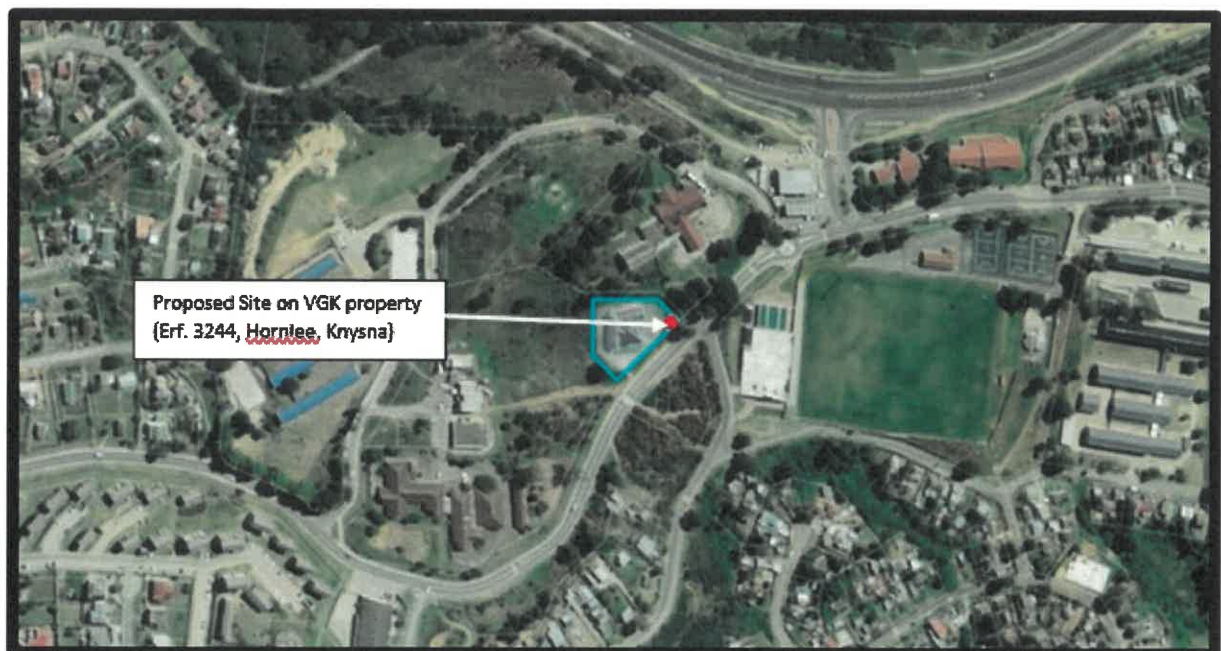


ATLAS TOWER

PROPOSED 25M TELECOMMUNICATIONS TREE MAST DEVELOPMENT

*on Erf. 3244, VGK Knysna, 35 Vigilance Drive, Hornlee,
Knysna Municipality, Western Cape*



DRAFT BASIC ASSESSMENT REPORT

*in terms of the National Environmental Management Act, No. 107 of 1998 (as amended)
and associated environmental impact assessment regulations, 2014*

(VOLUME 1 OF 1)

August 2019

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EXECUTIVE SUMMARY

This basic assessment report accompanies Atlas Tower (Pty) Ltd (Atlas Tower) application for environmental authorisation for the development of a 25m high telecommunications tree mast and base station with a development footprint of approximately 112m² (10,58m x 10,58m). It is proposed that the development take place on Erf. 3244, 35 Vigilance Drive Hornlee, Knysna, Western Cape – a property owned and occupied by, the Verenigende Gereformeerde Kerk – Knysna (VGK Knysna). The proposed telecommunications facility is located within an urban/built-up area, zoned as ‘Institutional’.

The tree mast will be constructed on a concrete plinth and the proposed development will include an equipment room to house operator equipment and a generator, as well as two to three future service provider equipment containers. It is proposed that the facility be enclosed with a brick retaining wall and a 2.4m high palisade fence with flat wrap and an access-controlled gate, facing Vigilance Drive.

The National Environmental Management Act (NEMA, Act 107 of 1998), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorisation from the competent authority based on the findings of an Environmental Assessment.

NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). In the Western Cape, these powers are delegated to the Department of Environmental Affairs & Development Planning (DEA&DP). According to the regulations of Section 24(5) of NEMA, authorisation is required for the following:

Listing Notice 3, GN No. R. 324, Activity 3:

The development of masts or towers of any material or type used for telecommunication, broadcasting or radio transmission purposes where the mast-

- a) is to be placed on a site not previously used for this purpose; and*
- b) will exceed 15 meters in height-*

but excluding attachments to existing buildings and masts on rooftops.

(f) In the Western Cape:

- i) All areas outside urban areas; or*
- ii) Areas designated for conservation use in Spatial Development Frameworks adopted by the Competent Authority, or zoned for a conservation purpose, within urban areas.*
- iii) Areas zoned for use as public open space or equivalent zoning within urban areas.*

In 2018, BJB Project Services CC, submitted a pre-application checklist to DEA&DP, on behalf of the Applicant, Atlas Tower, for the proposed development. The checklist, although never seen by EnviroAfrica CC, was acknowledged and responded to in DEA&DP correspondence to the Applicant dated 17 November 2018. While it appears that the proposed development site does not fall within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA), the DEA&DP has indicated that the site “is located within a

nationally proclaimed protected area (i.e. the Knysna Lakes Protected Area) as identified in terms of the National Environmental Management: Protected Areas Amendment Act, No. 15 of 2009 (NEM:PAAA)", making the DEA the competent authority in terms of environmental authorisations. Atlas Tower then appointed EnviroAfrica to facilitate and undertake the environmental authorisation application/s associated with the proposed development.

The findings, results, observations and recommendations given in this assessment are based on the best scientific and professional knowledge available from information provided and verified, where required, by site visits:

From a biodiversity perspective, the proposed development site does not fall within a CBA or ESA and according to the national Biodiversity Geographic Information System (BGIS) database, does not fall within a nationally proclaimed protected area. The property on which the proposed site is located is in a strongly urban environment surrounded by tall pine (*Pinus* spp.) trees which promotes camouflaging the telecommunications mast as a pine tree to reduce visual/aesthetic and sense of place impact. This was further investigated by and supported by independent specialist studies. The development footprint is on a completely transformed/disturbed portion of the property (void of natural vegetation) and is at least 50m from the closest residential property.

There are no watercourses on, or with 32m of the proposed development site. The Breede-Gouritz Catchment Management Agency have given written comment that "The proposed project seems not to trigger any water use based on submitted information".

The church structure located on this erf has not been identified as having any heritage significance in terms of the Knysna Heritage Inventory. Communication from Heritage Western Cape states that the application to develop the site has been approved from a heritage perspective and that "No further action under Section 38 of the National Heritage Resources Act, No. 25 of 1999, is required."

Electricity will be sourced from the nearest municipal power point. The proposed development of a telecommunication mast will not produce waste or use water during its operational phase. The small amount of domestic waste produced during construction will be removed for disposal at the nearest registered municipal waste site.

No new roads will be constructed as an existing suburban, tar road i.e. Vigilance Drive, will be utilised to gain access to the proposed site.

The suburb of Hornlee which immediately surrounds the proposed development site, is considered less privileged. A more efficient information and communications technology capability in the area would provide a much-needed service for the public and private sector, through the numerous educational and business benefits which would contribute towards upliftment of the community, as detailed in the basic assessment report. The proposed development will also contribute a better service for travellers and tourists on the nearby national highway (the N2) by increasing the level of coverage/service for all consumers in the cellular catchment area.

The proposed activity is not expected to have any significant negative environmental impacts, therefore, from a sustainable development point of view, there are more benefits to implementing the proposed development, than not.

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1. ACRONYMS

BAR	Basic Assessment Report
BGIS	National Biodiversity Geographic Information System
CAA	Civil Aviation Act, No. 13 of 2009
CBA	Critical Biodiversity Area
DBAR	Draft Basic Assessment Report
DEA	Department of Environmental Affairs
DEA&DP	Western Cape Department of Environmental Affairs and Development Planning
DoH	Department of Health
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act, No. 73 of 1989
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMF	Electromagnetic Field
EMPr	Environmental Management Programme
ESA	Ecological Support Area
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
ICASA	Independent Communications Authority of South Africa
ICASAA	Independent Communications Authority of South Africa Act, No. 13 of 2000 (and regulations as amended by the Broadcasting Amendment Act, No. 64 of 2002)
ICT	Information and Communications Technology
ICNIRP	International Commission on Non-Ionizing Radiation Protection
I&APs	Interested and Affected Parties
MNO	Mobile Network Operators
NEMA	National Environmental Management Act, No. 107 of 1998 (and as amended)
NEM:AQA	National Environmental Management: Air Quality Act, No. 39 of 2004 (and as amended)
NEM:BA	National Environmental Management: Biodiversity Act, No. 10 of 2004 (and as amended)

NEM: PAA	National Environmental Management: Protected Areas Act, No. 57 of 2003 (and as amended)
NEM:PAAA	National Environmental Management: Protected Areas Amendment Act, No. 15 of 2009
NEM:WA	National Environmental Management: Waste Act, No. 59 of 2008 (and as amended)
NHA	National Health Act, No. 61 of 2003 (and as amended)
NHRA	National Heritage Resources Act, No. 25 of 1999 (and as amended)
NWA	National Water Act, No. 36 of 1998 (and as amended)
SACAA	South African Civil Aviation Authority
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SANRAL	South African National Road Agency (Pty) Ltd
SANRAL& NRA	The South African National Roads Agency Limited and National Roads Act, Act 7 of 1998
SIP	Strategic Integrated Project
WHO	World Health Organisation
WULA	Water Use Licence Application

2. TERMS OF REFERENCE

EnviroAfrica CC is an independent environmental consulting firm that has no interest in the proposed activity other than fair remuneration for services rendered. Remuneration for services is not linked to approval by decision making authorities and EnviroAfrica has no vested interest in secondary or subsequent development which may result from this project. There are no circumstances that compromise the objectivity of this environmental impact assessment.

On 05 September 2018, BJB Project Services CC, submitted a pre-application checklist (dated 04 September 2018) to DEA&DP, on behalf of the Applicant, Atlas Tower (Pty) Ltd, for the proposed development of a 25m high tree mast. The checklist, although never seen by EnviroAfrica CC, was acknowledged and responded to in DEA&DP correspondence to the Applicant dated 17 November 2018, as per Appendix F1 (Correspondence with Organs of State).

Atlas Tower (Pty) Ltd (Atlas Tower) appointed EnviroAfrica CC on 20 November 2018 to facilitate the environmental authorisation application/s associated with the proposed development.

The findings, results, observations and recommendations given here are based on the best scientific and professional knowledge available from information provided and verified, where required, by site visits.

EnviroAfrica reserves the right to modify aspects of this report, including the recommendations, if new information becomes available which may have a significant impact on the findings of this report.

This report was compiled by Vivienne Thomson on behalf of EnviroAfrica CC.

3. EAP QUALIFICATIONS

Vivienne Thomson: Vivienne holds a BSc in Zoology from the University of Cape Town (1995) and has over twenty years industry experience in the construction, power generation and mining sectors. She has completed an ISO 14001 Lead Auditors course, as well as several environmental short courses and has guest lectured for the MSc in Environmental Science Environmental Impact Assessment (EIA) course at the University of the Witwatersrand.

Vivienne is a member of the National Association for Clean Air (NACA) and has served as NACA National Council Member. She is a previous member of the South African Coal Ash Association and an affiliate of the Institute of Innovators and Inventors. She was also a member of the Committee of Interested Parties which acted as an independent, advisory body to ensure impartiality of Pricewaterhouse Coopers' Certification Body in their governance and sustainability division.

Since 2004, Vivienne has been involved in environmental consulting with experience in EIAs, establishing and implementing ISO 14001 EMSs, contract management, legal

compliance evaluations, as well as developing, implementing and assessing environmental management plans and monitoring programmes.

Qualifications Summary: BSc, Zoology (UCT); EIA short course (PU), Environmental Law (PU), Advanced Environmental Law (Mandela Institute School of Law, Wits), ISO 14001 Lead Auditors Course (WTH Management and Training), Root Cause Analysis Technique (IRCA), Environmental Performance Measurement Workshop (African Centre for Energy and Environment), Basic Principles of Ecological Rehabilitation and Mine Closure (PU), Member: National Association for Clean Air

EnviroAfrica CC Director: Bernard de Witt

Bernard de Witt Qualifications Summary: BSc, Forestry (SU); BA (Hons), Public Administration (Stellenbosch); National Diploma in Parks and Recreation Management; EIA Short course (UCT); ISO 14001 Auditors course (SABS); IAIA(sa) Membership Number: 219

4. INTRODUCTION

4.1.1. Project Rationale

South Africa's information and communications technology (ICT) market is one of the largest in Africa from a value perspective, the country's ICT industry has been one of the fastest developing in the world. The South African ICT and electronics sector is both sophisticated and developing with increasing importance as a contributor to South Africa's Gross Domestic Product.

In 2014, Business Monitor International's Market Analysis of the South African ICT market, found the following:

- Market penetration of mobile subscribers have reached 139% and is still growing;
- Mobile Network Operators (MNOs) such as Vodacom, MTN and Cell-C, are seeing a surge in data traffic putting strains on their existing network infrastructure;
- More sites will be required by MNO's as they try to keep up with data demand.

As the demand for data increases, MNOs need to erect more cellular telecommunication base stations to try to keep up with the demand. The high surge in data traffic is already a strain on the existing network infrastructure. As per information supplied by the Applicant, "To put this into perspective, there are currently estimated 24,000 cellular towers in South Africa and it is anticipated that this number will increase to 74,000 by 2021" (please refer to Appendix K – Atlas Tower Needs and Desirability Document).

This is further highlighted by the South African government's budget spending in this sector which focuses on efforts to increase the usage of ICT to facilitate socio-economic justice and inclusion, improve competitiveness and prepare for the 4th / Digital Industrial Revolution. The national Strategic Integrated Project 15 (SIP 15) i.e. expanding access to communication technology, is evidence of the same.

In April 2019, President Cyril Ramaphosa appointed a task group, or commission, to focus on the 4th Industrial revolution. This commission will assist government in taking advantage of the opportunities presented by the digital industrial revolution. The task group (chaired by the President) aims to identify relevant policies, strategies and action plans that will position South Africa as a competitive global player.

In anticipation of the digital industrial revolution, Atlas Tower South Africa's motto has always been "Today's towers for tomorrow's networks". Over the past four years Atlas Tower South Africa has built up its portfolio and currently, the company is the fastest growing telecommunications mast company in South Africa: Winner of the 2016 TowerXchange Industry Award for best Build-To-Suit Towerco. Atlas Tower was also the 2017 Infrastructure Company of the Year.

In line with this, the core business of Atlas Tower is infrastructure sharing or 'co-location'. Co-location refers to more than one MNO (mobile network operator) establishing on a cellular tower, thus, one cellular tower can be leased out to and shared by up to 4 MNOs. Major operators across Africa have all realised that tower sharing is now an essential strategy to reduce their operational costs and refocus on customer service offerings. On average, Atlas Tower lease ratios are at least two MNOs per tower/mast. Atlas Tower believes that this 'lease-up' ration is a testament to Atlas Tower's ability to cater to all mobile network operator and internet service providers' (ISPs') needs.

From an environmental perspective, having one telecommunication mast shared by several MNOs reduces potential visual, heritage and development footprint related impacts since it eliminates the need for multiple erection of masts/towers in a region.

4.1.2. Needs and Desirability

Over the years, cellular communication has changed from being a mere convenience to that of an essential requirement for business and communication purposes, as well as for safety and emergency needs.

The proposed development will increase the level of coverage and capacity to all consumers in the catchment area which will benefit the community by having access to improved internet connection and communication facilities and services. It is important to note that as the proposed cellular tower is built specifically to accommodate more than one operator through co-location/sharing, all cellular users will benefit from the proposed development and not only those using a specific cellular operator.

Investment in telecommunications networks not only facilitates economic trade in goods, by bringing together buyers and sellers, but more importantly, it promotes trade in services upon which modern economies are built.

The proposed development of specifically a 25m high tree telecommunications mast will facilitate a wider cellular coverage area, reducing the need for the erection of multiple masts/towers in the region. In addition, the proposed development, as indicated in Appendix

E1 (Visual Assessment) blends in relatively well with the surrounding environment and does not have

5. PROJECT DESCRIPTION

5.1.1. Site Location

Location of all proposed sites:	35 Vigilance Drive, Hornlee, Knysna (Erf 3244, Hornlee, Knysna Municipality, Western Cape)
Farm / Erf name(s) and number(s) (including Portions thereof) for each proposed site:	Erf 3244, Knysna Note: title deed indicates erf number as Erf 3244, a portion of Erf 3409, Knysna – see Appendix G1 to G 5 (Proof of Property Ownership and Consent)
Property size(s) in m² for each proposed site:	2472m ² (only one proposed site)
Development footprint size(s) in m²:	Approximately 112m ² (10,58mx10,58m =111,94m ²)
Surveyor General (SG) 21 digit code for proposed site:	C03900050000324400000
Local Municipality	Knysna Municipality
District Municipality	Garden Route District Municipality

Table 1: VGK Knysna 25m telecommunication tree mast development footprint locality details

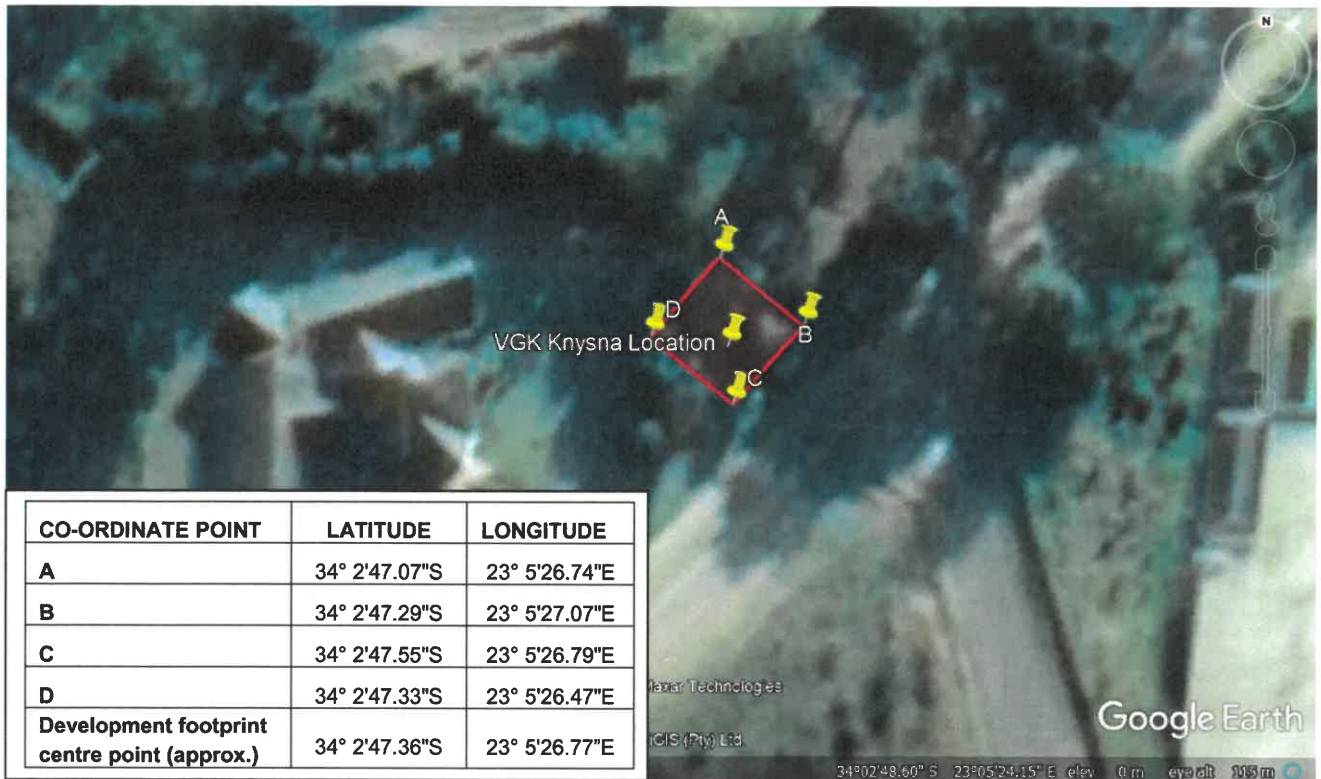


Figure 1: VGK Knysna 25m telecommunication tree mast development footprint site co-ordinates

5.1.2. Site Description

The proposed site development footprint falls within an already transformed erf on already developed property (church grounds). BGIS sensitivity maps indicate that the entire property on which the proposed development footprint is located, falls outside any CBAs and ESAs. These maps also do not indicate that the site falls within a formal or informal protect area. Please refer to Appendix B – Sensitivity Maps. Large trees (predominately *Pinus spp.*), up to approximately 15 to 20m in height, form a backdrop to the site.

It is planned to situate the 25m high tree mast in the eastern corner of the church property which blends in very well with existing pine trees on the immediately adjacent property to the east, as well as on the higher adjacent property to the north/north west, as well as within pine trees in the 500m and 1km surroundings. Please refer to the Visual Impact Assessment Report in Appendix E1. There are a few smaller alien trees found on the actual development footprint which will be removed, along with the alien Kikuyu grass which, in terms of vegetation, dominates the erf.

There are no watercourses on, or within 32m of, the development footprint site.

The general topography of the region is characterized by hills, fairly steep slopes and valleys. The proposed development footprint itself, is on an area of the property which has a moderate (to the south) to steep slope (to the north/north-west).

The VGK Knysna building structure stands central to the property and although not identified by the heritage specialists as having any particular heritage significance in terms of the Knysna Heritage Inventory (refer to Heritage Screener Report attached as Appendix E2), it does provide for a unique landmark in the area (refer to Appendix D – Site Photographs, Figures 9 and 12), as do most building of religious significance.

5.1.3. Proposed Development Description

This application is for the installation of a 25m high Tree Mast with 10,58m x 10,58m base station on Erf. 3244, Hornlee, Knysna, Western Cape. The mast base station will be enclosed with a brick retaining wall and will be closed with a 2.4m high palisade fence with flat wrap and an access-controlled gate, facing Vigilance Drive.

Biodiversity:

While it appears that the proposed development site does not fall within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA), the DEA&DP has indicated that the site “is located within a nationally proclaimed protected area (i.e. the Knysna Lakes Protected Area) as identified in terms of the NEM:PAAA” and therefore, falls under the jurisdiction of the national Department of Environmental Affairs (DEA). Please refer to letter from DEA&DP in Appendix F1.

The proposed site is located on an undeveloped part of the property and is situated on a sloped surface area, in the south eastern most corner of Erf 3244 i.e. on the extreme right of the property adjacent to Vigilance Drive, when facing the property from Vigilance Drive.

The site is void of any natural vegetation and is covered in kikuyu grass (lawn) and a few small alien trees which will be removed during construction.

The base station will include an equipment room to house the operator equipment and generator, as well as two to three future service provider equipment containers. The mast will be constructed on a cement plinth and the development footprint will be enclosed by a retaining wall and palisade fence (please refer to Appendix C – Layout Plans). The total area of land to be cleared (development footprint) is approximately 112m².

Please refer to Appendix B for biodiversity, ecological and protected areas sensitivity maps of the proposed development site.

Freshwater:

There are no watercourses on or with 32m of the proposed development site, therefore no freshwater related impacts were identified (or anticipated) and no freshwater specialist studies were conducted. This was confirmed by the response of the Breede-Gouritz Catchment Management Agency (BGCMA) as per the letter received from the BGCMA which stated, "The proposed project seems not to trigger any water use based on submitted information. Should a water use be identified which may be associated with the proposed project, you [*the Applicant*] will be required to apply for suitable authorisation before the project commences." *Italics added for clarification.*

Heritage:

The church structure located on this erf has not been identified as having any heritage significance in terms of the Knysna Heritage Inventory. Please refer to Appendix E2 (Heritage Screener Report).

The development foot site is adjacent to the church building and communication from Heritage Western Cape (HWC) states that the application to develop the site has been approved, with final comment on the notice of intent to develop (NID) documents submitted to HWC indicating that "No further action under Section 38 of the National Heritage Resources Act, No. 25 of 1999, is required." Please refer to Appendix F4 (Correspondence from Organs of State).

Socio-economic:

Hornlee is a suburb of Knysna which lies to the east of Knysna proper, immediately adjacent to the national N2 highway, travelling towards the Eastern Cape. Hornlee falls within the local Knysna Municipality jurisdiction and the Garden Route District Municipal area.

While there are no specific socio-economic statistics for Hornlee itself, the community surrounding the proposed development site is less privileged. The proposed application does address the 'Utilities Infrastructure/Telecommunications/ Radio Broadcasting - Mast' sector and therefore, concurs with SIP 15 - Expanding access to communication technology *viz.* to provide broadband coverage to all households by 2020 by establishing core Points

of Presence (POPs) in district municipalities and establish POPs at local level, further penetrating the network into deep rural areas.

In line with this, Cape Access is a government-led programme which provides ICT access to less privileged and rural communities across the Western Cape. According to the Cape Access e-Centre website the area of Hornlee has been identified as eligible for an e-Centre which is located at 1 Vigilance Drive. Please refer to website at <https://www.westerncape.gov.za/capeaccess/e-centres?region=119#select-e-centre>. E-Centres provide poorer communities with free access to computers, the internet/email, computer training, government information and services, printing, as well as job, business and research information. Since ICT includes cellular 'phones, computers and the internet (and the range of services associated with this technology) the proposed development will help contribute to the upliftment of the community and a better service by increasing the level of coverage and capacity to all consumers in the catchment area, including travellers and tourists on the nearby national highway (the N2).

Civil and Electrical Services:

Electricity will be sourced from the nearest municipal power point i.e. the nearest metered municipal alternating current (AC) power supply point.

The proposed development of a telecommunication mast will not produce waste or use water during its operational phase. The small amount of domestic waste produced during construction will be removed for disposal at the nearest registered municipal waste site.

Access

No new roads will be constructed as an existing suburban, tar road i.e. Vigilance Drive, will be utilised to gain access to the proposed site. The proposed site lies on the street side boundary of Erf 3244 and accessibility will be facilitated directly from Vigilance Drive.

It should be noted that the N2 highway is located approximately 170m north of the proposed site. An intersection with the N2 highway is situated within a 500m radius of the intersection and therefore, requires SANRAL comment. SANRAL comment has been requested as per Appendices F2, F4 and F5 (Public Participation) but is still not forthcoming.

Please refer to Appendices A (Locality Maps), B (Site Photographs) and C (Layout Plans) to see accessibility to the proposed development site, as discussed above.

6. LEGAL REQUIREMENTS

General Environmental Requirements

The National Environmental Management Act (NEMA, Act 107 of 1998), as amended, makes provision for the identification and assessment of activities that are potentially

detrimental to the environment and which require authorisation from the competent authority based on the findings of an Environmental Assessment.

NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). In the Western Cape, these powers are delegated to the Department of Environmental Affairs & Development Planning (DEA&DP). According to the regulations of Section 24(5) of NEMA, authorisation is required for the following:

The following NEMA listed activities under the 2014 EIA regulations (as amended) were evaluated for applicability:

Listing Notice 1, GN No. R. 327 - **N/A**

Listing Notice 2, GN No. R. 325 - **N/A**

Listing Notice 3, GN No. R. 324 – **Applicable viz.**

Activity 3: The development of masts or towers of any material or type used for telecommunication, broadcasting or radio transmission purposes where the mast-

- c) is to be placed on a site not previously used for this purpose; and*
- d) will exceed 15 meters in height-*

but excluding attachments to existing buildings and masts on rooftops.

(f) In the Western Cape:

- i) All areas outside urban areas; or*
- ii) Areas designated for conservation use in Spatial Development Frameworks adopted by the Competent Authority, or zoned for a conservation purpose, within urban areas.*
- iii) Areas zoned for use as public open space or equivalent zoning within urban areas.*

The existing telecommunications tree mast is 25m in height which, together with the associated infrastructure, covers a total footprint of approximately 112m². The facility is located within an urban/built-up area, zoned as 'Institutional'.

6.1.1. Site Specific Legal Requirements other than the NEMA related activities listed above:

Relevant Act/Notice:	Site or Project Specific Applicability/Description
<p>National Environmental Management: Protected Areas Act, No. 57 of 2003</p> <p>National Environmental Management: Protected Areas Amendment Act, No. 15 of 2009</p>	<p>As per DEA&DP letter dated 17/09/2018, the site falls within the protected Knysna Lakes area which makes the DEA the competent authority.</p> <p>Note: BGIS maps do not indicate this</p>
<p>The South African National Roads Agency Limited and National Roads Act, Act 7 of 1998</p>	<p>The proposed development site lies more than 60m from the edge of a national road's reserve (i.e. the N2 highway). However, it does lie within 500m of an intersection with the N2 highway and requires comment from SANRAL.</p>
<p>Civil Aviation Act, No.13 of 2009</p>	<p>Due to the height of the proposed mast (25m), SACAA approval required – conditional approval received to be finalised when 'as built' proof is submitted should proposed development be approved and constructed</p>
<p>(Western Cape Land Use Planning Act, No. 3 of 2014) Knysna Municipality Standard Bylaw on Municipal Land Use Planning (2016)</p>	<p>A consent use and Land Use Planning Application is in the process of being made.</p>

7. ALTERNATIVES

7.1.1. Location Alternative:

In terms of location, only one development site has been considered due to its strategic placement allowing 'over-lap' of cellular areas and therefore enabling the required coverage and accessibility needed.

7.1.2. Activity Alternative:

With regards to potential activity alternatives, there are no cellular network coverage alternatives since this is the only activity that can increase the specific ICT coverage required for the area.

7.1.3. Design Alternative:

The applicant, Atlas Tower, always considers three possible design alternatives for any potential future telecommunications tower or mast development it plans to propose viz. the lattice mast, a monopole mast or an appropriately camouflaged mast (in this case, as tree mast). The various design alternatives are assessed below:

Tree Mast (Alternative 1, Preferred Alternative) -

A 25m high tree mast is the preferred alternative as the mast will reduce the visual impact of the proposed activity. The tree mast in the form of a pine tree will blend in very well with the surrounding environment as it is proposed to be placed adjacent to tall *Pinus spp.* trees on site.

The mast will also allow for multiple service providers to attach antennas and house the required equipment in the proposed base station 112m² footprint without excessively increasing the aesthetic impact.

Lattice Mast (Alternative 2) -

A 25m lattice mast is a possible option for the proposed development although the land owner may withdraw consent for the proposed development due to the visual impact (a lattice mast would pose an unsightly option for the front lawn slopes of the church grounds. While a lattice mast is above to accommodate several service provider antenna and receptors and it is cheaper for the Applicant to construct (when compared to a tree mast), it will definitely have the largest/most significant environmental impact in terms of visual pollution due to the background of large pine tree and the non-industrial nature of this urban environment. This alternative is, therefore, the least preferred alternative.

Monopole Mast (Alternative 3) -

A monopole mast could also have been considered a viable option for the Applicant and is, if fact, cheaper to develop than a tree mast. However, the environmental aspects of aesthetic impact and sense of place, from local and more especially distant visual receptors (due to the elevated nature of the proposed development property), would be markedly 'jarring' in the rolling hills landscape which forms part of the vista of the area. In addition, a monopole mast will not be able to hold as much equipment without becoming increasingly conspicuous, when compared to the other two design alternatives. This alternative is, therefore, also not a preferred alternative.

7.1.4. Layout Alternative:

No alternative layout was available for the proposed development – the lease agreement the proponent has with the land owner, VGK Knysna, does not include erection of aerials, antennas, or a mast on the actual church building structure. The church building itself does not have a tall steeple (typically used when mounting ICT antenna on church buildings) since the roof is somewhat uniquely spired but not higher than the 20m average height pine trees in the surrounding area.

It must be reiterated that attachment of the telecommunications mast or antennas to the VGK Knysna (church) building structure would be visually obtrusive and/or does not attain the required height to avoid the need for additional masts to be erected in the area for the provision of adequate cellular coverage.

7.1.5. No-go Alternative:

Should the option of not developing the proposed 25m telecommunications tree mast be followed, no ICT infrastructure expansion will take place. Whilst this would have the least negative environmental impact on this already highly disturbed site, it would also have the least socio-economic benefit to the surrounding community, let alone the land owner in this less privileged suburb. A more efficient ICT service capability is considered essential for the public and private sector, through the numerous educational and business benefits which would contribute towards upliftment of the community. The proposed activity is not expected to have any negative environmental impacts, therefore, from a sustainable development point of view, there appears to be more benefits to implementing the proposed development than not.

Due to the nature of the activity, and the size and location of the site, any potential negative environmental impacts are expected to be negligible. The socio-economic benefits of the activity for the community are considered to greatly outweigh any environmental benefits of not implementing the activity.

The no-go alternative is, therefore, not advocated.

8. ASSESSMENT METHODOLOGY

Please refer to Appendix H for details on proposed project impact assessment methodology, as well as significance rating and mitigation measures.

9. ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS

According to the independent Visual Impact Assessment attached as Appendix E1:

Actual and potential view receptors affected by this proposed development were identified. The impact of the proposed development on these receptors was evaluated and also considered the effect of the proposed development on the sense of place of the environment.

The site is located in a high-density urban area, on the site of a church close to a neighbourhood business centre. The proposed telecommunications tree mast is 25m in height and situated in an urban environment on property zoned as 'Institutional'.

The topography is characterized by hills, fairly steep slopes and valleys, which provide a high level of visual absorption. Large trees up to approximately 15 to 20m in height form a backdrop to the site.

Due to the topography and landscape elements, the area displays a high absorption level. The assessment of the potential receptors indicated that the overall impact is low and well within acceptable levels of change.

As per the Heritage Screener Report attached as Appendix E2:

The church structure located on this erf has not been identified as having any particular heritage significance in terms of the Knysna Heritage Inventory.

The communication from Heritage Western Cape (HWC) states that the application to develop the site has been approved, with final comment on the notice of intent to develop (NID) documents submitted to HWC indicating that “no further action under Section 38 of the National Heritage Resources Act, No. 25 of 1999, is required.”

However, as a precautionary principle, the possibility of any heritage related discovery during construction has been accommodated in the EMPr (attached as Appendix I), in line with the final comment received from HWC as per Appendix F4 attached (Correspondence FROM Organs of State).

10. PUBLIC PARTICIPATION PROCESS

As per the NEMA 2014 regulations (as amended), a comprehensive public participation process is required to inform interested and affected parties (I&APs) of the proposed development and alternatives.

Particulars of the public participation process conducted and still to be conducted, are summarised below:

i. Pre-application public participation (PP) process:

Placed advertisement in local newspapers regarding project, availability of copies of documents and process to register as an I&AP.

Sent out notifications to Interested and Affected Parties (I&APs) previously registered for projects in the areas (Organs of State; Forums; Community groups, etc.)

Placed A2 posters on site

Displayed and placed A3 posters, maildrop letters/background information document in public facilities (Municipality and large retail shops)

Displayed A3 posters at local public amenities / local spaza shops

Delivered maildrop letters to neighbouring properties / spaza shops

Made copies of PP associated documents available on EnviroAfrica website for public viewing / comment

Emailed, delivered or posted copies of any PP documentation to querying I&APs who requested them.

Compiled comments and response trail report as per Appendix F5.

Updated I&AP List.

ii. Post-application PP process:

Repeat PP process for all registered I&APs for the post-application round of PP using draft BAR.

iii. Repeat PP process for all registered I&APs for the third round of PP using final BAR.

Await DEA EA decision.

iv. Inform I&APs within 14 days of DEA decision when received.

11. CONCLUSIONS

According to the BGIS maps in Appendix B, the site does not fall within a CBA or ESA and is located within an urban area (property is zoned 'Institutional'). Although the DEA Screening Tool attached as Appendix J indicates that the area is of high biodiversity Due to the fact that the proposed development site is on completely transformed/ disturbed church property, it was apparent that specialist biodiversity flora and fauna studies were not required. The land surrounding the proposed development site comprises a mix of land uses: vacant land (indicated as to be developed for a housing project), businesses, primary and high schools, religious buildings and residences.

In addition, the December 2015 Knysna Municipality Integrated Strategic Development Framework Integrated Human Settlement Plan, includes the Hornlee Revitalisation and Urban Gateway Proposal which further proposes high-density rental accommodation to the north-west and distant east of Erf 3244.

According to the independent Visual Impact Assessment attached as Appendix E1:

Actual and potential view receptors affected by this proposed development were identified. The impact of the proposed development on these receptors was evaluated and also considered the effect of the proposed development on the sense of place of the environment.

The site is located in a high-density urban area, on the site of a church close to a neighbourhood business centre. The proposed telecommunications tree mast is 25m in height (i.e. more than 15m in height) but set in an urban setting of property zoned as Institutional.

The topography is characterized by hills, fairly steep slopes and valleys, which provide a high level of visual absorption. Large trees, approximately 15m to 20m in height form a backdrop to the site.

Due to the topography and landscape elements, the area displays a high absorption level. The assessment of the potential receptors indicated that the overall impact is low and well within acceptable levels of change.

As per the Heritage Screener Report attached as Appendix E2:

The church structure located on this erf has not been identified as having particular heritage significance in terms of the Knysna Heritage Inventory.

The notice of intent to develop (NID) submitted to the South African Heritage Resources Agency (SAHRA)

Although Knysna is a historically significant town, according to the South African Heritage Resources Information System (SAHRIS) only six sites of heritage significance (Grade II) were identified between 3-6 km away from the proposed development site. The closest site of heritage significance is St. George's Anglican Church located approximately 4km north-west of the proposed development. Human Remains (Grade IIIa) were located approximately 2km north-east of the proposed development. A heritage impact assessment (HIA) was previously conducted along the N2 which is located approximately 500m north of the proposed development site which identified no heritage resources of significance in this area. No known heritage resources will be impacted by the proposed construction of the telecommunications mast.

According to the Heritage Screener Report, based on the information that is available, it is unlikely that the proposed construction of the telecommunications mast will impact on significant heritage resources. However, the EMPr (attached as Appendix I) does cater for the potential discovery of any heritage resources during construction, in line with the final comment received from HWC as per Appendix F4 (Correspondence from Organs of State).

The proposed 25m high telecommunications tree mast, allows for multiple MNOs and service providers to attach and house their equipment on the mast, decreasing the need for additional communications masts to be erected in the area. The proposed activity will increase the coverage of these telecommunications services, including providing a more reliable and wider coverage to the immediate community, as well as travellers on the national (N2) highway.

The activity would create a more efficient telecommunications service, considered essential to the business and private sector. The data capabilities provided by the proposed mast are also important in business, education and for the public, and has thus become paramount

for social and economic development. The construction of the telecommunications mast is therefore considered as part of the essential services for the greater community.

Based on the letter from the Department of Health attached as per Appendix F4 (Correspondence from Organs of State), the proposed communications mast is not expected to have any adverse effects on people's health and well-being. It is also not expected to produce any noise or any odour during the operational phase. Some noise can be expected during the construction phase, but this will be temporary, and the impact is expected to be negligible.

Due to the tree mast design and location of the proposed telecommunications mast, the overall visual and sense of place impact is low and well within acceptable levels of change.

According to the BGIS maps, the proposed site is not located within a Critical Biodiversity Area (CBA) or Ecological Support Area ("ESA"). Although DEA&DP advised that the proposed development site falls within 'a nationally protected area (i.e. Knysna Lakes Area) as identified in terms of the NEM:PAA and NEM:PAAA. The DEA Screening Tool Report (attached as Appendix J) also indicates that the sites falls within a very sensitive area in terms of biodiversity i.e. a very high sensitivity biodiversity area could contain CBAs, protected areas, indigenous forests, freshwater ecosystem priority areas (FEPAs), or be a focus area for the protected areas expansion strategy (PAES).

However, ground truthing of BGIS and DEA Screening Tool information for the proposed 112m² development site revealed the following:

The site is in an urban setting (zoned 'Institutional') and is totally transformed due to past development activities. There is no natural vegetation on site which is dominated by alien Kikuyu grass (*Pennisetum spp.*). While there are one or two shorter alien invasive tree on the actual development footprint site, these trees will be removed.

Of more significance, pertinent to the surrounding environment is the fact that several tall pine (*Pinus spp.*) trees are located adjacent to the immediate east and north of the site (as well as further afield, surrounding the development property). This strongly supports the proposed 25m tree mast development as opposed to the comment made by DEA&DP (as per Appendix F4) which encourages the proponent to camouflage the mast as either a steeple, monopole or lattice mast. Each of the three suggestions by DEA&DP will cause a greater visual and sense of place impact in the area since the current VGK Knysna church does not have a tall steeple structure. While the site and surrounds have a strong urban character (as per the Visual Assessment report attached as Appendix E1) there are no stand-alone lattice or monopole masts, industrial towers or pylons visible in the immediate surroundings.

Thus, the potential negative visual impact of the proposed telecommunication mast would be minimised by the camouflaged effect of the pine tree mast which is similar to trees on adjacent/surrounding properties. This is confirmed by the independent specialist visual assessment study attached as Appendix E1.

The DEA Screening Tool Report (attached as Appendix J) also indicates that the sites falls within a high sensitivity area in terms of the paleontological theme. The independent heritage specialist screener report (attached as Appendix E2) concurs with the DEA Screening Tool Report in identifying the region as having a high paleontological sensitivity

but it states that it is unlikely that the proposed construction of the telecommunications mast will impact on significant heritage resources and authorisation for the proposed development was granted by HWC. In addition, no cultural or historical heritage aspects were identified on the site.

However, the EMPr (attached as Appendix I) does cater for the potential discovery of any heritage resources during construction, in line with the final comment received from HWC as per Appendix F4 (Correspondence from Organs of State).

In terms of other themes included in the DEA Screening Tool Report and attached as Appendix J, agricultural sensitivity was rated as medium sensitivity, relative aquatic biodiversity sensitivity had low sensitivity, civil aviation had medium sensitivity and the relative defence theme had low sensitivity.

Any potential negative impacts during the construction phase are expected to be adequately mitigated through the implementation of the Environmental Management Programme (EMPr) attached as Appendix I and the appointment of an Environmental Control Officer (ECO) during the construction phase.

Considering all the information, it is not envisaged that this proposed development will have any significant negative impacts on the environment.

12. RECOMMENDATIONS

All recommendations made in specialist reports and the EMPr (and the environmental authorisation conditions, should it be granted) must be adhered to, in particular, but not limited to, ECO site compliance inspections/audits and reporting, during and post construction.

Due to the proximity of the proposed development to the intersection with the N2 national highway i.e. less than 500m away from the intersection, comment from SANRAL is required.

Should the environmental application for the 25m tree mast be authorised/approved, night markings and finalisation of the SACAA conditional approval must be obtained post-construction i.e. showing 'as built' structures.

It is, therefore, recommended that this application be authorised with the necessary conditions of approval as described throughout this BAR and associated EMPr.

13. APPENDICES

APPENDIX A: LOCALITY MAPS

APPENDIX A1: Google Earth Locality Maps

APPENDIX A2: DEA Screening Tool Locality Maps

APPENDIX B: SENSITIVITY MAPS

APPENDIX C: LAYOUT PLANS

APPENDIX D: SITE PHOTOGRAPHS

APPENDIX E: SPECIALIST ASSESSMENTS

APPENDIX E1: Visual Impact Assessment Report

APPENDIX E2: Heritage Screener Report

APPENDIX F: PUBLIC PARTICIPTION

APPENDIX F1: I&AP Register

APPENDIX F2: Proof of Public Participation (Supporting Documents)

APPENDIX F3: Proof of Public Participation (Photographs)

APPENDIX F4: Correspondence from Organs of State

APPENDIX F5: Comments and Response Trail Report

APPENDIX G: PROOF OF PROPERTY OWNERSHIP

APPENDIX G1: Title Deed

APPENDIX G2: Utility Account

APPENDIX G3: Lease Agreement/Landowner's Consent

APPENDIX G4: Resolution

APPENDIX G5: Special Power of Attorney

APPENDIX H: IMPACT ASSESSMENT

APPENDIX I: EMPr

APPENDIX J: DEA SCREENING TOOL REPORT

APPENDIX K: ATLAS TOWER NEEDS AND DESIRABILITY DOCUMENT

APPENDIX L: EAP DECLARATION AND DETAILS

APPENDIX M: SPECIALIST DECLARATIONS

APPENDIX N: PROPONENT/APPLICANT DECLARATIONS