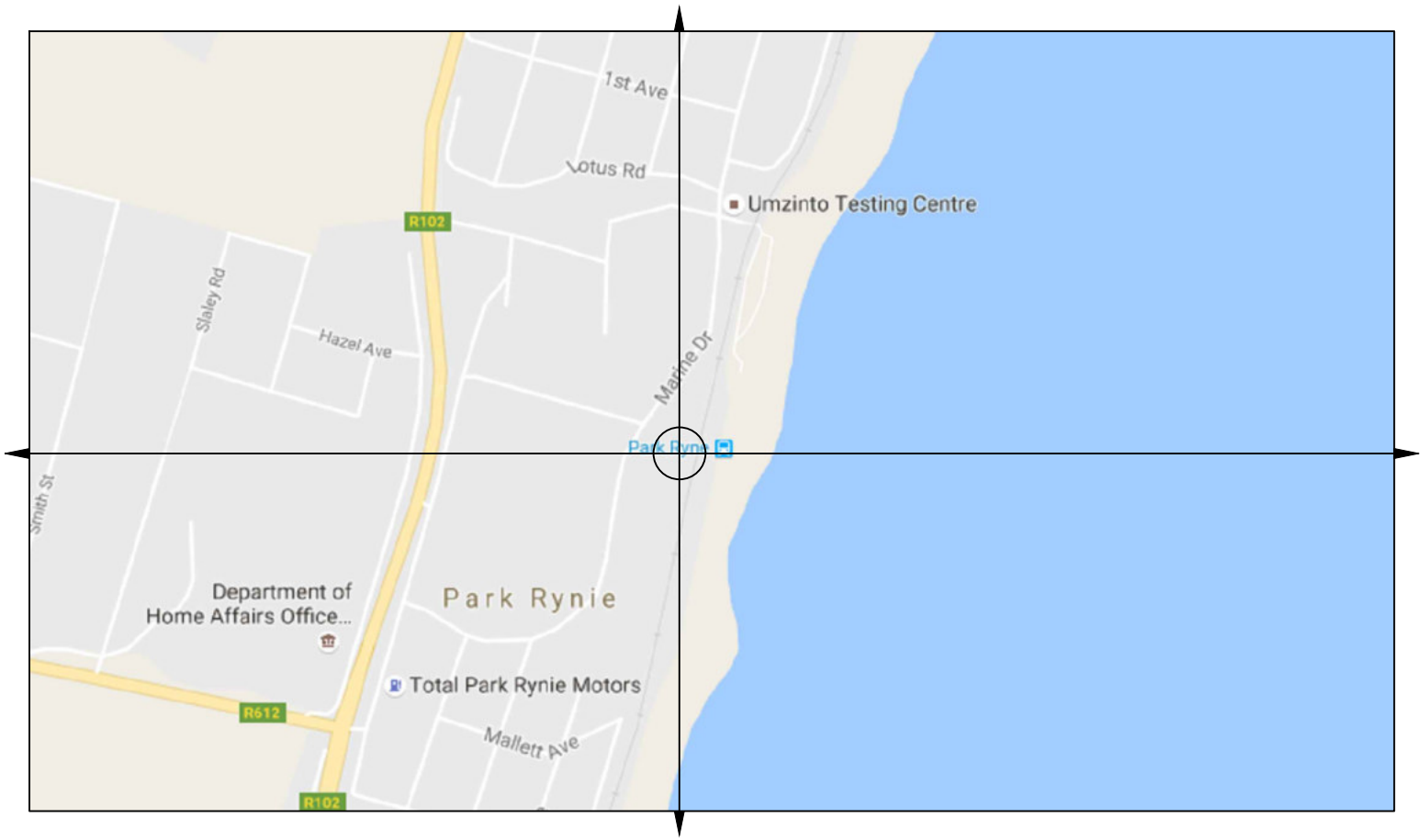
SCALE: NTS

DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A01/07	PRO	A

Locality Map

KZN17 - Park Rynie



CommCo holdings pty ltd

SITE DETAIL

SITE NAME - NO.
KZN17
Park Rynie

SITE ADDRESS
Remainder of Erf 583,
Park Rynie Station,
Park Rynie,
Kwazulu-Natal

LATITUDE	LONGITUDE	ASL
-30.315962°	30.741761°	12m

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NAME	SIGN

PLANNER	
NAME	SIGN

ENGINEER	
NAME	ECSA No.

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DATE: 14-09-2016	DATE: 14-09-2016

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No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	JL	14-09-2016

LOCALITY MAP

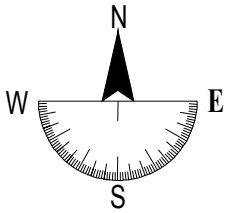
SCALE: NTS

DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A02/07	PRO	A

Site Plan

KZN17 - Park Rynie



= Existing Buildings

CommCo holdings pty ltd

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APPROVAL

RADIO ENGINEER		
NAME	SIGN	

PLANNER	
NAME	SIGN

ENGINEER	
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REVISION

No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	JL	14-09-2016

SITE PLAN

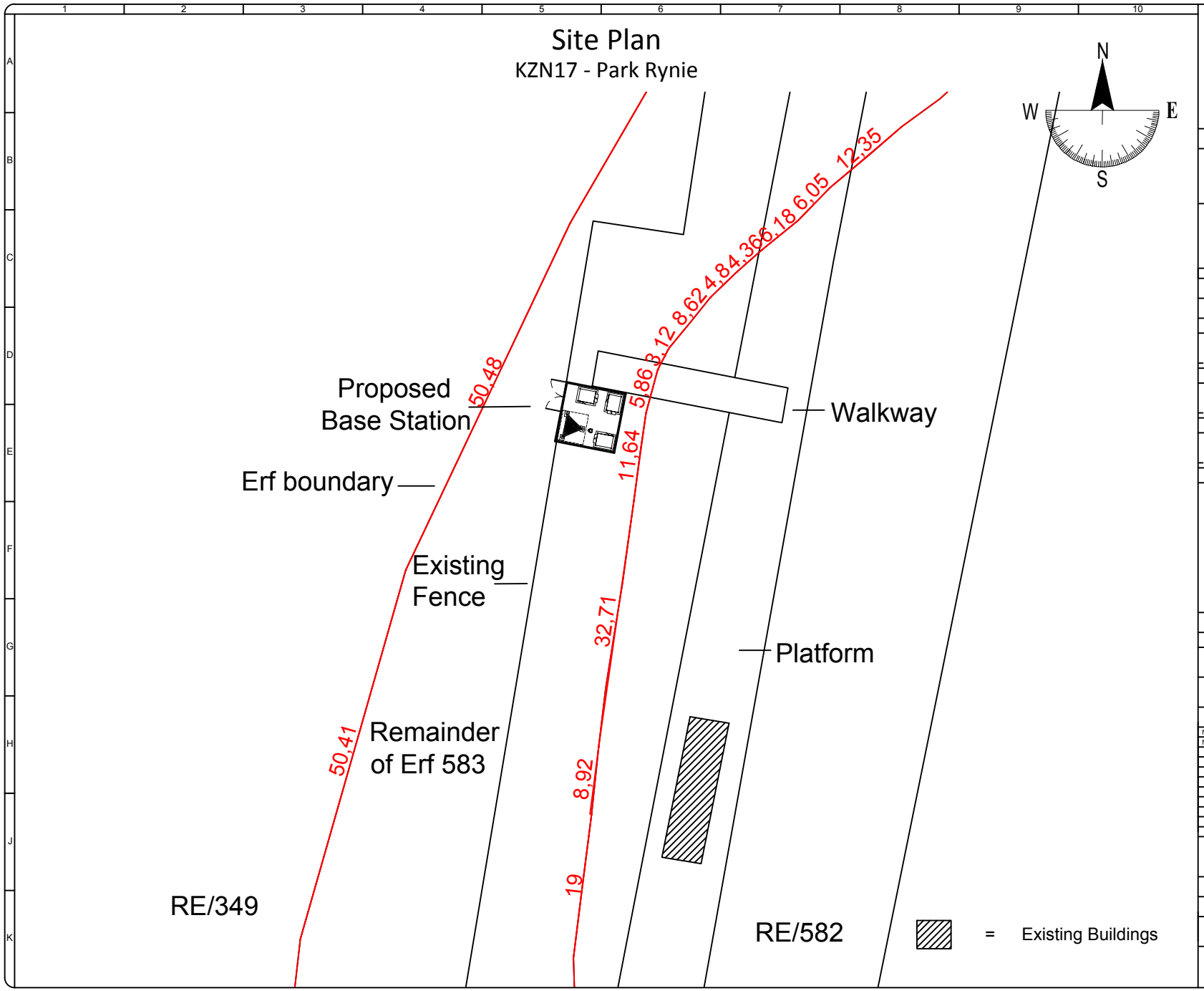
SCALE - NTS

DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A03/07	PRO	A

Site Plan

KZN17 - Park Rynie



CommCo holdings pty ltd

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APPROVAL

RADIO ENGINEER		
NAME	SIGN	
PLANNER		
NAME	SIGN	
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NAME	ECSA No.	

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REVISION

No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	JL	14-09-2016

SITE PLAN

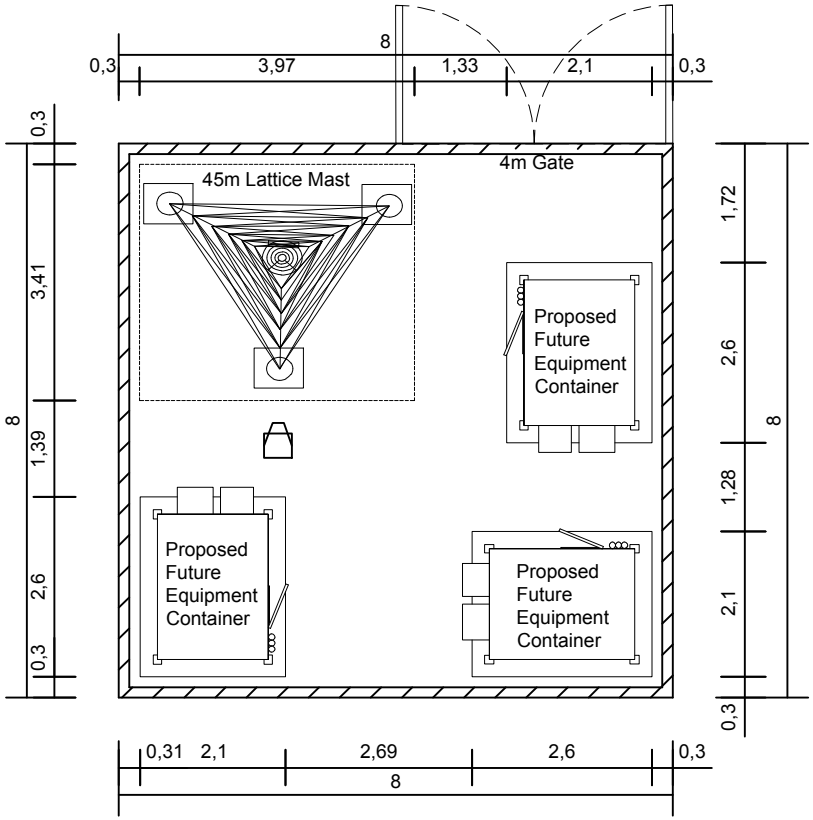
SCALE - NTS

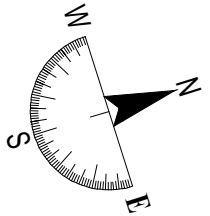
DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A04/07	PRO	A

Top View

KZN17 - Park Rynie





CommCo holdings pty ltd

SITE DETAIL

SITE NAME - NO.
KZN17
Park Rynie

SITE ADDRESS
Remainder of Erf 583,
Park Rynie Station,
Park Rynie,
Kwazulu-Natal

LATITUDE	LONGITUDE	ASL
-30.315962°	30.741761°	12m

APPROVAL

RADIO ENGINEER	
NAME	SIGN

PLANNER	
NAME	SIGN

ENGINEER	
NAME	ECSA No.

Warren Petterson Planning
P.O. Box 44512
Claremont, Cape Town
Tel: (+27 021) 552 5255
Email: jandre@wpplanning.co.za

OFFICE

DRAWN BY	CHECKED BY
NAME: J.Loots	NAME: W. Petterson
DATE: 14-09-2016	DATE: 14-09-2016

REVISION

No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	JL	14-09-2016

TOP VIEW

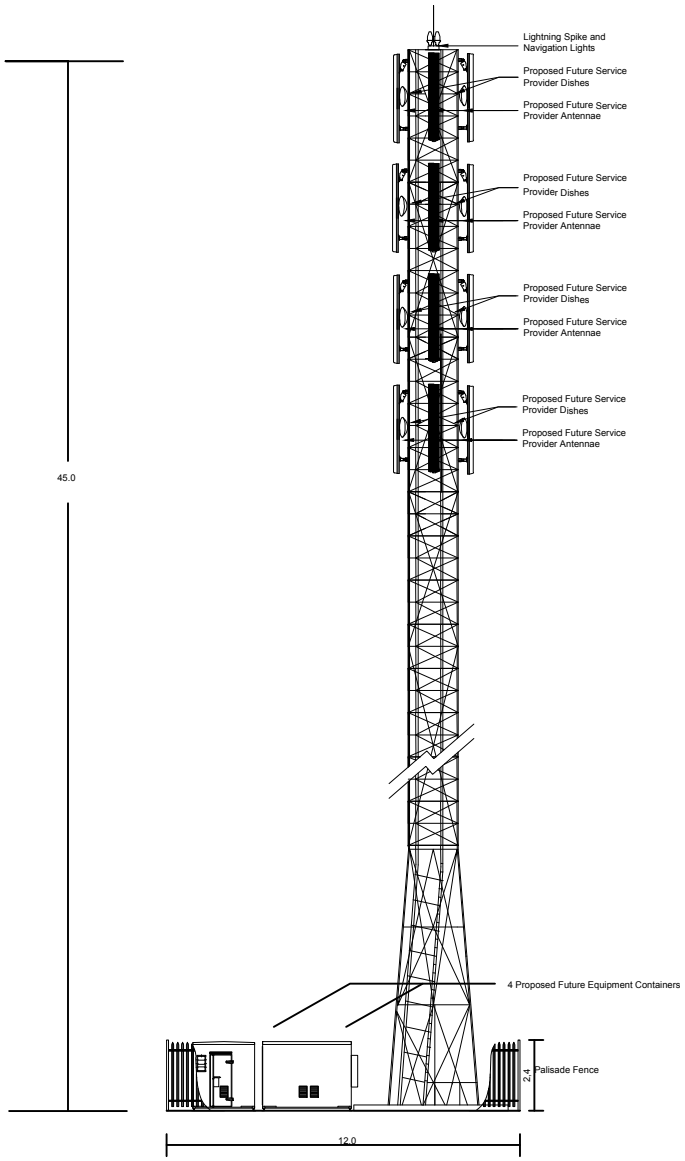
SCALE: 1 : 100

DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A05/07	PRO	A

Elevation

KZN17 - Park Rynie



CommCo holdings pty ltd

SITE DETAIL

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KZN17
Park Rynie

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Park Rynie,
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LATITUDE	LONGITUDE	ASL
-30.315962°	30.741761°	12m

APPROVAL

RADIO ENGINEER	
NAME	SIGN

PLANNER	
NAME	SIGN

ENGINEER	
NAME	ECSA No.

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OFFICE

DRAWN BY	CHECKED BY
NAME: J.Loots	NAME: W. Petterson
DATE: 14-09-2016	DATE: 14-09-2016

REVISION

No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	JL	14-09-2016

ELEVATION

SCALE: NTS

DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A06/07	PRO	A

Photos

KZN17 - Park Rynie

CommCo holdings pty ltd

SITE DETAIL

SITE NAME - NO.
KZN17
Park Rynie

SITE ADDRESS
Remainder of Erf 583,
Park Rynie Station,
Park Rynie,
Kwazulu-Natal

LATITUDE	LONGITUDE	ASL
-30.315962°	30.741761°	12m

APPROVAL

RADIO ENGINEER

NAME	SIGN

PLANNER

NAME	SIGN

ENGINEER

NAME	ECSA No.

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OFFICE

DRAWN BY	CHECKED BY
NAME: J.Loots	NAME: W. Petterson
DATE: 14-09-2016	DATE: 14-09-2016

REVISION

No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	NE	14-09-2016

PHOTOS

SCALE: NTS

DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A07/07	PRO	A

Appendix B

Photographs

Position 1 (30°18'57.46"S; 30°44'30.34"E)

0°

45°

90°

135°

180°

225°

270°

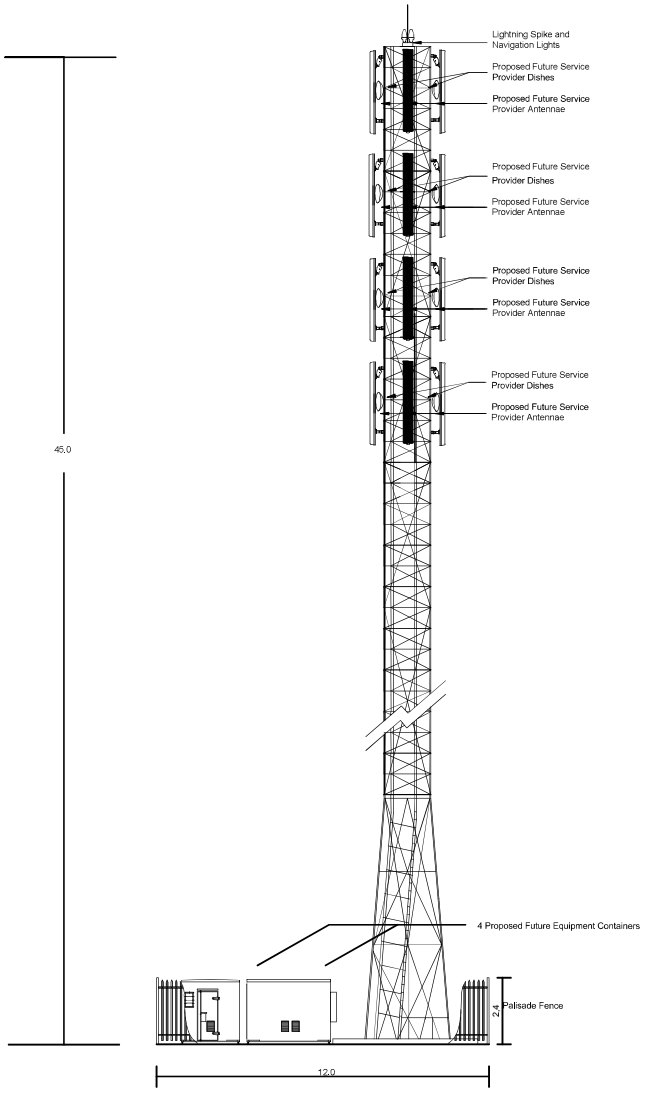
315°

Appendix C

Facility illustration(s)

Elevation

KZN17 - Park Rynie



CommCo holdings pty ltd

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LATITUDE	LONGITUDE	ASL
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APPROVAL

RADIO ENGINEER	
NAME	SIGN

PLANNER	
NAME	SIGN

ENGINEER	
NAME	ECSA No.

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DATE: 14-09-2016	DATE: 14-09-2016

REVISION

No.	REVISION	CAD	DATE
No.	PROPOSED DRAWING	JL	14-09-2016

ELEVATION

SCALE: NTS

DRAWING NUMBER

SITE No.	SHEET No.	TYPE	REV.
KZN17	A06/07	PRO	A

Appendix D

Route position information

Not Applicable