ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

PROPOSED WAAIHOEK WIND ENERGY FACILITY
UTRECHT
KWA-ZULU NATAL

BACKGROUND INFORMATION DOCUMENT

April 2014 (2nd Edition)

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BACKGROUND INFORMATION

Who is involved and background?

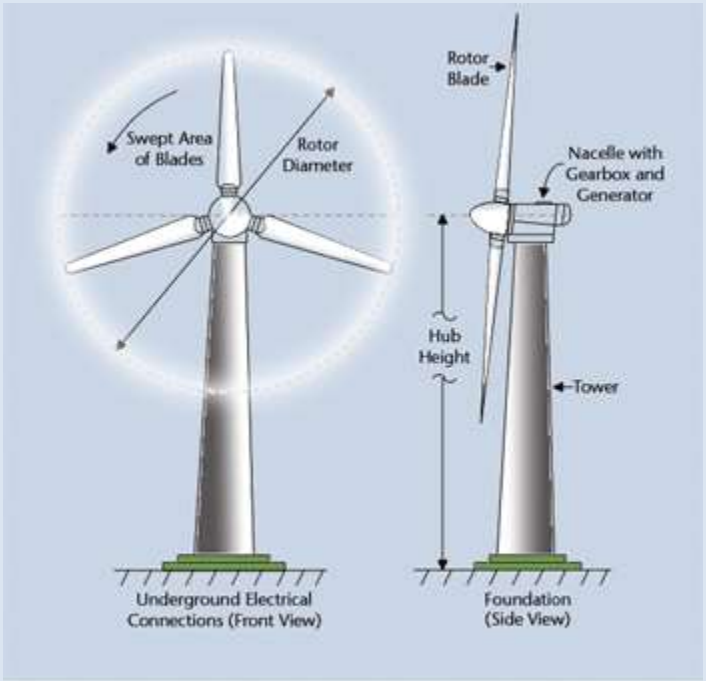
South Africa Mainstream Renewable Power Developments (Pty) Ltd. (Mainstream) is proposing to construct a Wind Energy Facility (WEF) to be developed south-east of Utrecht in the Emadlangeni Local Municipality, KwaZulu-Natal Province (Figure 1). The WEF will host a maximum of 93 wind turbines, each generating between 1.5 – 4 megawatts (MW) of power, with total combined potential power output of approximately 160MW.

Coastal and Environmental Services (CES) has been appointed by Mainstream to undertake the necessary environmental investigations for the proposed energy facility, and to apply for approval from the Department of Environmental Affairs (DEA), for the construction, operation and decommissioning of the facility, as required by South Africa's environmental legislation. Details of the relevant laws, and an overview of the Environmental Impact Assessment (EIA) process, are provided on the next page.

What is a wind energy facility and how does it work?

A wind energy facility, or wind farm, consists of one or more wind turbines. The wind turbine is made up of a tower, a generator and rotor blades (see diagram below). When the wind blows, the rotor blades rotate and the generator converts the movement into electricity, which can then be transmitted for use. The energy created is considered renewable and clean.

Turbine models have different output capacity (e.g. a 1MW or 4MW turbine). The main features that differ are the hub height (can be between 80-120 metres high) and rotor blade length (can be between 40-70 metres long).



Drawing of the rotor and blades of a wind turbine, courtesy of ESN

Aim of this document

The aim of this Background Information Document is to provide parties affected by and/or interested in the proposed project with information about this proposed project, the process being followed and to provide them with an opportunity to be involved in the EIA process.

Interested and Affected Parties (I&APs) may raise issues of concern. These will be examined, addressed and included in subsequent EIA documentation.

The findings of the EIA will be provided to the National DEA in Pretoria for decision making purposes, as to whether or not the project should go ahead and if so under what conditions.

PROPOSED PROJECT DESCRIPTION

Where is the project located?

The proposed Waaihoek Wind Energy Facility (WEF) is situated approximately 20km east of the town of Utrecht, north of the R34 between Utrecht and Vryheid (Figure 1). Three powerline corridor alternatives, connecting the WEF to the Eskom Bloedrivier substation, will be considered (Figure 2).

The properties that are being considered for the proposed Waaihoek WEF are provided below:

Farm name	Farm no.	21 Digit SG code	Farm size (ha)
Goedgeloof	180/1	NOHT00000000007700000	353.72
	180/RE	NOHT00000000007700001	887.72
Waaihoek	173/9	NOHT00000000015200001	240.64
	173/11	NOHT00000000015200002	23.34
	173/3	NOHT00000000015200003	1443.85
	173/4	NOHT00000000015200005	481.28
	173/5	NOHT00000000015200007	224.28
	173/6	NOHT00000000015200010	217.30
Groothoek	152/1	NOHT00000000015200013	265.52
	152/3	NOHT00000000017300006	346.69
	152/2	NOHT00000000017300009	579.33
	152/5	NOHT00000000017300011	463.07
	152/7	NOHT00000000017700003	463.07
	152/10	NOHT00000000017700006	579.33
	152/13	NOHT00000000018000000	347.31
Goedehoop	177/3	NOHT00000000018000001	1087.80
	177/6	NOHT00000000018200001	214.09
Weltevreden	182/1	NOHT00000000018200002	1001.90
	182/2	NOHT00000001706800001	457.70
Wijdgelegen	17068/1	NOHT00000001706800002	1100.00
	17068/2	NOHT00000001706800003	808.82
	17068/5	NOHT00000001706800004	386.11
	17068/3 (RE)	NOHT00000001706800005	422.71
	17068/4	NOHT00000001706900009	428.27
Paardepoort	77/RE	NOHT00000000007700000	1001.80
	77/1	NOHT00000000007700001	1072.22
Bloedrivier	17069/9	NOHT00000001706900009	455.2

Key elements of the project:

The proposed Waaihoek WEF may host up to 93 wind turbines each generating between 1.5 – 4MW of power, with a total maximum output capacity of 160MW. The number and placement of turbines has not yet been finalised, and this will be based on the outcome of ongoing environmental and technical inputs, e.g. an initial environmental sensitivity assessment and the results of on-site wind resource monitoring.

Three proposed overhead powerline corridor alternatives are being considered for the transmission of electricity from the WEF to the Eskom Bloedrivier substation. One alternative which includes utilising an abandoned 88kV powerline servitude to the south of the site and connecting directly into the existing 88kV line running parallel to the R34 is also being considered. The areas currently under investigation are presented in Figure 2 below.

Additional infrastructure associated with the proposed Waaihoek WEF will include:

- An approximate foundation footprint of 20 x 20m per turbine, 2-4m deep.

- Hard standing areas of approx. 2 800m^2 for crane usage per turbine.
- Medium voltage cables up to 1m deep connecting all turbines to the substation.
- One new substation with transformers of up to 275kV, with high voltage (HV) yard footprints of approx. 90m x 120m.
- Internal access roads between 6 and 10m wide.
- An approx. 10 000m^2 temporary laydown area including access road and contractor's site office area of up to 5 000m^2.
- Administration and warehouse buildings with a footprint of 5 000m^2.
- Fencing, linking station and borrow pits if required.

Timeframes for the EIA process

The EIA process will take approximately 12 months to complete, and will be informed by the findings of the requisite 12-month pre-construction bird and bat monitoring. Following submission of the Final EIA Report an Environmental Authorisation will be issued by the DEA in approximately 105 days, which will be followed by a statutory 20-day appeal period.

NEED AND DESIRABILITY

The South African Government has recognised the country's high level of renewable energy potential and presently has in place targets of 17.8 GW of renewable energy by 2030 (to be produced mainly from wind and solar). This amounts to ~42% share of the new electricity generation capacity to be brought online by 2030 (as per the 2010-2030 Integrated Resource Plan).

The proposed project is needed and deemed desirable for the following reasons:-

- Electricity supply

Over the last few years, South Africa has been adversely impacted by interruptions in the supply of electricity. The creation of a 'decentralized' power generation facility (i.e. not located in the traditionally centralized power producing regions of the Republic of South Africa) in the vicinity of the loads it proposes to supply, will secure a supplementary energy source for the area, especially during cold fronts and during the winter season when consumption is higher and wind yields are higher. Moreover, the project will contribute towards meeting the national energy target as set by the Department of Energy (DoE) in its 2010-2030 Integrated Resource Plan.

- Green energy

Growing concerns such as climate change and the on-going exploitation of non-renewable resources have prompted increased international pressure on countries to increase their share of renewable energy generation. Approximately 8400MW has been allocated to the generation of wind energy. The proposed renewable energy facility is therefore considered to be of national importance in anticipation of its contribution to electricity supply and reduced reliance on fossil energy sources.

- Climate change

The electricity generated by the WEF will displace some fossil fuel based forms of electricity generation. Throughout its life span, the WEF is expected to contribute positively towards climate change mitigation. It is the intention of the applicant to make necessary applications for the generation of Certified Emission Reductions (CERs), or "carbon credits". The programme, in terms of which this is to occur, is still under consideration.

RELEVANT LEGISLATION

The Environmental Impact Assessment Regulations (2010) promulgated in terms of section 24(5) of Chapter 5 of the National Environmental Management Act (NEMA)(Act No 107 of 1998) identify activities in terms of Section 24(2)(a) and (d) of NEMA, which may not commence without an authorisation from the competent authority, who in this case is National Department of Environmental Affairs (DEA, Pretoria). In order for application to be considered, an assessment and communication of potential impacts of the activities must follow the procedure as described in EIA Regulations GN 543 (Section 26 to 35).

The proposed project is subject to a full Scoping and Environmental Impact Assessment in terms of the following listed activities:

Government Notice	Activity Number	Activity Description
GN R No.544 BASIC ASSESSMENT	10	The construction of facilities or infrastructure for the transmission and distribution of electricity: (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts
	11	The construction of: (vi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.
	18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or removing of soil, sand, shell, shell grit, pebbles or rock from (i) a watercourse
	22	The construction of a road, outside urban areas, (i) with a reserve wider than 13,5 metres, or, (ii) where no reserve exists where the road is wider than 8 metres
	47	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre – (i) where the existing reserve is wider than 13,5 metres; or (ii) where no reserve exists, where the existing road is wider than 8 metres.
GN R No. 545 FULL SCOPING AND EIR	1	The construction of facilities or infrastructure for the generation of electricity where the electricity is 20 megawatts or more.
	8	The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.
	15	Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more.
GN R No. 546 BASIC ASSESSMENT	4	The construction of road wider than 4 metres with a reserve less than 13.5 metres.
	14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation.
	16	The construction of: (iii) buildings with a footprint exceeding 10 metres in size; or (iv) infrastructure covering 10 metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

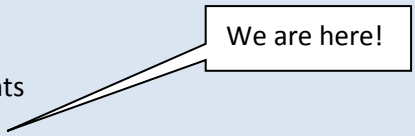
HOW DOES THE ENVIRONMENTAL IMPACT ASSESSMENT WORK?

An application will be submitted to the National Department of Environmental Affairs (Pretoria) and a reference number will be issued. Once a reference number has been issued, it will appear on future EIA correspondence.

The EIA for the proposed project is presently in the SCOPING phase. This phase serves primarily to inform the public and relevant authorities about the proposed project and to determine any potential impacts on the natural environment. These impacts will then be extensively addressed by specialists in the field during the Environmental Impact Report (EIR) phase. Only after the full EIR report has been submitted, will a decision be made by the relevant authorities.

Scoping Phase

Advertisement & Registration of I&APs
↓
Distribution of BID Document to I&APs for comment
↓
Focus Group Meetings
↓
Compilation of I&AP comments
↓
Review of Draft Scoping Report by I&APs
↓
Submission of Scoping Report to DEA
↓
Acceptance of Scoping Report by DEA & Instruction to proceed to EIR Phase



EIR Phase

Conducting Specialist studies
↓
Review of Draft EIR by I&APs
↓
Public Meeting
↓
Compilation of I&AP comments
↓
Submission of EIR to DEA
↓
Acceptance of EIR by DEA & Issue of Environmental Authorisation

HOW CAN YOU BE INVOLVED?

The Public Participation Process

A Public Participation Process (PPP) is being conducted as part of the EIA process. The aim of the PPP is to allow all parties who are interested in, or likely to be affected by the proposed development, to provide input into the process.

The Public Participation Process will include, but not be limited to:

- Advertisement in the national & local newspapers;
- On site notice boards;
- Circulation of the BID (this document) to all I&APs identified;
- Community and focus group meetings;
- Review of reports by all registered I&APs, Organs of State and key stakeholders.

I am an interested and affected party (I&AP)

If you consider yourself an interested and/or affected person/party, it is important that you become and remain involved in the PPP. In order to do so please follow the steps below. This will ensure that you are continually informed of the project developments and will ensure your opportunity to raise issues and concerns pertaining to the project.

STEP 1: Please **register** by responding to our notification and invitation, with your name and contact details (our contact details are provided on cover page and below). As a registered I&AP you will be informed of all meetings, report reviews and project developments throughout the EIA process.
STEP 2: Register by returning the slip below to CES.
STEP 3: Attend meetings that will be held throughout the EIA process. As a registered I&AP, you will be invited and informed of these meetings.

Roles and Responsibilities
CES is required to engage with all private and public parties that may be interested and/or affected by the proposed Waaihoek WEF, in order to distribute information for review and comment in a transparent manner.

In the same light, it is important for I&APs to note the following:

1. In order for CES to continue engaging with you, please **ENSURE** that you register on our database by contacting the person below.
2. As the EIA process is regulated by specific review and comment timeframes. It is your responsibility to submit your comments within these timeframes.

Who to contact for enquiries and/comments:

Ms Caroline Evans
16 Tyrell Road
Berea
East London 5241
P.O Box 8145
Nahoon, 5210
Tel: (043) 726 7809/8313
Fax: (043) 726 8352
Email: c.evans@cesnet.co.za

In order to register as an I&AP, please complete the form below and return to Ms Caroline Evans (details above).

I hereby wish to register as an Interested and Affected Party (IAP) for the Waaihoek Wind Energy Facility EIA process.

Name: ……

Postal address: ……

……

Email: ……

Organization: ……

Contact Number: …….. Fax Number: ……..

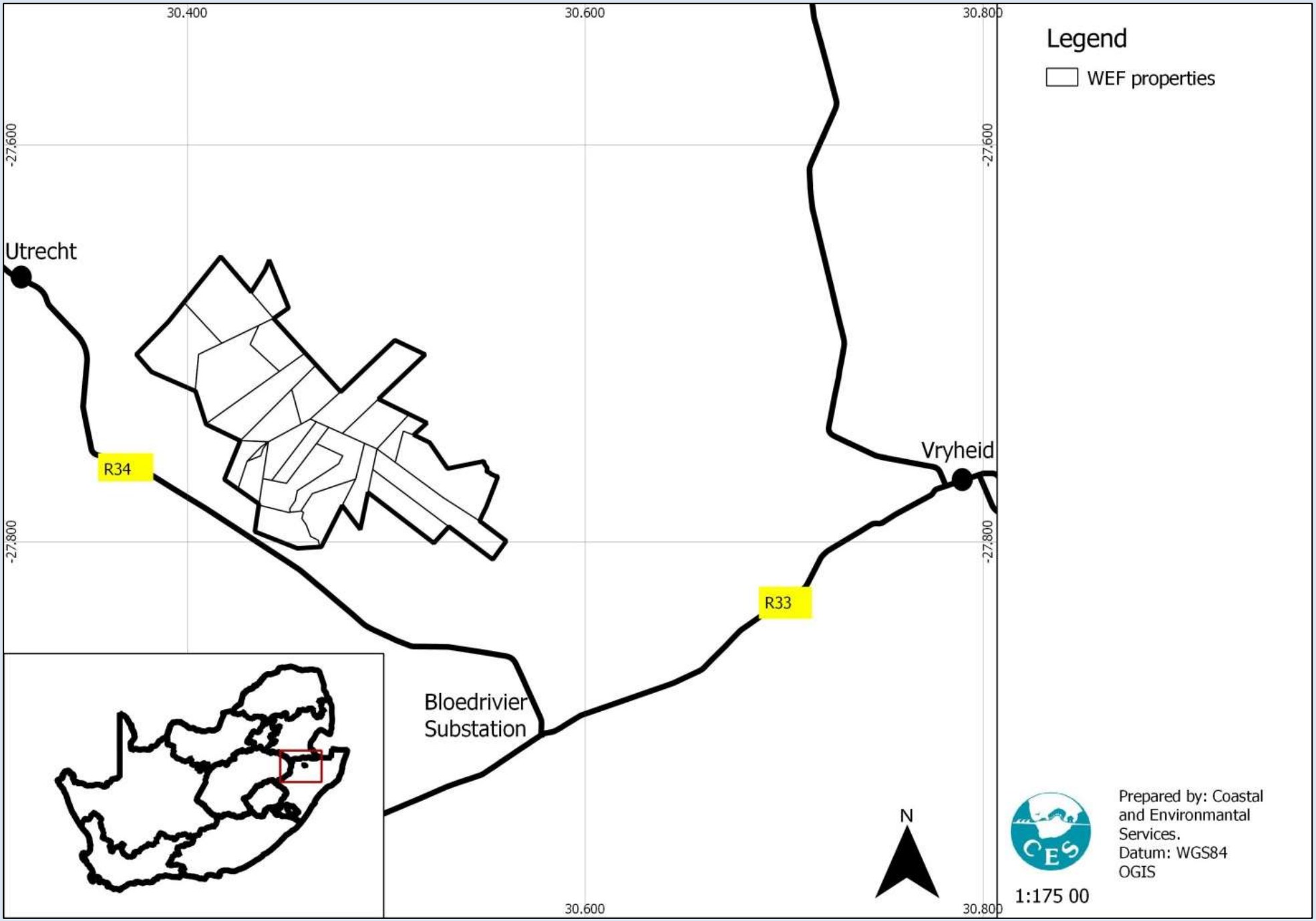


Figure 1: Proposed Waaihoek WEF project locality.

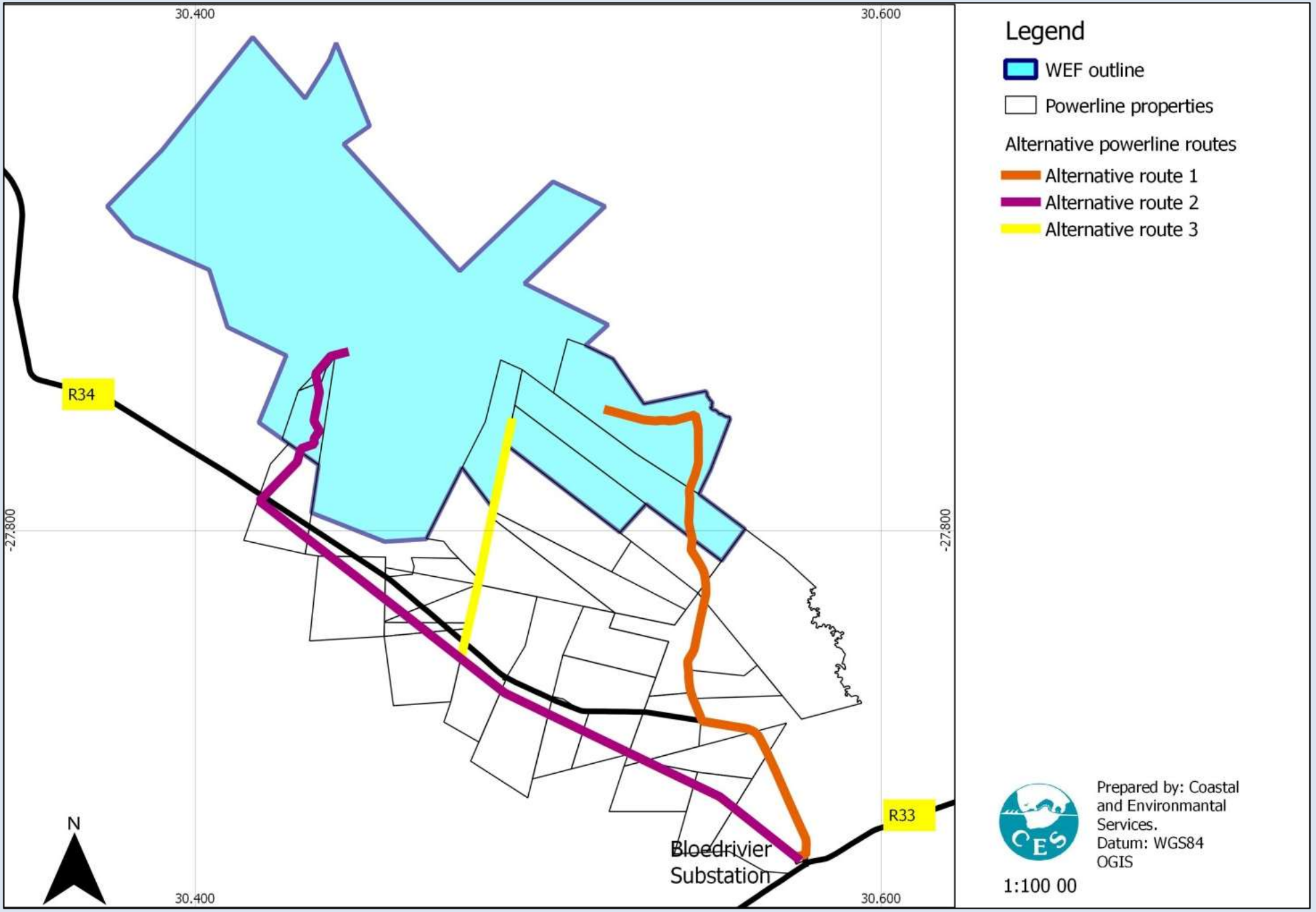


Figure 2: Proposed Waaihoek Powerline alternatives locality