ADVANCING AFRICA THROUGH CONNECTIVITY

Diemersfontein Cell Phone Tower

on Farm 1756 Paarl Road Western Cape

Compliance Statement

DFFE Screening Tool

Aquatic Biodiversity Theme

A requirement for the Environmental Impact Assessment in term of the National Environmental Management Act 107 of 1998

September 2024

EnviroAfrica

Environmental Management and Impact Assessment

Omgewingsbestuur en Impakbeoordeling

WATSAN Africa

1 Introduction

The company Mast Service (Pty) Ltd is planning to construct a cell phone tower on Farm 1756, Paarl Road Rd in the Western Cape. The site of the proposed mast is located adjacent and to the east of Wellington.

Enviro Africa of Somerset West was appointed to conduct the legally required EIA for the project. This process is currently underway, with the public participation process (Figure 1) taking place at the time of producing this report.

The DFFE Screening Tool indicated a Very High sensitivity for the aquatic biodiversity theme. Regulations allow for confirming of disputing the screening tool rating. Dr Dirk van Driel (SACNASP 400042/96) of WATSAN Africa in Knysna was appointed investigate the validity of this rating.

A site visit was conducted on 11 September 2024, together with the landowner, Mr Jan Louw du Plessis.

This report must be compiled according to the guidelines set out in the DFFE Screening Tool regulations, with a set format and contents.

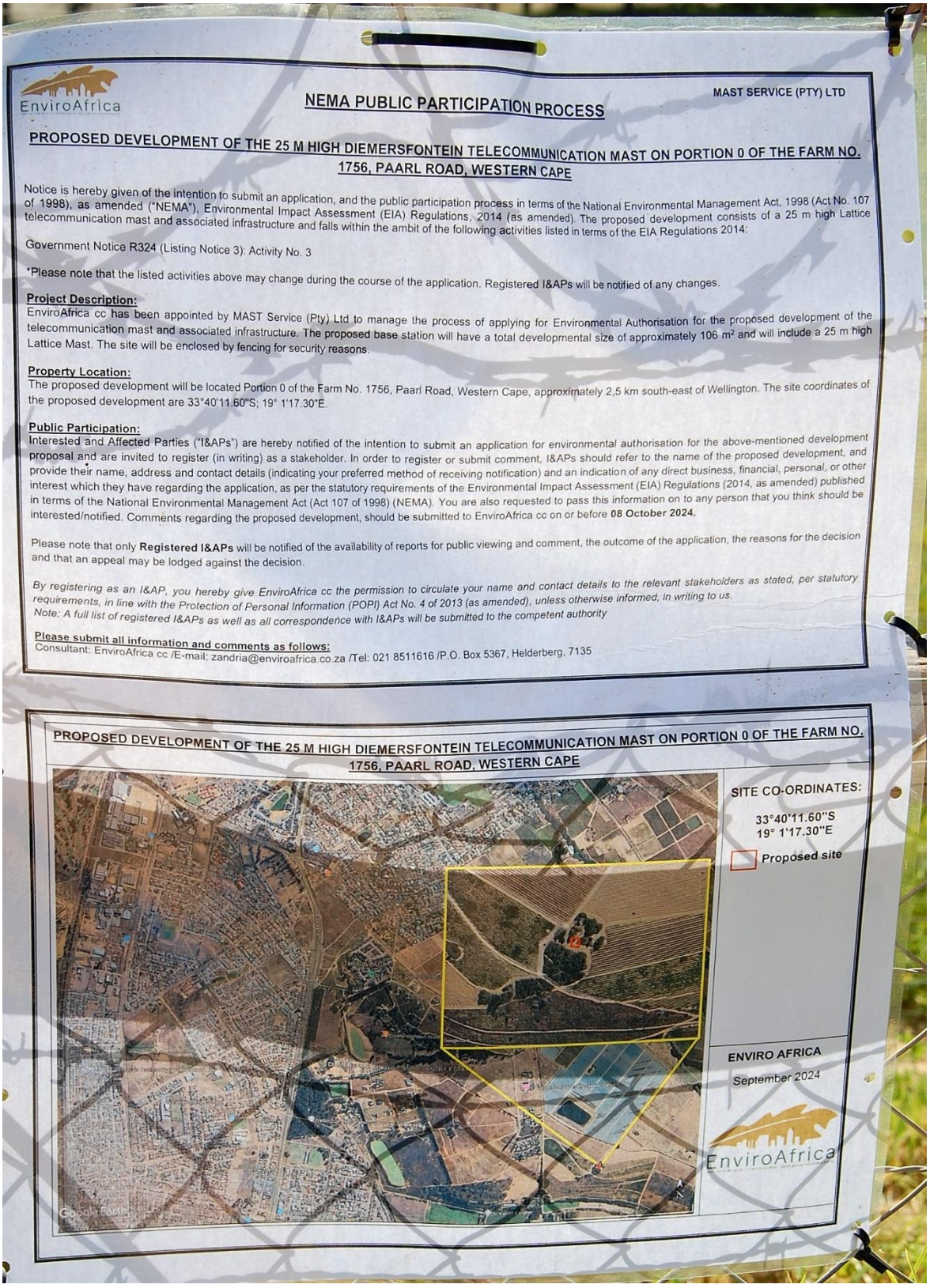


Figure 1 Public participation

2 Location

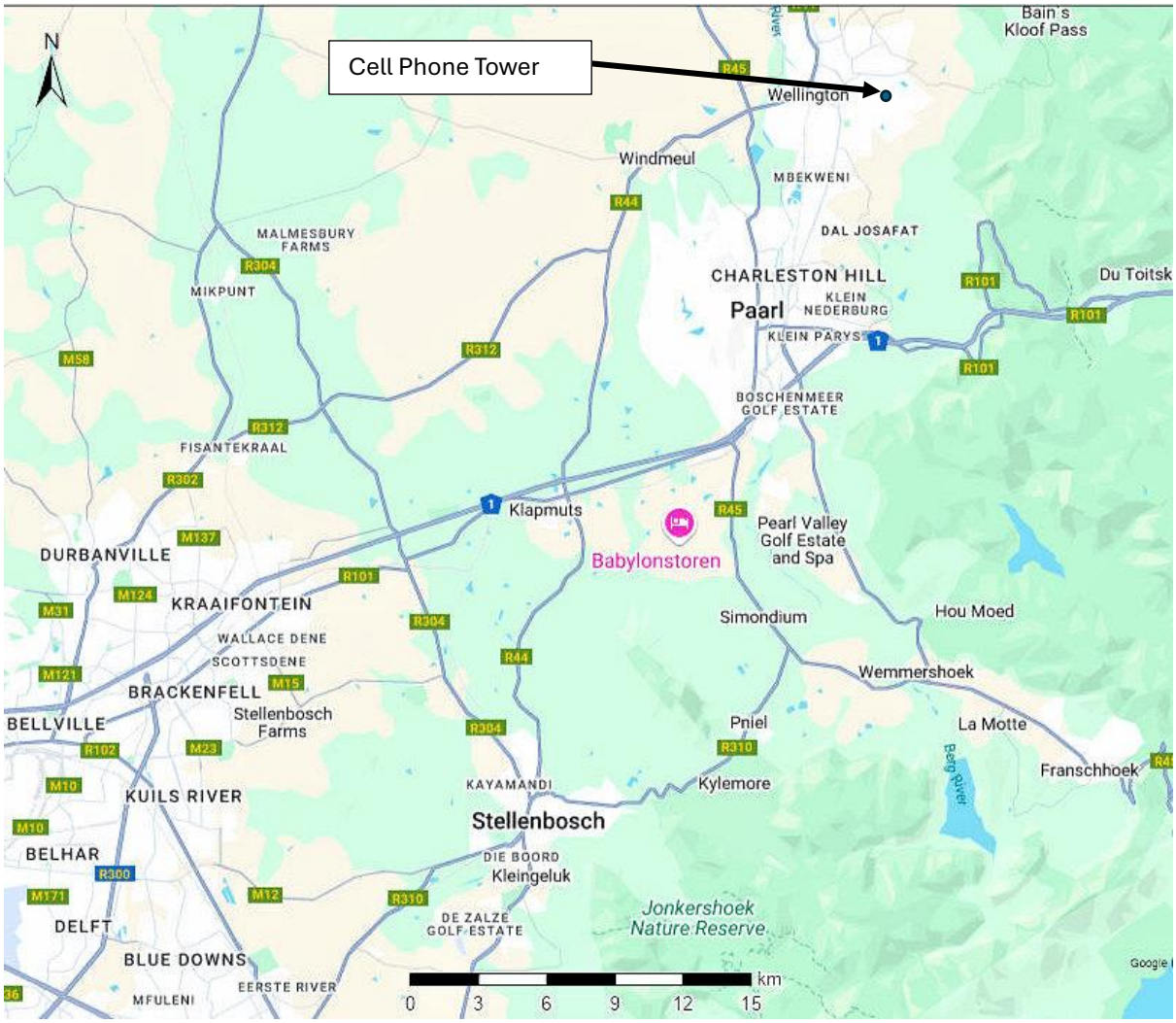


Figure 2 Diemersfontein Cell Phone Tower Locality

The cell phone tower is adjacent and to the east of Wellington (Figure 2).

The coordinates are as follows:

33°40’08.35”S and 19°01’19.46”E.

Turn out of Bo Dal Road on the eastern outskirts of Wellington to Imbuko Wines. Then ask at the wine cellar to be guided to the place of the cell phone tower. It is a steep climb up rough farm roads to get there.

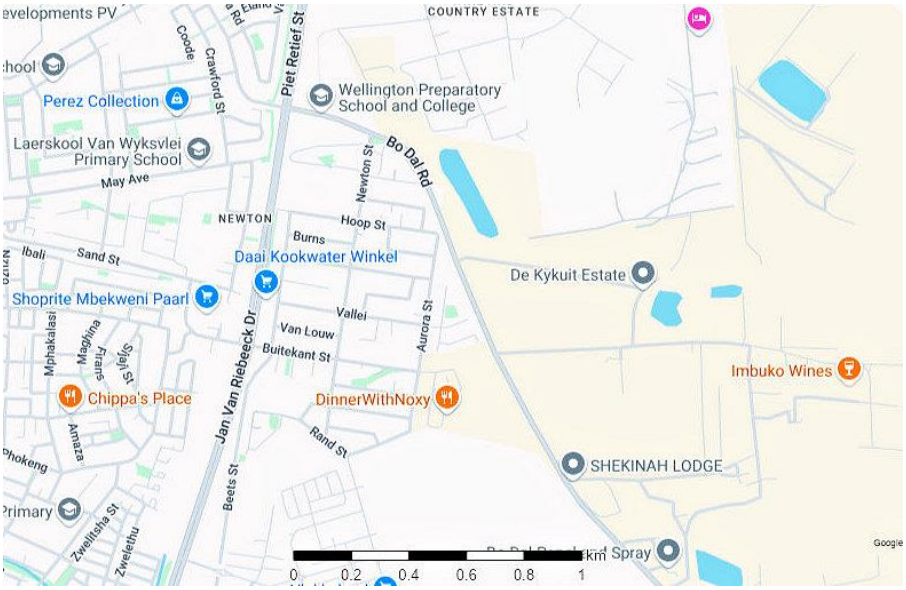


Figure 3 Diemersfontein Cell Phone Tower Locality Map 2

3 The Site

The cell phone tower will be erected on a granite elevation, a rocky outcrop, at 252masl overlooking the valley to the south (Figure 4). The outcrop is somewhat higher than the more level land to the north (Figure 5). It is evident from the photographs that this is mountainous country with deep valleys and steep slopes.

There are already several masts on the site (Figure 6).

This is a wine-producing area, in the heartland of the Western Cape's winelands, with much of the available agricultural land with vineyards. The landscape is dotted with numerous irrigation dams (Figure 7), with literally all the streams coming out of the mountains heavily altered. Some of the dams are listed as NFEPA's.

Field observations concurred that soils are erodible, with deep incisions left after the recent heavy rains. Farm roads in the area serve as preferential flow paths.

The dams are outside of the NEMA-specified 32m controlled zone. Likewise, the stream (Figure 7) that connects the farm dams to the south of the cell phone tower site is further away than 32m.

Following the site visit and proper field observations, it can be stated that there are no aquatic features on the site of the proposed cell phone tower.

Figure 4 View to the south

Figure 5 View to the north

Figure 6 Existing masts

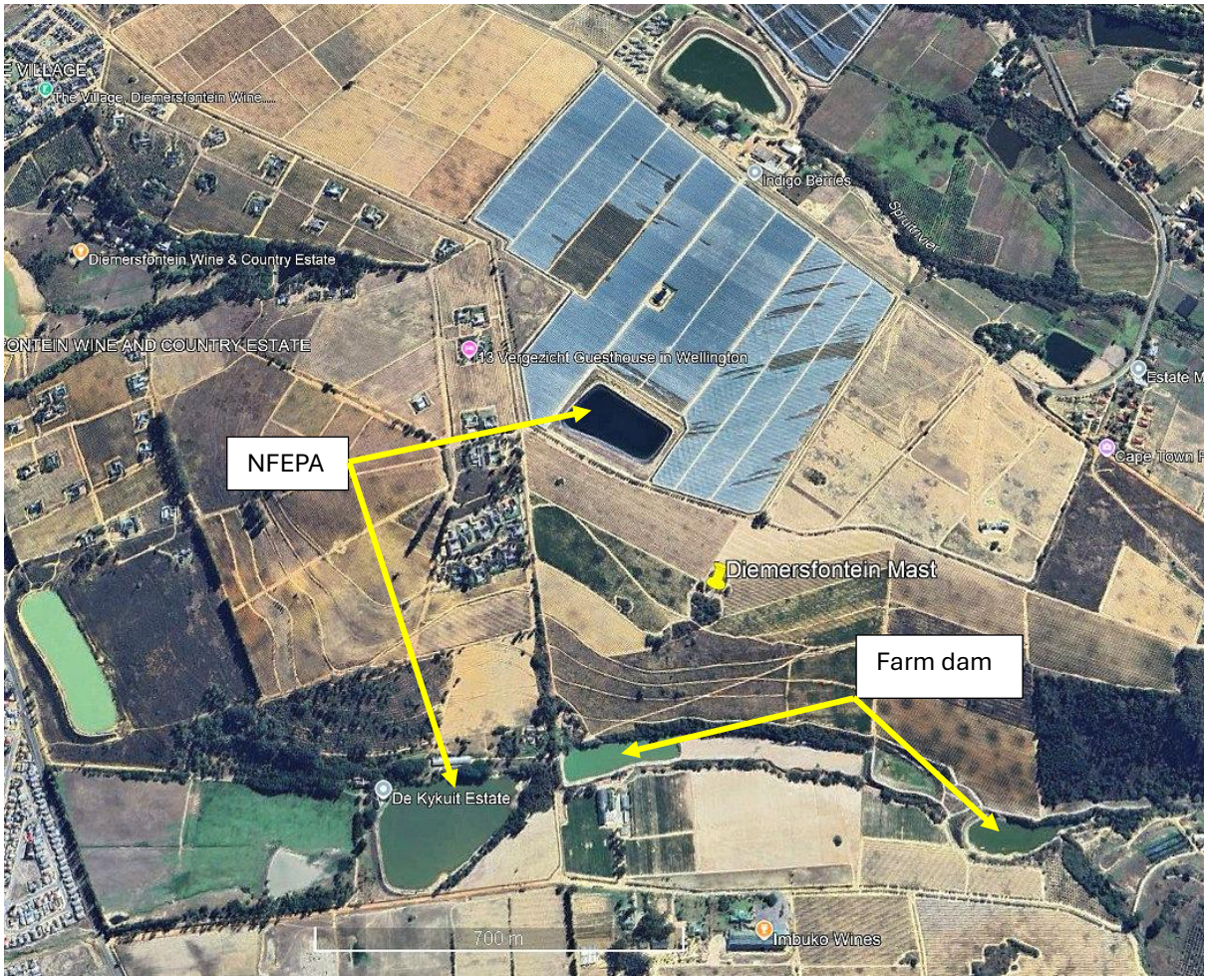


Figure 7 Farm dams

Figure 8 Stream

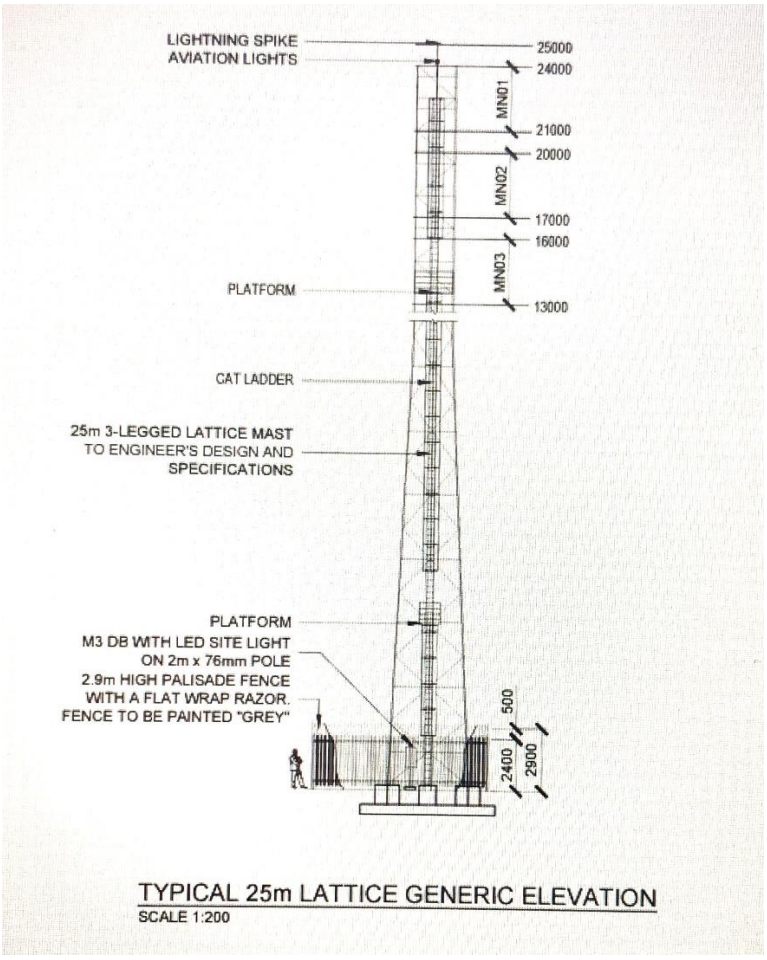
The stream rises on the high ridges and peaks of the mountains to the east of the site, where the rainfall is high, up to 1500m per year and even higher. The stream is reduced to a trickle in summer, when little if any rainfall occurs. It swells to a torrent during the winter rainfall season and during high rainfall events.

The stream is natural and not impacted high up the slopes of the mountain but is highly modified from the foot of the mountain downhill. The situation on Farm 1756 is not any different (Figure 8). It is engineered into a channel. It is overgrown with alien invasive trees such as black wattle and port Jackson. In places the landowner planted indigenous trees such as olienhout (wild olive, *Oleo europaea* variety *africana*).

As has been indicated before, this stream is more than 32m away from the proposed cell phone tower site.

4 The Mast

The proposed mast (Figure 9) will be 25m high, a typical steelwork lattice on a concrete foundation. The footprint will be 10m x 10m.



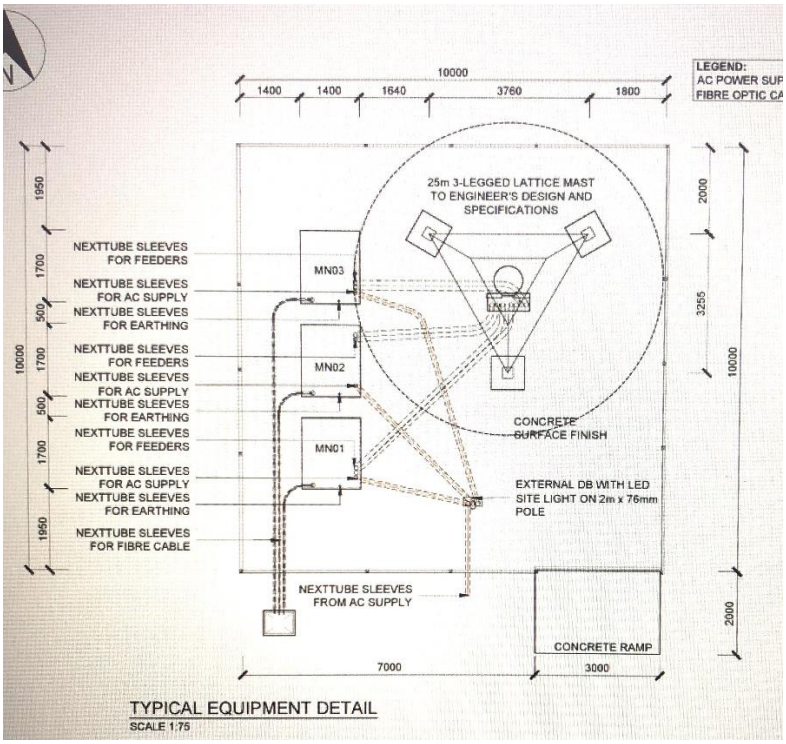


Figure 9 The Mast (Sheobalak Engineering, Umhlanga)

5 Aquatic Biodiversity Compliance Statement

The screening tool indicated a Very High sensitivity. This rating is disputed.

The rating must be Low.

The reasons for the Low rating are:

There are no aquatic features on the site of the proposed cell phone tower.

The farm dams and the stream are more than 32m away from the site, thus outside the controlled zone.

The farm dams as well as the stream are highly modified to serve the large-scale irrigation farming in the district. The original aquatic ecosystem has been replaced by a new, entirely different irrigation farming ecology. This replacement ecosystem is not entirely worthless, as it supports a different, perhaps lesser form of ecology.

There is no aquatic ecological connectivity between the site and the dams and stream. Mobile aquatic organisms such as amphibians and insects may cross the land, but the wide stretch of vineyards between the site and aquatic features is not preferred habitat.

The cell phone tower has no obvious if any impact on the aquatic habitat in the vicinity. It is by its nature, placement and design not a threat to the aquatic ecology of the region.

There are already communication transmission towers on the site. These have no visible of measurable impact on the aquatic environment. The addition of another tower won't make any difference.

Construction phase

The farm roads on the property serve storm water preferential flow paths. Erosion was evident during the site visit.

During the construction phase, when the foundations are made, no more land must be disturbed that is necessary, as loose sand and sediments will be washed downhill along the farm roads and will eventually end up in the downstream aquatic habitat. Deposition and infilling may further downgrade aquatic habitat even more than it already is.

The farm roads must be provided with berms and whatever stormwater management infrastructure is required to divert runoff from the roads. Sediment transport down the slope must be prevented as far as possible.

Construction must be concluded in the dry summer months.

Heavy heaving of several cubic metres of concrete up the steep incline is bound to happen. The access road is about to take punishment during this operation. The road must be kept in a good state of repair. It must be immediately repaired following damage dome by heavy vehicles and earth-moving machinery. The access road must not be allowed to form even deeper trenches.

Operational Phase

Once put into operation, a cell phone tower has little to no additional impacts on surrounding aquatic habitat. The little rubble after repairs or upgrade can easily be removed.

Decommissioning

It is not foreseen that the proposed cell phone tower be decommissioned. Hopefully, it will be useful in perpetuity, upgraded as technology progresses in the future.

6 Conclusions

The DFFE Screening Tool yielded a “Very High” sensitivity for the aquatic biodiversity theme. This result is disputed. The correct and realistic rating must be “Low”.

A cell phone tower, because of its nature and design, does not have a measurable impact on the aquatic environment. Moreover, viable aquatic habitat is far away from the proposed cell phone tower. This habitat is already degraded. The tower is separated from this habitat by extensive and large-scale agriculture.

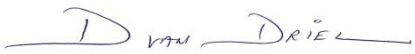
The main concern of this development is that the farm roads that give access to the cell phone tower site form preferential flow paths for stormwater during high rainfall events. This may lead to the transport of sediments from the tower’s site into the downhill aquatic habitat. This impact can be effectively ameliorated.

It is recommended that the construction and operation of the cell phone tower should go ahead. Official approval is suggested.

7 Declaration of Independence

I, Dirk van Driel, as the appointed independent specialist hereby declare that I:

- Act/ed as the independent specialist in this application
- Regard the information contained in this report as it relates to my specialist input/study to be true and correct and;
- Do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management act;
- Have and will not have vested interest in the proposed activity;
- Have disclosed to the applicant, EAP and competent authority any material information have or may have to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the environmental Impact Assessment Regulations, 2010 and any specific environmental management act.
- Am fully aware and meet the responsibilities in terms of the NEMA, the Environmental Impacts Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R543) and any specific environmental management act and that failure to comply with these requirements may constitute and result in disqualification;
- Have ensured that information containing all relevant facts on respect of the specialist input / study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties facilitated in such a manner that all interested and affected parties were provided with reasonable opportunity to participate and to provide comments on the specialist input / study;
- Have ensured that all the comments of all the interested and affected parties on the specialist input were considered, recorded and submitted to the competent authority in respect of the application;
- Have ensured that the names of all the interested and affected parties that participated in terms of the specialist input / study were recorded in the register of interested and affected parties who participated in the public participation process;
- Have provided the competent authority with access to all information at my disposal regarding the application, weather such information is favourable or not and;
- Am aware that a false declaration is an offence in terms of regulation 71 of GN No. R543.

Signature of the specialist:  18 September April 2024

8 Résumé

Dr Dirk van Driel
PhD, MBA, PrSciNat, MWISA
Water Scientist

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Experience

USAID/RTI, ICMA & Chemonics. Iraq & Afghanistan **2007 -2011**
Program manager.

City of Cape Town **1999-2007**
Acting Head: Scientific Services, Manager: Hydrobiology.

Department of Water & Sanitation, South Africa **1989 – 1999**
Senior Scientist

Tshwane University of Technology, Pretoria **1979 – 1998**
Head of Department

University of Western Cape and Stellenbosch University 1994 - 1998 part-time

- Lectured post-graduate courses in Water Management and Environmental Management to under-graduate civil engineering students
- Served as external dissertation and thesis examiner

Service Positions

- Project Leader, initiator, member and participator: Water Research Commission (WRC), Pretoria.
- Director: UNESCO West Coast Biosphere, South Africa
- Director (Past Deputy Chairperson): Grotto Bay Homeowner's Association
- Past Member Dassen Island Protected Area Association (PAAC)

Membership of Professional Societies

- South African Council for Scientific Professions. Registered Scientist No. 400041/96
- Water Institute of South Africa. Member

Reports

- Process Review Kathu Wastewater Treatment Works
- Effluent Irrigation Report Tydstroom Abattoir Durbanville
- River Rehabilitation Report Slangkop Farm, Yzerfontein
- Fresh Water and Estuary Report Erf 77 Elands Bay
- Ground Water Revision, Moorreesburg Cemetery
- Fresh Water Report Delaire Graff Estate, Stellenbosch
- Fresh Water Report Quantum Foods (Pty) Ltd. Moredou Poultry Farm, Tulbagh
- Fresh Water Report Revision, De Hoop Development, Malmesbury
- Fresh Water Report, Idas Valley Development Erf 10866, Stellenbosch
- Wetland Delineation Idas Valley Development Erf 10866, Stellenbosch
- Fresh Water Report, Idas Valley Development Erf 11330, Stellenbosch
- Fresh Water Report, La Motte Development, Franschhoek
- Ground Water Peer Review, Elandsfontein Exploration & Mining
- Fresh Water Report Woodlands Sand Mine Malmesbury
- Fresh Water Report Brakke Kuyl Sand Mine, Cape Town
- Wetland Delineation, Ingwe Housing Development, Somerset West
- Fresh Water Report, Suurbraak Wastewater Treatment Works, Swellendam
- Wetland Delineation, Zandbergfontein Sand Mine, Robertson
- Storm Water Management Plan, Smalblaar Quarry, Rawsonville
- Storm Water Management Plan, Riverside Quarry
- Water Quality Irrigation Dams Report, Langebaan Country Estate
- Wetland Delineation Farm Eenzaamheid, Langebaan
- Wetland Delineation Erf 599, Betty's Bay
- Technical Report Bloodhound Land Speed Record, Hakskeenpan
- Technical Report Harkerville Sand Mine, Plettenberg Bay
- Technical Report Doring Rivier Sand Mine, Vanrhynsdorp
- Rehabilitation Plan Roodefontein Dam, Plettenberg Bay
- Technical Report Groenvlei Crusher, Worcester
- Technical Report Wiedouw Sand Mine, Vanrhynsdorp
- Technical Report Lair Trust Farm, Augrabies
- Technical Report Schouwtoneel Sand Mine, Vredenburg
- Technical Report Waboomsrivier Weir Wolseley
- Technical Report Doornkraal Sand Mine Malmesbury
- Technical Report Berg-en-Dal Sand Mine Malmesbury
- Wetland Demarcation, Osdrif Farm, Worcester
- Technical Report Driefontein Dam, Farm Agterfontein, Ceres
- Technical Report Oewerzicht Farm Dam, Greyton
- Technical Report Glen Lossie Sand Mine, Malmesbury
- Preliminary Report Stellenbosch Cemeteries
- Technical Report Toeka & Harmony Dams, Houdenbek Farm, Koue Bokkeveld
- Technical Report Kluitjieskraal Sand & Gravel Mine, Swellendam
- Fresh Water Report Urban Development Witteklip Vredenburg
- Fresh Water Report Groblershoop Resort, Northern Cape
- Fresh Water Report CA Bruwer Quarry Kakamas, Northern Cape
- Fresh Water Report, CA Bruwer Sand Mine, Kakamas, Northern Cape
- Fresh Water Report, Triple D Farms, Agri Development, Kakamas
- Fresh Water Report, Keren Energy Photovoltaic Plant Kakamas
- Fresh Water Report, Keren Energy Photovoltaic Plant Hopetown
- Fresh Water Report Hopetown Sewer
- Fresh Water Report Hoogland Farm Agricultural Development, Touws River
- Fresh Water Report Klaarstroom Wastewater Treatment Works

- Fresh Water Report Calvinia Sports Grounds Irrigation
- Fresh Water Report CA Bruwer Agricultural Development Kakamas
- Fresh Water Report Zwartfontein Farm Dam, Hermon
- Statement Delsma Farm Wetland, Hermon
- Fresh Water Report Lemoenshoek Farms Pipelines Bonnyvale
- Fresh Water Report Water Provision Pipeline Brandvlei
- Fresh Water Report Erf 19992 Upington
- Botanical Report Zwartejongensfontein Sand Mine, Stilbaai
- Fresh Water Report CA Bruwer Feldspath Mine, Kakamas
- Sediment Yield Calculation, Kenhardt Sand Mine
- Wetland Demarcation, Grabouw Traffic Center
- Fresh Water Report, Osdrift Sand Mine, Worcester
- Fresh Water Report, Muggievlak Storm Water Canal, Vredenburg
- Fresh Water Report, Marksman's Nest Rifle Range, Malmesbury
- Biodiversity Report, Muggievlak Storm Water Canal, Vredenburg
- Strategic Planning Report, Sanitation, Afghanistan Government, New Delhi, India
- Fresh Water Report, Potable Water Pipeline, Komaggas
- Fresh Water Report, Wastewater Treatment Works, Kamieskroon
- Fresh Water Report, Turksvy Farm Dam, Upington
- Fresh Water Report, Groblershoop Urban Development, IKheis Municipality
- Fresh Water Report, Boegoeberg Urban Development, IKheis Municipality
- Fresh Water Report, Opwag Urban Development, IKheis Municipality
- Fresh Water Report, Wegdraai Urban Development, IKheis Municipality
- Fresh Water Report, Topline Urban Development, IKheis Municipality
- Fresh Water Report, Grootdrink Urban Development, IKheis Municipality
- Fresh Water Report, Gariep Urban Development, IKheis Municipality
- Fresh Water Report, Bonathaba Farm Dam, Hermon
- Botanical Report, Sand Mine Greystone Trading, Vredendal
- Botanical Report Namakwa Klei Stene, Klawer
- Fresh Water Report Buffelsdrift Quarry, George
- Fresh Water Report Styerkraal Agricultural Development, Onseepkans.
- Technical Report Arabella Country Estate Wastewater Treatment Works, Kleinmond
- Fresh Water Report Calvinia Bulk Water Supply
- Fresh Water Report Swartdam Farm Dams, Riebeeck Kasteel
- Fresh Water Report Erf 46959, Gordon's Bay
- Fresh Water Report Melkboom Farm Dam, Trawal
- Stormwater Management Plan, Bot River Bricks
- Freshwater Report, Bot River Bricks
- Freshwater Report Sanddrif Farm, Joubertina
- Freshwater Report Zouterivier Cell phone tower, Atlantis
- Biodiversity Report Birdfield Sandmine, Klawer
- Freshwater Report New Wave Dam, Klawer
- Freshwater Report Harvard Solar Energy Plant, Bloemfontein
- Freshwater Report Doorn River Solar Energy Plant, Virginia
- Freshwater Report Kleingeluk Farm, De Rust
- Freshwater Report, Solar Energy Plant, Klein Brak River
- Site Verification Report Laaiplek Desalination Plant
- Freshwater Report, CA Bruwer Quarry, Kakamas
- Freshwater Report, Orren Managanese Mine, Swellendam
- Wetland Delineation, Klipheuvel ZCC Solar Energy
- Freshwater Report Delville Park, George
- Freshwater Report Wolseley bulk water pipeline
- Freshwater Report Urban Settlement No.1 Pababello Upington
- Freshwater Report Urban Settlement No.2 Pababello Upington
- Freshwater Report Pringle Rock Distillery, Rooiels

- Freshwater Report De Kuilen Resort, Kamiesberg
- Wetland Delineation, Klipheuvel ZCC Solar Energy
- Freshwater Report Delville Park, George
- Freshwater Report ZCC Akkerboom electric vehicle charging station, Keimoes
- Freshwater Report ZCC Piketberg electric automobile charging station
- Freshwater Report ZCC electric truck charging station Piketberg
- Freshwater Report ZCC electric truck charging station Prince Albert Weg
- Freshwater Report Vleesbaai Wastewater Treatment Works
- Freshwater Report ZCC Brandvlei electric vehicle charging station.
- Site Sensitivity Report desalination plant Velddrif
- Technical Report desalination plant Velddrif
- Freshwater Report Abbottsdale High Voltage Power Line
- Freshwater Report Darling Solar Energy Plan
- Freshwater Report Malmesbury Klipkoppie Solar Energy Plant
- River Rehabilitation Plan Louterwater, Langkloof
- River Rehabilitation Plan Kloof Please Krakeelrivier
- Freshwater Report ZZC Potchefstroom electric automobile charging station.
- Freshwater Report ZKA Information Centre Carnavon
- Freshwater Report ZCC Estcourt electric vehicle charging station
- Freshwater Report ZCC Kohler electric vehicle charging station
- Freshwater Report ZCC Harrismith electric vehicle charging station
- Wetland demarcation, Farm Gustrouw 918, Somerset West
- Freshwater Report, New vineyard, Plot 1181, Kakamas
- Freshwater Report, Farm 91, Riversdale.
- Freshwater Report Harmony Agriculture, Koue Bokkeveld, Ceres
- Freshwater Report Toeka Agriculture, Koue Bokkeveld, Ceres