

**SITE SENSITIVITY VERIFICATION (“SSV”) REPORT: THE PROPOSED
NEW WAVE DAM ON PORTION 101 AND PORTION 168 OF THE FARM
MELKBOOM NO. 384, VANRHYNSDORP**



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Prepared for: Cederberg Farming (Pty) Ltd
P. O. Box 50
TRAWAL
8147

Contact person: J. Tredoux
E-mail: j.tredoux@cederbergfarming.com

Prepared by: EnviroAfrica
P. O. Box 5367
HELDERBERG
7135

Contact person: Bernard de Witt
E-mail: bernard@enviroafrica.co.za

INTRODUCTION:

This SSV Report was undertaken in terms of the *Protocols for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes* (hereinafter referred to as “the Protocols”) as per Government Notice No. 320 (published in Government Gazette No. 43110 on 20 March 2020)¹. These Protocols, with effect from 09 May 2020 must be complied with for every new application submitted on the effective date and thereafter. According to the Protocols, the Environmental Assessment Practitioner (“EAP”) must verify the current use of the proposed site for development as well as the environmental sensitivity of the proposed site in terms of the Screening Tool to determine the need for specialist inputs in relation to the themes (and proposed specialist assessments) included in the Protocols.

METHODOLOGY:

The SSV Report was compiled using desktop studies [including the Western Cape Biodiversity Spatial Plan, Cape Farm Mapper and GoogleEarth) as well as a site visit that was conducted on 17 March 2022 to investigate, identify, and evaluate the potential impacts of the proposed development on the receiving environment. The SSV Report was compiled by the EAP (Mr. Bernard de Witt).

AIM OF THE SSV REPORT:

The aim of the SSV Report is to;

- Verify land use and theme sensitivities as identified by the Screening Tool;
- Confirm whether or not the need exists for the specialist assessment(s) indicated in the Screening Tool Report; and
- Should the need for a specialist assessment be disputed, provide motivation as to why the proposed specialist assessment is unwarranted for the proposed establishment of the New Wave Dam on Portion 101 and Portion 168 of the farm Melkboom No. 384, Vanrhynsdorp.

This will assist in providing an understanding of the transformed state of the proposed site.

SITE DESCRIPTION:

As noted during the site visit, Portion 101 and Portion 168 of the farm Melkboom No. 384, Vanrhynsdorp has largely been transformed from its natural state as a result of being used every year as orchards and plantations. The small riparian area onto which the proposed dam extends is not as severely transformed as the orchards and fields, but is itself overgrown with weeds and other plants that are indicative of disturbance. The site can therefore be described as transformed because of past and present agricultural practices”. Please see the photographs below:



Photo 1: East to west view of the proposed site



Photo 2: Northwest to southwest view of proposed site



Photo 3: North to northeast view of proposed site

Table 1. Themes and associated sensitivity as per the Screening Tool Report.

No	Theme	Sensitivity as per the Screening Tool	Verification of site sensitivity
1	Agriculture	Medium	<p>The proposed dam will inundate approximately 2.3ha of land that is currently being used as orchards, vineyards and plantations in order to store water that will reinforce the existing irrigation water supply on the farm. The EAP is of the opinion that the Screening Tool is incorrect to have given a sensitivity rating of Medium for the Agriculture Theme, as the proposed farm dam is consistent with agricultural usage of land and will only make some agricultural land unavailable on the farm through inundation in order to store water to augment the supply of water used for irrigating the rest of the farm. The EAP is therefore of the opinion that a sensitivity rating relating to the Agricultural Theme is not relevant to the proposed development.</p>
2	Animal Species	Medium	<p>The proposed site has been ploughed repeatedly over the generations and so no indigenous vegetation remains on the agricultural fields to be inundated by the proposed dam (See the photos of the proposed site). The only remaining vegetation that can provide some kind of habitat for animals is the vegetation that exists in the small riparian area onto which the proposed dam will extend. However, even the riparian area is overgrown with weeds and other vegetation that is indicative of disturbance and is therefore unlikely to serve as a habitat of any significance for animals. It is confirmed on Page 11 and 12 of the Aquatic Biodiversity Assessment compiled by WATSAN Africa dated September 2021 (Appendix A, refers) that the establishment of the proposed dam will not cause any significant impacts to animal species. The EAP is therefore of the opinion that the correct sensitivity for the Animal Species Theme is Low.</p>
3	Aquatic Biodiversity	Very High	<p>The proposed dam is intended to enable the proponent to store water supplied to the farm by the Bulshoek Dam canal during the rainy winter season and the amount of water to be dammed will remain within the legal water allocation that has been granted to the proponent.</p> <p>The dammed water will be used for irrigation during the dry summer season. On Page 21 of the Aquatic Biodiversity Impact Assessment attached hereto, the following is stated about the fairly impacted ecological status score of the Olifants River. <i>“The construction and the operation of the New Wave Dam, even though it adds to the accumulative impact of many such dams, is not about to lower the score any further, not if the appropriate mitigating measures are put in place”</i>.</p>

			The EAP is of the opinion that the sensitivity of the proposed site regarding the Aquatic Biodiversity Theme is correctly indicated by the Screening Tool as Very High. However, the implementation of adequate impact mitigation measures will keep the ecological status of the Olifants River from becoming worse.
	Archaeological and Cultural Heritage	Low	<p>It is unlikely that any archaeological and cultural heritage features on the proposed site have not yet been destroyed by the yearly ploughing that takes place on the proposed site. The EAP is therefore of the view that the sensitivity rating for the Archaeological and Cultural Heritage Theme is indeed Low.</p> <p>In response to the Notification to Develop that was compiled for the proposed development, Heritage Western Cape expressed the similar view that “the Committee resolved that no further studies are required since there is no reason to believe that heritage resources will be impacted on”</p>
5	Civil Aviation	Low	No features located on the proposed site nor close to the proposed site were noted during the site visit, that would warrant the sensitivity of the proposed site being labelled different from Low for the Civil Aviation Theme. The EAP is therefore of the opinion that the Screening Tool has given an accurate sensitivity rating for the Civil Aviation Theme.
6	Defence	Low	The proposed site has been ploughed repeatedly over the generations and used for vineyards and vegetable plantations. No features on the proposed site nor close to the proposed site were noted during the site visit, that would warrant a sensitivity result higher than the Low sensitivity rating given by the Screening Tool. The EAP is therefore of the opinion that the sensitivity rating for the Defence Theme is indeed Low.
	Palaeontology	Medium	<p>It is unlikely that any palaeontological features on the proposed site have not yet been destroyed by the yearly ploughing that takes place on the proposed site. The EAP is therefore of the view that the sensitivity rating of Medium for the proposed site regarding the Palaeontology Theme is inaccurate and that the correct sensitivity rating is Low.</p> <p>In response to the Notification to Develop that was compiled for the proposed development, Heritage Western Cape expressed the similar view that “the Committee resolved that no further studies are required...”.</p>
7	Plant Species	Medium	The proposed site is largely devoid of indigenous vegetation as a result of being repeatedly ploughed over the generations. It is only the riparian area to which the proposed dam will extend, that is still somewhat vegetated. However, the vegetation of the riparian area is dominated by weeds, with occasional hardy indigenous plants that are associated with disturbance scattered in between. In light of the content of the Botanical Compliance Statement dated 16 November 2021 that was compiled by PB Consult, the EAP is of the opinion that the sensitivity rating of Medium for the proposed site

			regarding the Plant Species Theme is inaccurate and that the correct sensitivity rating is Low.
8	Terrestrial Biodiversity	Low	The proposed site is largely devoid of indigenous vegetation as a result of being repeatedly ploughed over the generations. It is only the riparian area to which the proposed dam will extend, that is still somewhat vegetated. It is explained in the Botanical Compliance Statement compiled by PB Consult dated 16 November 2021, that the vegetation of the riparian area is dominated by weeds, with occasional hardy indigenous plants that are associated with disturbance scattered in between. The EAP is of therefore of the opinion that the sensitivity rating for the proposed site regarding the Terrestrial Biodiversity Theme is indeed Low.

Table 2. Specialist assessments specified in the Screening Tool Report

No	Proposed Specialist Assessment	Verification of Site Sensitivity And Motivation On The Need For Specialist Investigation
1	Agricultural Impact Assessment	The proposed dam will inundate approximately 2.3ha of land that is currently being used as orchards, vineyards and plantations. The EAP is of the opinion that the Screening Tool is not correct in giving a sensitivity rating of Medium regarding the Agriculture Theme, as the proposed dam will merely make some agricultural land unavailable through inundation in order to store water to augment the supply of water used for irrigating the rest of the farm. A specialist will therefore not be appointed to conduct an Agricultural Impact Assessment nor to compile an Agricultural Compliance Statement. However, comment on the proposed dam will be requested from the Western Cape Department of Agriculture.
2	Landscape/ Visual Impact Assessment	The proposed dam will inundate approximately 2.3ha of agricultural land on a farm that has two existing dams that together store approximately 112 000m ³ of water and this is in an area where the neighbouring farms also have existing dams. In view of this, the EAP is of the opinion that the proposed dam will blend well into the surrounding environment instead of standing out as an eyesore. It is therefore not warranted to appoint a specialist to conduct a Landscape/ Visual impact Assessment and so the specialist will not be appointed.
3	Archaeological and Cultural Heritage Impact Assessment	The proposed site is agricultural land that has been ploughed repeatedly over the generations and so it is unlikely that any features of Archaeological

		<p>and Cultural Heritage significance that might have existed on the proposed site have not yet been destroyed by the ploughing.</p> <p>A Notification to Develop was compiled for the proposed dam on the proposed site and submitted to Heritage Western Cape. Heritage Western Cape responded to the Notification to Develop by deciding that “<i>no further studies are required...</i>”. The EAP is therefore of the opinion that the Archaeological and Cultural Heritage Impact Assessment for the proposed dam on the proposed site is not required.</p>
4	Palaeontological Impact Assessment	<p>The proposed site is agricultural land that has been ploughed repeatedly over the generations and so it is unlikely that any palaeontological features that might have existed on the proposed site have not yet been destroyed.</p> <p>A Notification to Develop was compiled for the proposed dam on the proposed site and submitted to Heritage Western Cape. Heritage Western Cape responded to the Notification to Develop by deciding that “<i>no further studies are required...</i>”. The EAP is therefore of the opinion that a Palaeontological Impact Assessment is not required.</p>
5	Terrestrial Biodiversity Assessment	<p>A Botanical Compliance Statement dated 16 November 2021 has been compiled by PB Consult, in which it is confirmed that vegetation on the proposed site exists only in the small riparian area next to the Olifants River and that the riparian area is vegetated with weeds and occasional indigenous hardy plants scattered in between that are indicative of disturbance. The Compliance Statement is attached hereto as Appendix B.</p>
6	Aquatic Biodiversity Impact Assessment	<p>An Aquatic Biodiversity Impact Assessment compiled for the proposed development on the proposed site by WATSAN Africa and dated is attached hereto as Appendix A.</p> <p>It is explained in the Aquatic Impact Assessment that the implementation of adequate mitigation measures will keep the ecological status of the Olifants River from declining.</p>
7	Hydrology Assessment	<p>The Water Use Licence Application only entails the damming of water that is lawfully allocated to the proponent by the Lower Olifants River Water Users Association, <i>i.e.</i>, the water currently being supplied to the farm via the Bulshoek Dam canal system.</p> <p>No run-off from the surrounding catchment will be channelled into the proposed dam. All the same, a downscaled hydrology study was conducted for the sake of completeness using aerial photographs and contour maps. This was to enable an evaluation of the potential pro-rata contribution of the sub-catchment within the larger quaternary drainage area. The results of the hydrology study are provided on Page 4 of the Engineering Designs Report compiled by Sarel Bester Ingenieurs BK and attached hereto as Appendix C.</p>

8	Geotechnical Assessment	<p>It is indicated on Page 6 of the Engineering Designs Report that “<i>In addition to the many years of experience with the design and construction of earthfill dams built on these type of soils and formations, visual inspection of the site conditions including exposed cut-faces as well as scoured and eroded river banks in the near vicinity from the proposed dam, confidence in the geological and geotechnical conditions is also supported by the number of existing dams constructed within a ±2,5km radius from the proposed dam site</i>” (See Figure 1 below).</p> <p>In view of this, the EAP is of the opinion that a geotechnical study is not warranted for the application for environmental authorisation.</p>
9	Socio-economic Assessment	<p>The proponent currently fills up water in storage dams on the farm during the wet winter months for irrigating with during the dry summer months. The proposed dam will merely add to the existing dams owned and used by the proponent on the farm for the said purpose and is unlikely to cause any positive nor negative socio-economic impacts of much significance in the surrounding area. The abstracted amount of water will remain within the legal water allocation granted to the proponent.</p> <p>In light of the above, the EAP is of the opinion that a Socio-economic Assessment for the proposed dam on the proposed site is unwarranted.</p>
10	Seismicity Assessment	<p>It is explained in the Geology section of the Engineering Designs Report on Page 5 that geological maps of the area around the proposed site have revealed no strikes or dips of strata nor geological fault lines or any other geological features nearby that are worth mentioning and that <i>at this stage</i>, it is not envisaged that features of this kind in some further off location would pose a threat to the proposed dam. If present, such fault zones or features would impact the seismic requirements and subsequently the design of a dam that would normally be dealt with in the final design.</p> <p>In view of this, the EAP is of the opinion that a Seismicity Assessment for the proposed dam on the proposed site is not warranted.</p>
11	Plant Species Assessment	<p>The proposed site is largely devoid of indigenous vegetation as a result of being repeatedly ploughed over the generations. It is only the riparian area to which the proposed dam will extend, that is still somewhat vegetated. However, the vegetation of the riparian area is dominated by weeds, with occasional hardy indigenous plants that are associated with disturbance scattered in between. In light of the content of the Botanical Compliance Statement dated 16 November 2021 that was compiled by PB Consult, the EAP is of the opinion that a Plant Species Assessment is not warranted.</p>
12	Animal Species Assessment	<p>The proposed site has been ploughed repeatedly over the generations and so no indigenous vegetation remains on the agricultural fields to be inundated by the proposed dam (See the photos of the proposed site). The</p>

only remaining vegetation that can provide some kind of habitat for animals is the vegetation that exists in the small riparian area onto which the proposed dam will extend. However, even the riparian area is overgrown with weeds and other vegetation that is indicative of disturbance and is therefore unlikely to serve as a habitat of any significance for animals. It is confirmed on Page 11 and 12 of the Aquatic Biodiversity Assessment compiled by WATSAN Africa dated September 2021 (Appendix A, refers) that the establishment of the proposed dam will not cause any significant impacts to animal species. The EAP is therefore of the opinion that an Animal Species Assessment is not warranted.



Figure 1: Earthfill dams (blue dots) safely established close to the proposed site on similar sites

All the Specialist Assessments and Compliance Statements compiled by specialists and the written opinions of other suitably qualified professionals will be appended to the Scoping Report and EI Report and submitted to the competent authority for review.

Please do not hesitate to contact EnviroAfrica for any further information or clarity regarding the above.

Yours faithfully,

Bernard de Witt



Environmental Assessment Practitioner

EnviroAfrica cc

P: +27 21 851 1616 **C:** +27 82 448 9991

F: +27 86 512 0154

A: Unit 7, Pastorie Park, Corner of Reitz and Lourens Streets, Somerset West 7130

P. O. Box 5367, Helderberg 7135

W: www.enviroafrica.co.za **E:** bernard@enviroafrica.co.za

DECLARATION OF THE EAP

I, Bernard de Witt, EAPASA Registration Number: 2021/3903 as the appointed EAP hereby declare/affirm that:

- the information provided or to be provided as part of this SSV Report, is true and correct:
- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed/to be performed in terms of this non-application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity;
- in terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed/ will disclose, to the proponent, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this NOI;
- I have ensured/will ensure that information containing all relevant facts in the SSV Report was/will be distributed or was/will be made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were/will be provided with a reasonable opportunity to participate and to provide comments;
- I have ensured/will ensure that the comments of all interested and affected parties were/will be considered, recorded and submitted to the Competent Authority;
- I have ensured/will ensure the inclusion of inputs and recommendations from any specialists, where relevant;
- I have kept/will keep a register of all interested and affected parties that participate in the public participation process;
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations; and
- All specialist investigations must comment on how the potential impacts relate to climate change concerns.

Signature of the EAP:

Date:

EnviroAfrica CC

Name of company (if applicable):

