

06 April 2016

Attention: Natasha Higgitt
Email: nhiggitt@sahra.org.za

Dear Ms Higgitt

**GUNSTFONTEIN WIND FARM - APPLICANT RESPONSE TO SAHRA COMMENT
(CASE ID 8383) DATED 18 MARCH 2016 REQUESTING ADDITIONAL
MITIGATION AND SETBACKS TO PROPOSED INFRASTRUCTURE LAYOUT**

Gunstfontein Wind Farm (Pty) Ltd is currently developing a wind energy facility project on a site located to the south of Sutherland and to the east of the R354/356. Gunstfontein Wind Farm (Pty) Ltd received comment from SAHRA on its Draft Environmental Impact Assessment Report (EIAR) on the 18th of March 2016. The EIAR and SAHRA Comment have reference.

The comment has been considered by Savannah Environmental (Environmental Assessment Practitioner), Heritage Contracts and Archaeological Consultants, Afzelia Environmental Consultants (Pty) Ltd and Gunstfontein Wind Farm (Pty) Ltd, who wish to make a response regarding the certain requests for additional mitigations and setbacks to the proposed infrastructure layout.

SAHRA has requested the following of Gunstfontein Wind Farm (Pty) Ltd in their comment:

1. A buffer-zone of 60 m must be maintained from all identified heritage and palaeontological resources. Micro adjustment of all relevant proposed infrastructure must occur in order to achieve this;
2. The stone cairn/possible grave (Feature 4), should be demarcated and fenced off with a perimeter buffer zone of 60m;
3. No turbines may be located within three (3) kilometers from the R354/R356. This is in line with comments issued on surrounding Wind Farm projects;
4. A Conservation Management Plan must be developed to ensure the on-going conservation of identified heritage resources during the life of the development. The report must include a map of all identified heritage and palaeontological resources with buffer zones of 60 m in relation to the proposed development. This report must be submitted to SAHRA if the EA has been approved and must form part of the final EMP; and

5. On-site monitoring of excavations deeper than 1 m must be conducted by a qualified palaeontologist during the construction phase of any infrastructure located within the Abrahamskraal formation. Site monitoring reports must be submitted to SAHRA upon completion.

Savannah Environmental (Pty) Ltd (the EAP on the project) and Gunstfontein Wind Farm (Pty) Ltd are in agreement with comments 1, 2 and 4 which have been adopted as presented and have been considered within the FEIR. This letter serves to motivate to SAHRA that the desired output associated with comments 3 and 5 can be satisfactorily achieved, however, in a manner slightly different from that suggested.

Motivation for the revision of the comment requesting that "No turbines may be located within three (3) kilometers from the R354/R356".

A total of eight proposed wind turbine positions were originally located within 3km of the R354/356, the closest being 500m away and the furthest 2.5km away from the R354/356. The Visual and Heritage Specialists for the Project were requested to provide an opinion on the SAHRA comment in order to offer feedback and advise a suitable way forward (refer to the letters are appended to this letter).

As per the results of Zones of Theoretical Visibility (ZTV) analysis conducted by the Visual Specialist for turbines within the suggested 3km setback, such a setback from the R354/356 appear unnecessary for mitigating visual and related heritage impacts to the R354/356 or pass. This is essentially due to topographical screening of the wind farm from the R354/356 or pass. When on the pass and approaching from the south, only two to three turbine blades will be visible to the lower section of the pass but will be seen at a minimum distance of approximately 5.5km from the road. If the hub height is considered, only one hub will be visible to the lower section of the pass, also at a minimum distance of 5.5km. Two turbines will be seen after exiting the pass, although only peripherally. It will not be possible to see the remaining turbines within 3km until well beyond the summit and then they are likely to be behind the north bound road user. In order to improve the peripheral view of vehicles after exiting the top of the pass, Gunstfontein Wind Farm (Pty) Ltd has elected to relocate the two turbines closest to the R354/356 (turbines labelled as 1 and 2 within the Optimised Layout as present in the EIAr dated February 2016). The Visual Specialist has confirmed that the relocation of the closest two turbines would prevent this peripheral view and be an improvement.

When considering the impact on the pass when approaching from Sutherland, the full extent of the facility would be visible up to just before entering the top of the pass. In addition to the findings of the Visual Impact assessment, the plateau area at the top of the pass is of less quality than the valley below the full extent

of the facility would be seen from this direction and the suggested 3km setback becomes meaningless. The agreement of Gunstfontein Wind Farm (Pty) Ltd to relocate the two closest turbines does however offer an improvement although marginal and of more benefit to north bound road users. Once in the pass, the turbines are unlikely to be seen. Furthermore, it must be noted that other wind farms in the area that will commence with construction in 2016 cumulatively have up to 16 turbines within 3km of the R354/356 (the closest being 1.4km) as approved by SAHRA through engagement on matters such as those facing Gunstfontein Wind Farm (Pty) Ltd, i.e. the significance of the requested 3km in the context of the visibility of the rest of a site beyond the 3km setback.

In light of the above, Savannah Environmental on behalf of Gunstfontein Wind Farm (Pty) Ltd request a revision of the comment that "No turbines may be located within 3km from the R354/R356", but consider that the two turbines closest to the road have already been relocated to improve the view at the summit of the pass, in line with achieving the intent of SAHRA's comment. The closest turbine will be over 1.5km away.

Motivation for the revision of the comment requesting that "On-site monitoring of excavations deeper than 1 m must be conducted by a qualified palaeontologist during the construction phase of any infrastructure located within the Abrahamskraal formation".

Current practice in the construction of wind farms in South Africa, as requested or approved by SAHRA and Heritage / Paleontological Specialists, is to ensure that the independent project Environmental Control Officer (ECO) be suitably trained in the identification of fossils of the area and monitor excavation in order to ensure that a qualified palaeontologist is called to site if a fossil is found or suspected to be found. Such an approach is practical as well as more cost effective and takes cognizance of the limited supply and multiple commitments of qualified palaeontologists in South Africa. In an effort to avoid risk and to provide comfort to SAHRA, Gunstfontein Wind Farm (Pty) Ltd can undertake to ensure the ECO employed on the Project has undergone such training or provide it if they have not. Furthermore, proof thereof can be provided to SAHRA.

As such, Savannah Environmental on behalf of Gunstfontein Wind Farm (Pty) Ltd request a revision of the comment that on-site monitoring be conducted by a qualified palaeontologist and the abovementioned approach be adopted.

Gunstfontein Wind Farm (Pty) Ltd must submit its Final Environmental Impact Assessment Report to the National Department of Environmental Affairs (DEA) on the 6th of April 2016 in order to comply with legislated timelines. This response and the associated commitments will be submitted as part of that application and

will include the associated changes to the layout with regards the relocation of the two turbines formerly closest to the R354.

It is noted that a meeting with Gunstfontein Wind Farm (Pty) Ltd could not be accommodated by SAHRA in advance of 6th April 2016 in order to discuss the above, however this meeting is scheduled for 7th April 2016 and the EAP undertakes to provide further feedback to the DEA on the matter during their evaluation period.

Please feel free to contact me should you have any queries and kindly acknowledge receipt of this letter by return email.

Kind regards,

Ms Tebogo Mapinga
Senior Environmental consultant
Savannah Environmental (Pty) Ltd

Jaco van der Walt BA (Pret) BA (Hons)
(Archaeology) [Wits], MA (Archaeology [Wits])

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6 April, 2016
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Ref. GUNSTFONTEIN WEF VISUAL IMPACT ASSESSMENT – RESPONSE TO SAHRA COMMENTS

Attention: Ms. Tebogo Mapinga
Dear Tebogo

We have received the optimised lay out of the Gunsfontein Wind Farm, based on the SAHRA comments with inclusion of the recommended buffer zones around the recorded heritage sites. After discussions with you we understand that the 3 km buffer zone recommended by SAHRA along the Verlatenkloof Pass will limit the generating capacity of the facility. We understand that the visual specialist relooked the visual impact expected on the Verlatenkloof Pass and determined the following:

"...it can be concluded that the turbines within the 3km buffer are likely to impact on the pass to a lesser degree than the turbines outside the buffer. It is suspected that SAHRA may be most concerned regarding the initial impact on exiting the top of the pass. In this regard the removal of the turbines from closest to the summit would be beneficial. It is understood that the applicant has considered this and is in agreement to the relocation of the two closest turbines to the top of the pass which would be beneficial in this regard. As the traveller will be generally facing away from the facility, views of these turbines are likely in peripheral vision only. It can be confirmed that the removal of the closest two turbines would prevent this peripheral view."

We understand that the client will apply for a relaxation of the buffer zone and although the Windfarm will have a negative effect on the sense of place and cultural landscape we support the application based on the following:

- Although it is a highly scenic area the wind farm is located in an area that is not subjected to major tourism enterprises.
- The area is remote and not known as a place with visual heritage qualities.
- The cultural landscape and sense of place will be impacted on by various other wind farm facilities in the area and the receiving environment has already been disturbed by various other facilities and in our opinion this reduces the impact of the Gunsfontein Wind Farm.

Jaco van der Walt BA (Pret) BA (Hons)
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We do however recommend that if any relaxation of the buffer zone is negotiated with SAHRA this should be done in conjunction with the visual specialist to minimise impacts.

Kindly contact me with any queries or concerns.

Sincerely

Jaco van der Walt



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6st April 2016

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Dear Tebogo

GUNSTFONTEIN WEF VISUAL IMPACT ASSESSMENT – RESPONSE TO SAHRA COMMENTS

Further to the South African Heritage Resources Agency's (SAHRA) comment of the 18th March (Case 8383) we note their comment with regard to the significance of the R354 and specifically the Verlatenkloof Pass.

Because of the significance of the R354 as a tourist route the SAHRA are recommending that a 3km no development buffer be adopted.

In terms of the subject application this potentially affects the eight most westerly proposed turbine positions that are situated close to the summit of the Verlatenkloof Pass.

In order to indicate the likely effect of removing these turbines from the scheme we have undertaken additional Zones of Theoretical Visibility (ZTV) analysis for both the hub height (120m) and blade height (185m) of these turbines in order that it can be compared with our original assessment for the entire scheme. This ZTV analysis is attached for information. When comparing these with the original

- When the full blade height is considered, the eight turbines within the 3km buffer are not likely to be visible to the upper section of the pass. Two to three turbine blades will be visible to the lower section of the pass but will be seen at a minimum distance of approximately 5.5km which is further off than other turbines on the site. This impact will extend over approximately 4.8km of the road.
- When the hub height is considered, the hubs the eight turbines within the 3km buffer will not be visible to the upper section of the pass. Only one hub will be visible to the lower section of the pass at a minimum

distance of 5.5km which is further off than other turbines on the site. This impact will extend over approximately 4.8km of the road.

The original assessment indicated that between two and ten hubs of turbines and the blades of up to seventeen turbines within the greater scheme are likely to be visible to the lower section of the pass.

This indicates that the closest turbines within the 3km buffer are not likely to be the most visible turbines from within the pass.

Whilst, it has to be accepted that the closer structures are likely to be the most obvious, the turbines within the broader scheme that are likely to impact on the lower section of the pass are approximately 4.5km from the area of impact as opposed to the turbines within the 3km buffer which are in excess of 5km from the area of impact.

It is suspected that SAHRA may be most concerned regarding the initial impact on exiting the top of the pass. In this regard the removal of the turbines from closest to the summit would be beneficial. It is understood that the applicant has considered this and is in agreement to the relocation of the two closest turbines to the top of the pass which would be beneficial in this regard. As the traveller will be generally facing away from the facility, views of these turbines are likely in peripheral vision only. It can be confirmed that the removal of the closest two turbines would prevent this peripheral view.

In considering the impact to the pass when approaching from Sutherland, the full extent of the facility would be visible up to just before entering the top of the pass. As indicated in my report, I considered the plateau area at the top of the pass to be less natural and more influenced by development than the landscape of the pass and the valley below and therefore of a lesser quality.

Furthermore, the top of the pass is not obvious from any distance on the road when approaching from Sutherland, I had difficulty placing it in the landscape. It isn't until the traveller is almost in the pass that it becomes obvious. When a traveller starts the descent the pass they will generally be facing away from the facility and they are likely to be focused largely on the valley through which the pass is located. The turbines are therefore not likely to be obvious as one descends the pass.

The turbines proposed within the 3km buffer are located on the opposite (eastern) side of a minor ridgeline to the road. This will help to deflect views and will provide an increasing degree of screening as the traveller enters the pass. However, the removal of the closest turbines is likely to be beneficial in ensuring that on entering the pass the traveller's attention is focused on the valley.

In summary, the topography surrounding the pass largely screens the turbines that are located in the proposed 3km buffer when approaching from the south. From this direction, proposed turbines within the greater scheme are likely to be more obvious. When summiting the pass however the relocation of the two turbines closest to the summit would be beneficial.

It will not be possible to see the remaining turbines within 3km until well beyond the summit and then they are likely to be behind the north bound traveller. They are therefore of little consequence.

When approaching the pass from the north, the removal of turbines 1 and 2 is also likely to be of benefit as the traveller enters the pass only. At any distance from the entry to the pass the full extent of the facility will be obvious. Once in the pass, the turbines are unlikely to be seen.

We welcome SAHRA's comment and concern and would be happy to run additional specific ZTV analysis should the Agency require it.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'J. Marshall'.

Jon Marshall
VISUAL IMPACT ASSESSOR
AFZELIA ENVIRONMENTAL CONSULTANTS (PTY) LTD



