19 May 2021



# SITE SENSITIVITY VERIFICATION (SSV) REPORT

# <u>PROJECT DESCRIPTION</u>: PROPOSED DEVELOPMENT OF A 35M HIGH TELECOMMUNICATION MAST AND ASSOCIATED INFRASTRUCTURE ON PORTION 22 OF FARM 22, ZOUTERIVIER.

### **INTRODUCTION:**

This Site Sensitivity Verification (SSV) Report was undertaken in terms of the *Protocols for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes* (referred to "the Protocols" hereafter) as per Government Notice No. 320 (published in Government Gazette No. 43110 on 20 March 2020)<sup>1</sup>. These Protocols, effected as of the 9<sup>th</sup> May 2020, must be complied with for every new application submitted after the effective date. According to the Protocols, the EAP must verify the current use of the proposed site for development as well as the site's environmental sensitivity, in accordance with the DEA Screening Tool (Appendix 2 – DEA Screening Tool), to determine the applicability of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) to the development proposal.

### **METHODOLOGY:**

The Site Sensitivity Verification (SSV) report was compiled based on a site visit and desktop studies [including the Western Cape Biodiversity Spatial Plan, vegetation maps (Vegetation map of SA (Mucina & Rutherford, 2006), NFEPA, land-use map, google earth imagery, historical imagery, and QGIS) to determine the applicability of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) to the development proposal. The SSV report was compiled by the EAP (Mr. Anthony Mader).

# AIM OF THE SSV REPORT:

The SSV Report aims to;

- Verify land use and theme sensitivities as identified by the DEA Screening Tool;
- Confirm or disconfirm the need for a particular specialist assessment(s) as indicated by the DEA Screening Tool; and
- Should the need for a specialist assessment be challenged, motivate as to why the proposed particular theme(s) does not apply to the proposed development.

<u>Please note:</u> that this SSV report must be read in combination with the Notice of Intent (NOI), DEA Screening Tool (Appendix D), comments received from Identified I&APs (Appendix J).

<sup>&</sup>lt;sup>1</sup> The Protocols are in line with Section 24(5)(a) and (h) and Section 44 of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998).

### SITE DESCRIPTION:

The site is located on Portion 22 of Farm 22, Zouterivier. According to the 2018 (beta 2) update of the Vegetation map of SA (Mucina & Rutherford, 2006) the proposed site for development is located within the Atlantis Sandstone Fynbos vegetation type, classified as Endangered (EN) in terms of the "List of ecosystems that are threatened and in need of protection" (GN 1002, December 2011), promulgated in terms of the National Environmental Management Biodiversity Act, Act 10 of 2004. The proposed development footprint is approximately 90m<sup>2</sup> and will thus, not exceed 100m<sup>2</sup>. As per Figures 2 and 3 below, the proposed site for development is comprised of disturbed, sparse vegetation structure (due to previous livestock grazing). The site is not located within a CBA or ESA (please refer to NOI).



Figure 1. 1: 50 000 Locality Map.



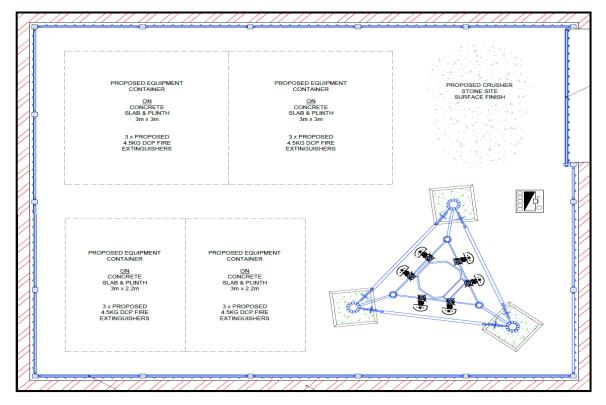
**Figure 2**. Vegetation structure with sparse, disturbed vegetation (vegetation disturbed due to livestock grazing).



Figure 3. Plant species located outside of the proposed development footprint.

The proposed project is for the development of a 35m high telecommunication mast and associated infrastructure on a disturbed site (Portion 22 of Farm 22, Zouterivier). The total footprint of the proposed development (35m high mast and associated infrastructure) will be approximately 90m<sup>2.</sup> The site has been previously disturbed by grazing activities. The proposed development (Figure 4) will be compromised of:

- 35m High Telecommunication Mast, comprising of;
  - Standard platform;
  - Proposed 1 x 300mm M/W Dish;
  - Proposed antenna mounted on H-Boom;
  - Navigation lights and earth lightning spike.
- Four (4) proposed equipment containers on concrete slab and plinths, including;
  - Three (3) x proposed 4.5kg DCP Fire Extinguishers per a container
- 2.4m high palisade fence;
- Low wall;
- 3m vehicle sliding gate (access); and;
- Proposed crusher stone (site surface).



**Figure 4**. Proposed layout of the 35m high telecommunications mast and associated infrastructure. Source: CTC Operations.



## Table 1. Themes and associated sensitivity as per the DEA Screening Tool.

NIa	<b>T</b> h. e	DEA	Agree /	Proposed	Madiustan
No	Theme	Sensitivity	Disagree	Sensitivity	Motivation
1	Agriculture Theme	Medium Sensitivity	Disagree	Insignificant Sensitivity	The proposed site for development has been previously disturbed by livestock grazing (Figures 2 and 3). Although the site is zoned as Agriculture, the potential to undertake agricultural activities within the proposed site for development is very low based on the disturbed status of the site and proximity of the site to the fence line, power lines, and non-operational water attenuation feature (Figure 5). Grazing, and other agricultural activities, has been reported to impact the physical and chemical properties of soils. For example, Qasim <i>et al.</i> , (2017) <sup>2</sup> reported a lower organic matter content, lower aboveground plant biomass, lower rate of nitrogen mineralization, and soil moisture content and thus, is unlikely to support any agricultural activity. The proposed development will not impact any current agricultural activities (i.e., surrounding area is currently being utilized for chicken broilers) (Figure 5). Due to these factors, the proposed development will have a negligible impact on the Agricultural Theme. Based on factors highlighted above, the proposed site therefore has an insignificant agricultural sensitivity.

<sup>&</sup>lt;sup>2</sup> Qasim, S., Gul, S., Shah, M.H., Hussain, F., Ahmad, S., Islam, M., Rehman, G., Yaqoob, M. and Shah, S.Q., 2017. Influence of grazing exclosure on vegetation biomass and soil quality. International Soil and Water Conservation Research, 5(1), pp.62-68.

					Figure 5. Agricultural-related activities relative to the proposed site for development and property.
2	Animal Species Theme	Medium Sensitivity	Disagree	Insignificant Sensitivity	No animals were observed in, or around, the proposed site for development. The proposed site for development is disturbed due to previous grazing by livestock. Faunal diversity changes through space and time and are directly (change in land cover and disturbance of vegetation by previous grazing by livestock and edge effects) and indirectly (i.e., change in soil biogeochemistry) influenced by anthropogenic activities (Tilman et al., 1997 <sup>3</sup> ; Chapin

<sup>&</sup>lt;sup>3</sup> Tilman, D. and Wardle, D.A., 1997. Biodiversity and Ecosystem Properties. *Science*, 278 (5345), pp.1865-1869.

					et al., 2000 <sup>4</sup> ; Didham <i>et al.</i> , 2015 <sup>5</sup> ; McDonald <i>et al.</i> , 2020 <sup>6</sup> ). Moreover, the previous erection of fences around the property would have physically restricted the movement of medium and larger animals in and out of the property – limiting the number and diversity of animals present within the property. Based on the site's level of disturbance, it is unlikely that the proposed site for development would adequately support vegetation characteristic of the Atlantis Sand Fynbos vegetation type, and consequently, fauna which may have naturally depended on the vegetation structure associated with this vegetation type. Furthermore, edge effects have diverse impacts on biodiversity and ecological functioning, further contributing to the disturbance of the site (Razafindratsima <i>et al.</i> , 2018 <sup>7</sup> ) Such effects contribute to a disturbance factor, which is likely to have driven most wild animals away from the proposed site for development due to current land use activities. This in turn would have affected the food chain and ultimately the number and type of tertiary predators, particularly mammals and larger birds of prey, as well as animals on lower trophic levels. Although no animals were observed on-site during the site visit, conditions and measures will be incorporated in the EMPr to mitigate any potential impact(s) of the proposed site for development, it is envisaged that the proposed development will have a negligible impact(s) on the Animal Species Theme. Based on factors highlighted above, it is envisaged that the proposed site for development will have a negligible impact(s) on the Animal Species Theme.
3	Aquatic Biodiversity Theme	Low Sensitivity	Disagree	Insignificant Sensitivity	No watercourses are located on the proposed site for development. It is highly unlikely that the non-operational, water attenuation feature will be negatively impacted by the construction or operation of the proposed site for development ( <i>please refer to Figure 8</i> ). No indigenous aquatic biodiversity was noted during the site visit. It is therefore envisaged that the proposed development will have a negligible impact on the Aquatic Biodiversity with regards to the Aquatic Biodiversity Theme.

<sup>&</sup>lt;sup>4</sup> Chapin Iii, F.S., Zavaleta, E.S., Eviner, V.T., Naylor, R.L., Vitousek, P.M., Reynolds, H.L., Hooper, D.U., Lavorel, S., Sala, O.E., Hobbie, S.E. and Mack, M.C., 2000. Consequences of changing biodiversity. *Nature*, 405(6783), pp.234-242.

<sup>&</sup>lt;sup>5</sup> Didham, Raphael K., Gary M. Barker, Scott Bartlam, Elizabeth L. Deakin, Lisa H. Denmead, Louise M. Fisk, Jennifer MR Peters, Jason M. Tylianakis, Hannah R. Wright, and Louis A. Schipper. "Agricultural intensification exacerbates spillover effects on soil biogeochemistry in adjacent forest remnants." *PloS one* 10, no. 1 (2015): e0116474

<sup>&</sup>lt;sup>6</sup> McDonald, R.I., Mansur, A.V., Ascensão, F., Crossman, K., Elmqvist, T., Gonzalez, A., Güneralp, B., Haase, D., Hamann, M., Hillel, O. and Huang, K., 2020. Research gaps in knowledge of the impact of urban growth on biodiversity. *Nature Sustainability*, *3*(1), pp.16-24.

<sup>&</sup>lt;sup>7</sup> Razafindratsima, O.H., Brown, K.A., Carvalho, F., Johnson, S.E., Wright, P.C. and Dunham, A.E., 2018. Edge effects on components of diversity and above-ground biomass in a tropical rainforest. *Journal of applied ecology*, *55*(2), pp.977-985.

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					No archaeological and cultural heritage resources were observed during the site visit. A NID has been submitted
	Archaeological				to the HWC whereby the specialist stated that the anticipated impacts on heritage resources will be very low and
4	and Cultural	Low	Disagree	Insignificant	that a Heritage Impact Assessment will not be required for the proposed development. It is therefore envisaged
-	Heritage	Sensitivity	Disagree	Sensitivity	that the proposed development will have a negligible impact on the Archaeological and Cultural Heritage Theme.
	Theme				Based on these factors highlighted above, it is envisaged that the proposed site for development has an
					insignificant sensitivity with regards to the Archaeological and Cultural Heritage Theme.
5	Civil Aviation	High	Disagree	Medium	Please note that a land-use approval for consent and height permanent departure for the 35m high
5	Theme	Sensitivity	Disagree	Sensitivity	telecommunication mast has been obtained by the applicant.
	Defence	Low		Insignificant	There are no defence related structures or zones on the site or within close proximity to the site. Therefore, it is
6	Theme	Sensitivity	Disagree	Sensitivity	envisaged that the proposed development will not impact any defence-related resources. Thus, it is envisaged
	Theme	Sensitivity		Sensitivity	that the proposed site for development has an insignificant Defence Theme sensitivity.
					As per the SAHRIS Paleontological Online Map Tool ( <u>https://sahris.sahra.org.za/map/palaeo</u> ), the proposed site
					is situated within an area of low paleontological significance (represented as blue in Figure 6). Due to the location
					within the SAHRIS Paleontological Map and proposed development footprint (approximately 90m <sup>2</sup> ), the proposed
					development is unlikely to impact any paleontological resource. Thus, it is envisaged that the proposed site has
					an insignificant sensitivity relative to the Paleontological Theme.
					SAHRIS
				Insignificant Sensitivity	Exprore Calaboar Maga Hap PalaeoSensitivity Map
			Disagree		en Layer
7	Paleontological Theme Se	Low Sensitivity			Location of proposed site for development.
					Site of development:
					Proprieta Case
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					For more information, go to How to Use the Ve Basedenobalogical (feasil) Sensitivity Map Colour Sensitivity Required Area (Feasily Sensitivity Map RED VERV HIGH field assessment and protocol for finds is required
					ORANOE/YELLOW HIGH assessment is lively or equivariant and based on the outcome of the desktop study, a field assessment is lively OREEN MODERATE desktop study is required IRUE LOW on calaborational studies are required horsever a cretoral for finds is required
					CREV EXPONENTIAL DEPENDENT OF THE ADDRESS AND ADDRESS
					Figure 6. The palaeontological sensitivity of the proposed site for development. Source: SAHRIS.
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<sup>&</sup>lt;sup>8</sup> Shukla, S.K., Singh, K., Singh, B. and Gautam, N.N., 2011. Biomass productivity and nutrient availability of *Cynodon dactylon* (L.) Pers. growing on soils of different sodicity stress. *Biomass and Bioenergy*, 35(8), pp.3440-3447.

<sup>&</sup>lt;sup>9</sup> Van Oudtshoorn, F. 1999. Guide to the grasses of southern Africa. Briza Publications, Pretoria.

<sup>&</sup>lt;sup>10</sup> Pacanoski, Z., Týr, Š. and Vereš, T., 2014. Puncturevine (Tribulus terrestris L.): noxious weed or powerful medical herb. *Journal of Central European Agriculture*.

<sup>&</sup>lt;sup>11</sup> Van Vleet, S.M. 2005. Invasive Weeds of Eastern Washington. Pullman: Washington State University Extension.

<sup>&</sup>lt;sup>12</sup> Kir, K., Dogan, M.N. 2009. Weed control in maize (*Zea mays L.*) with effective minimum rates of foramsulfuron. *Turk. J. for Agric.*, 33(6), 601–610.

<sup>&</sup>lt;sup>13</sup> Burgoyne, P.M. 2006. Cephalophyllum loreum (L.) Schwantes. National Assessment: Red List of South African Plants version 2020.1. Accessed on 2021/05/19

<sup>&</sup>lt;sup>14</sup> Mucina, L. and Rutherford, M.C., 2006. *The vegetation of South Africa, Lesotho and Swaziland*. South African National Biodiversity Institute.

					Furthermore, these observed plant species, indicators of disturbed sites, are established outside the proposed development footprint. Therefore, it is envisaged that the proposed site for development is unlikely to impact the Plant Species Theme and thus, the Plant Species Theme was lowered to an insignificant sensitivity.
9	Terrestrial Biodiversity Theme	Very High Sensitivity	Disagree	Insignificant Sensitivity	No animals were observed in, or around, the proposed site for development. The proposed site for development is disturbed due to previous grazing by livestock. Faunal diversity changes through space and time and are directly (change in land cover and disturbance of vegetation by previous grazing by livestock and edge effects) and indirectly (i.e., change in soil biogeochemistry) influenced by anthropogenic activities (Tilman et al., 1997; Chapin et al., 2000; Didham <i>et al.</i> , 2015; McDonald <i>et al.</i> , 2020). Moreover, the previous erection of fences around the property would have physically restricted the movement of medium and larger animals in and out of the property – limiting the number and diversity of animals present within the property. Based on the site's level of disturbance, it is unlikely that the proposed site for development would adequately support vegetation characteristic of the Atlantis Sand Fynbos vegetation type, and consequently, fauna which may have naturally depended on the vegetation structure associated with this vegetation type. Furthermore, edge effects have diverse impacts on biodiversity and ecological functioning, further contributing to the disturbance of the site (Razafindratsima <i>et al.</i> , 2018) Such effects contribute to a disturbance factor, which is likely to have driven most wild animals away from the proposed site for development due to current land use activities. This in turn would have affected the food

chain and ultimately the number and type of tertiary predators, particularly mammals and larger birds of prey, as
well as animals on lower trophic levels. Although no animals were observed on-site during the site visit, conditions
and measures will be incorporated in the EMPr to mitigate any potential impact(s) of the proposed development
on animal species. Due to long-term impacts associated with the disturbance of the proposed site for development,
it is envisaged that the proposed development will have a negligible impact(s) on the Animal Species Theme.
Based on factors highlighted above, it is envisaged that the proposed site for development has an insignificant
sensitivity with regards to the Animal Species Theme. Limited plant species were observed within the proposed
development footprint (Figures 2, 3, and 7). The construction and operation of the proposed development will have
a negligible impact on the Plant Species Theme as no plant species of conservational value was observe within
the proposed development footprint. Moreover, the (i) the high level of disturbance (due to previous grazing)
associated with the site (Figure 8) and limited plant species which are disturbance indicators (namely common
duwweltjie (Tribulus terrestris), Fynkweek (Cynadon dactylon), and potentially Cephalophyllum spp - possibly
Cephalophyllum loreum - identified during the site visit) may characterize the sensitivity of the proposed site for
development as insignificant". It is envisaged that the proposed development will have a negligible impact on the
Terrestrial Biodiversity Theme. Thus, based on factors highlighted above, it is envisaged that the sensitivity of the
Terrestrial Biodiversity Theme associated with the proposed site for development is insignificant.

No	Proposed Specialist Assessment	Verification of Site Sensitivity And Motivation On The Need For Specialist Investigation	Will the specialist study be conducted?
1	Landscape/ Visual Impact Assessment	The proposed project is for development of a new 35m high mast and associated infrastructure. A land-use approval for consent and height permanent departure for the 35m high telecommunication mast has been obtained (Appendix L). Powerlines also surround the proposed site for development.	No. It is envisaged that a Landscape/ Visual Impact Assessment will not be required.
2	ArchaeologicalandCulturalHeritageImpactAssessment(HIA)	The proposed development will have an approximate footprint of 90m <sup>2</sup> and will be located on disturbed land. A NID has been submitted to the HWC whereby the specialist stated that the anticipated impacts on heritage resources will be very low and that a Heritage Impact Assessment will not be required for the proposed development.	No, it is envisaged that an HIA will not be required.
3	Palaeontological Impact Assessment	As per the PalaeoSensitivity Map , the site is located within an area of low palaeontological sensitivity (see Figure 6 above accessed at: <u>https://sahris.sahra.org.za/map/palaeo</u> ), and therefore, no impacts to significant palaeontological resources are anticipated.	No, it is envisaged that a PIA will not be required.
4	Terrestrial Biodiversity Assessment	Please refer to Table 1, No. 9 for information on factors influencing the lowering of the proposed site's Terrestrial Biodiversity Theme sensitivity to "insignificant". It is envisaged that the proposed development will have a negligible impact on the Terrestrial Biodiversity Theme. Thus, based on factors highlighted in Table 1, it is envisaged that the sensitivity of the Terrestrial Biodiversity Theme associated with the proposed site for development is insignificant.	No, it is envisaged that a Terrestrial Biodiversity Assessment will not be required.
5	Aquatic Biodiversity Impact Assessment	As per the SSV Report , the Aquatic Biodiversity Theme was rated as having an insignificant sensitivity. Due to the nature of the development (i.e. mast and associated infrastructure) and development footprint (< 100m <sup>2</sup> ), the proposed development is highly unlikely to impact any freshwater aspects associated with any Aquatic Biodiversity Theme. No watercourse is present within the proposed site for development. A non-operational Water Attenuation Feature, located within 32m, comprises of alien invasive plant species, namely Rooikrans ( <i>Acacia cyclops</i> ), and therefore does not support any indigenous aquatic biodiversity.	No, it is envisaged that a Freshwater Assessment will not be required.

**Table 2.** Specialist assessments identified as per the DEA Screening Tool.

		Figure 8. Non-operational water attenuation feature.	
6	Hydrological Assessment	Please see comment above.	No, it is envisaged that a Hydrological Assessment will not be required.
7	Socio-economic Assessment	All comments received from I&APs will be addressed and responded to by the relevant personnel, namely the EAP and / or Applicant. Conditions and measures will be implemented to mitigate any impacts on socioeconomic development within the area and surrounds. Therefore, it is envisaged that a Socio-economic Assessment will not be required.	No, it is envisaged that a socio-economic assessment will not be required.
8	Plant Species Assessment	Please refer to Table 1, No. 8 for information on factors influencing the lowering of the proposed site's Plant Species Theme sensitivity to "insignificant". Therefore, it is envisaged that the proposed site for development is unlikely to impact the Plant Species Theme and thus, the Plant Species Theme was lowered to an insignificant sensitivity.	No, it is envisaged that a Botanical Assessment will not be required.

9	Animal Spec Assessment	Please refer to Table 1, No. 2 for information on factors influencing the lowering of the proposed site's Animal Species Theme sensitivity to "insignificant". Therefore, it is envisaged that the proposed site for development is unlikely to impact the Animal Species Theme and thus, the Animal Species Theme was lowered to an insignificant sensitivity.	No, it is envisaged that an Animal Species Assessment will not be required.
10	Civil Aviation	A land-use approval for consent and height permanent departure for the 35m high telecommunication mast has been obtained. Powerlines also surround the proposed site for development.	No, it is envisaged that a Civil Aviation assessment will not be required.
11	Defence	There are no defence related structures or zones on the site / within close proximity to the proposed site for development. Due to the nature of the proposed project, it is envisaged that the proposed expansion will have a negligible impact on defence-related activities.	No, it is envisaged that a Defence assessment will not be required.
12	Geotechnical Investigation	Due to the nature and size of the proposed development, it is envisaged that a geotechnical investigation will not be required.	No, it is envisaged that a Geotechnical Investigation will not be required.
13	RFI Assessment	It is highly unlikely that the proposed development will impact any Radio Astronomy Advantage Area or Weather Radar Installation during the construction and operation phases due to the distance of the proposed development to any RFI-related activities. Therefore, it is envisaged that the proposed development will have a negligible impact / interreference on any Radio Frequency.	No, it is envisaged that a RFI Assessment will not be required.



Please do not hesitate to contact me should you require any further information or clarity on the above.

### Best Regards,

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