

# MEETING NOTES

199 Bryanston Drive  
Bryanston  
2191

Tel: +27 11 361 1392  
Fax: +27 11 361 1381

[www.wspgroup.com](http://www.wspgroup.com)  
[www.pbworld.com](http://www.pbworld.com)

Job Title	BioTherm Wind EIA's
Project Number	47579
Date	23 February 2017
DEA Reference No:	14/12/16/3/3/2/967 14/12/16/3/3/2/963 14/12/16/3/3/2/962
Time	10:00 am
Venue	Municipal Chambers, Sutherland
Subject	Authority Meeting for the Esizayo and Maralla (East and West) Wind Energy Facilities
Client	BioTherm Energy (Pty) Ltd
Present	See <b>Appendix A</b>
Apologies	None
Distribution	As above

## MATTERS ARISING

## ACTION

### 1.0 WELCOME AND INTRODUCTIONS

- 1.1 Ashlea Strong (AS) welcomed the municipality and introduced the Project Team and explained each of their roles.
- 1.2 AS gave a detailed introduction to the project as this was the first meeting with the municipality.

### 2.0 AGENDA

- 2.1 Scoping & Environmental Impact Assessment (EIA) Process
- 2.2 Project Description and Location
- 2.3 Project Alternatives
- 2.4 Impact Identification and Assessment
- 2.5 Public Participation Process (PPP)
- 2.6 Way Forward

### 3.0 SCOPING AND EIA PROCESS

- 3.1 AS gave an overview of the EIA Process and where we are in the process.
- 3.2 The FSRs were accepted on the 24<sup>th</sup> November 2016 and 1<sup>st</sup> December 2016. This allowed us to commence the EIA phase.
- 3.3 The DEIR is currently out for public participation from the 2<sup>nd</sup> February to 2<sup>nd</sup> March 2017.

### 4.0 PROJECT DESCRIPTION

- 4.1 BioTherm propose to establish three Wind Energy Facilities (WEF) in the Northern and Western Cape.
- 4.2 The development will include the following individual projects:
  - Esizayo WEF (up to 250MW)
  - Maralla East WEF (up to 250MW)
  - Maralla West WEF (up to 250MW)
  - Power Integration – Esizayo (132kV)
  - Power Integration – Maralla (132kV)

MATTERS ARISING	ACTION
4.3 BioTherm will only submit 140MW as part of the REIPPPP Round 5 as that is the maximum the Department of Energy (DoE) will allow per project.	
4.4 Maralla West is located fully in the Northern Cape.	
4.5 Maralla East has a portion of the site in the Northern Cape and a portion in the Western Cape.	
4.6 The Esizayo site is located fully in the Western Cape.	
4.7 The Esizayo WEF is located adjacent to the road to Sutherland (R354)	
4.8 The Maralla East and West WEFs are located approximately 34 km southeast of Sutherland	
4.9 The power integration from the wind facility sites to the Eskom grid, at the Komsberg Substation, will require two separate BA's.	
4.10 AS gave a technical overview of the project as per the table in the presentation ( <b>Appendix B</b> ).	
4.11 AS explained that the number of turbines has been reduced from 125 to 56 turbines.	
4.12 Project Location:	
→ Esizayo:	
<ul style="list-style-type: none"> <li>■ Farm Aanstoot 1/72</li> <li>■ Farm Annex Joseph's Kraal 84</li> <li>■ Farm Aurora 285</li> <li>■ Approximately 70km south of Sutherland</li> <li>■ Laingsburg Local Municipality</li> <li>■ Central Karoo District Municipality</li> <li>■ Western Cape</li> </ul>	
→ Maralla East:	
<ul style="list-style-type: none"> <li>■ Farm Welgemoed RE/268</li> <li>■ Farm Schalkwykskraal RE/204</li> <li>■ Portion of Farm Drie Roode Heuvelds RE/180</li> <li>■ Approximately 34km southeast of Sutherland</li> <li>■ Laingsburg and Karoo Hoogland Local Municipalities</li> <li>■ Central Karoo and Namakwa District Municipalities</li> <li>■ Northern and Western Cape</li> </ul>	
→ Maralla West:	
<ul style="list-style-type: none"> <li>■ Portion of Farm Drie Roode Heuvelds RE/180</li> <li>■ Farm Annex Drie Roode Heuvelds RE/181</li> <li>■ Farm Wolven Hoek 1/182</li> <li>■ Farm Wolven Hoek 2/182</li> <li>■ Approximately 34km southeast of Sutherland</li> <li>■ Karoo Hoogland Local Municipality</li> <li>■ Namakwa District Municipality</li> <li>■ Northern Cape</li> </ul>	
<b>5.0 LEGAL REQUIREMENTS</b>	
→ National Environmental Management Act (NEMA) EIA- listed activities require a full S&EIA process to be undertaken. Separate BA's for the powerlines will be undertaken.	
→ National Water Act (NWA) - Linear infrastructure may cross water courses and require a WUL.	
→ Critical Biodiversity Areas (CBAs) and focus expansion areas have been identified in the area	
→ Heritage and Paleontological impact assessments	
→ Renewable Energy Development Zones (REDZ) - not formalised as yet.	
<b>6.0 ALTERNATIVES</b>	
6.1 AS showed the initial layout as per the image in the Presentation ( <b>Appendix B</b> ). This layout went to specialists to assess during the scoping phase.	

MATTERS ARISING	ACTION
6.2 Based on their assessments and recommendations, the layout was revised to ensure any sensitive areas are avoided.	
6.3 The revised layout only contained 70 wind turbines not 125 as originally proposed.	
6.4 Following the outcomes of the detailed specialist assessments, the layouts were again revised. The number of turbines per site was reduced to 56.	
<b>7.0 IMPACT IDENTIFICATION AND ASSESSMENT</b>	
7.1 Specialist studies undertaken as part of the Scoping Process:	
<ul style="list-style-type: none"> <li>→ Soil, land capacity and wetlands;</li> <li>→ Biodiversity;</li> <li>→ Avifauna;</li> <li>→ Heritage;</li> <li>→ Palaeontological;</li> <li>→ Bats;</li> <li>→ Visual;</li> <li>→ Social;</li> <li>→ Traffic; and</li> <li>→ Noise.</li> </ul>	
7.2 Soils & Land Capacity:	
<ul style="list-style-type: none"> <li>→ The most significant impact is the loss of grazing land for animals during construction and operation.</li> <li>→ This is a low significance but with the implementation of mitigation it can be reduced to a Low impact.</li> <li>→ All impacts were the same across all three sites.</li> </ul>	
7.3 Biodiversity:	
<ul style="list-style-type: none"> <li>→ There are a number of high impacts such as loss of vegetation and impacts on fauna.</li> <li>→ Significance is Low to Medium.</li> <li>→ All impacts were the same across all three sites.</li> </ul>	
7.4 Avifauna:	
<ul style="list-style-type: none"> <li>→ The impact of on birds is higher at Maralla East and Maralla West due to the flight distribution of the Verreaux's eagle, martial eagle, Jackal buzzard and Black Harrier hawk.</li> <li>→ The impacts are medium to high but with mitigation the significance is reduced to low to medium.</li> </ul>	
7.5 Bats:	
<ul style="list-style-type: none"> <li>→ Impact significance is high however this is normal for a WEF.</li> <li>→ The significance is the same across all three sites.</li> <li>→ One of the major impacts is barotrauma during foraging.</li> </ul>	
7.6 Surface water:	
<ul style="list-style-type: none"> <li>→ The most notable impact is the potential transversng of powerlines and roads through watercourses and wetlands.</li> <li>→ Mitigation would be to avoid these areas all together.</li> </ul>	
7.7 Heritage:	
<ul style="list-style-type: none"> <li>→ There were some colonial ruins identified on Esizayo, however they are far away from the turbine sites and have been identified as no-go areas.</li> </ul>	
7.8 Palaeontology:	
<ul style="list-style-type: none"> <li>→ Low significance as no sensitive areas were identified.</li> </ul>	
7.9 Visual:	
<ul style="list-style-type: none"> <li>→ All visual impacts are similar with exception of Esizayo, which is located along the R356 and will be visible to the road.</li> <li>→ There is very little that can be done to mitigate the visibility of the turbines themselves.</li> <li>→ A 500m buffer has been implemented between the road (R354) and the first turbines.</li> </ul>	

MATTERS ARISING	ACTION
<p>7.10 Traffic: → Transporting of the turbines to the site is not anticipated to cause major traffic delays on the R354.</p> <p>7.11 Noise → Medium to low significance. Esizayo and Maralla West WEF have a higher significance as they are closer to homesteads. → The only people that will really be impacted by the noise are the land owners themselves as everyone else lives to far away.</p> <p>7.12 Social: → Impacts are the same for all the sites. → Most important impacts are the positive impacts such as Job Creation and Economic Development. → There will be a slight influx of workers into the area.</p> <p>7.13 The DEA requested that we look at the cumulative impacts of all the planned WEF within 65km the study area.</p> <p>7.14 Some of the projects we got all the information we required (i.e. Specialist studies and other sites we did not.</p> <p>7.15 Bats, Palaeontology, Land Capacity, Surface Water, Social, Noise and Traffic were all Low impact.</p> <p>7.16 Avifauna, Biodiversity, Heritage and Visual were all of Low to Medium Significance.</p> <p>7.17 Most significant cumulative impacts were Biodiversity and Visual.</p> <p>7.18 AS briefly showed the sensitivity maps in the Presentation (Attached as <b>Appendix B</b>).</p>	
<b>8.0 PUBLIC PARTICIPATION PROCESS</b>	
<p>8.1 Public participation process to date: → Pre- Application consultation with the DEA; → Newspaper adverts in:     ■ The Courier     ■ Die Noordwester → Email notification of I&amp;APs; → Site notice placement; → DSR for 30-day public review (15 September – 17 October 2016); → Public Meetings (Laingsburg and Sutherland); → DEIR out for 30 day comment and review (2 February – 2 March 2017). → Public Meetings     ■ 23 February 2017     ■ 24 February 2017 → AS explained that we held a public meeting in September 2016, however we only had 2 landowners attend. We are hoping for a better turn out at the public meeting being held tomorrow (24 February 2017) at the Church.</p>	
<b>9.0 WAY FORWARD</b>	
<p>9.1 Stakeholder Meetings – 21 – 24 February 2017 9.2 Close of public review period- 2 March 2017 9.3 Finalisation of the DEIR and Submission- 3- 28 March 2017 9.4 Authority Review- 31 march- 17 July 2017 9.5 Receipt of EA- Mid- end July 9.6 Appeal Period- 20 days from receipt of EA</p>	
<b>10.0 GENERAL DISCUSSION</b>	
<p>10.1 AS handed over to SK to discuss the Economic Development aspects of the projects. 10.2 SK: Under the REIPPPP there are certain requirements the Preferred Bidder will need to meet. These include:</p>	

MATTERS ARISING	ACTION
<ul style="list-style-type: none"> <li>→ Employment from the local community;</li> <li>→ Economic Development; and</li> <li>→ Enterprise Development.</li> </ul> <p>A percentage of the project revenue needs be committed to the local community. BioTherm focus on:</p> <ul style="list-style-type: none"> <li>→ Community upliftment</li> <li>→ Education</li> </ul>	
10.3 SK explained that BioTherm have 2 existing facilities in the Northern Cape.	
10.4 MM: The municipality are currently in a situation where we have the mines on one, SKA on another and now the WEF too. Each has its own set of Economic Development Commitments. We would like to bring everyone together. It doesn't help that everyone is just going for the schools and nothing else is happening. We would like to coordinate it in the sense of are you just going to focus on one area or the whole municipality because the Act refers to the Municipality. So we just want to do that planning. As an example, SKA only looked at Williston, Brandvlei and Vanwyksvlei as that is the area they work in. Maybe we can do something like that.	
10.5 MM: Looking at the Legal side as a municipality we will be involved in the water licence, sewerage, what you will do with your waste removal and all the things that are impacting on the municipality in that area. There will be a construction camp with people so we the municipality want to be consulted. Municipality are juggling a lot of projects and they just want to know who is doing what and where they are doing it.	
10.6 MM: Is there going to be an influx of people, are you going to use people here because there are some people here that don't have any skills, so will there be skills development or are we just going to clean and cut grass.	
10.7 MM: From the government side we are encouraged to stick to the IDP. We encourage the client to join us in a meeting with our new IDP so that you can align your planned initiatives to the IDP. The community don't want incomers.	
10.8 MM: In addition, we don't want companies to come in bringing money and opportunities during construction and then just leave. This causes a number of problems.	
10.9 AS: In the EIA we estimate 20 years, then after 20 years the development or project company would investigate what is the most feasible way forward. Do things need to be refurbished and can it carry on, does the project need to be decommissioned or does it need to be updated with new technology.	
10.10 MM: There is a WEF just past Williston so everything travels through our town and every two weeks I have to put off the electricity. But this also puts pressure on our national roads. Our roads are a safety risk. There are no tar between towns.	
10.11 AS: The delivery of the turbines, for these projects, will not come as far as Sutherland.	
10.12 MM: Will the road need to be closed?	
10.13 AS: Potentially, yes.	
10.14 MM: We will need to inform the people that the roads are closed on Monday and Wednesday from this time for so many hours.	
10.15 IDP Councillor: We also need to be notified from a disaster management aspect as Sutherland is a tourist destination and is our responsibility so we need to coordinate and organise. We need to communicate on a decent manner.	
10.16 MM: I will need time to go over all plans and applications being submitted for approval.	
10.17 IDP councillor: You don't mention the Astrological Geographical Advantage Act in your impacts.	
10.18 AS: We mention it in our report. We have consulted with SKA and SALT and they have a 3km buffer zone and we are about 40km away so we are outside of that buffer zone. We are also far away enough from SKA that they are not concerned. We have also contacted the CAA.	

MATTERS ARISING	ACTION
<p>10.19 MY: BioTherm has dedicated teams that work with the municipality and the community so for example when it comes to negotiating the use of water in the municipality, the use of sewage etc. We have two gentlemen who will contact the municipality directly but prior to that we go through this process and we hope to become preferred bidder. Once we become preferred bidder that is when that work begins. Then we have the socio-economic development team, they will extract all of the relevant information and ensure that prior to meeting with the municipality, they understand what is required within that 5 year timeframe and what the municipality has committed too. After meeting with the municipality they will start allocating resources and identify which projects they would like to support. With regards to the management of the site and the management of the work force etc, part of our lender requirements is that we need to abide by IFC and World Bank Rules. My job is to develop a plan that takes the specialist recommendations and make it specific to the site. We have developed similar plans with our existing sites and have implemented them. The socio-economic development team goes out to site on a monthly basis to ensure that they are communicating with the community. They go into the community to ensure they understand what is going on and every month they get inundated with requests about jobs and economic development opportunities. They receive proposals on a weekly basis to develop or generate economic activities within those communities for certain types of jobs. When we require a specific job to be done on site we go to the community first, to find out if they have the necessary skills to conduct this work and then provide them with all the development information that they need. When we develop plans to work with a clinic or a school it is slightly different from a social and labour plan (SLP) that are associated with the mines. We mainly stick to the IDP route because our commitments under the REIPPPP are slightly different as compared to what the requirements are for an SLP. Where management plans are involved, especially traffic management plans, a broad traffic impact assessment has been undertaken, but when the site is about to be developed, there is a specific vehicle and traffic management plan that will be developed. This plan will show you the entire route, whether the machine is landing in the eastern cape, the western cape or Durban. It is required to show the specific route that the machines will travel and which of the areas it will affect.</p>	
<p>10.20 MM: Please keep in mind that most of the people in the community only speak Afrikaans, when addressing if you are awarded preferred bidder status, it is not worth sending English-speaking people.</p>	
<p>10.21 MY: Fortunately, for us when it comes to the land negotiations and the landowner engagement, we have two guys who are Afrikaans speaking.</p>	
<p>10.22 AS: How many wind farms do you have the municipal area?</p>	
<p>10.23 MM: We have about 4 or 5 currently.</p>	
<p>10.24 MM: At some stage we need to have a meeting with the community where you can tell them what's going on. The first thing they will ask you about is the jobs.</p>	
<p>10.25 AS: We are having a public meeting tomorrow at 9 am.</p>	
<p>10.26 MM: That is fine about the farmers but what about the rest of the community?</p>	
<p>10.27 AS: If BioTherm are preferred bidders then they will immediately organise something like that because then you can actually say the project is coming.</p>	
<p>10.28 MM: We have mentioned in the IDP that there maybe wind farms coming.</p>	
<p>10.29 AS: BioTherm have agreed to provide a list of the type of skills required for the construction and operation of a WEF so that the municipality can start planning skills development. These will be attached to the meeting minutes (Attached in <b>Appendix C</b>). This will assist in planning and preparation for any of the preferred bidders not just these facilities.</p>	
<p>10.30 MM: Once a preferred bidder has been selected, we need to include it in the IDP.</p>	
<p>10.31 AS: Asked SK to confirm if there was an environmental forum for the solar site near Aggeneys?</p>	

MATTERS ARISING	ACTION
10.32 SK: Yes there is a development forum.	
10.33 AS: Does this include other developers in the area?	
10.34 SK: Yes it does. So it has the IDC and the different IPP's which are acting within the area and it's also the mines. We obviously have similar types of projects which we are running and so we are trying not to duplicate projects and also that we align with the municipality as well as the other REIPP's.	
10.35 AS: That would be a good thing to do here to ensure with the various role-players (Mines, SKA and REIPP's) and develop something similar in this area, if one isn't yet developed.	
10.36 IDP Councillor: We would prefer going the route of the IDP representative forum because we don't want other forums to be developed as it will be a lot of admin.	
10.37 MM: This is why we have said that we will invite you to the IDP meeting and you can pass it on to whoever wants to come.	
<b>11.0 CLOSING</b>	
11.1 AS thanked everyone for listening and allowing us to present during a council meeting.	
11.2 Meeting closed at 11:15.	





#### NEXT MEETING

No further meetings are anticipated for the Scoping and EIA Process.





## Appendix A: Attendance Register



## ATTENDANCE REGISTER 23 February 2017


Name	Company Name	Contact Details	Signature
Venschek Wentzel	# KHM	Tel: 074 730 8209 Fax: 023 5711089 Mobile: 081 28747 Email: mayoru@karoohoogland.gov.za	
Jan Jacobs	K.A.M	Tel: 0622985327 Fax: 023 5711089 Mobile: Email: jacobsjan624@gmail.com	
E. v. Wöllendorf	K.H.M.	Tel: Fax: Mobile: 0825674116 Email: munmqn@karoohoogland.gov.za	
A. Gibbons	K.H.M	Tel: 023 5711020 Fax: 023 5711089 Mobile: 060 8251860 Email: a.gibbons@karoohoogland.gov.za	

## ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
Ashlea Strong	WSP	Tel: 011 361 1392 Fax: Mobile: Email: ashlea.strong@wspgroup.co.za	
Bronwyn Fisher	WSP Environmental	Tel: 021 481 8662 Fax: 021 481 8799 Mobile: Email: Bronwyn.Fisher@wspgroup.co.za	
Simphele Kulu	BioTherm Energy	Tel: 011 367 4600 Fax: Mobile: 076 011 8895 Email: skulu@biothermenergy.com	
Mohammed Junaid Yusuf	BioTherm Energy	Tel: 011 367 4600 Fax: Mobile: 076 765 2789 Email: myusuf@biothermenergy.com	

## Appendix B: Presentation





# BioTherm Wind Energy Developments

*Public Meeting*

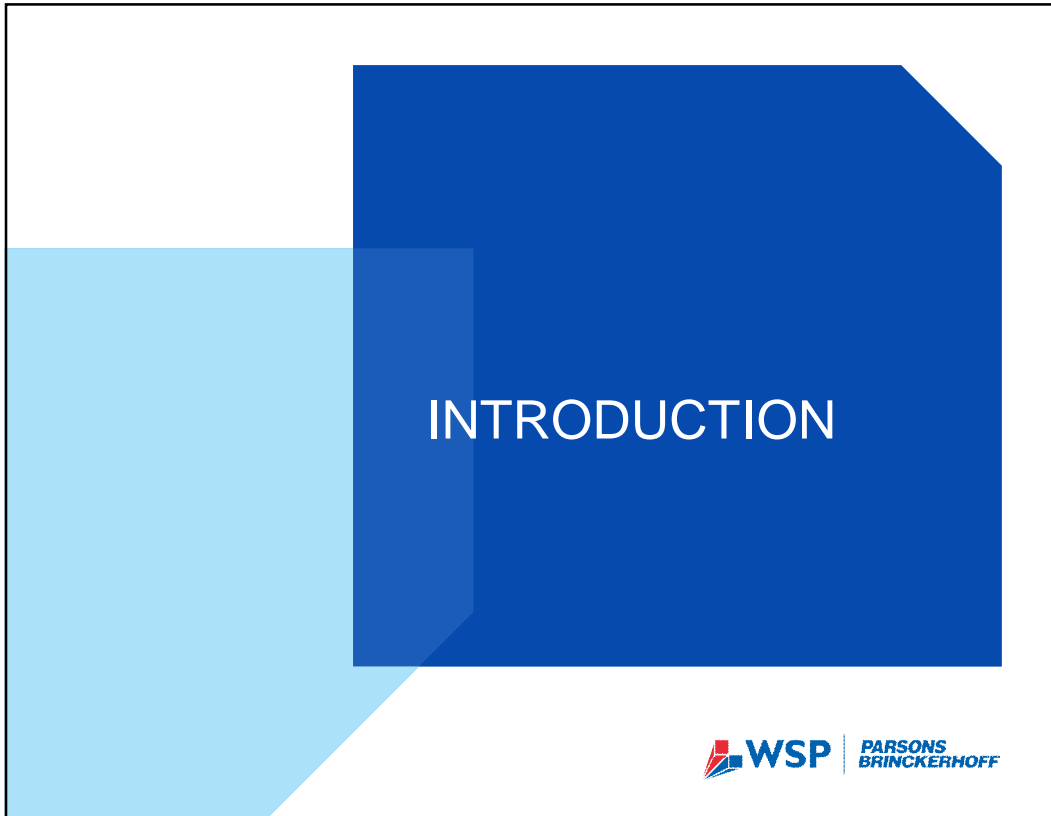
*Date: 23 February 2017  
Time: 10:00 – 12:00  
Venue: Karoo Hoogland Office, Sutherland*



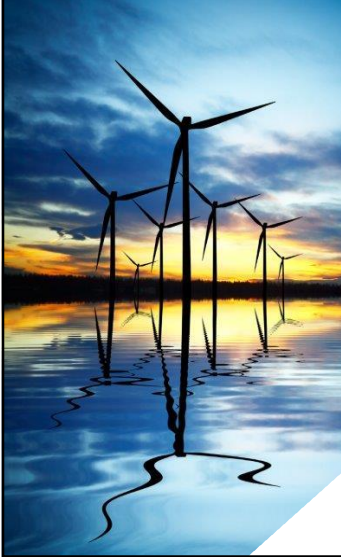
## AGENDA



- à **Welcome and Introductions**
  - § Purpose of the Meeting
  - § Conduct of the Meeting
  - § Responsibilities
- à **Environmental Authorisation Process**
- à **Project Description & Locality**
- à **Legal Requirements**
- à **Outline of the Alternatives**
- à **Impact Assessment**
- à **Public Participation Process**
- à **Way Forward**
- à **Questions**



## PURPOSE OF THE MEETING



- à **Provide stakeholders with information regarding:**
  - § The proposed project
  - § The Environmental Impact Assessment (EIA) process to date
  - § Findings of the Draft Environmental Impact Report (DEIR)
- à **Provide stakeholders with the opportunity to raise issues regarding the potential impacts of the project on the environment**
- à **Provide an opportunity for stakeholders to interact with the project team**



## CONDUCT OF THE MEETING



- à **Focus on issues at hand**
- à **Presentation will be presented in English**
- à **Questions should please raised through the facilitator**
- à **Be courteous and ensure equal opportunity**
- à **Cell phones to be switched off or on silent**



## RESPONSIBILITIES

Roleplayer	Responsibility
Applicant (BioTherm)	<ul style="list-style-type: none"> <li>• Appoint suitable, independent EAP</li> <li>• Ensure adequate resources are available to conduct an effective, efficient &amp; equitable S&amp;EIR process</li> <li>• Ensure that the EAP is provided with relevant information to undertake the S&amp;EIR process effectively</li> <li>• Ensure that the EAP provides all relevant information to the Authorities</li> </ul>
EAP (WSP)	<ul style="list-style-type: none"> <li>• Be independent with no vested interest</li> <li>• Have the necessary qualifications &amp; experience</li> <li>• Responsible for authorisation process, information &amp; reports</li> <li>• Provide relevant &amp; objective information to the authorities, the stakeholders &amp; the proponent</li> <li>• Ensure public participation process (PPP) is undertaken</li> <li>• Ensure all issues raised are addressed or responded to</li> </ul>




## RESPONSIBILITIES CONT.

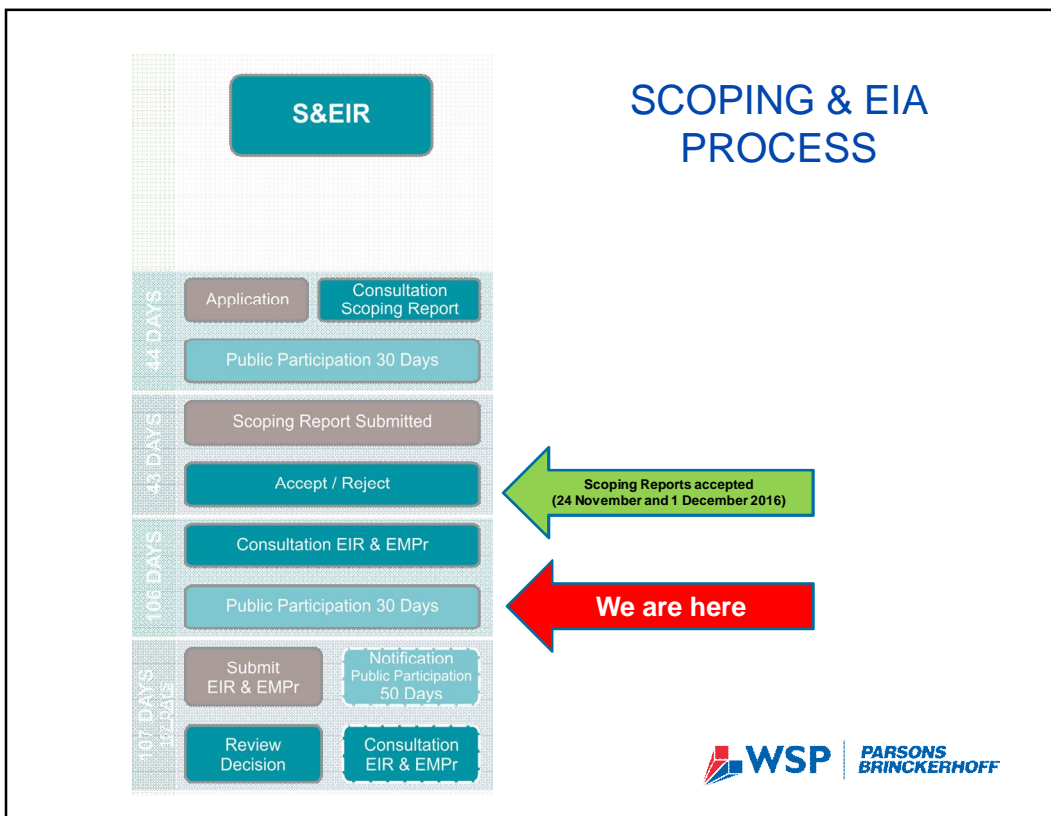
Roleplayer	Responsibility
Stakeholders	<ul style="list-style-type: none"> <li>• Provide input &amp; comment during the S&amp;EIR process</li> <li>• Review of reports <ul style="list-style-type: none"> <li>• Draft Scoping Report (DSR)</li> <li>• <b>Environmental Impact Report (EIR)</b></li> <li>• <b>Environmental Management Programme (EMPr)</b></li> </ul> </li> <li>• Provide input &amp; comment within specific timeframes</li> </ul>
Decision-making Authority (Department of Environmental Affairs)	<ul style="list-style-type: none"> <li>• Efficient &amp; expedient in evaluating proposals</li> <li>• Compliance with regulatory requirements</li> <li>• Inter-departmental co-operation &amp; consultation</li> <li>• Consultation with the Applicant &amp; the Consultant</li> <li>• Evaluation/review &amp; decision-making</li> <li>• Requiring sufficient detail to make informed decisions</li> </ul>



# ENVIRONMENTAL AUTHORISATION PROCESS



The slide features a large blue rectangle on the right side containing the title 'ENVIRONMENTAL AUTHORISATION PROCESS' in white, bold, uppercase letters. To the left of this rectangle is a light blue shape that overlaps its left edge. At the bottom right, the logos for WSP and Parsons Brinckerhoff are displayed.







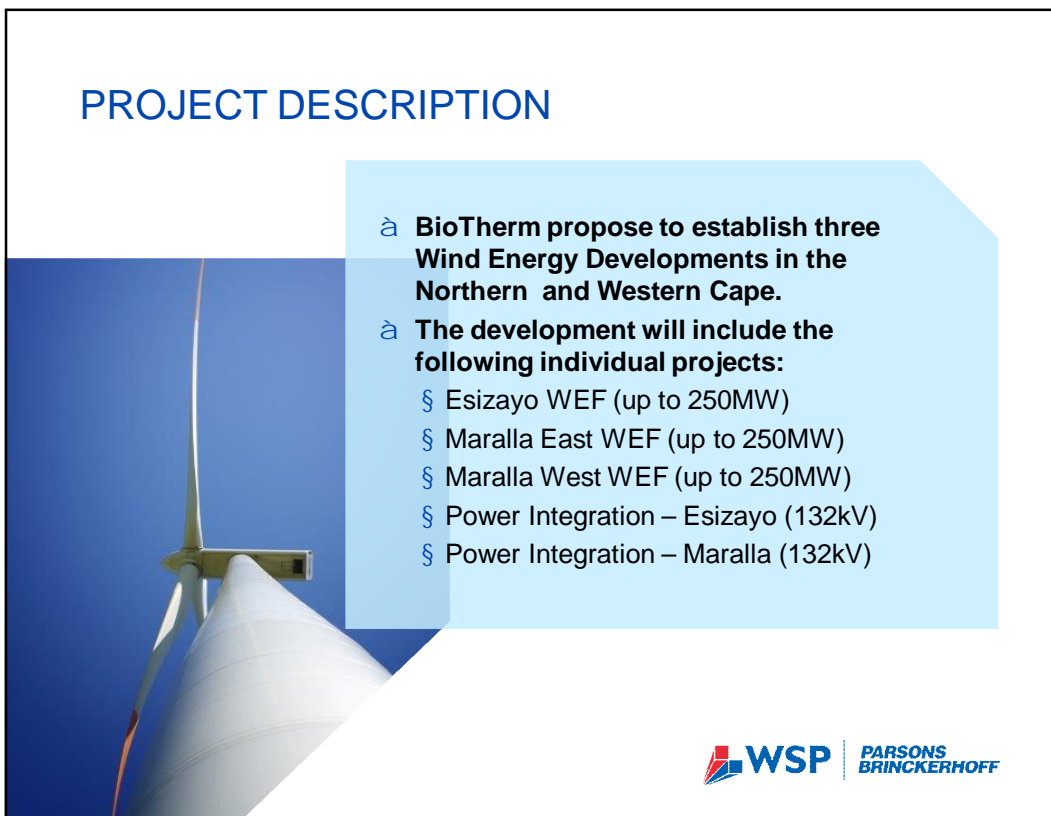
The slide features a dark blue background with a light blue geometric shape on the left. The text is centered in white and yellow.

# PROJECT DESCRIPTION

*Project and Technical Description and Locality*




**WSP** | PARSONS BRINCKERHOFF



The slide features a background image of a wind turbine against a blue sky. The text is overlaid on a light blue geometric shape.

## PROJECT DESCRIPTION

- à **BioTherm propose to establish three Wind Energy Developments in the Northern and Western Cape.**
- à **The development will include the following individual projects:**
  - § Esizayo WEF (up to 250MW)
  - § Maralla East WEF (up to 250MW)
  - § Maralla West WEF (up to 250MW)
  - § Power Integration – Esizayo (132kV)
  - § Power Integration – Maralla (132kV)



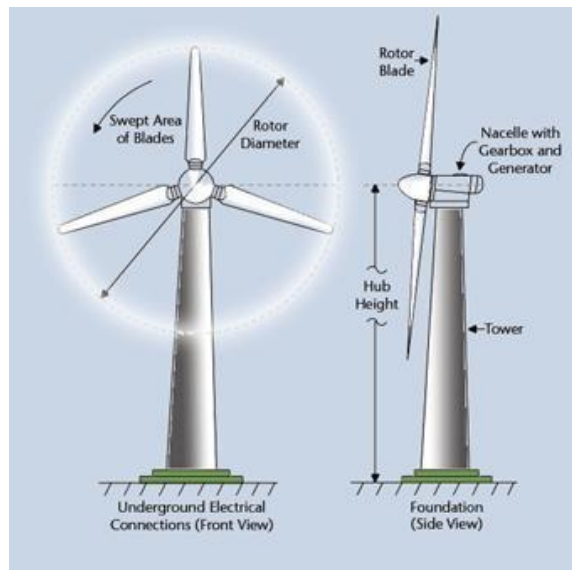
**WSP** | PARSONS BRINCKERHOFF

## TECHNICAL DETAILS

<b>Generation Capacity</b>	Up to 250 MW
<b>Number of turbines</b>	Up to 125 (Revised Layout includes 56 Turbines)
<b>Area occupied by each turbine</b>	0.5 ha (85m x 60m)
<b>Turbine hub height</b>	Up to 120m
<b>Rotor Diameter</b>	Up to 150m
<b>Width of internal roads</b>	Between 4.0m and 6.0m, however this may increase to 8m on bends
<b>Footprint of internal onsite substation</b>	150m x 150m
<b>Onsite substation capacity</b>	Up to 132kV
<b>Width of the powerline servitude</b>	31m (15.5m either side)
<b>Powerline tower types and height</b>	Tower (suspension / strain) / Steel monopole structure, which may be self-supported or guyed suspension.



## WIND ENERGY GENERATION PROCESS



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



# PROJECT LOCATION

## Esizayo Development Location

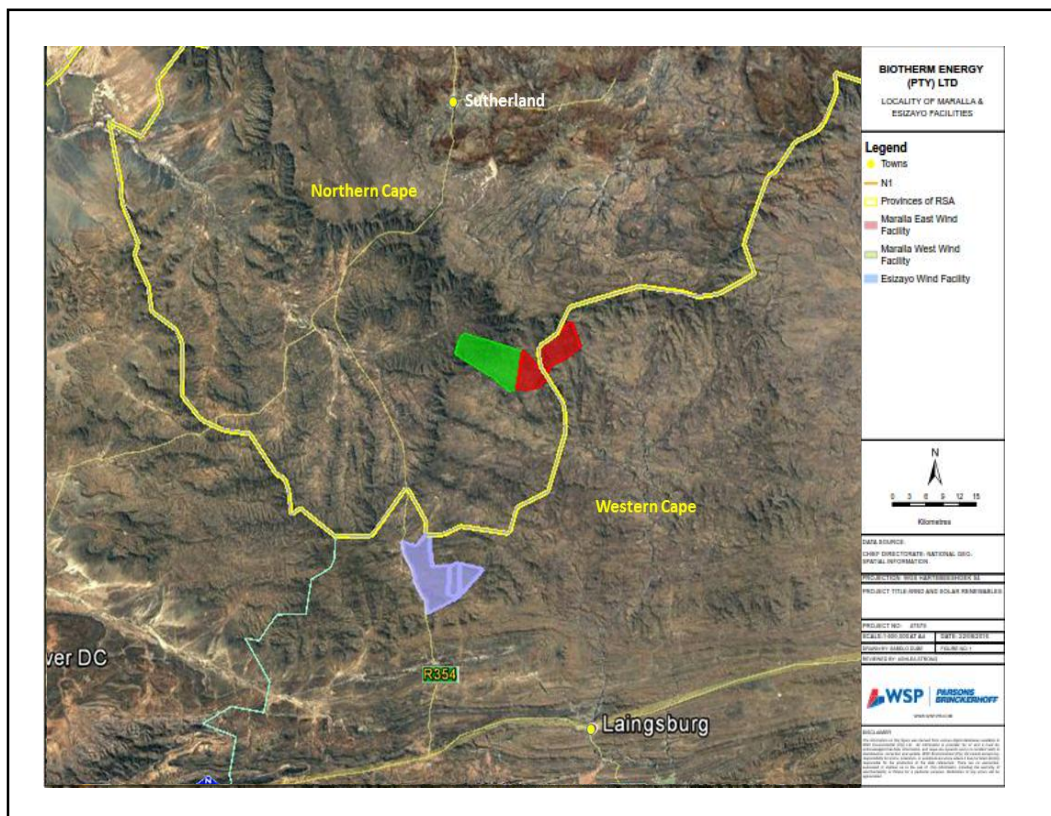
FARM NAME & NUMBER	FARM SIZE (HA)
Portion 1 of Aanstoot Farm No. 72	762.42 ha
Annex Joseph's Kraal Farm No.84	913.32 ha
Aurora Farm No. 285	4 385.29 ha

## Maralla East Development Location

FARM NAME & NUMBER	FARM SIZE (HA)
Farm Welgemoed 268, Remainder	2 649 ha
Farm Schalkwykskraal 204, Remainder	1 056 ha
Farm Drie Roode Heuvels 180, Remainder	3 929 ha

## Maralla West Development Location

FARM NAME & NUMBER	FARM SIZE (HA)
Farm Drie Roode Heuvels 180, Remainder	3 929 ha
Farm Annex Drie Roode Heuvels 181, Remainder	329 ha
Farm Wolven Hoek 182, Portion 1	763 ha
Farm Wolven Hoek 182, Portion 2	625 ha

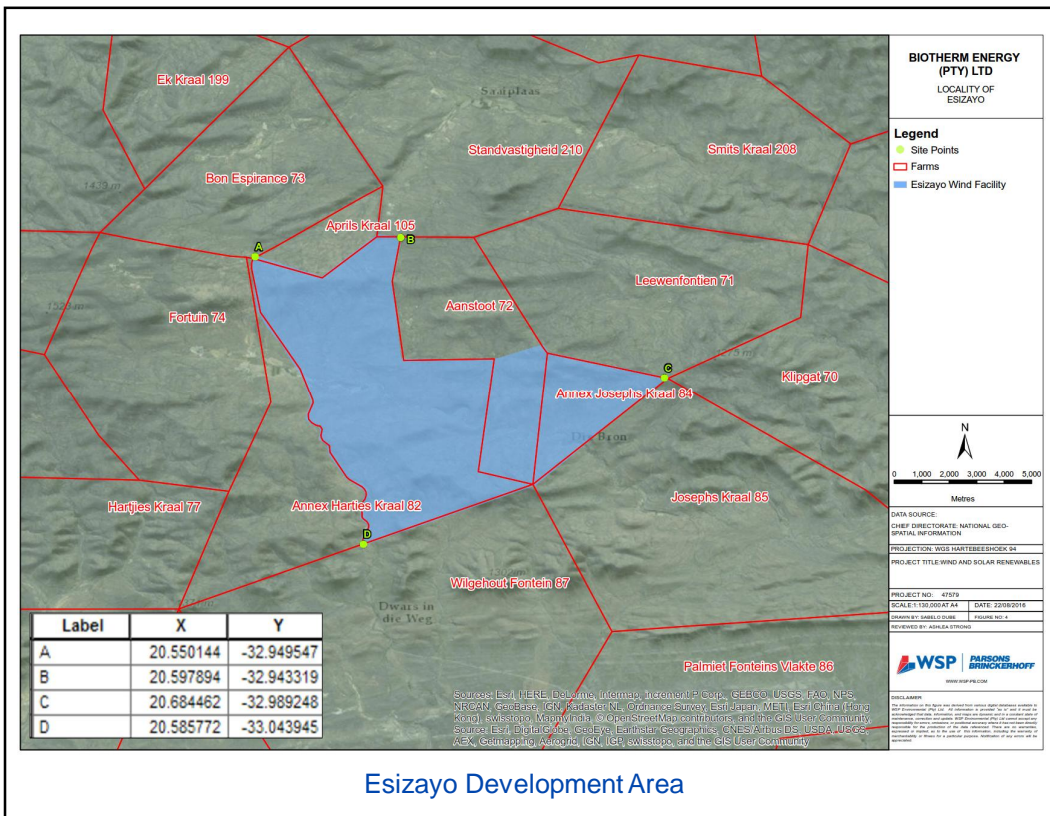


# PROJECT LOCATION- ESIZAYO



à **The Esizayo Wind Energy Development will be located:**

- § Farm Aanstoot 1/72
- § Farm Annex Joseph's Kraal 84
- § Farm Aurora 285
- § Approximately 70km south of Sutherland
- § Laingsburg Local Municipality
- § Central Karoo District Municipality
- § Western Cape

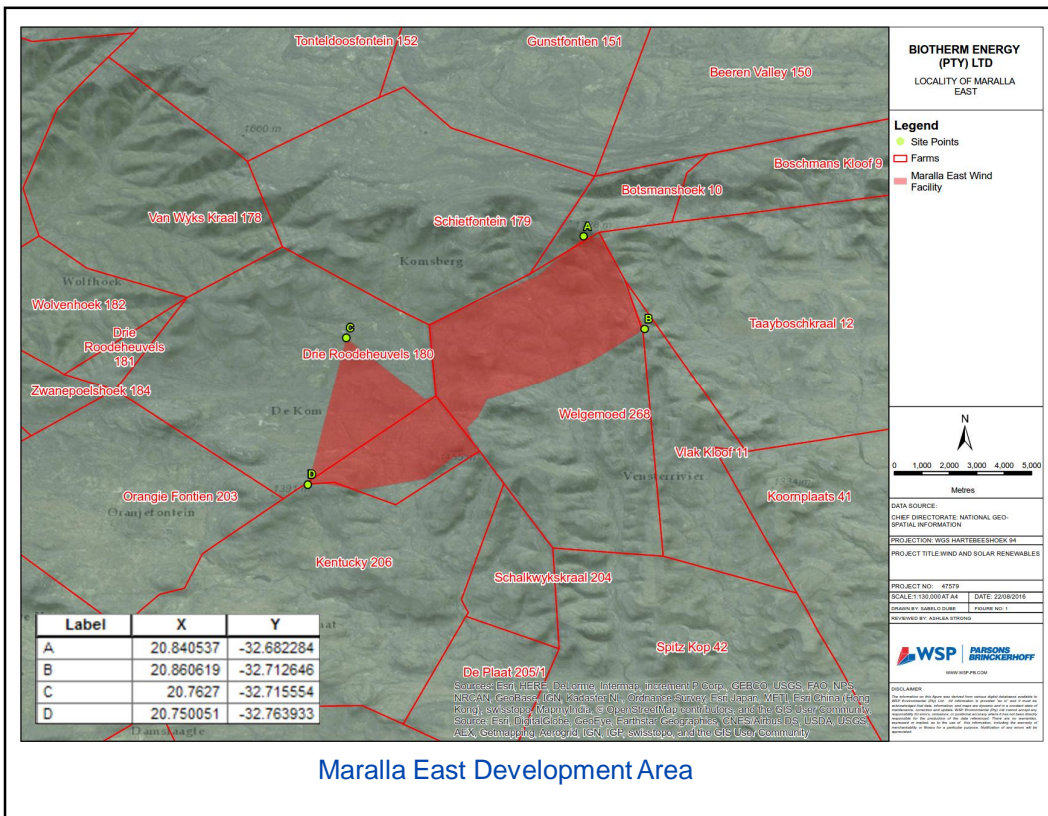




## PROJECT LOCATION- MARALLA EAST



- à **The Maralla East Wind Energy Development will be located:**
- § Farm Welgemoed RE/268
  - § Farm Schalkwyskraal RE/204
  - § Portion of Farm Drie Roode Heuvels RE/180
  - § Approximately 34km southeast of Sutherland
  - § Laingsburg and Karoo Hoogland Local Municipalities
  - § Central Karoo and Namakwa District Municipalities
  - § Northern and Western Cape

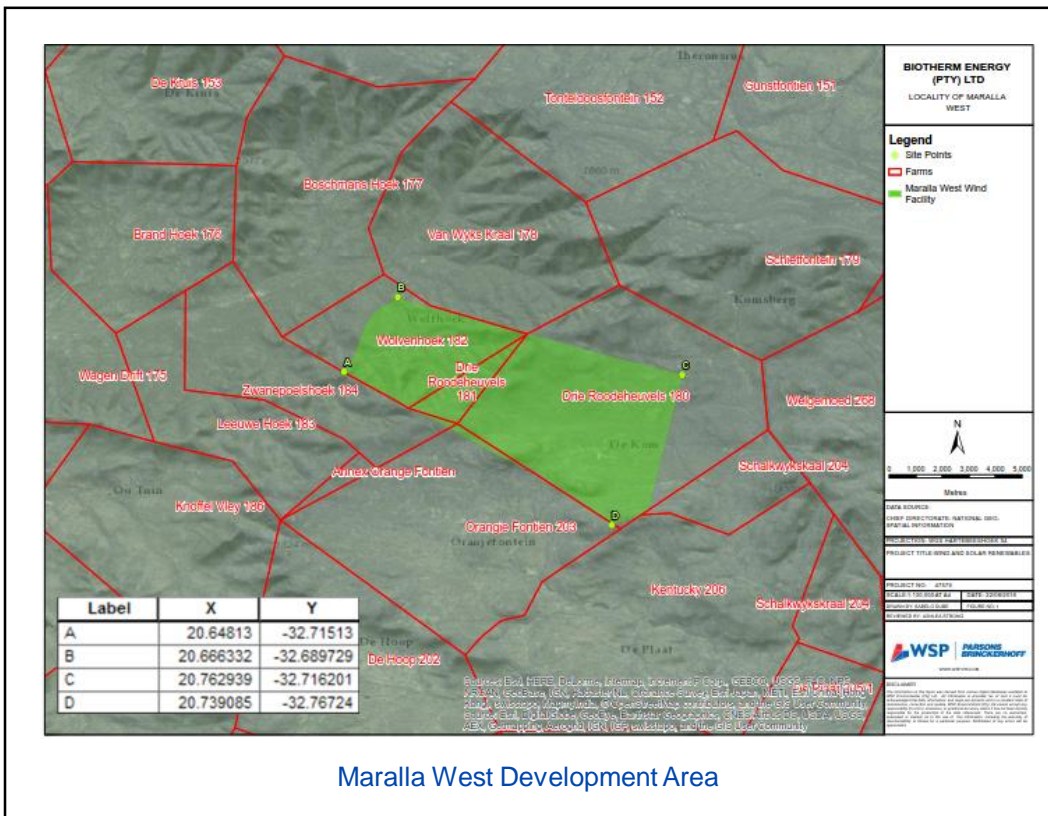


## PROJECT LOCATION- MARALLA WEST



à **The Maralla West Wind Energy Development will be located:**

- § Portion of Farm Drie Roode Heuvels RE/180
- § Farm Annex Drie Roode Heuvels RE/181
- § Farm Wolven Hoek 1/182
- § Farm Wolven Hoek 2/182
- § Approximately 34km southeast of Sutherland
- § Karoo Hoogland Local Municipality
- § Namakwa District Municipality
- § Northern Cape





## LEGAL REQUIREMENTS

Relevant Act	Competent Authority
<b>National Environmental Management Act (No. 107 of 1998) (NEMA)</b>	<b>Department of Environmental Affairs (DEA)</b>
<ul style="list-style-type: none"> <li>• An environmental authorisation is required prior to the establishment of the Proposed Projects</li> <li>• A full S&amp;EIR Process is required to be conducted for the WEF Projects</li> <li>• A Basic Assessment is required to be conducted for the power integration projects</li> <li>• Listed Activities triggered under Government Notice Regulation (GNR) 983, 984 and 985 of 2014</li> </ul>	
<b>National Water Act (No. 36 of 1998)</b>	<b>Department of Water and Sanitation</b>
<ul style="list-style-type: none"> <li>• The following water uses have been identified as potentially applicable:                             <ul style="list-style-type: none"> <li>• Section 21 (a) and 21 (b)</li> <li>• Section 21 (c) and 21 (i)</li> </ul> </li> <li>• Water Use Licence or General Authorisation required prior to the establishment of the Proposed Projects</li> </ul>	
<b>National Environmental Management: Biodiversity Act, 2004 (No. 10 of 2004)</b>	
<ul style="list-style-type: none"> <li>• There are Critical Biodiversity Areas (CBAs) in the study areas.</li> </ul>	
<b>National Heritage Resource Act (No. 25 of 1999)</b>	
<ul style="list-style-type: none"> <li>• A Heritage Impact Assessment (HIA) will be undertaken looking at Archaeology, Heritage and Palaeontology for each of the above mentioned projects</li> </ul>	
<b>Renewable Energy Development Zone</b>	
<ul style="list-style-type: none"> <li>• The project areas fall within the Komsberg Wind REDZ</li> </ul>	

## WATER USE LICENSING

Relevant Water Use	Description	Applicability
Section 21 (a)	Taking water from a water resource	In the event that ground water abstraction is required for operational activities
Section 21 (b)	Storage of raw water	In the event that the storage of raw water is required for operational activities
Section 21 (c)	Impeding or diverting the flow of water in a watercourse	In the event that the powerlines or access roads cross a watercourse, drainage line or wetland area or if a turbine is constructed within 500m of a watercourse, drainage line or wetland
Section 21 (i)	Altering the bed, banks course or characteristics of a water course	

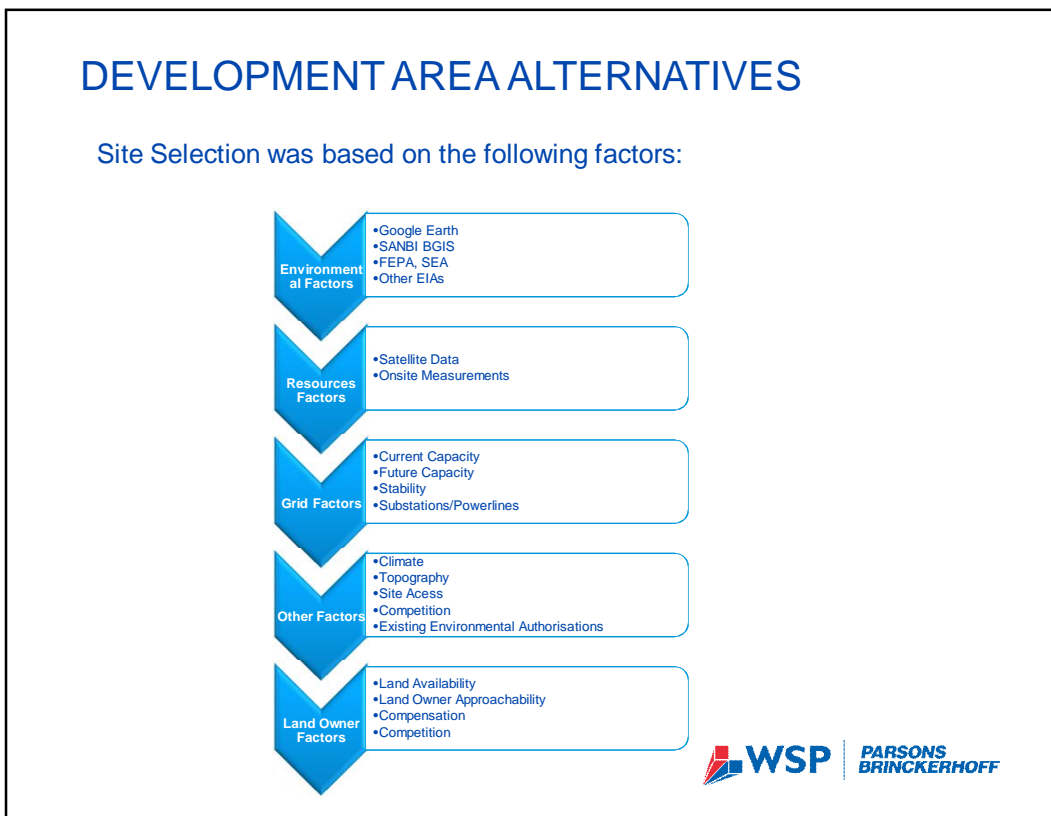
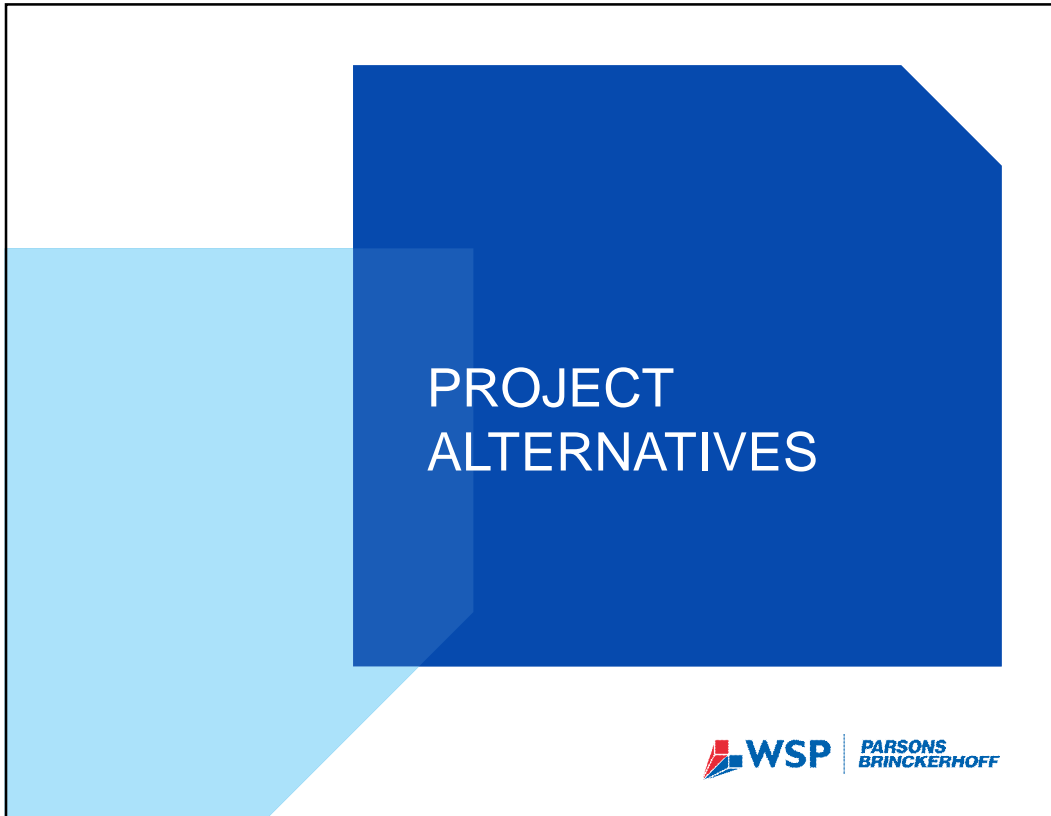


## LISTED ACTIVITIES

Project Name	Listing Notice	Activities Triggered						
		11(i)	12 (xii) (a&c)	19(i)	24(ii)	28(ii)	30	56
Maralla West, Maralla East and Esizayo	GNR 983	11(i)	12 (xii) (a&c)	19(i)	24(ii)	28(ii)	30	56
	GNR 984	1	15	-	-	-	-	-
	GNR 985	4	10	12	14	18	23 (iii)	-
Power Integration	GNR 983	11(i)	12 (xii) (a&c)	19(i)	27	28(ii)	30	-
	GNR 985	4	12	14	-	-	-	-



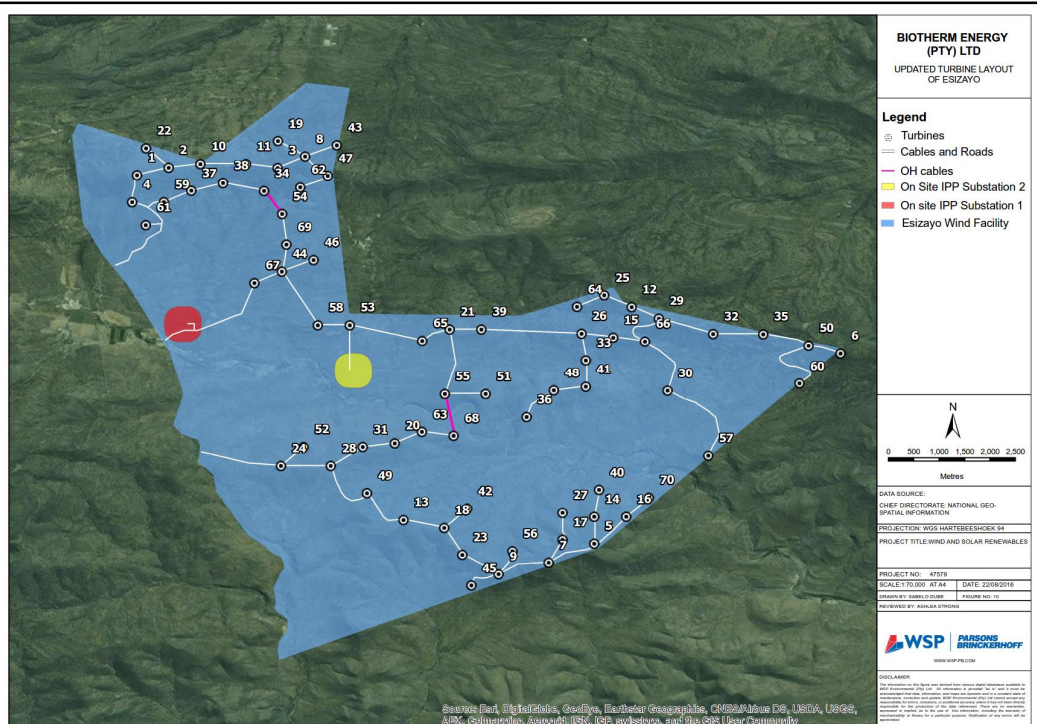




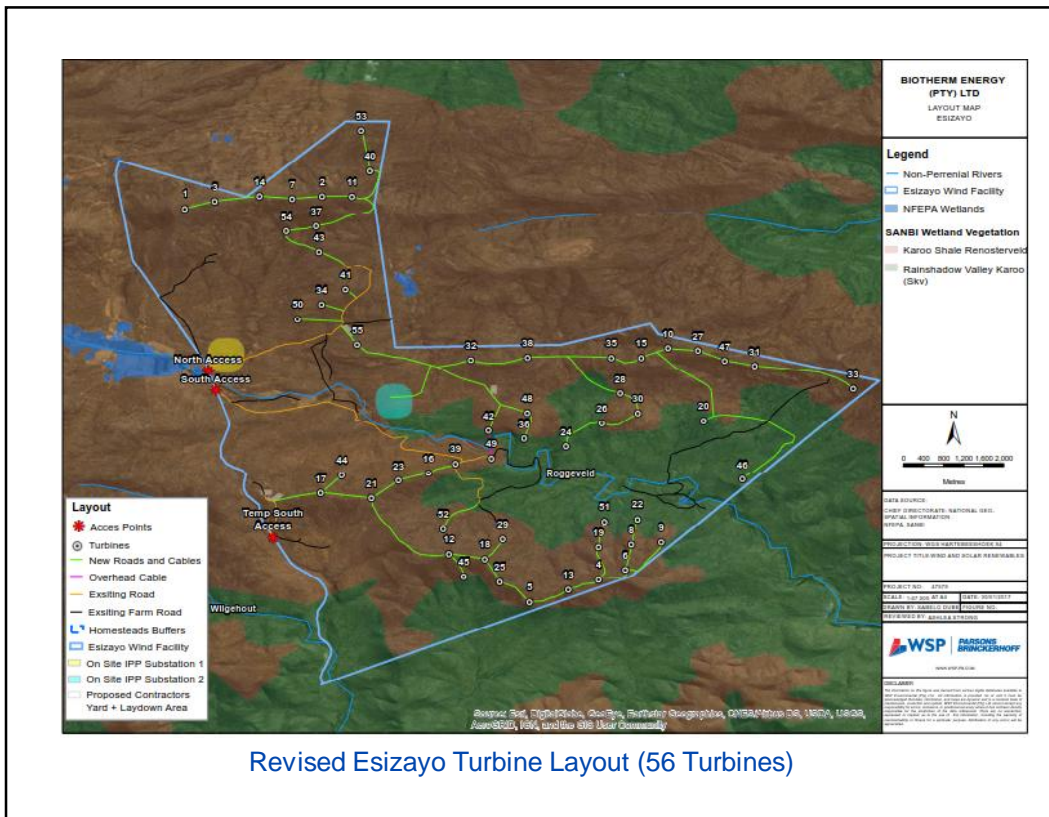
## LAYOUT ALTERNATIVES- ESIZAYO



Esizayo Initial Turbine Layout (125 Turbines – 250 MW)

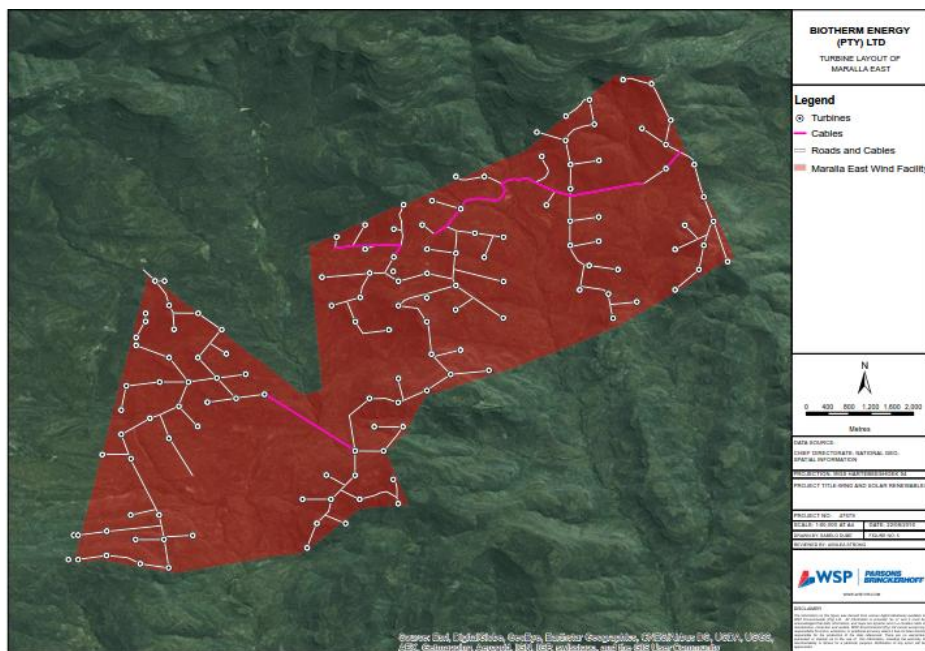


Revised Esizayo Turbine Layout (70 Turbines – 140 MW)



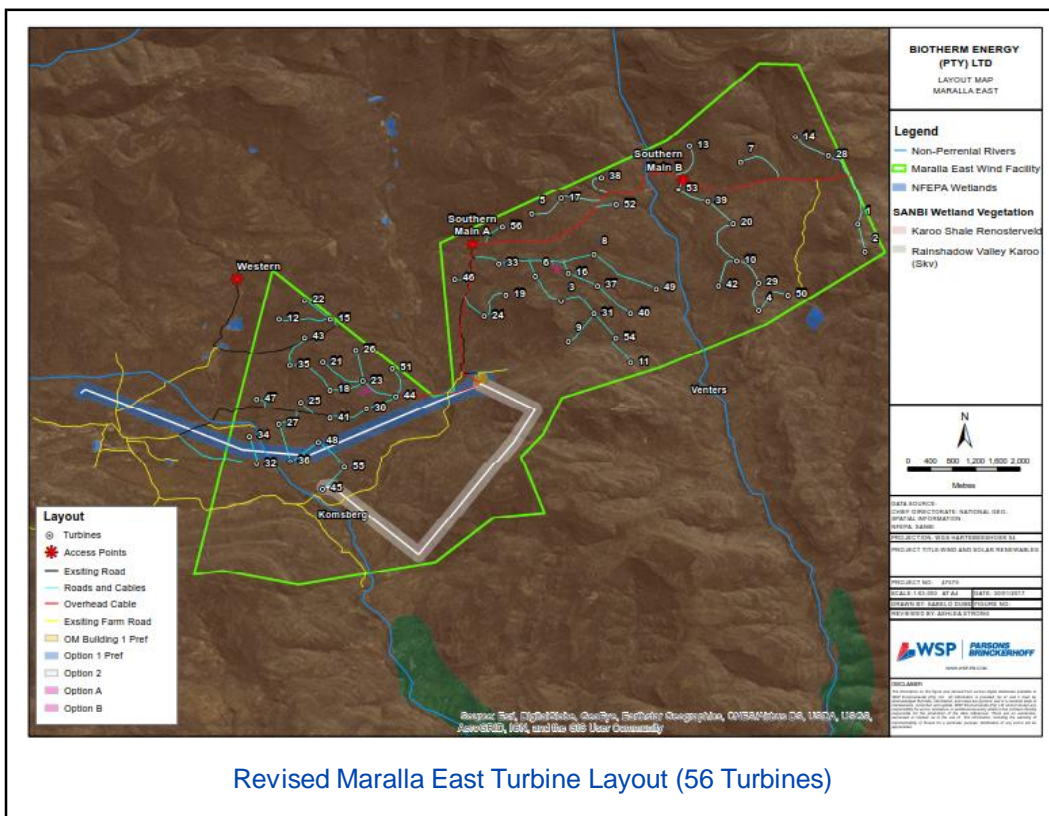
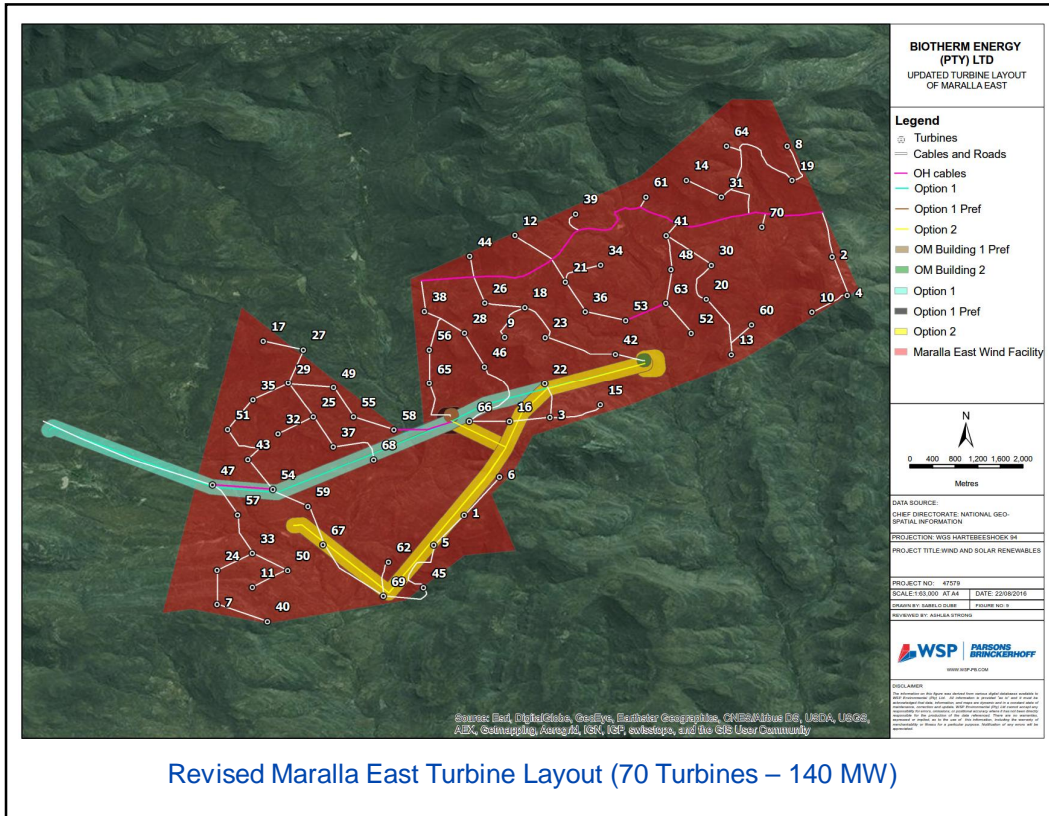
Revised Esizayo Turbine Layout (56 Turbines)

### LAYOUT ALTERNATIVES- MARALLA EAST



Maralla East Initial Turbine Layout (125 Turbines – 250 MW)

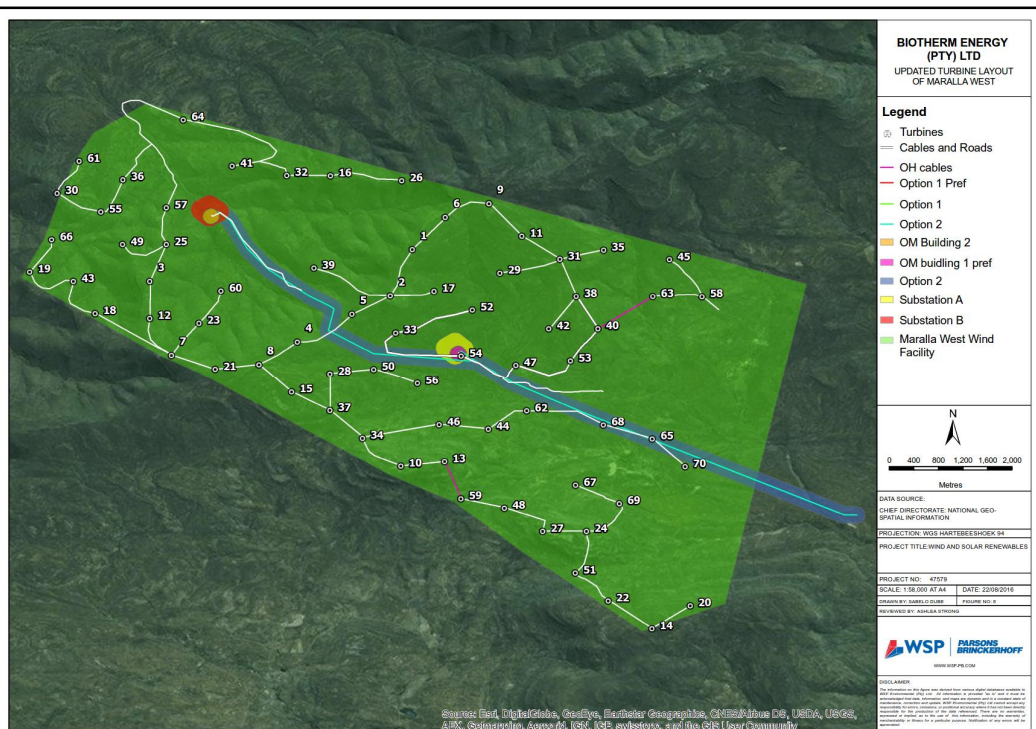




## LAYOUT ALTERNATIVES- MARALLA WEST

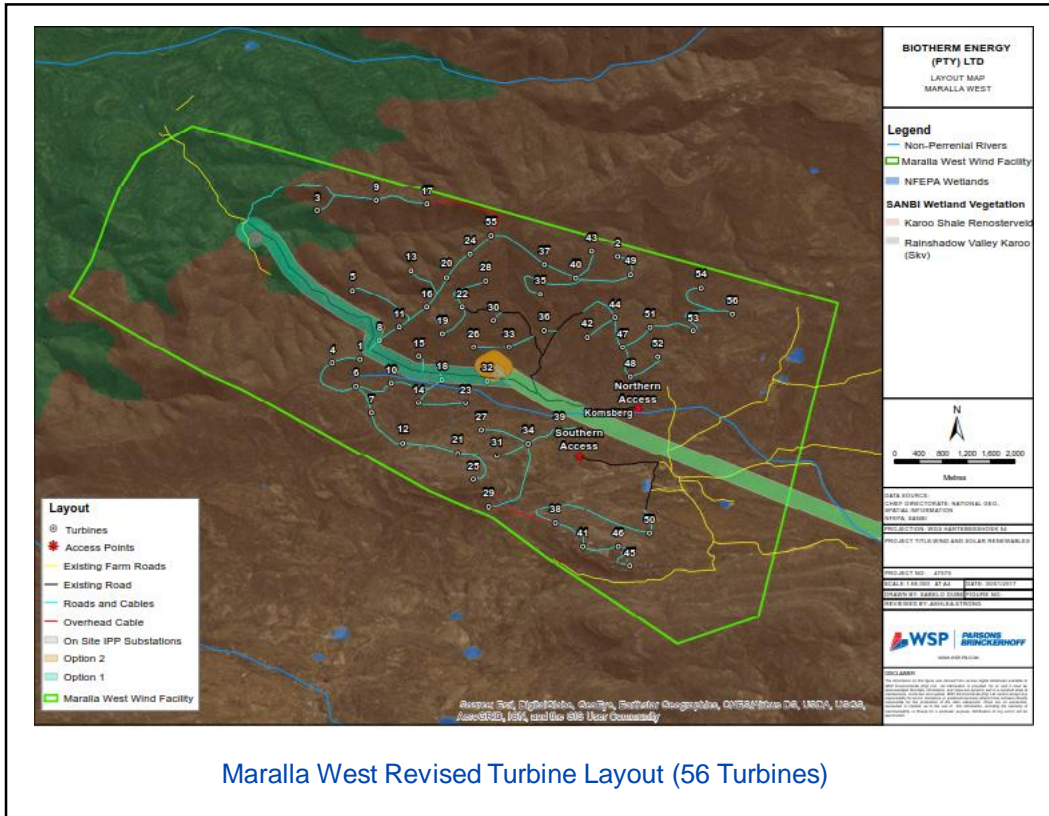


Maralla West Initial Turbine Layout (125 Turbines – 250 MW)

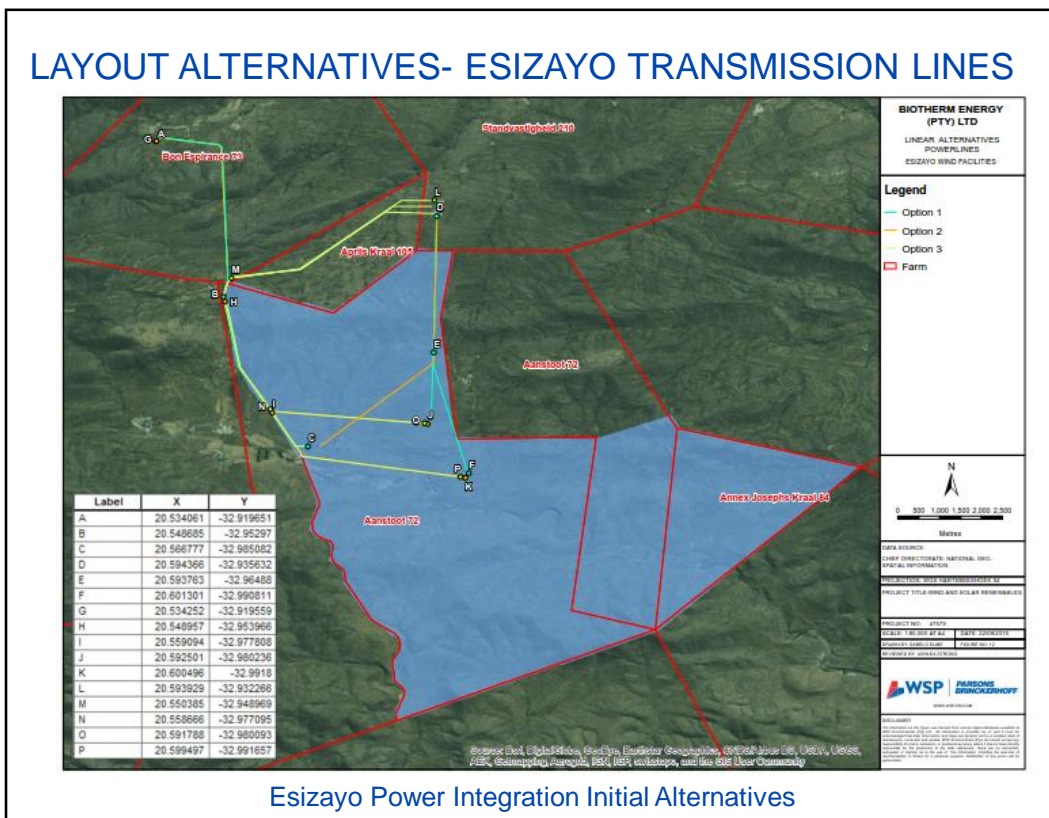


Maralla West Revised Turbine Layout (70 Turbines – 140 MW)

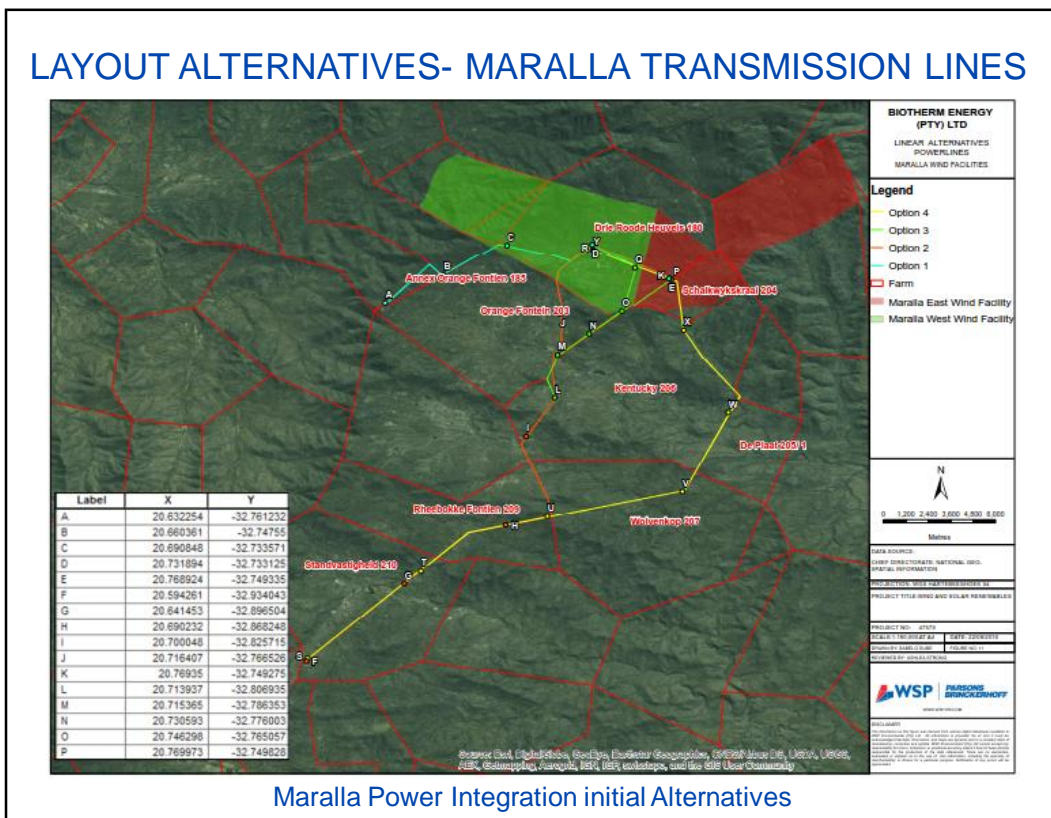
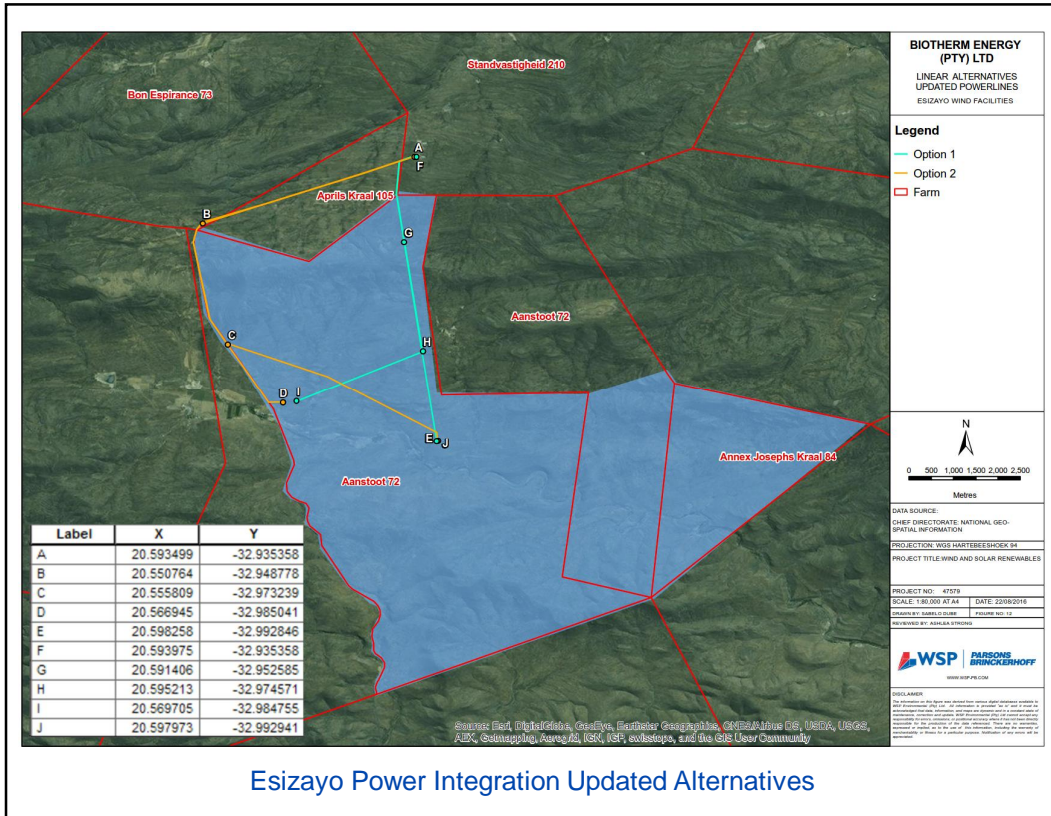




Maralla West Revised Turbine Layout (56 Turbines)



Esizayo Power Integration Initial Alternatives









## SPECIALIST STUDIES

SPECIALIST FIELD	COMPANY NAME	TEAM MEMBERS	ASSESSMENT IN EIA PHASE
Soil, Land Capability and Wetlands	WSP Environmental (Pty) Ltd	Bruce Wickham, Gerg Matthews	Yes
Biodiversity	Simon Todd Consulting	Simon Todd	Yes
Avifauna	Chris van Rooyen Consulting	Chris van Rooyen, Albert Froneman	Yes
Heritage	ACO Associates	Tim Hart, Lita Webley, David Halkett	Yes
Palaeontology	Natura Viva	John Almond	Yes
Visual	-	Belinda Gebhardt	Yes
Social	WSP Environmental (Pty) Ltd	Danielle Sanderson, Hillary Konigkramer	Yes
Traffic	WSP Group Africa (Pty) Ltd	Christo Bredenhann	Yes
Noise	WSP Environmental (Pty) Ltd	Kirsten Collett	Yes



## SOILS AND LAND CAPACITY

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
SLC1	Loss of land (including wetlands) previously used for grazing.	Construction	Negative	Medium	Low
SLC2	Vegetation clearance, soil disturbance and high traffic movement on site, resulting in a higher potential for soil erosion		Negative	Low	Low
SLC3	Potential spillage of hazardous substances		Negative	Low	Low
SLC4	Loss of land (including wetlands) previously used for grazing.	Operation	Negative	Medium	Low
SLC5	Vegetation clearance, soil disturbance, and increased traffic movement on site, resulting in a higher potential for soil erosion		Negative	Low	Low
SLC6	Potential land contamination from hazardous substances..		Negative	Low	Low
SLC7	Increased potential of soil erosion due to soil disturbance and a high traffic movement on site.	De-commissioning	Negative	Low	Low
SLC8	Potential spillage of hazardous substances		Negative	Low	Low

The impacts are the same for all three WEFs

## NATURAL VEGETATION AND ANIMAL LIFE

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
BIO1	Impacts on vegetation and protected plant species	Construction	Negative	Medium	Medium
BIO2	Faunal impacts due to construction activities		Negative	Medium	Medium
BIO3	Increased Soil Erosion risk during construction		Negative	Medium	Low
BIO4	Faunal impacts due to operational activities of the wind farm such as noise, and human presence during maintenance activities	Operation	Negative	Medium	Medium
BIO5	Erosion		Negative	Medium	Low
BIO6	Alien Plant Invasion		Negative	Low	Low
BIO7	Faunal impacts due to decommissioning of the wind farm such as noise, and operation of heavy machinery on-site	De-commissioning	Negative	Medium	Low
BIO8	Erosion		Negative	Medium	Low
BIO9	Alien Plant Invasion		Negative	Medium	Low

The impacts are the same for all three WEFs

## AVIFAUNA

Ref.	Impact Description	Phase	Status	Esizayo WEF		Maralla East and West WEF	
				Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
AV1	Displacement of priority species due to disturbance during construction operations	Construction	Negative	Medium	Medium	Medium	Medium
AV2	Priority species mortality due to collision with the turbines	Operation	Negative	High	Medium	High	Medium
AV3	Displacement of priority species due to habitat transformation		Negative	Medium	Low	Medium	Low
AV4	Priority species mortality due to collision with the on-site powerlines		Negative	Medium	Medium	High	Medium
AV5	Priority species mortality due to electrocution on the on-site powerlines		Negative	Medium	Low	Medium	Low
AV6	Displacement of priority species due to disturbance during decommissioning operations	De-commissioning	Negative	Low	Low	Low	Low

## BATS

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
BAT1	Destruction of bat roosts due to earthworks and blasting -	Construction	Negative	Medium	Low
BAT2	Loss of foraging habitat.		Negative	Medium	Low
BAT3	Bat mortalities due to direct blade impact or barotrauma during foraging activities (not migration).	Operation	Negative	High	Medium
BAT4	Artificial Lighting		Negative	Medium	Low
BAT5	Loss of foraging habitat.	De-commissioning	Negative	Medium	Low

The impacts are the same for all three WEFs



## SURFACE WATER

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
SW1	Alterations of flow regimes of watercourses,	Construction	Negative	Medium	Low
SW2	Increased potential of soil erosion due to vegetation clearance, soil disturbance and a high traffic movement on site. Subsequent potential sedimentation of watercourses.		Negative	Low	Low
SW3	Potential land contamination from hazardous substances..		Negative	Low	Low
SW4	Temporary potential degradation of wetland habitat due to the proposed positioning of road access		Negative	Medium	Low
SW5	Alterations of flow regimes of watercourses		Negative	Medium	Low
SW6	Increased potential of soil erosion due to vegetation clearance, and more run-off from harden surfaces (i.e. roads). Subsequent potential sedimentation of watercourses.	Operation	Negative	Low	Low
SW7	Potential land contamination from hazardous substances.		Negative	Low	Low
SW8	Alterations of flow regimes of watercourses, in close proximity to the site, or that is proposed to be traversed by roads.	De-commissioning	Negative	Medium	Low
SW9	Increased potential of soil erosion due to soil disturbance and a high traffic movement on site.		Negative	Low	Low
SW10	Potential land contamination from hazardous substances.		Negative	Low	Low

The impacts are the same for all three WEFs

## HERITAGE

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
<b>ESIZAYO</b>					
H1	Impacts to buried archaeological material and graves	Construction	Negative	Low	Low
H2	Substation 1 will result in the destruction of South African War Military Outpost		Negative	Medium	Low
H3	Access road ,au damage or destroy the Nuwerus Cemetery		Negative	Medium	Low
<b>MARALLA EAST</b>					
H1	Impacts to ruined settlement and graveyard on public access road through De KOM	Construction	Negative	Medium	Low
H2	Impacts to late Stone Age sites along river bed		Negative	Medium	Low
H3	Impacts to the Farm House of Wolvenhoek		Negative	Medium	Low
<b>MARALLA WEST</b>					
H1	Impacts to a graveyard on the Komsberg River, Sckalkwykskraal	Construction	Negative	Medium	Low
H2	Impacts to a 19 <sup>th</sup> century stone stockpost and kraal on the Komsberg River, Sckalkwukskraal		Negative	Medium	Low
H3	Impacts to graves and a rock art site on Venters River, Welgemoed		Negative	Medium	Low



## PALAEONTOLOGY

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
P1	Disturbance, damage or destruction of fossils (direct, negative impacts) preserved at or beneath the ground surface within the development footprint during the construction phase, mainly due to surface clearance or excavation activities	Construction	Negative	Low	Low

The impacts are the same for all three WEFs



## VISUAL

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
V1	Visual impact during construction due to dust, vehicles and equipment	Construction	Negative	Medium	Low
V2	Visual impact during construction due to vegetation clearing		Negative	Medium	Low
V3	Visual impact during construction on landforms		Negative	Medium	Low
V4	Intrusion on sense of place and rural landscape	Operation	Negative	Medium	Medium
V5	Visual impact of wind turbines		Negative	High	Medium
V6	Visual impact of substation and other buildings and infrastructure		Negative	Medium	Medium
V7	Visual impact of shadow flicker		Negative	Low	Low
V8	Visual impact of lighting from facility		Negative	Medium	Medium
V9	Visual impact of additional roads and road widening		Negative	Low	Low
V10	Visual impact during decommissioning due to dust, vehicles and equipment		De-commissioning	Negative	Medium

The impacts are the same for all three WEFs



## TRAFFIC AND TRANSPORTATION

Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
T1	Noise, dust and exhaust pollution due to vehicle trips on-site	Construction	Negative	Low	Low
T2	Noise, dust and exhaust pollution due to additional trips on the access roads		Negative	Medium	Medium
T3	Noise and exhaust pollution due to additional vehicle trips on the R354		Negative	Low	Low

The impacts are the same for all three WEFs

## NOISE

Ref.	Impact Description	Phase	Status	Esizayo and Maralla West WEF		Maralla East WEF	
				Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
N1	Acoustic impact on residential receptors	Construction	Negative	Medium	Low	Medium	Low
N2	Acoustic impact on residential receptors	Operation	Negative	Medium	Low	Low	Low
N3	Acoustic impact on residential receptors	De-commissioning	Negative	Medium	Low	Medium	Low

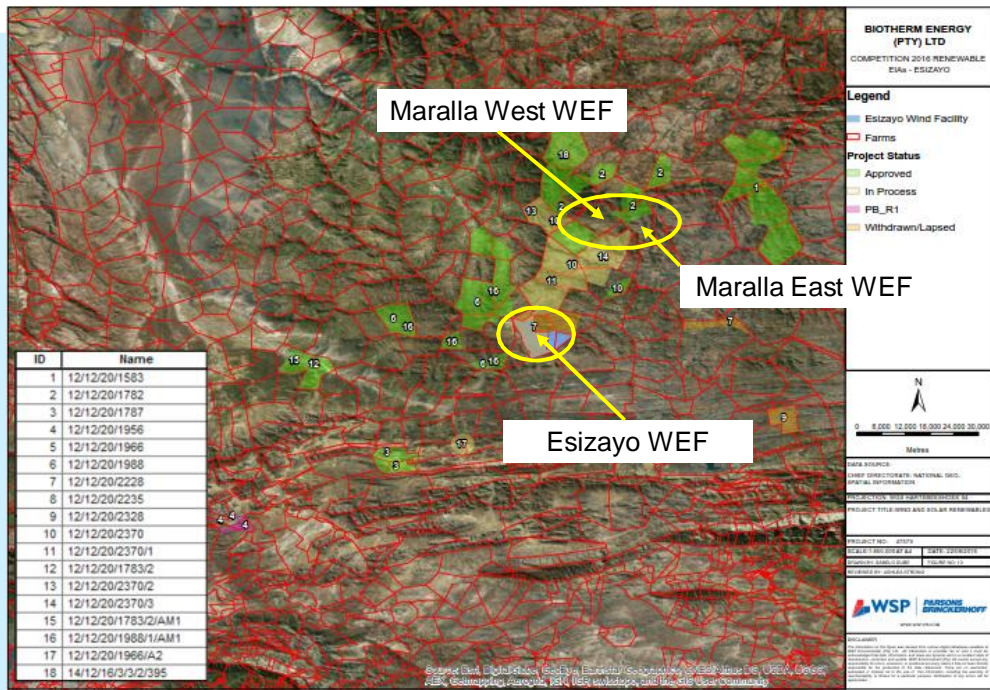


## SOCIAL ENVIRONMENT

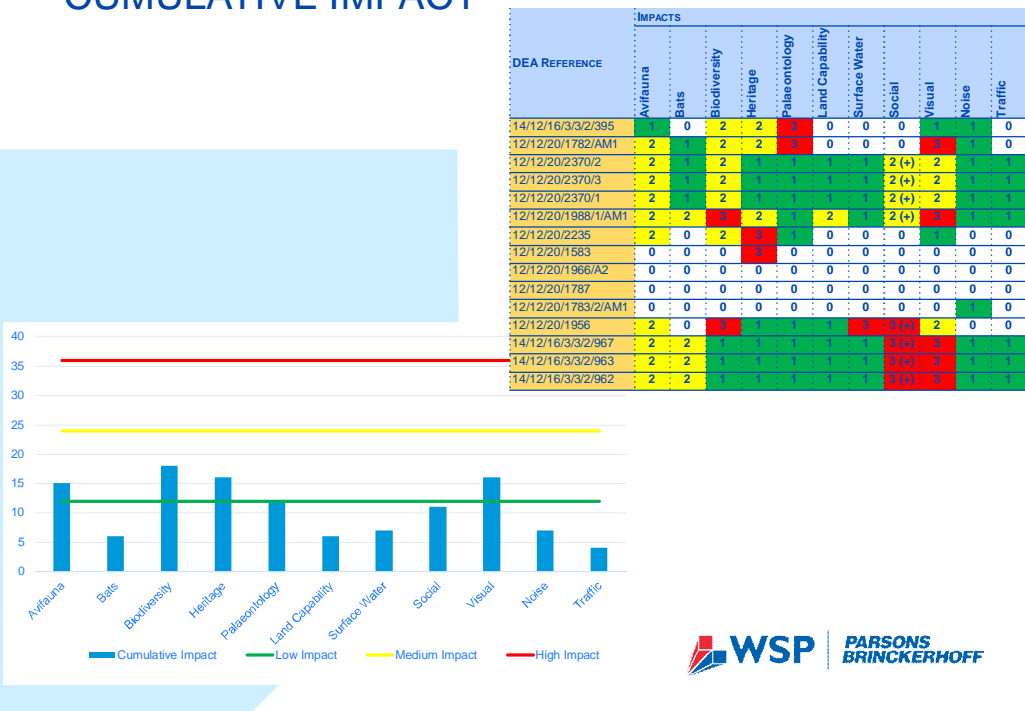
Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
SE1	Increase in Employment Opportunities	Construction	Positive	Medium	High
SE2	Increased Economic Development Opportunities		Positive	Medium	High
SE3	Disruption due to influx of job seekers		Negative	Medium	Medium
SE4	Increase in communicable diseases and reduced public health		Negative	Medium	Medium
SE5	Change in sense of place		Negative	Medium	Low
SE6	Nuisance from noise, dust and traffic disturbances		Negative	Medium	Low
SE7	Increased risk to neighbouring land users		Negative	Low	Low
SE8	Increased risk of veld fires		Negative	Medium	Low
SE9	Increased employment opportunities	Operation	Positive	Medium	High
SE10	Increased economic development opportunities		Positive	Medium	Medium
SE11	Change in sense of place		Negative	Medium	Medium
SE12	Loss of permanent employment	De-commissioning	Negative	Medium	Low
SE13	Gain of short term employment		Positive	Low	Medium
SE14	Nuisance from dust, noise and traffic		Negative	Low	Low
SE15	Increased risk to neighbouring land users		Negative	Low	Low
SE16	Increased risk of veld fires		Negative	Medium	Low

The impacts are the same for all three WEFs


# CUMULATIVE IMPACT

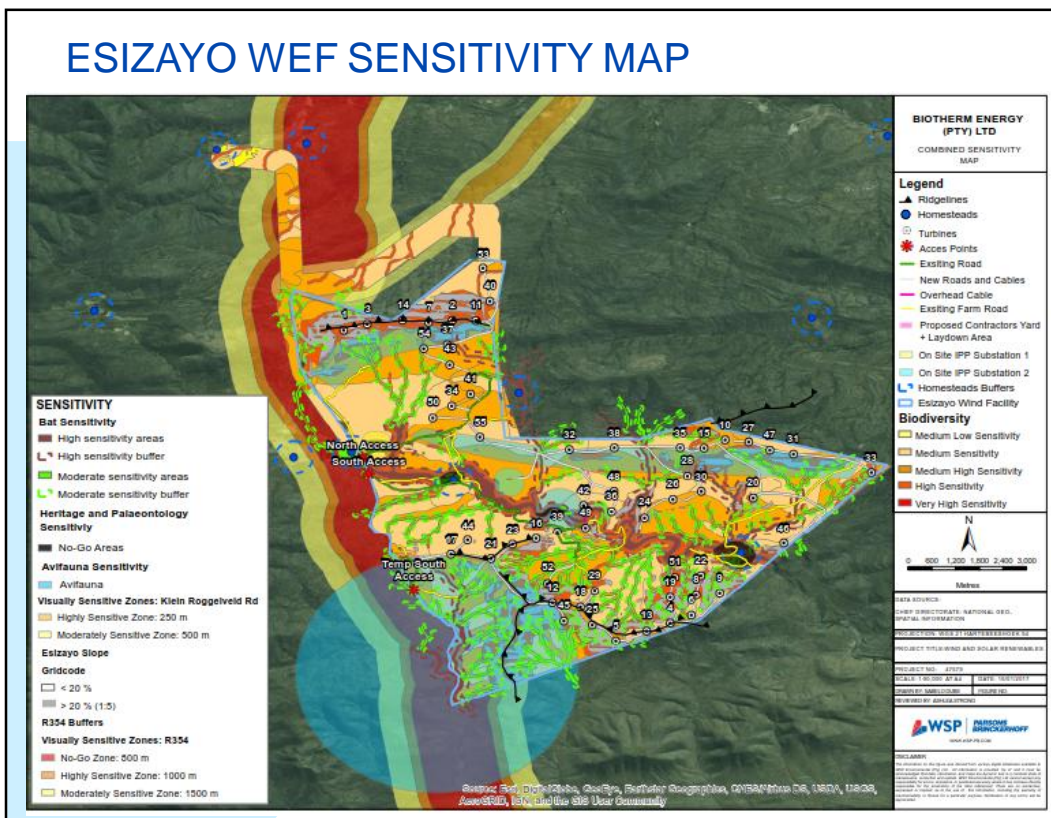


# CUMULATIVE IMPACT

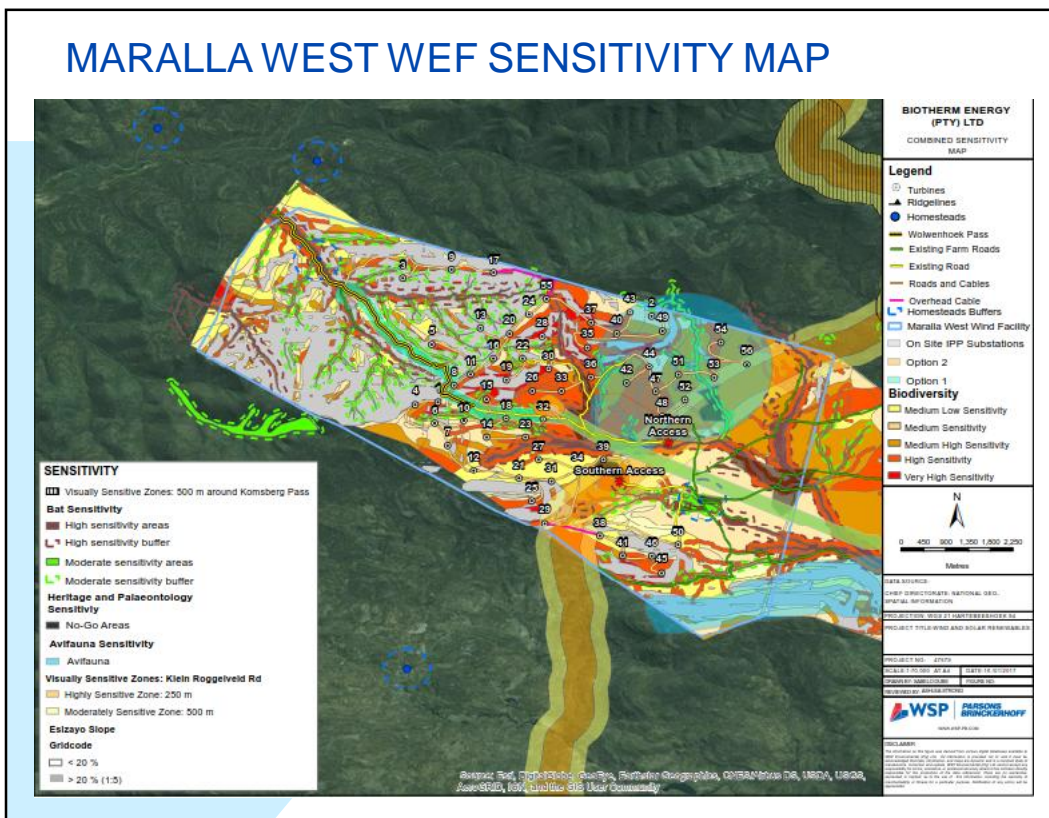
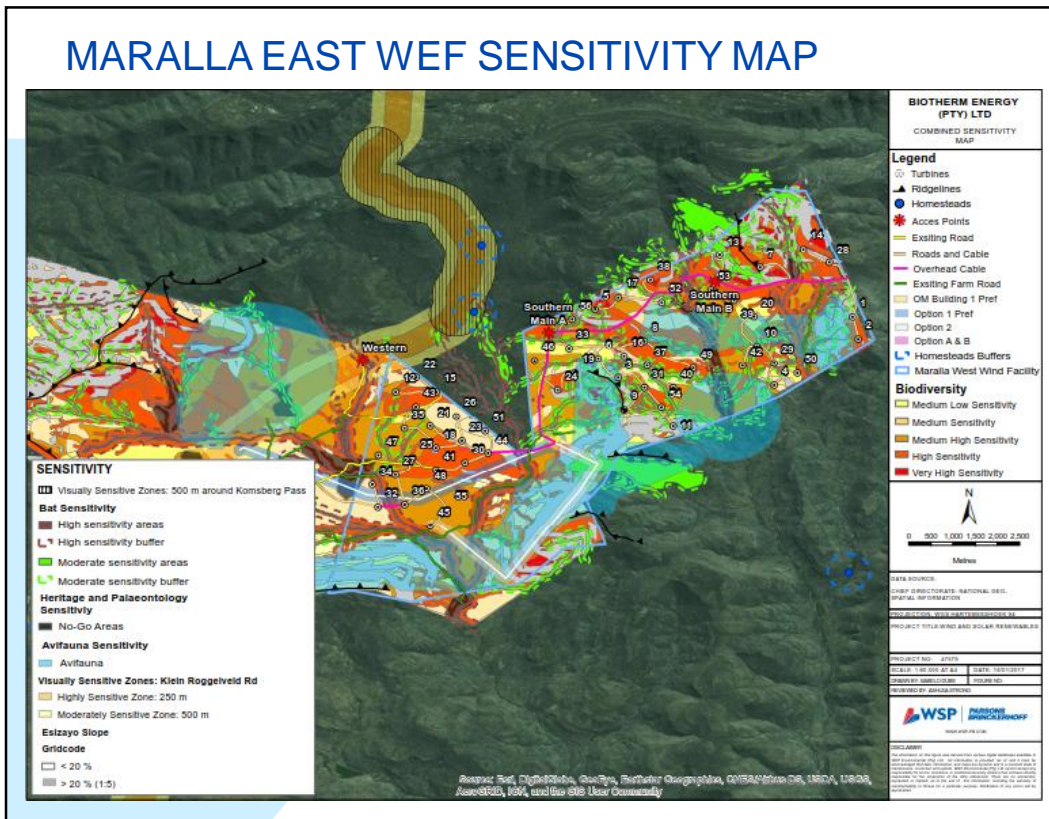


# SENSITIVITY MAPPING











# PUBLIC PARTICIPATION PROCESS


**WSP** | **PARSONS BRINCKERHOFF**

## PUBLIC PARTICIPATION PROCESS

Pre-Application	Pre-application consultation with DEA	P
	Newspaper Adverts	P
Scoping	Submit Application	P
	Notification of IAPS	P
	Newspaper Adverts	P
	Site Notices	P
	Draft Scoping Report – 30 days	P
	Submit Final Scoping Report	P
EIA	EIR – 30 Days	P
	Submit EIR for Decision	
Appeal	Notification of decision	
	Appeal Process	
	Must be submitted within 20 days from date of decision	


**WSP** | **PARSONS BRINCKERHOFF**

## PUBLIC PARTICIPATION PROCESS TO DATE



à **The Public Participation process has consisted of:**

- § Pre-application Consultation with DEA
- § Newspaper adverts in:
  - The Courier (9 September 2016)
  - Die Noordwester (8 September 2016)
- § Email notification of I&APs
- § Site Notices placed at the entrance to the site
- § DSR for 30 day public review
- § Public Meetings
  - 29 September 2016 – Laingsburg
  - 30 September 2016 - Sutherland
- § DEIR for 30 day public review
- § Public Meetings
  - 23 February 2017 – Matjiesfontein
  - 24 February 2017 - Sutherland



## WAY FORWARD



## WAY FORWARD

Activity	Anticipated Timeframe
Stakeholder Meetings	21 – 24 February 2017
Close of public review period	2 March 2017
Finalisation of DEIR and submission to authorities	3 - 28 March 2017
Authority review	31 March – 17 July 2017
Receipt of Environmental Authorisation (EA)	Mid – end July 2017
Appeal Period	20 days from receipt of the EA



**WSP Environmental (Pty) Ltd**  
**Contact Person: Ashlea Strong**  
**Tel: 011 361 1380**  
**Email: [Ashea.Strong@wspgroup.co.za](mailto:Ashea.Strong@wspgroup.co.za)**



## Appendix C: List of Skills

Construction	Operation
<ul style="list-style-type: none"> <li>• Environmental coordinator</li> <li>• Project manager</li> <li>• Director</li> <li>• Technical buyer</li> <li>• Engineering manager</li> <li>• Engineering director</li> <li>• Site manager</li> <li>• Engineer</li> <li>• Logistic project manager</li> <li>• Substation and OHL manager</li> <li>• Telecontroller/telecommunications</li> <li>• Management committee control</li> <li>• General labourer</li> <li>• HR/IR officer</li> <li>• HSE manager</li> <li>• Wind turbine technicians and assistants</li> <li>• Climber</li> <li>• Foremen/section foremen</li> <li>• Carpenter</li> <li>• Site supervisor</li> <li>• Truck driver</li> <li>• Surveyor</li> <li>• Operator</li> <li>• Managing director</li> <li>• Site administrator</li> <li>• Supply chain manager</li> <li>• Buyer senior</li> <li>• Commercial manger</li> <li>• Construction manager</li> <li>• Contract manger</li> <li>• Sub-station site manager</li> <li>• Site admin clerk</li> <li>• H&amp;S representative</li> <li>• Bricklayer</li> <li>• Ecologists</li> </ul>	<ul style="list-style-type: none"> <li>• Ecologists</li> <li>• General workers</li> <li>• Buyers</li> <li>• Security guards</li> <li>• Operations managers</li> <li>• Bird specialists</li> <li>• Bat specialists</li> <li>• Data sorters</li> <li>• Office assistants</li> <li>• Office Administrators</li> <li>• Technician/Junior technicians</li> <li>• Assistant Engineer</li> <li>• HR Director</li> <li>• Operations and Maintenance Manager</li> <li>• Buyer Seniors</li> <li>• ED Director</li> <li>• Commercial manager</li> <li>• Engineers</li> </ul>