GUNSTFONTEIN WIND FARM (PTY) LTD

GUNSTFONTEIN WIND ENERGY FACILITY, NEAR SUTHERLAND IN THE NORTHERN CAPE PROVINCE

PROPOSED AMENDMENT OF THE LAYOUT

VISUAL IMPACT ASSESSMENT ADDENDUM

JULY 2021

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

This document must be read with the following documents:

- The original Visual Impact (VIA) Assessment document (Afzelia, 2015); and
- The Addendum to the original VIA (Environmental Planning and Design, March 2019).

The proposed Gunstfontein Wind Energy Facility (WEF) received Environmental Authorisation in July 2016. The authorisation allows the development of a total of 46 wind turbines. The 4MW turbines had a hub height of up to 120m and a rotor diameter of up to 140m (70m blade length)

The Addendum to the Original VIA compared the landscape and visual impact associated with the original proposed layout with an amended layout using increased turbine specifications (150m hub height and 180m rotor diameter). The proposed amended specification saw turbines upgraded from 4MW to 6.5MW.

It is understood that a further revised layout has been proposed by the developer, containing 36 turbines.

The applicant has indicated that the maximum turbine size for the Gunstfontein WEF is 6.5MW with the following dimensions:

- Up to 150m hub height
- Up to 180m rotor diameter (90m blade length)
- Up to 6.5MW per turbine

1.2 TERMS OF REFERENCE

Approval of the layout is a condition of the Environmental Authorisation. This document reviews the proposed final layout with the findings of the original VIA.

Work has been undertaken in accordance with;

a) The Government of the Western Cape Guideline for Involving Visual and Aesthetic Specialists in EIA Processes, which is the only relevant local guideline, setting various levels of assessment subject to the nature of the proposed development and surrounding landscape; and
b) The Landscape Institute and Institute of Environmental Management and Assessment (UK) Guidelines for Landscape and Visual Impact Assessment which provides detail of international best practice (technical methodology).

Both the Original VIA and the Addendum to the Original VIA were undertaken as Level 4 Assessments in accordance with the Western Cape Guidelines. This additional Addendum Report has therefore been undertaken on the same level.

1.3 BACKGROUND OF SPECIALIST

Jon qualified as a Landscape Architect at Cheltenham (UK) in 1979. He has been a Chartered Member of the Landscape Institute (UK) since 1986. He is also a registered Landscape Architect and has extensive experience of environmental impact assessment in South Africa.

During the early part of his career (1981 – 1990) he worked with Clouston (now RPS) in Hong Kong and Australia. During this period he was called on to undertake visual impact

assessment input to numerous environmental assessment processes for major infrastructure projects. This work was generally based on photography with line drawing superimposed to illustrate the extent of development visible.

He worked in the United Kingdom (1990 – 1995) for major supermarket chains including Sainsbury's and prepared CAD based visual impact assessments for public enquiry for new store development. He also prepared the VIA input to the environmental statement for the Cardiff Bay Barrage for consideration by the UK Parliament in the passing of the Barrage Bill (1993).

His more recent VIA work in Africa (1995 to present) includes a combination of CAD and GIS based work for a new international airport to the north of Durban, new heavy industrial operations, overhead electrical transmission lines, mining operations, a number of commercial and residential developments as well as numerous renewable energy projects.

VIA work undertaken during the last eighteen months includes assessments for several proposed tourism developments in National Parks, numerous solar power projects, numerous telecommunications masts, as well as applications for two wind energy projects.

A brief Curriculum Vitae outlining relevant projects is included as **Appendix I.**

1.4 PROCESS FOLLOWED

The following process was followed;

- The Original VIA document and the Addendum to the Original VIA was reviewed;
- A desktop analysis utilising aerial photography and the Global Mapper GIS system was conducted in order to compare the likely visibility of the authorised scheme with the proposed 36 turbine layout;
- 3D CAD modelling and preparation of simulations for the proposed wind turbines was undertaken in order to compare their visual impact with the originally proposed wind turbines; and
- This addendum report was then prepared.

2 PROJECT AMENDMENT DESCRIPTION

2.1 PROJECT CONTEXT AND SENSITIVE RECEPTORS

For detailed context and project location refer to the Original VIA.

The proposed WEF is located close to the Komsberg ridgeline.

The R354 runs immediately to the west of the proposed project. This road climbs up to the Komsberg ridgeline through the Verlatenkloof Pass and links to Sutherland approximately 15km to the north of the proposed WEF. During the EIA process, the South African Heritage Resources Agency's (SAHRA) have indicated that the Verlatenkloof Pass has heritage significance and stipulated that no turbines may be developed within 1.6km of the Pass.

Immediately to the north of the proposed WEF is an unsurfaced road that appears to be mainly used by local people. It does however lead to the Komsberg Pass which is located approximately 12km to the south-east of the proposed WEF. The road also provides access to a private nature reserve. It does therefore also have tourism significance. Views from the road therefore need to be considered.

The Gunstfontein homestead is located within the project property and approximately 2km from the closest turbine that is associated with the 36 turbine layout.

Shadow flicker was also considered as part of the original VIA, as it might impact on the farm buildings. The potential for increasing the risk of shadow flicker therefore needs to be considered with the revised layout.

2.2 PROPOSED LOCATION OF TURBINES

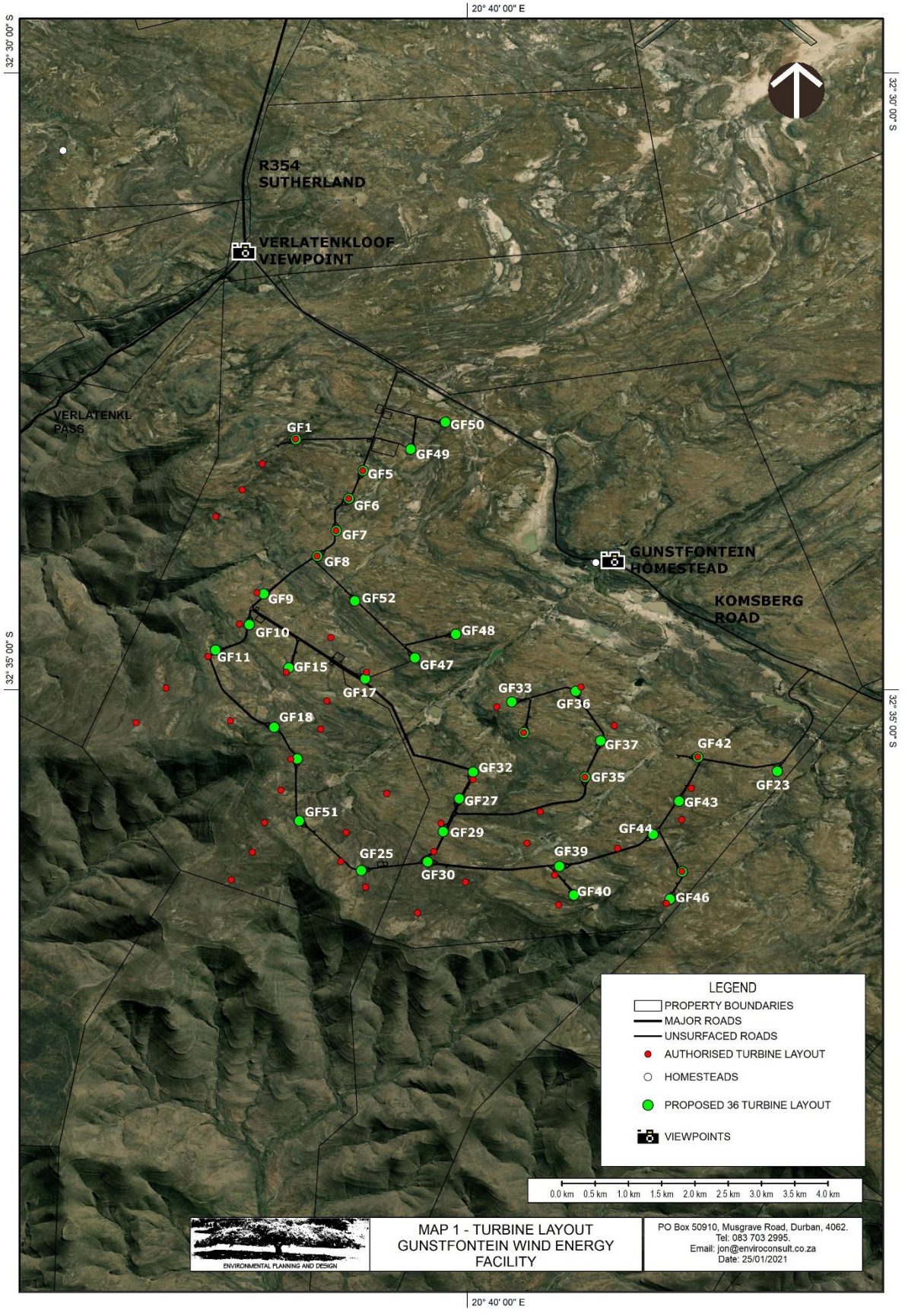
It is understood that a 36 turbine layout will be submitted to the Competent Authority for approval.

The location of the proposed 36 turbines is indicated on **Map 1, Turbine Layout**.

2.3 POSSIBLE LANDSCAPE AND VISUAL IMPLICATIONS OF THE PROPOSED REVISED LAYOUT

Possible landscape and visual implications include:

1. Due to the fact that proposed turbines Gf33 and Gf34 are closer to the Komsberg Road than the originally assessed layout (2016), it is possible that they could make the proposed WEF more visually imposing when viewed from the road;
2. From the R354 as a viewer approaches the top of the Verlatenkloof Pass, the proposed turbines and particularly turbines Gf33 and Gf34 could increase the apparent extent of the landscape that the proposed project affects;
3. Proposed turbines Gf22 and GF32 being located approximately 2km from the Gunstfontein Homestead could make the proposed WEF more visually imposing when viewed from the farmstead.
4. Because GF22 and GF32 is located approximately 2km to the south-west of the Gunstfontein Homestead, it is possible that it could increase the risk of shadow flicker being experienced from the farm buildings.


20° 40' 00" E
32° 30' 00" S
32° 35' 00" S
R354
SUTHERLAND
VERLATENKLOOF
VIEWPOINT
VERLATENKL
PASS
GUNSTFONTEIN
HOMESTEAD
KOMSBERG
ROAD
GF1
GF50
GF49
GF5
GF6
GF7
GF8
GF9
GF52
GF10
GF48
GF11
GF15
GF47
GF17
GF33
GF36
GF18
GF37
GF42
GF32
GF35
GF23
GF27
GF43
GF51
GF29
GF44
GF25
GF39
GF30
GF40
GF46
LEGEND
PROPERTY BOUNDARIES
MAJOR ROADS
UNSURFACED ROADS
AUTHORISED TURBINE LAYOUT
HOMESTEADS
PROPOSED 36 TURBINE LAYOUT
VIEWPOINTS
0.0 km 0.5 km 1.0 km 1.5 km 2.0 km 2.5 km 3.0 km 3.5 km 4.0 km
ENVIRONMENTAL PLANNING AND DESIGN
MAP 1 - TURBINE LAYOUT
GUNSTFONTEIN WIND ENERGY
FACILITY
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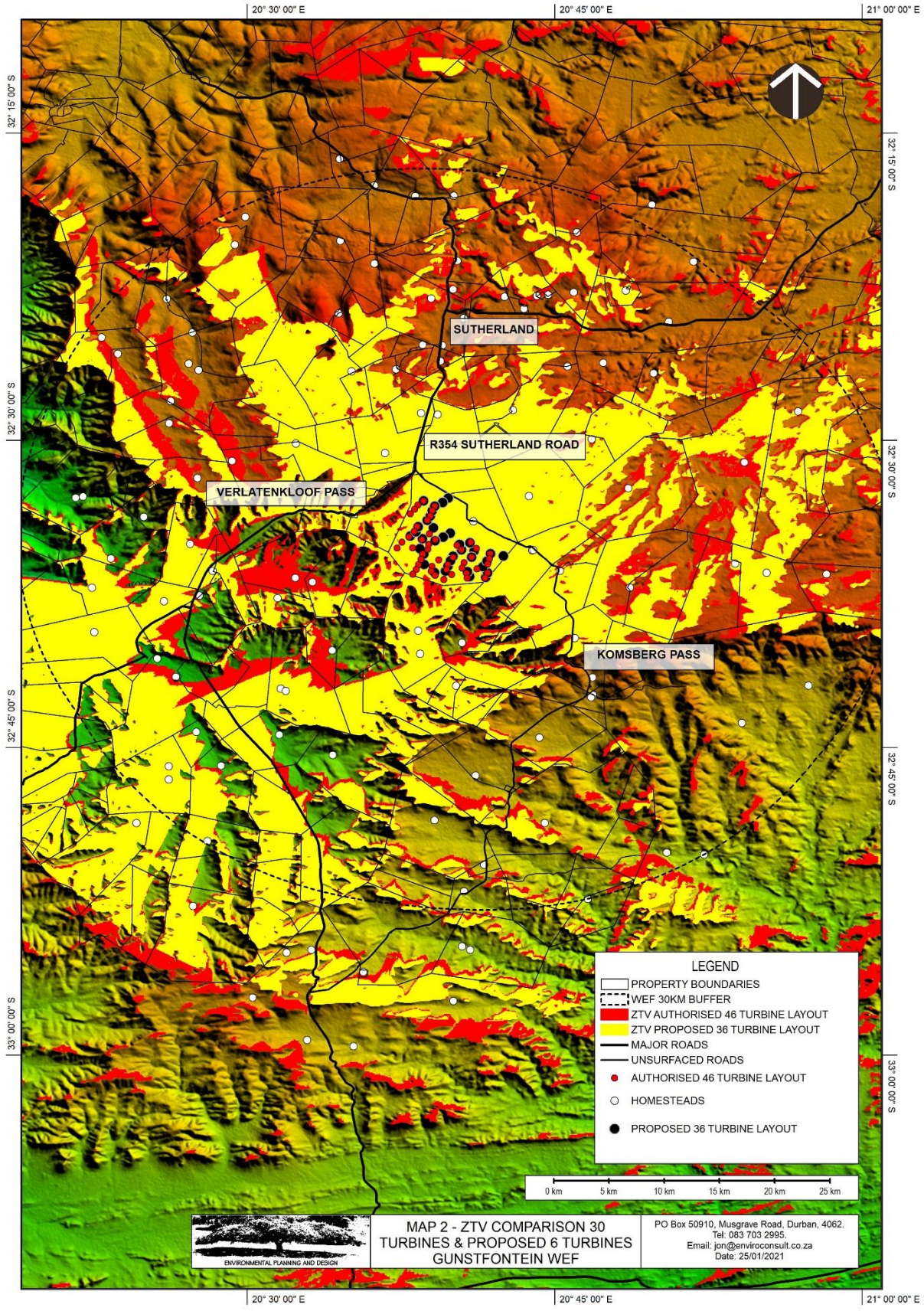
Date: 25/01/2021


20° 30' 00" E
20° 45' 00" E
21° 00' 00" E
32° 15' 00" S
32° 30' 00" S
32° 45' 00" S
33° 00' 00" S
SUTHERLAND
R354 SUTHERLAND ROAD
VERLATENKLOOF PASS
KOMSBERG PASS
LEGEND
PROPERTY BOUNDARIES
WEF 30KM BUFFER
ZTV AUTHORISED 46 TURBINE LAYOUT
ZTV PROPOSED 36 TURBINE LAYOUT
MAJOR ROADS
UNSURFACED ROADS
AUTHORISED 46 TURBINE LAYOUT
HOMESTEADS
PROPOSED 36 TURBINE LAYOUT
0 km
5 km
10 km
15 km
20 km
25 km
ENVIRONMENTAL PLANNING AND DESIGN
MAP 2 - ZTV COMPARISON 30 TURBINES & PROPOSED 6 TURBINES GUNSTFONTEIN WEF
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3 ASSESSMENT OF REVISED LAYOUT

3.1 DUE TO THE FACT THAT A SMALLER NUMBER OF LARGER TURBINES (-10) ARE PROPOSED, IT IS POSSIBLE THAT THE PROPOSED WEF WILL BE LESS VISIBLE WHEN COMPARED TO THE AUTHORISED LAYOUT

Map 2 compares the Zone of Theoretical Visibility (ZTV) of the authorised 46 turbine layout and the proposed 36 turbine layouts.

The ZTV of the proposed 36 turbine layout is indicated in yellow while the ZTV of the 46 authorised turbine layout is indicated in red.

The map indicates that even though the proposed turbines are taller than the authorised turbines, the authorised turbine layout is likely to be visible over a slightly wider area and are likely to be visible to a greater number of homesteads when compared with the proposed turbine layout. The proposed layout thus potentially represents a marginal decrease in impact when compared with the authorised layout.

3.2 DUE TO THE FACT THAT PROPOSED TURBINES GF49 AND GF50 ARE CLOSER TO THE KOMSBERG ROAD THAN THE TURBINES ASSOCIATED WITH THE AUTHORISED 46 TURBINE LAYOUT, IT IS POSSIBLE THAT THEY COULD MAKE THE PROPOSED WEF MORE VISUALLY IMPOSING WHEN VIEWED FROM THE ROAD

Proposed Turbines Gf49 and Gf50 are approximately 900m and 300m from the Komsberg Road respectively.

The closest turbine within the authorised 46 turbine is approximately 1500m from the road.

The proposed turbines Ff49 and Gf50 may therefore increase the intensity of the visual impact of the WEF over approximately 3000m of the Komsberg Road. From this section these turbines will be closer to the road and are therefore likely to be more visually imposing.

The affected section of the road is approximately 18km from the Komsberg Pass. Proposed turbines Gf49 and Gf50 will therefore not create an elevated visual impact on the road as it either approaches or enters / exits the Pass.

The possible additional impact over a limited section of the road needs to be considered in the context of fewer turbines that are proposed. Figure 1 compares a view of the proposed 36 turbine layout with the authorised 46 turbine layout. Whilst the turbines within the authorised layout are lower than those within the proposed layout, it seems that the greater number of vertical elements appears more disruptive to the eye in a landscape that is otherwise comprised largely of horizontal elements that then the fewer vertical elements associated with the proposed layout.

3.3 FROM THE R354 AS A VIEWER APPROACHES THE TOP OF THE VERLATENKLOOF PASS, THE ADDITIONAL PROPOSED TURBINES AND PARTICULARLY TURBINES GF49 AND GF50 COULD INCREASE THE APPARENT EXTENT OF THE LANDSCAPE THAT THE PROPOSED PROJECT AFFECTS

From the worst viewpoint where the additional width of the WEF will be most apparent which is closest to the top of the Verlatenkloof Pass, the proposed turbine layout and specifically turbines Gf49 and Gf50, will slightly increase the apparent width of the WEF.

As the viewer moves up the road towards Sutherland the additional segment of the view that is affected by the proposed 6 turbines reduces rapidly. From approximately 1000m north of the worst case viewpoint, the apparent width of both the proposed and authorised turbine layouts will be the same.

This small additional apparent width of the affected landscape associated with the WEF needs to be considered in the context of the authorised 46 turbine layout that includes additional turbines in close proximity to the pass. These turbines are more imposing than turbines included in the proposed 36 turbine layout. The proposed layout may thus represent a marginal decrease in impact when compared with the original, authorised layout.

Refer to Figure 1.

3.4 PROPOSED TURBINES GF22 AND GF32 BEING LOCATED APPROXIMATELY AND WITHIN 2KM FROM THE GUNSTFONTEIN FARM HOMESTEAD COULD MAKE THE PROPOSED WEF MORE VISUALLY IMPOSING WHEN VIEWED FROM THE HOMESTEAD

Proposed turbines Gf 36 and Gf48 are located approximately 2.0km from the Gunstfontein homestead.

The authorised 46 turbine layout has one turbine within 1.8km and one turbine within 2.4km of the homestead.

Whilst the turbines associated with the proposed layout are taller, the greater number of turbines associated with the authorised layout arguably make the impact of this layout greater. The proposed layout may thus represent a marginal decrease in impact when compared with the original, authorised layout.

Refer to Figure 2.

3.5 BECAUSE PROPOSED TURBINES ARE LOCATED APPROXIMATELY 2KM TO THE SOUTH-WEST OF THE GUNSTFONTEIN FARM HOMESTEAD, IT IS POSSIBLE THAT IT COULD INCREASE THE RISK OF SHADOW FLICKER BEING EXPERIENCED FROM THE FARM BUILDINGS

The Original VIA indicates that shadow flicker is most likely to occur within ten rotor diameters of a wind turbine.

It also indicates that shadow flicker is most likely to occur when the sun is low in the sky during early mornings and late afternoons.

Sun angles for the rising sun vary between 240 degrees (Winter Solstice) and 296 degrees (Summer Solstice).

Sun angles for the setting sun vary between 64 degrees (Winter Solstice) and 120 degrees (Summer Solstice).

Whilst there are a number of turbines within the proposed 36 turbine layout that fall within the directional parameters, there are no turbines within 10 turbine rotor diameter (1.8km) of the farmstead.

It therefore seems unlikely that the revised layout will add to the risk of shadow flicker.

PROPOSED 36 TURBINE LAYOUT

AUTHORISED 46 TURBINE LAYOUT

FIGURE 1 – SIMULATED VIEW FROM THE TOP OF VERLATENKLOOF PASS

PROPOSED 36 TURBINE LAYOUT

AUTHORISED 46 TURBINE LAYOUT

FIGURE 2 – SIMULATED VIEW FROM THE GUNSTFONTEIN FARMSTEAD

4 CONCLUSIONS

The following conclusions can be drawn from this review:

1. Due to the fact that a fewer number of turbines are proposed when compared with the authorised layout (-10), the proposed WEF is likely to be visible over a smaller area and to a lower number of receptors;

2. Due to the fact that proposed turbines Gf49 and Gf50 are closer to the Komsberg Road than turbines in the 36 turbine layout, it is likely that they could make the proposed WEF more visually imposing over a short section of the road. However, the authorised 46 turbine layout is likely to be more visually imposing over the majority of the affected section of the road;

3. From the R354 as a viewer approaches the top of the Verlatenkloof Pass, the additional proposed turbines and particularly turbines Gf49 and Gf50 could marginally increase the apparent extent of the landscape that the proposed project affects, however, the proximity of the closest turbines associated with the authorised 46 turbine layout will still make this layout more imposing;

4. Whilst the proposed 36 turbine layout will include turbines that are closer to the Gunstfontein homestead because of the number of additional turbines associated with the authorised 46 turbine layout, it is unlikely that the proposed layout will be visually imposing when viewed from the homestead; and

5. The proposed 36 turbine layout will not increase the risk of shadow flicker affecting the Gunstfontein homestead.

APPENDIX I – ASSESSOR'S BRIEF CURRICULUM VITAE

Name	JONATHAN MARSHALL
Nationality	British
Year of Birth	1956
Specialisation	Landscape Architecture / Landscape & Visual Impact Assessment / Environmental Planning / Environmental Impact Assessment.
Qualifications	
Education	Diploma in Landscape Architecture, Gloucestershire College of Art and Design, UK (1979)
	Environmental Law, University of KZN (1997)
Professional	Registered Professional Landscape Architect (SACLAP) Chartered Member of the Landscape Institute (UK) Member of the International Association of Impact Assessment, South Africa

Languages	English	-	Speaking	-	Excellent
		-	Reading	-	Excellent
		-	Writing	-	Excellent

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General

Jon qualified as a Landscape Architect (Dip LA) at Cheltenham (UK) in 1979. He has been a chartered member of the Landscape Institute UK since 1986. He is also a Registered Landscape Architect and has extensive experience of environmental impact assessment in South Africa.

During the early part of his career (1981 - 1990) He worked with Clouston (now RPS) in Hong Kong and Australia. During this period he was called on to undertake visual impact assessment (VIA) input to numerous environmental assessment processes for major infrastructure projects. This work was generally based on photography with line drawing superimposed to illustrate the extent of development visible.

He has worked in the United Kingdom (1990 - 1995) for major supermarket chains including Sainsbury's and prepared CAD based visual impact assessments for public enquiries for new store development. He also prepared the VIA input to the environmental statement for the Cardiff Bay Barrage for consideration by the UK Parliament in the passing of the Barrage Act (1993).

His more recent VIA work (1995 to present) includes a combination of CAD and GIS based work for a new international airport to the north of Durban, new heavy industrial operations, overhead electrical transmission lines, mining operations in West Africa and numerous commercial and residential developments.

LVIA work undertaken during the last two years includes assessments for several proposed tourism developments in National Parks, numerous solar power projects, telecommunications masts a proposed coal fired power station as well as amendment applications for authorised wind energy projects.

Select List of Visual Impact Assessment Projects

- **Coega Power Ship** – Landscape and Visual Impact Assessment for the proposed Coega Power Ship project in the Eastern Cape Province.
- **Saldanha Power Ship** - Landscape and Visual Impact Assessment for the proposed Coega Power Ship project in the Western Cape Province.
- **Modderfontein Wind Energy Facility** - Landscape and Visual Impact Assessment for a proposed amendment to the layout and wind turbine specification of a previously authorised project near Beaufort West.
- **Western Cape Wind Energy Facility** – Due diligence assessment for a proposed wind energy facility near Swellendam in the Western Cape Province.
- **Hyperion Thermal Generation Facility** - Landscape and Visual Impact Assessment for a proposed gas powered power generation plant near Kathu in the Northern Cape Province.
- **Beachfront House on ERF 766 Scarborough -** Landscape and Visual Impact Assessment for a proposed development of beachfront house on the edge of the Table Mountain National Park in Scarbourough, Western Cape Province.
- **Springs Special Economic Zone -** Landscape and Visual Impact Assessment for the proposed Springs SEZ in the Gauteng Province.
- **Makapanstad Agri- Hub –** Landscape and Visual Impact Assessment for proposed Agri-Hub development at Makapanstad in the North West Province for the Department of Rural Development and Land Reform.
- **Madikwe Sky Bubble -** Landscape and Visual Impact Assessment for proposed development of up-market accommodation at the Molori concession within the Madikwe Game Reserve.
- **Hartebeest Wind Energy Facility** – Landscape and Visual Impact Assessment Addendum Report for the proposed upgrading of turbine specifications for an authorised WEF near Mo0rreesburg in the Western Cape Province for a private client.
- **Selati Railway Bridge** - Landscape and Visual Impact Assessment for proposed development of up-market accommodation on a railway bridge at Skukuza in the Kruger Park.
- **Kangala Mine Extension -** Landscape and Visual Impact Assessment for a proposed extension to the Kangala Mine in Mpumalanga for Universal Coal.
- **Khunab Solar Developments** – Landscape and Visual Impact Assessment for four proposed solar PV projects near Upington in the Northern Cape Province for a private client.
- **Sirius Solar Developments** – Landscape and Visual Impact Assessment for four proposed solar PV projects near Upington in the Northern Cape Province for Sola Future Energy.
- **Aggeneys Solar Developments** – Landscape and Visual Impact Assessment for two proposed solar PV projects near Aggeneys in the Northern Cape Province for a private client.
- **Hyperion Solar Developments** – Landscape and Visual Impact Assessment for four proposed solar PV projects near Kathu in the Northern Cape Province for Building Energy South Africa.
- **Eskom Combined Cycle Power Plant** - Landscape and Visual Impact Assessment for proposed gas power plant in Richards Bay, KwaZulu Natal Province.
- **N2 Wild Coast Toll Road, Mineral Sources and Auxiliary Roads – L**VIA for the Pondoland Section of this project for the South African National Roads Agency.
- **Mpushini Park Ashburton –** LVIA for a proposed amendment to an authorised development plan which included residential, office park and light industrial uses to logistics and warehousing.
- **Moedeng PV Solar Project -** LVIA for a solar project near Vryburg in the North West Province for a private client.
- **Establishment of Upmarket Tourism Accommodation on the Selati Bridge, Kruger National Park** – Assessment of visual implications of providing tourism accommodation in 12 railway carriages on an existing railway bridge at the Skukuza Rest Camp in the Kruger Park.
- **Jozini TX Transmission Tower** – Assessment of visual implications of a proposed MTN transmission tower on the Lebombo ridgeline overlooking the Pongolapoort Nature reserve and dam.

- **Bhangazi Lake Development** – LVIA for a proposed tourism development within the iSimangaliso Wetlend Park World Heritage Site.
- **Palesa Power Station** - LVIA for a new 600MW power station near Kwamhlanga in Mpumalanga for a private client.
- **Heuningklip PV Solar Project** – LVIA for a solar project in the Western Cape Province for a private client.
- **Kruispad PV Solar Project** – LVIA for a solar project in the Western Cape Province for a private client.
- **Doornfontein PV Solar Project** – LVIA for a solar project in the Western Cape Province for a private client.
- **Olifantshoek Power Line and Substation** – LVIA for a new 10MVA 132/11kV substation and 31km powerline, Northern Cape Province, for Eskom.
- **Noupoort Concentrating Solar Plants -** Scoping and LVIAs for two proposed parabolic trough projects.
- **Drakensberg Cable Car –** Preliminary LVIA and draft terms of reference as part of the feasibility study.
- **Paulputs Concentrating Solar Plant (tower technology)** – LVIA for a new CSP project near Pofadder in the Northern Cape.
- **Ilanga Concentrating Solar Plants 1, 2, 3, 4 & 5** – Scoping and LVIAs for the proposed extension of five authorised CSP projects including parabolic trough and tower technology within the Karoshoek Solar Valley near Upington in the Northern Cape.
- **Ilanga Concentrating Solar Plants 1, 2, 3, 4 & 5 Shared Infrastructure** –lvia for the necessary shared infrastructure including power lines, substation, water pipeline and roads for these projects.
- **Ilanga Concentrating Solar Plants 7, 8 & 9** - Scoping and LVIAs for three new CSP projects including parabolic trough and tower technology within the Karoshoek Solar Valley near Upington in the Northern Cape.
- **Sol Invictus Solar Plants** - Scoping and LVIAs for three new Solar PV projects near Pofadder in the Northern Cape.
- **Gunstfontein Wind Energy Facility** – Scoping and LVIA for a proposed WEF near Sutherland in the Northern Cape.
- **Moorreeesburg Wind Energy Facility** – LVIA for a proposed WEF near Moorreeesburg in the Western Cape.
- **Semonkong Wind Energy Facility** - LVIA for a proposed WEF near Semonkong in Southern Lesotho.
- **Great Karoo Wind Energy Facility** – Addendum report to the Visual Impact Assessment Report for amendment to this authorised WEF that is located near Sutherland in the Northern Cape. Proposed amendments included layout as well as rotor diameter.
- **Perdekraal East Power Line** – LVIA for a proposed power line to evacuate power from a wind energy facility near Sutherland in the Northern Cape.
- **Tshivhaso Power Station** – Scoping and LVIA for a proposed new power station near Lephalale in Limpopo Province.
- **Saldanha Eskom Strengthening** – Scoping and LVIA for the upgrading of strategic Eskom infrastructure near Saldanha in the Western Cape.
- **Eskom Lethabo PV Installation** - Scoping and LVIA for the development of a solar PV plant within Eskom's Lethabo Power Station in the Free State.
- **Eskom Tuthuka PV Installation** - Scoping and LVIA for the development of a solar PV plant within Eskom's Thutuka Power Station in Mpumalanga.
- **Eskom Majuba PV Installation** - Scoping and LVIA for the development of a solar PV plant within Eskom's Majuba Power Station in Mpumalanga.

- **Golden Valley Power Line** - LVIA for a proposed power line to evacuate power from a wind energy facility near Cookhouse in the Eastern Cape.
- **Mpophomeni Shopping Centre** – LVIA for a proposed new shopping centre close to the southern shore of Midmar Dam in KwaZulu Natal.
- **Rheeboksfontein Power Line** - Addendum report to the Visual Impact Assessment Report for amendment to this authorised power line alignment located near Darling in the Western Cape.
- **Woodhouse Solar Plants** – Scoping and LVIA for two proposed solar PV projects near Vryburg in the North West Province.
- **AngloGold Ashanti, Dokyiwa (Ghana)** – LVIA for proposed new Tailings Storage Facility at a mine site working with SGS as part of their EIA team.
- **Gateway Shopping Centre Extension (Durban)** – LVIA for a proposed shopping centre extension in Umhlanga, Durban.
- **Kouroussa Gold Mine (Guinea)** – LVIA for a proposed new mine in Guinea working with SGS as part of their EIA team.
- **Mampon Gold Mine (Ghana)** - LVIA for a proposed new mine in Ghana working with SGS as part of their EIA team.
- **Telkom Towers** – LVIAs for numerous Telkom masts in KwaZulu Natal.
- **Eskom Isundu Substation** – LVIA for a proposed major new Eskom substation near Pietermaritzburg in KwaZulu Natal.
- **Eskom St Faiths Power Line and Substation** – LVIA for a major new substation and associated power lines near Port Shepstone in KwaZulu Natal.
- **Eskom Ficksburg Power Line** – LVIA for a proposed new power line between Ficksburg and Cocolan in the Free State.
- **Eskom Matubatuba to St Lucia Power Line** – LVIA for a proposed new power line between Mtubatuba and St Lucia in KwaZulu Natal.
- **Dube Trade Port, Durban International Airport** – Landscape & Visual Impact Assessment.
- **Sibaya Precinct Plan** – LVIA as part of Environmental Impact Assessment for a major new development area to the north of Durban.
- **Umdloti Housing** – LVIA as part of Environmental Impact Assessment for a residential development beside the Umdloti Lagoon to the north of Durban.
- **Tata Steel Ferrochrome Smelter** - LVIA of proposed new Ferrochrome Smelter in Richards Bay as part of EIA undertaken by the CSIR.
- **Durban Solid Waste Large Landfill Sites –** LVIAs of proposed development sites to the North and South of the Durban Metropolitan Area. The project utilised 3d computer visualisation techniques.
- **Hillside Aluminium Smelter, Richards Bay -** LVIA of proposed extension of the existing smelter. The project utilised 3d computer visualisation techniques.
- **Estuaries of KwaZulu Natal Phase 1 –** Visual character assessment and GIS mapping as part of a review of the condition and development capacity of eight estuary landscapes for the Town and Regional Planning Commission. The project was extended to include all estuaries in KwaZulu Natal.
- **Signage Assessments** – Numerous impact assessments for proposed signage developments for Blast Media.
- **Signage Strategy** – Preparation of an environmental strategy report for a national advertising campaign on National Roads for Visual Image Placements.
- **Zeekoegatt, Durban** - EDP acted as advisor to the Province of KwaZulu Natal in an appeal brought about by a developer to extend a light industrial development within a 60 metre building line from the National N3 Highway.
- **La Lucia Mall Extension** - LVIA using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed extension to shopping mall for public consultation exercise.

- **Redhill Industrial Development** - LVIA assessment using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed new industrial area for public consultation exercise.
- **Avondale Reservoir** - LVIA using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed hilltop reservoir as part of Environmental Impact Assessment for Umgeni Water.
- **Hammersdale Reservoir** - LVIA using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed hilltop reservoir as part of Environmental Impact Assessment for Umgeni Water.
- **Southgate Industrial Park, Durban** - LVIA and Landscape Design for AECI.
- **Sainsbury's Bryn Rhos** - Computer Aided Landscape & Visual Impact Assessment/ Planning Application for the development of a new store within the Green Wedge North of Swansea.
- **Ynyston Farm Access** - Computer Aided Landscape & Impact Assessment of visual intrusion of access road to proposed development of Cardiff for the Land Authority for Wales.
- **Cardiff Bay Barrage** – Preparation of the Visual Impact Statement for inclusion in the Impact Statement for debate by parliament (UK) prior to the passing of the Cardiff Bay Barrage Bill.
- **A470, Cefn Coed to Pentrebach** - Preparation of landscape frameworks for the assessment of the impact of the proposed alignment on the landscape for The Welsh Office.
- **Sparkford to Illchester Bye Pass** - The preparation of the landscape framework and the draft landscape plan for the Department of Transport.
- **Green Island Reclamation Study** - Visual Impact Assessment of building massing, Urban Design Guidelines and Masterplanning for a New Town extension to Hong Kong Island.
- **Route 3** - Visual Impact Assessment for alternative road alignments between Hong Kong Island and the Chinese Border.
- **China Border Link** - Visual Impact Assessment and initial Landscape Design for a new border crossing at Lok Ma Chau.
- **Route 81, Aberdeen Tunnel to Stanley** - Visual Impact Assessment for alternative highway alignments on the South side of Hong Kong Island.