

CTS HERITAGE

HERITAGE SCREENER

CTS Reference Number:	CTS20_073
SAHRIS Reference:	15616
Client:	Savannah Environmental (Pty) Ltd
Date:	July 2020
Title:	HERITAGE SCREENING ASSESSMENT FOR BASIC ASSESSMENT PROCESS FOR THE GUNSTFONTEIN BATTERY ENERGY STORAGE SYSTEM, NORTHERN CAPE PROVINCE

The figure is a satellite map of the Northern Cape region in South Africa. A black pentagonal outline indicates the boundary of Farm Gunstfontein 131. A purple dot within this boundary marks the proposed BESS 500m Zone. The map shows rugged terrain with various shades of brown and tan. A legend in the bottom left corner identifies the symbols for Provinces, Farm Gunstfontein 131, and the Proposed BESS 500m Zone. A scale bar in the bottom right shows 0, 10, and 20 km. An inset map in the bottom right corner shows the outline of South Africa with the Northern Cape province highlighted in red.

Figure 1a. Satellite map indicating the location of the proposed development in the Northern Cape

RECOMMENDATION
The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

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1. Proposed Development Summary

Gunstfontein Wind Farm (Pty) Ltd would like to provide for the installation of a Battery Energy Storage System (BESS) at the authorised Gunstfontein WEF (DEA Ref: 14/12/16/3/3/2/826) in the Northern Cape. The BESS is proposed to be located near to the facility substation and will be approximately 3-4ha in total extent. Medium Voltage below ground or overhead cabling (33kV or less) will connect the BESS to the substation and an access road to the BESS will branch off the WEF roads.. An area of ~500m around the boundary of the facility substation is to be assessed, to allow for the optimization of the placement of the BESS. The BESS is envisaged to become an integral component of the authorised WEF. The full extent of the 500m assessment zone around the Gunstfontein WEF substation has been assessed in this report.

2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	DEA

3. Property Information

Latitude / Longitude	32°34'40.83"S 20°38'54.18"E
Erf number / Farm number	Remaining extent of Farm Gunstfontein 131
Local Municipality	Karoo Hoogland Local Municipality
District Municipality	Namakwa District Municipality
Previous Magisterial District	Sutherland
Province	Northern Cape
Current Use	Agriculture
Current Zoning	Agriculture

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4. Nature of the Proposed Development

Total Area	Approximately 4ha
Depth of excavation (m)	Max 2m
Height of development (m)	Max 15m if overhead lines are required

5. Category of Development

x	Triggers: Section 38(8) of the National Heritage Resources Act
	Triggers: Section 38(1) of the National Heritage Resources Act
	1. Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.
	2. Construction of a bridge or similar structure exceeding 50m in length.
	3. Any development or activity that will change the character of a site-
x	a) exceeding 5 000m ² in extent
	b) involving three or more existing erven or subdivisions thereof
	c) involving three or more erven or divisions thereof which have been consolidated within the past five years
	4. Rezoning of a site exceeding 10 000m ²
	5. Other (state):

6. Additional Infrastructure Required for this Development

1. Access road to the BESS (will branch off the WEF roads to the BESS)
2. Medium Voltage cabling (below ground or overhead) between the BESS and substation.
3. Fencing around the BESS.
4. Possible firebreak (i.e. vegetation trimmed low) or 4m wide road around the BESS, inside the fencing.
5. Laydown Area (located within the ~4ha BESS development footprint).

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7. Mapping (please see Appendix 3 and 4 for a full description of our methodology and map legends)

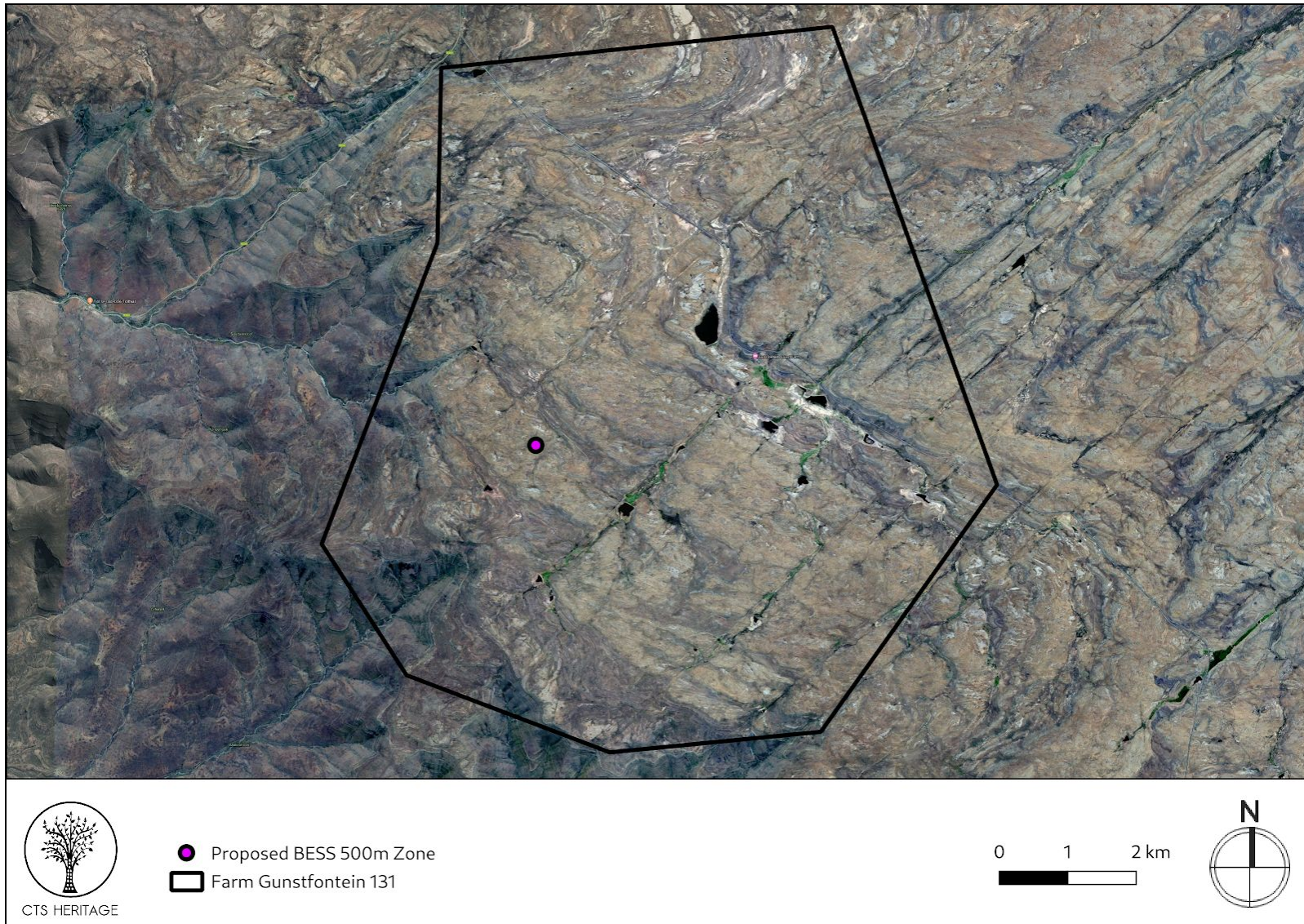
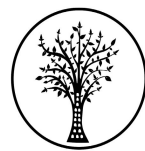


Figure 1b. Overview Map. Satellite image (2020) indicating the proposed development area relative to the Remaining extent of Farm Gunstfontein 131

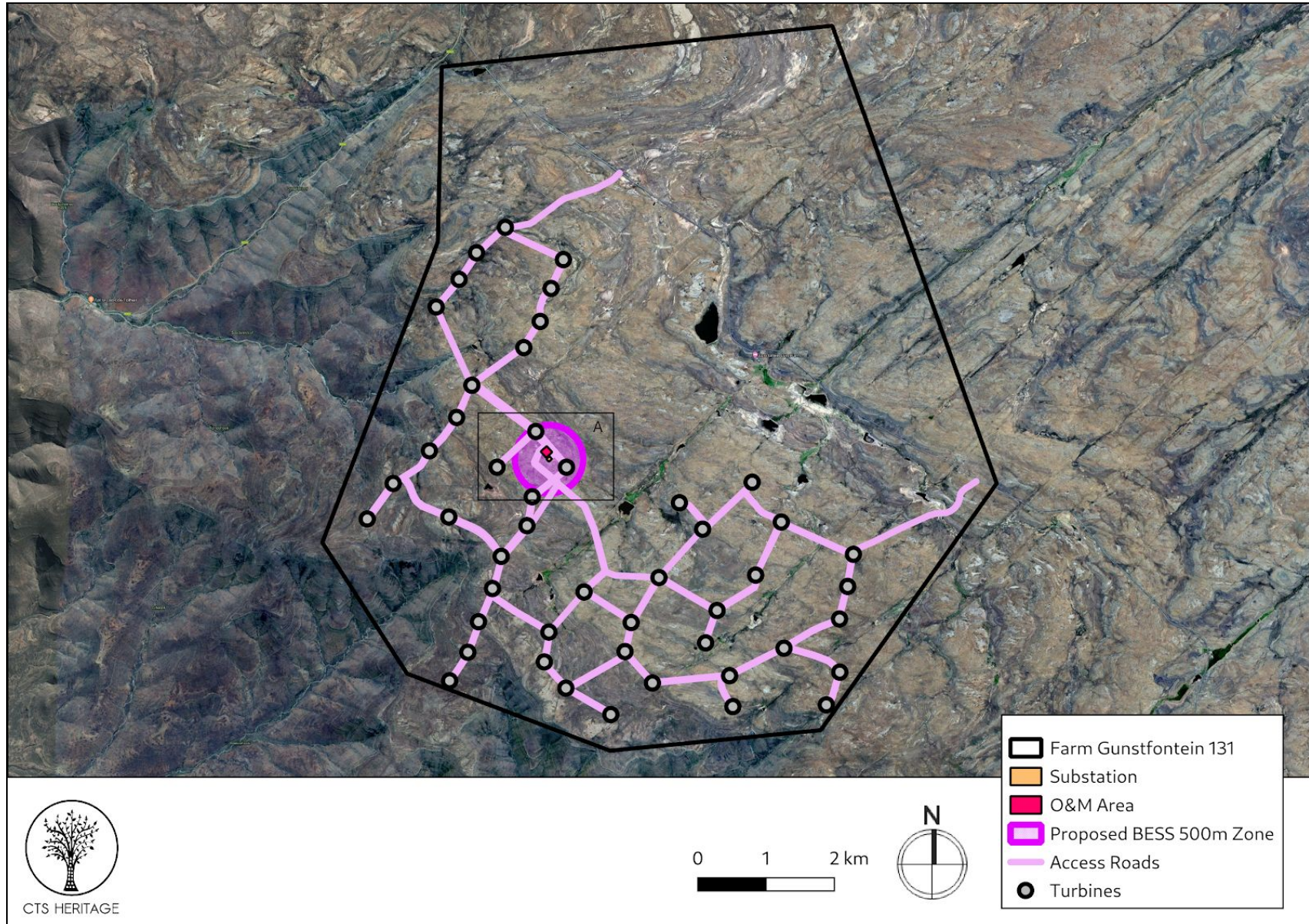
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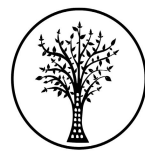
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Figure 1c. Overview Map. Satellite image (2020) indicating the proposed development area relative to previously approved development of the Gunstfontein WEF

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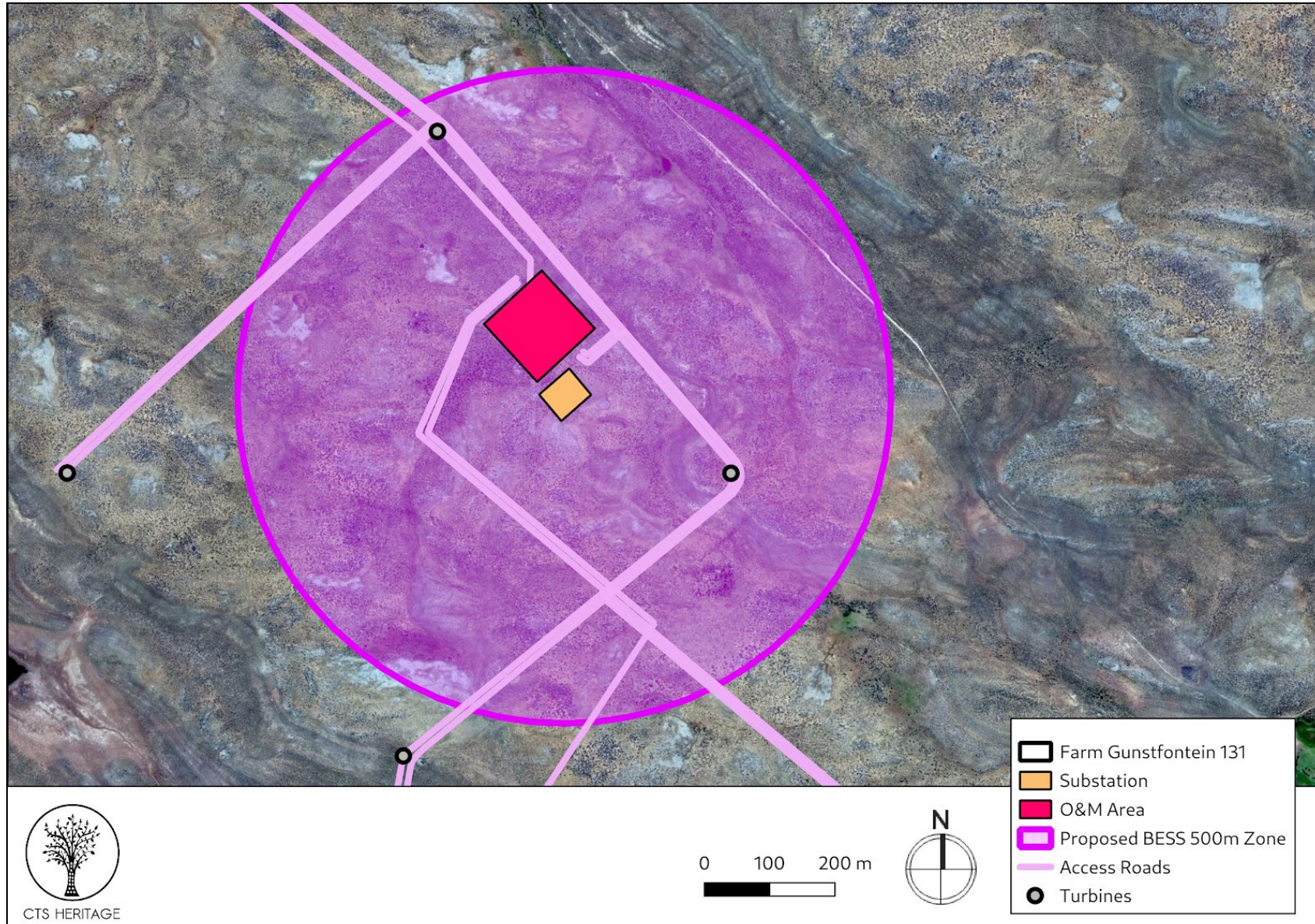
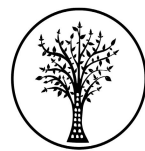


Figure 1d. Overview Map. Satellite image (2020) indicating the indicative development area for the Gunstfontein BESS

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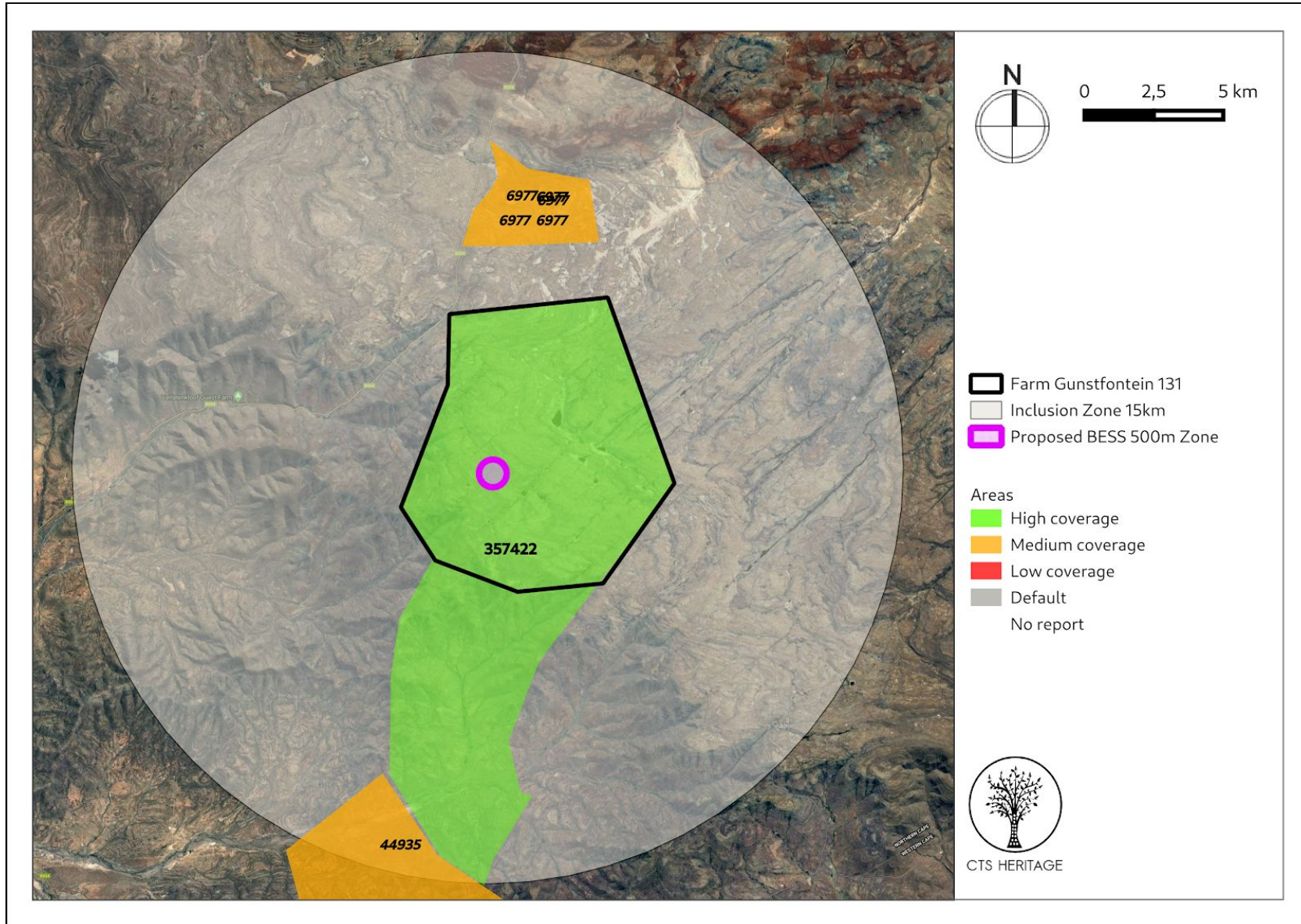
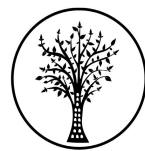


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments covering the proposed development area with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.

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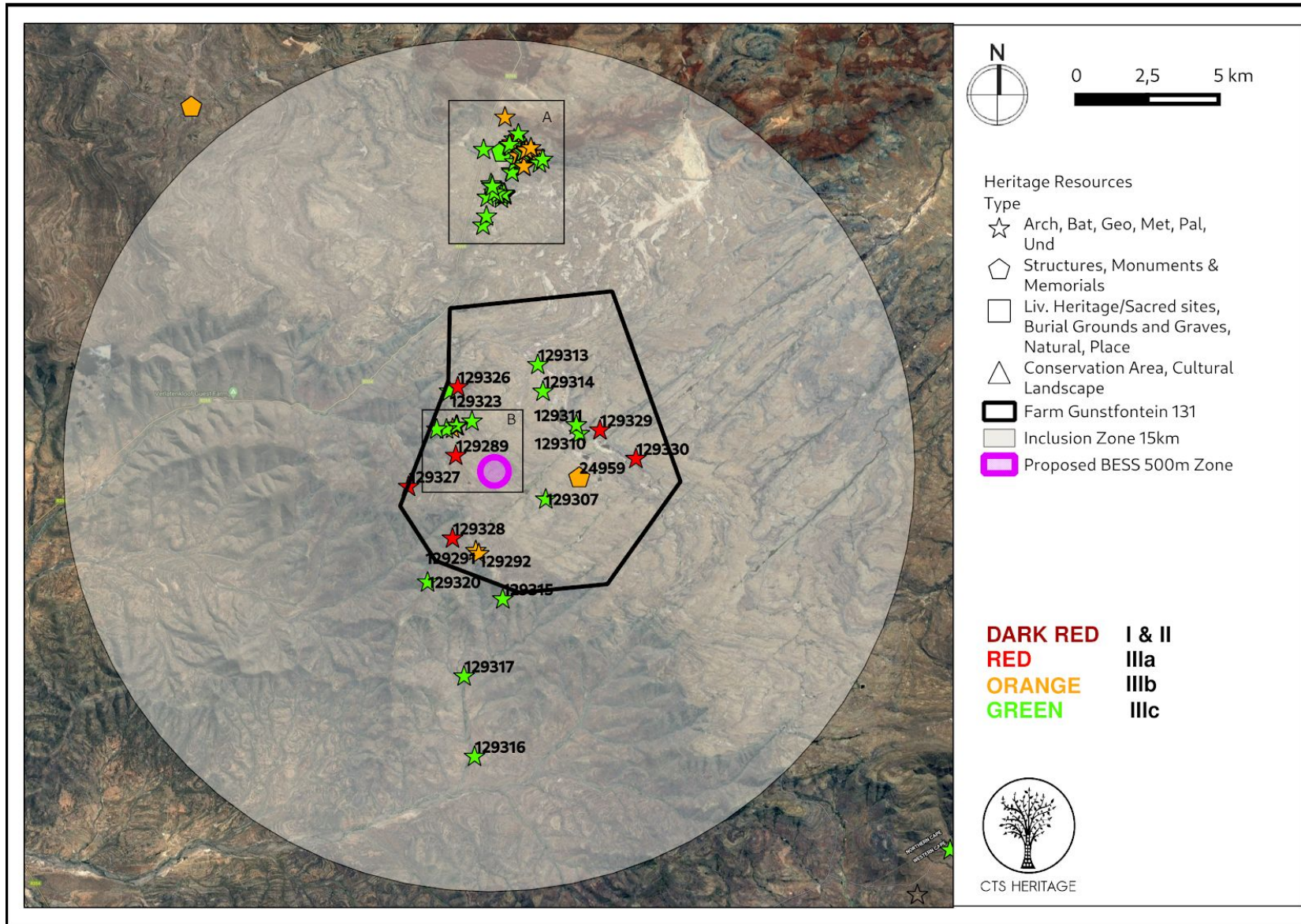


Figure 3. Heritage Resources Map. Heritage Resources previously identified within the study area, with SAHRIS Site IDs indicated in the insets below. Please See Appendix 4 for full description of heritage resource types.

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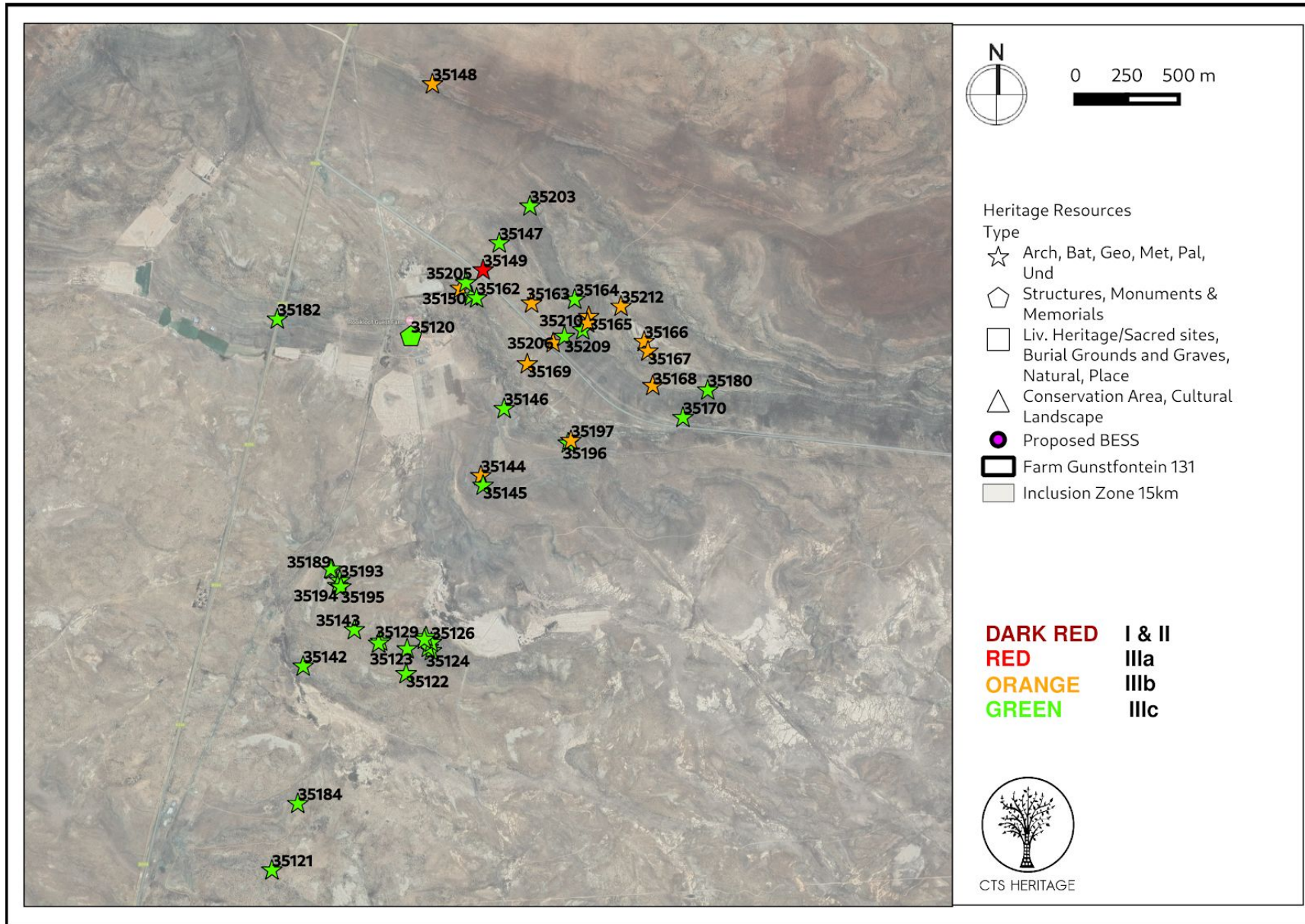


Figure 3a. Heritage Resources Map Inset A

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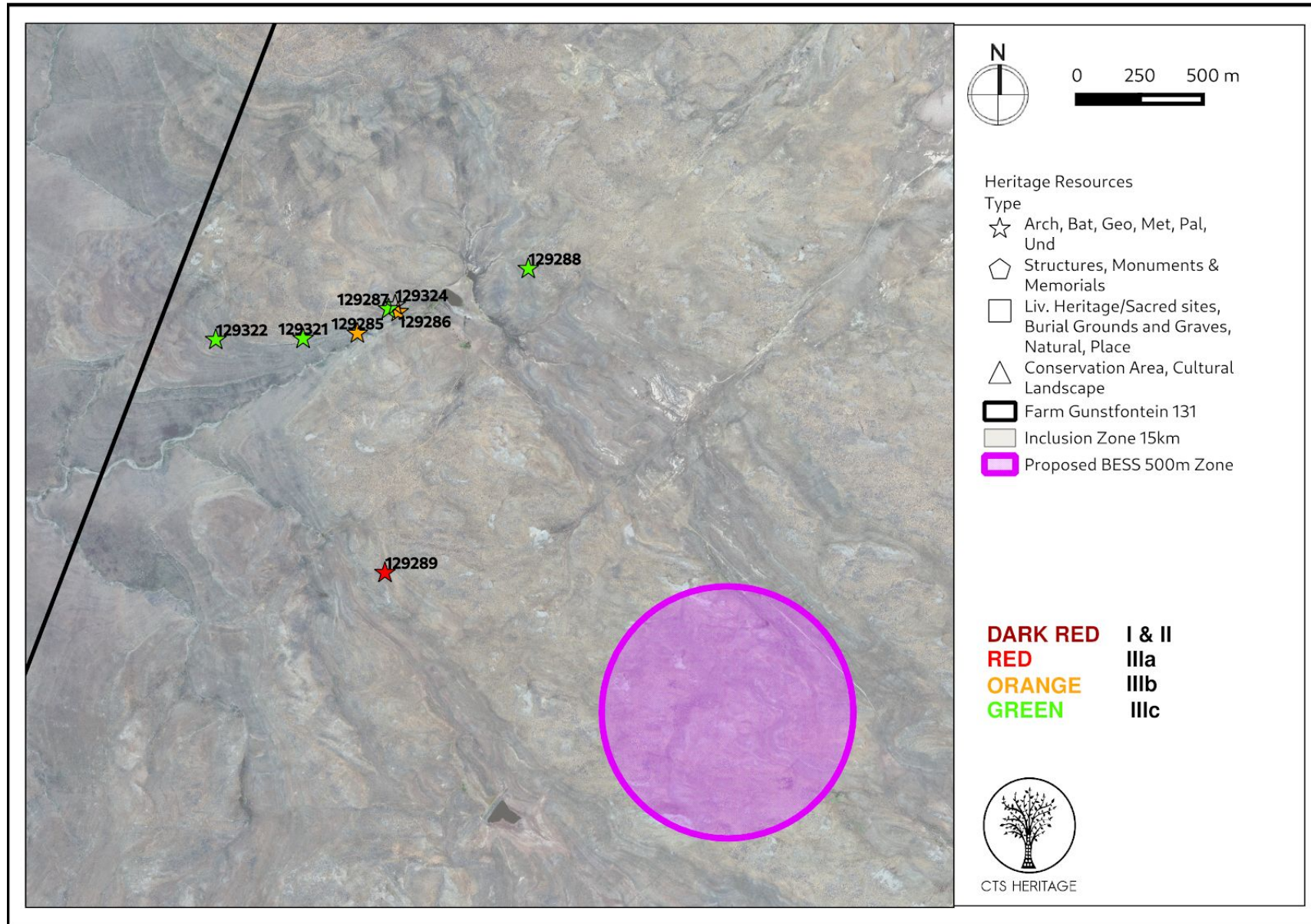
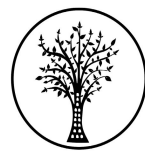


Figure 3b. Heritage Resources Map Inset B indicating known sites in relation to the approved WEF layout and proposed BESS.

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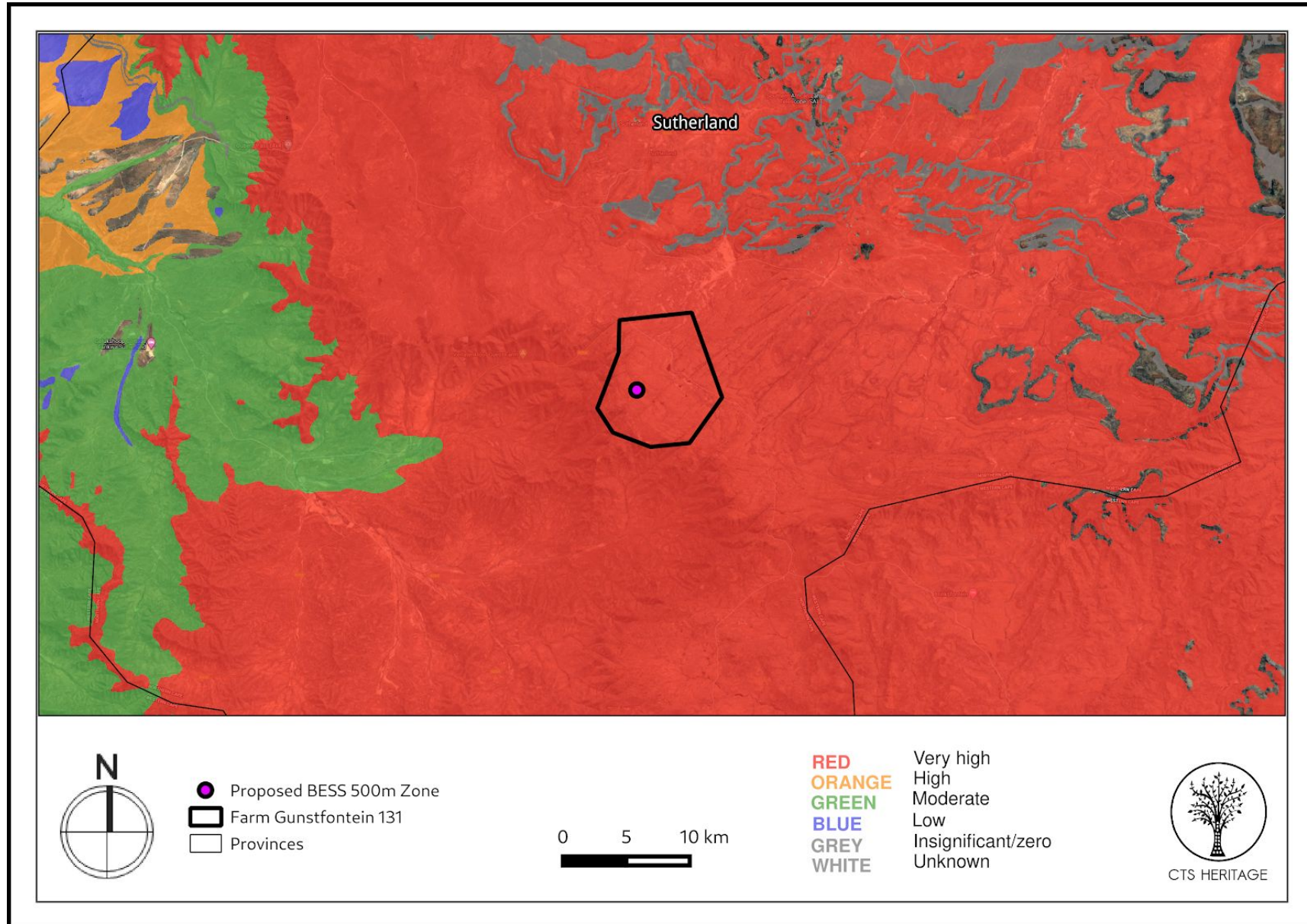


Figure 4a. Palaeosensitivity Map. Indicating fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

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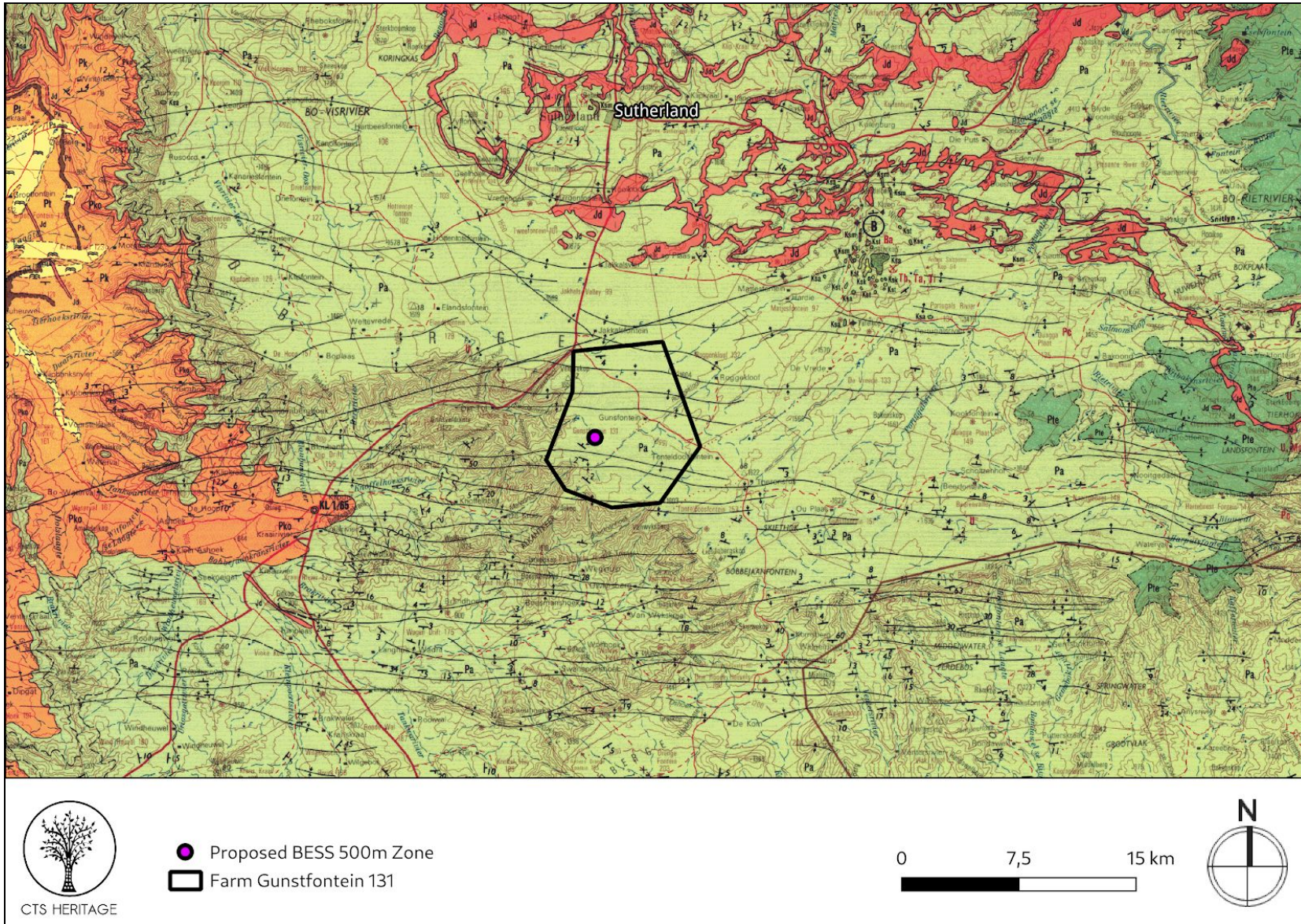
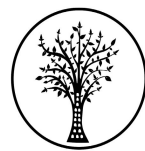


Figure 4b. Geology Map. Extract from the CGS 3220 Sutherland Map indicating that the development area is underlain by sediments of the Karoo Supergroup assigned to the Beaufort group, within the Abrahamskraal Formation of the Adelaide Subgroup (Pa).

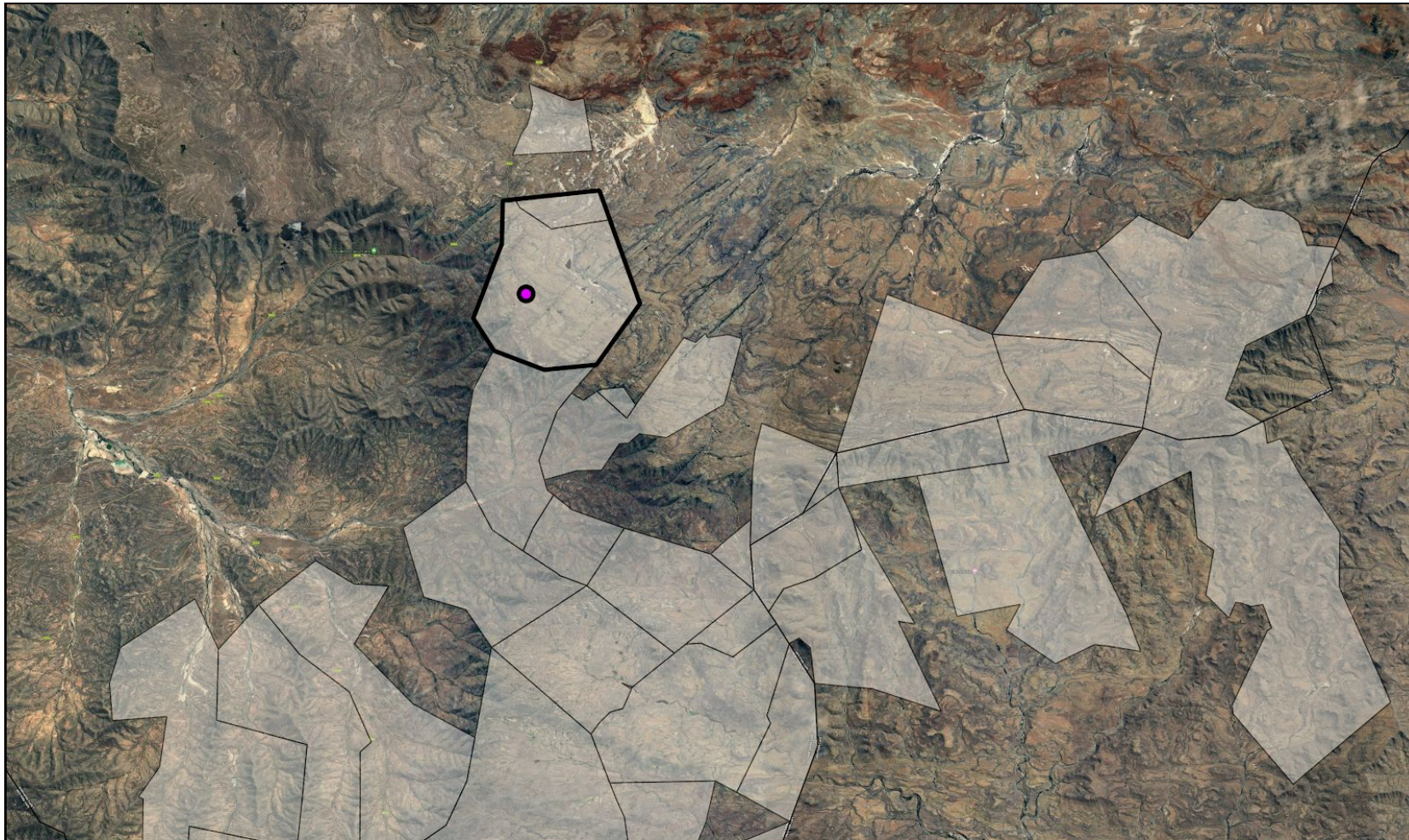
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-  Proposed BESS 500m Zone
-  Farm Gunstfontein 131
-  Renewable Energy Facilities EA



Figure 5. Cumulative Impact Map. Indicating other Renewable Energy Facilities that have been granted Environmental Authorisation (EA).

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8. Heritage Assessment

Background

The Gunstfontein WEF was granted Environmental Authorisation on 25 July 2016 (SAHRIS NID: 8383). Gunstfontein Wind Farm (Pty) Ltd would like to provide for the installation of a Battery Energy Storage System (BESS) at the authorised Gunstfontein WEF (DEA Ref: 14/12/16/3/3/2/826) in the Northern Cape. The BESS is proposed to be located near to the facility substation and will be approximately 3-4ha in total extent. Medium Voltage below ground or overhead cabling (33kV or less) will connect the BESS to the substation and an access road to the BESS will branch off the WEF roads.. An area of ~500m around the boundary of the facility substation is to be assessed, to allow for the optimization of the placement of the BESS. The BESS is envisaged to become an integral component of the authorised WEF. The *indicative* layout for the BESS at Gunstfontein has been assessed in this report. During the EIA process for the approved WEF, both archaeological and palaeontological assessments were completed for the area proposed for the BESS. These assessments are reviewed below in order to determine the likely impact of the proposed BESS on heritage resources.

Archaeology and Built Environment Heritage

The Remainder of the farm Gunstfontein 131 has been thoroughly assessed by Van der Walt in his report dated December 2015. In his assessment, he identified 8 sites of heritage significance which needed to be considered for the development of the Gunstfontein WEF. These sites have been mapped in Figures 3, 3a and 3b and documented in Appendix 1. Van der Walt (2015) recorded a few background scatters of isolated stone artefacts in rocky areas consisting of miscellaneous LSA flakes and flaked pieces, usually located near to large boulders. These observations were not considered to be conservation-worthy. He further identified one rock art site as well as historical structures including two types of block house, ruins of agricultural structures and a stone cairn feature. None of the identified heritage resources are located within or near to the area proposed for the BESS development. As such, based on the archaeological information available for Farm Gunstfontein 131, it is unlikely that the proposed BESS development will negatively impact on significant archaeological heritage. However, Van der Walt (2015) has made recommendations that have been endorsed by SAHRA for the development of the WEF. It is recommended that these same recommendations are adopted for the development of the BESS.

Palaeontology

The area proposed for development of the 132kV OHL is underlain by sediments that have very high palaeontological sensitivity according to the SAHRIS Fossil Sensitivity Map (Figure 4). The geology map of the area (Council of GeoScience Map 3220 Sutherland, Figure 5) indicates that the area is underlain by sediments of the Karoo Supergroup assigned to the Beaufort group, within the Abrahamskraal Formation of the Adelaide Subgroup. Almond (2015) conducted a detailed palaeontological assessment for the proposed development and concluded that “the Lower Beaufort Group bedrocks within the Gunstfontein WEF study area are generally of low palaeontological sensitivity, and this also applies to the overlying late Caenozoic superficial sediments. Construction of the proposed Gunstfontein WEF is unlikely to entail significant impacts on local heritage resources. Due to the general scarcity of

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well-preserved fossil remains as well as the extensive superficial sediment cover observed within the study area, the overall impact significance of the construction phase of the proposed Gunstfontein WEF is assessed as LOW.”

Almond (2015) noted that 5 uranium core occurrences had previously been identified on Gunstfontein Farm 131 (SAHRIS Site ID 129326 to 129330) located approximately 2.5km north of the 500m BESS assessment area. Almond (2015) notes that these uranium occurrences may well be associated with fossil plant material. In addition, Almond (2015) identified a site that features concentrations of woody plant fossils and *koffieklip* (SAHRIS Site ID 129325). Both the uranium sites and the plant fossil site have been mapped in Figures 3, 3a and 3b. Almond (2015) recommends that a 30m no-go buffer be implemented around both the uranium sites (SAHRIS Site ID 129326 to 129330) and the plant fossil site (SAHRIS Site ID 129325). SAHRA recommended that this buffer be enlarged to 60m as per their comments dated 10 March 2016 and 20 June 2016. In the new layout that is currently proposed, all infrastructure is located more than 100m away from the identified uranium anomalies (see Figures 3, 3a and b, and Appendix 1).

As such, the proposed BESS development is unlikely to negatively impact significant palaeontological heritage resources.

Cumulative Impacts

The proposed BESS development will form part of the infrastructure required for the Gunstfontein WEF and is located immediately adjacent to the substation and operations and maintenance facilities associated with the Gunstfontein WEF. Furthermore, the proposed BESS is located within an already approved WEF which is also located within a belt of approved renewable energy facilities (Figure 5). In terms of impacts to heritage resources, it is preferred that this kind of infrastructure development is concentrated in one location and is not sprawled across an otherwise culturally significant landscape. The construction of the proposed BESS is therefore unlikely to result in unacceptable risk or loss, nor will the proposed BESS development result in a complete change to the sense of place of the area or result in an unacceptable increase in impact.

Conclusion

The proposed development of the BESS within the approved Gunstfontein WEF is unlikely to negatively impact on significant heritage resources as long as the recommendations contained in Van der Walt (2016) and Almond (2015) are implemented. From a heritage perspective, the proposed BESS can be located anywhere within the 500m area assessed in this screening assessment. In addition to the above, the following recommendations were endorsed by SAHRA in their letter dated 18 March 2016 and 20 June 2016, and still apply:

- A bufferzone 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.

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- The stone cairn/possible grave (Site ID 129288), should be demarcated and fenced off with a perimeter buffer zone of 60m;
- 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 can be the same as the CMP developed for the WEF. This report must be submitted to SAHRA if the EA has been approved and must form part of the final EMP; and
- Palaeontological Monitoring of the construction phase can be conducted by a suitable qualified Environmental Control Officer, punctuated by regular site visits by a qualified palaeontologist. Proof of training must be presented to SAHRA and regular monitoring reports must be submitted to SAHRA
- If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) (021 642 4502) so that systematic and professional investigation/ excavation can be undertaken.

RECOMMENDATION

The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

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Table 2: Impact Assessment Table

NATURE: Significant archaeological, built environment and palaeontological heritage resources may be impacted by the construction phase of the proposed development								
		Archaeology without Mitigation		Archaeology with Mitigation		Palaeontology without Mitigation		Palaeontology with Mitigation
MAGNITUDE	L (1)	A number (8) of significant heritage resources were identified within the Farm Gunstfontein 131, however no negative impact is anticipated from the proposed BESS development.	L (1)	A number (8) of significant heritage resources were identified within the Farm Gunstfontein 131, however no negative impact is anticipated from the proposed BESS development.	L (1)	Almond (2015) conducted a detailed palaeontological assessment for the proposed Gunstfontein WEF development and concluded that “the Lower Beaufort Group bedrocks within the Gunstfontein WEF study area are generally of low palaeontological sensitivity, and this also applies to the overlying late Cenozoic superficial sediments. Construction of the proposed Gunstfontein WEF is unlikely to entail significant impacts on local heritage resources. Due to the general scarcity of well-preserved fossil remains as well as the extensive superficial sediment cover observed within the study area, the overall impact significance of the construction phase of the proposed Gunstfontein WEF is assessed as LOW” This assessment similarly applies to the proposed BESS development	L (1)	Almond (2015) conducted a detailed palaeontological assessment for the proposed Gunstfontein WEF development and concluded that “the Lower Beaufort Group bedrocks within the Gunstfontein WEF study area are generally of low palaeontological sensitivity, and this also applies to the overlying late Cenozoic superficial sediments. Construction of the proposed Gunstfontein WEF is unlikely to entail significant impacts on local heritage resources. Due to the general scarcity of well-preserved fossil remains as well as the extensive superficial sediment cover observed within the study area, the overall impact significance of the construction phase of the proposed Gunstfontein WEF is assessed as LOW” This assessment similarly applies to the proposed BESS development
DURATION	H (5)	Where manifest, the impact will be permanent.	H (5)	Where manifest, the impact will be permanent.	H (5)	Where manifest, the impact will be permanent.	H (5)	Where manifest, the impact will be permanent.
EXTENT	L (1)	Localised within the site boundary	L (1)	Localised within the site boundary	L (1)	Localised within the site boundary.	L (1)	Localised within the site boundary.
PROBABILITY	L (1)	Probability is low	L (1)	Probability is low	L (1)	It is possible that fossils Abrahamskraal formation would be impacted	L (1)	It is possible that fossils Abrahamskraal formation would be impacted
SIGNIFICANCE	L	(1+5+1)x1=7	L	(1+5+1)x1=7	L	(1+5+1)x1=7	L	(1+5+1)x1=7
STATUS		Neutral		Neutral		Neutral		Neutral
REVERSIBILITY	L	Any impacts to heritage resources that do occur are irreversible	L	Any impacts to heritage resources that do occur are irreversible	L	Any impacts to heritage resources that do occur are irreversible	L	Any impacts to heritage resources that do occur are irreversible
IRREPLACEABLE LOSS OF RESOURCES?	L	Possible	L	Possible	L	Possible	L	Possible



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CAN IMPACTS BE MITIGATED	Yes				Yes		
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MITIGATION:

- A bufferzone 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.
- The stone cairn/possible grave (Site ID 129288), should be demarcated and fenced off with a perimeter buffer zone of 60m;

RESIDUAL RISK:

- 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 can be the same as the CMP developed for the WEF. This report must be submitted to SAHRA if the EA has been approved and must form part of the final EMP; and
- On-site monitoring of excavations deeper than 1m 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.
- There will not be residual impacts as a walkthrough would have been conducted prior to site establishment. However, if any impacts occur they are irreversible so even the slightest disturbance will be residual (assuming all mitigation was applied).
- If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) (021 642 4502) so that systematic and professional investigation/ excavation can be undertaken.

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APPENDIX 1

List of heritage resources within 15km of the development area

Site ID	Site no	Full Site Name	Site Type	Grading
129288	GFT 04	Gunsfontein 04	Archaeological	Grade IIIc
35209	JAK99/44	Jakhals 44	Artefacts	Grade IIIc
35206	JAK99/43	Jakhals 43	Artefacts	Grade IIIb
35205	JAK99/42	Jakhals 42	Stone walling	Grade IIIc
35203	JAK99/41	Jakhals 41	Stone walling, Artefacts	Grade IIIc
35212	JAK99/47	Jakhals 47	Settlement	Grade IIIb
35211	JAK99/46	Jakhals 46	Stone walling	Grade IIIb
35210	JAK99/45	Jakhals 45	Stone walling	Grade IIIc
35193	JAK99/36	Jakhals 36	Stone walling	Grade IIIc
35189	JAK99/35	Jakhals 35	Settlement	Grade IIIc
35186	JAK99/34	Jakhals 34	Stone walling	Grade IIIc
35184	JAK99/33	Jakhals 33	Stone walling	Grade IIIc
35197	JAK99/40	Jakhals 40	Stone walling	Grade IIIb
35196	JAK99/39	Jakhals 39	Stone walling	Grade IIIc
35195	JAK99/38	Jakhals 38	Stone walling	Grade IIIc
35194	JAK99/37	Jakhals 37	Stone walling	Grade IIIc
129330	GFT 173	Gunsfontein 173	Geological	Grade IIIa
129323	GFT 114	Gunstfontein 114	Geological	Grade IIIc
129322	GFT 113	Gunstfontein 113	Geological	Grade IIIc
129321	GFT 112	Gunstfontein 112	Geological	Grade IIIc
129320	GFT 111	Gunstfontein 111	Geological	Grade IIIc
129329	GFT 172	Gunsfontein 172	Geological	Grade IIIa

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129328	GFT 171	Gunsfontein 171	Geological	Grade IIIa
129327	GFT 170	Gunsfontein 170	Geological	Grade IIIa
129326	GFT 169	Gunsfontein 169	Geological	Grade IIIa
35168	JAK99/28	Jakhals 28	Stone walling	Grade IIIb
35167	JAK99/27	Jakhals 27	Stone walling	Grade IIIb
35166	JAK99/26	Jakhals 26	Stone walling	Grade IIIb
35165	JAK99/25	Jakhals 25	Stone walling	Grade IIIb
35182	JAK99/32	Jakhals 32	Stone walling	Grade IIIc
35180	JAK99/31	Jakhals 31	Rock Art, Stone walling	Grade IIIc
35170	JAK99/30	Jakhals 30	Rock Art, Artefacts	Grade IIIc
35169	JAK99/29	Jakhals 29	Stone walling	Grade IIIb
35150	JAK99/20	Jakhals 20	Stone walling	Grade IIIb
35149	JAK99/19	Jakhals 19	Stone walling	Grade IIIa
35148	JAK99/18	Jakhals 18	Stone walling	Grade IIIb
35147	JAK99/17	Jakhals 17	Stone walling	Grade IIIc
35164	JAK99/24	Jakhals 24	Stone walling	Grade IIIc
35163	JAK99/23	Jakhals 23	Stone walling	Grade IIIb
35162	JAK99/22	Jakhals 22	Artefacts	Grade IIIc
35161	JAK99/21	Jakhals 21	Artefacts	Grade IIIc
35142	JAK99/12	Jakhals 12	Stone walling	Grade IIIc
35139	JAK99/11	Jakhals 11	Stone walling	Grade IIIc
35129	JAK99/10	Jakhals 10	Stone walling	Grade IIIc
35128	JAK99/9	Jakhals 9	Stone walling	Grade IIIc
35146	JAK99/16	Jakhals 16	Stone walling	Grade IIIc
35145	JAK99/15	Jakhals 15	Stone walling	Grade IIIc

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35144	JAK99/14	Jakhals 14	Stone walling	Grade IIIb
35143	JAK99/13	Jakhals 13	Stone walling	Grade IIIc
35123	JAK99/4	Jakhals 4	Stone walling	Grade IIIc
35122	JAK99/3	Jakhals 3	Artefacts	Grade IIIc
35121	JAK99/2	Jakhals 2	Stone walling	Grade IIIc
35120	JAK99/1	Jakhals 1	Building	Grade IIIc
35127	JAK99/8	Jakhals 8	Stone walling	Grade IIIc
35126	JAK99/7	Jakhals 7	Stone walling	Grade IIIc
35125	JAK99/6	Jakhals 6	Stone walling	Grade IIIc
35124	JAK99/5	Jakhals 5	Artefacts	Grade IIIc
129313	GFT 104	Gunstfontein 104	Geological	Grade IIIc
129311	GFT 102	Gunstfontein 102	Geological	Grade IIIc
129310	GFT 101	Gunstfontein 101	Geological	Grade IIIc
129307	GFT 098	Gunstfontein 098	Geological	Grade IIIc
129317	GFT 108	Gunstfontein 108	Geological	Grade IIIc
129316	GFT 107	Gunstfontein 107	Geological	Grade IIIc
129315	GFT 106	Gunstfontein 106	Geological	Grade IIIc
129314	GFT 105	Gunstfontein 105	Geological	Grade IIIc
129287	GFT 03	Gunsfontein 03	Archaeological	Grade IIIc
129286	GFT 02	Gunsfontein 02	Archaeological	Grade IIIb
129285	GFT 01	Gunsfontein 01	Rock Art	Grade IIIb
24959	Gunstfontein	Corbelled building at Gunstfontein	Structures	Grade IIIb
129292	GFT 08	Gunsfontein 08	Archaeological	Grade IIIb
129291	GFT 07	Gunsfontein 07	Stone walling	Grade IIIb
129289	GFT 05	Gunsfontein 05	Archaeological	Grade IIIa

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APPENDIX 2

Reference List with relevant AIAs and PIAs

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
53187	HIA Phase 1	Timothy Hart, Lita Webley	01/03/2011	HERITAGE IMPACT ASSESSMENT PROPOSED WIND ENERGY FACILITY
44935	AIA Phase 1	Celeste Booth	01/02/2012	A Phase 1 AIA for the proposed Hidden Valley Wind Energy Facility, near Sutherland, Northern Cape Province
44936	PIA Phase 1	Lloyd Rossouw	01/03/2012	Palaeontological desktop assessment of the proposed Hidden Valley Wind Energy Facility near Sutherland, Northern Cape Province
183350	HIA Phase 1	Natalie Kendrick	27/10/2014	Heritage Impact Assessment for the Karreebosch Wind Farm (Phase 2 Roggeveld Wind Farm)
152531	HIA Phase 1	Timothy Hart, Lita Webley	20/12/2013	Heritage Impact Assessment Report for the Phase 1 Roggeveld Wind Farm
357422	AIA	Jaco van der Walt	21/12/2015	Archaeological Impact Assessment Report for the Proposed Gunstfontein WEF near Sutherland, Karoo Hoogland Local Municipality, NC Province
357423	PIA	John Almond	21/12/2015	Palaeontological Heritage Assessment: Combined Desktop and Field Based Report for the Proposed Gunstfontein WEF near Sutherland, Karoo Hoogland Local Municipality, NC Province
341109	AIA	Celeste Booth	03/08/2015	A Phase 1 Archaeological Impact Assessment for the Proposed Soetwater Substation, 132kV Overhead Powerline and Ancillaries Soetwater Wind Energy Facility, Near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape Province.
354172	PIA	John Almond	08/01/2016	Recommended Exemption from further Palaeontological studies: Proposed Construction of the Eskom Soetwater Switching Station Complex, 132kV Double Circuit Overhead Power Line, Soetwater Facility Substation Complex and Ancillary Developments near Sutherland, NC Province
353706	AIA	Celeste Booth	03/08/2015	An Archaeological Walk-Through For The Proposed Soetwater Wind Energy Facility Situated On The Farms: The Remainder Of And Portion 1, 2 And 4 Of Farm Orange Fontein 203 And Annex Orange Fontein 185, Farm Leeuwe Hoek 183 And Farm Zwanepoelshoek 184, Near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape Province.
353707	PIA	John Almond	12/10/2015	Palaeontological Heritage Assessment: Combined Desktop & Field-Based Study: Authorised Soetwater Wind Farm Near Sutherland, Northern Cape Province

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APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (KwaZulu-Natal)
DEA	Department of Environmental Affairs (National)
DEADP	Department of Environmental Affairs and Development Planning (Western Cape)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
DEDECT	Department of Economic Development, Environment, Conservation and Tourism (North West)
DEDT	Department of Economic Development and Tourism (Mpumalanga)
DEDTEA	Department of economic Development, Tourism and Environmental Affairs (Free State)
DENC	Department of Environment and Nature Conservation (Northern Cape)
DMR	Department of Mineral Resources (National)
GDARD	Gauteng Department of Agriculture and Rural Development (Gauteng)
HIA	Heritage Impact Assessment
LEDET	Department of Economic Development, Environment and Tourism (Limpopo)
MPRDA	Mineral and Petroleum Resources Development Act, no 28 of 2002
NEMA	National Environmental Management Act, no 107 of 1998
NHRA	National Heritage Resources Act, no 25 of 1999
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VIA	Visual Impact Assessment

Full guide to Palaeosensitivity Map legend

	RED:	VERY HIGH - field assessment and protocol for finds is required
	ORANGE/YELLOW:	HIGH - desktop study is required and based on the outcome of the desktop study, a field assessment is likely
	GREEN:	MODERATE - desktop study is required
	BLUE/PURPLE:	LOW - no palaeontological studies are required however a protocol for chance finds is required
	GREY:	INSIGNIFICANT/ZERO - no palaeontological studies are required
	WHITE/CLEAR:	UNKNOWN - these areas will require a minimum of a desktop study.

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APPENDIX 4 - Methodology

The Heritage Screener summarises the heritage impact assessments and studies previously undertaken within the area of the proposed development and its surroundings. Heritage resources identified in these reports are assessed by our team during the screening process.

The heritage resources will be described both in terms of **type**:

- Group 1: Archaeological, Underwater, Palaeontological and Geological sites, Meteorites, and Battlefields
- Group 2: Structures, Monuments and Memorials
- Group 3: Burial Grounds and Graves, Living Heritage, Sacred and Natural sites
- Group 4: Cultural Landscapes, Conservation Areas and Scenic routes

and **significance** (Grade I, II, IIIa, b or c, ungraded), as determined by the author of the original heritage impact assessment report or by formal grading and/or protection by the heritage authorities.

Sites identified and mapped during research projects will also be considered.

DETERMINATION OF THE EXTENT OF THE INCLUSION ZONE TO BE TAKEN INTO CONSIDERATION

The extent of the inclusion zone to be considered for the Heritage Screener will be determined by CTS based on:

- the size of the development,
- the number and outcome of previous surveys existing in the area
- the potential cumulative impact of the application.

The inclusion zone will be considered as the region within a maximum distance of 50 km from the boundary of the proposed development.

DETERMINATION OF THE PALAEOLOGICAL SENSITIVITY

The possible impact of the proposed development on palaeontological resources is gauged by:

- reviewing the fossil sensitivity maps available on the South African Heritage Resources Information System (SAHRIS)
- considering the nature of the proposed development
- when available, taking information provided by the applicant related to the geological background of the area into account

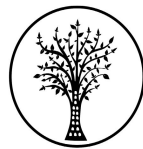
DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON

Each report assessed for the compilation of the Heritage Screener is colour-coded according to the level of coverage accomplished. The extent of the surveyed coverage is labeled in three categories, namely low, medium and high. In most instances the extent of the map corresponds to the extent of the development for which the specific report was undertaken.

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Low coverage will be used for:

- desktop studies where no field assessment of the area was undertaken;
- reports where the sites are listed and described but no GPS coordinates were provided.
- older reports with GPS coordinates with low accuracy ratings;
- reports where the entire property was mapped, but only a small/limited area was surveyed.
- uploads on the National Inventory which are not properly mapped.

Medium coverage will be used for

- reports for which a field survey was undertaken but the area was not extensively covered. This may apply to instances where some impediments did not allow for full coverage such as thick vegetation, etc.
- reports for which the entire property was mapped, but only a specific area was surveyed thoroughly. This is differentiated from low ratings listed above when these surveys cover up to around 50% of the property.

High coverage will be used for

- reports where the area highlighted in the map was extensively surveyed as shown by the GPS track coordinates. This category will also apply to permit reports.

RECOMMENDATION GUIDE

The Heritage Screener includes a set of recommendations to the applicant based on whether an impact on heritage resources is anticipated. One of three possible recommendations is formulated:

(1) The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

This recommendation is made when:

- enough work has been undertaken in the area
- it is the professional opinion of CTS that the area has already been assessed adequately from a heritage perspective for the type of development proposed

(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for the proposed development.

This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:

- improvement on some components of the heritage assessments already undertaken, for instance with a renewed field survey and/or with a specific specialist for the type of heritage resources expected in the area
- compilation of a report for a component of a heritage impact assessment not already undertaken in the area

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- undertaking mitigation measures requested in previous assessments/records of decision.

(3) The heritage resources within the area proposed for the development have not been adequately surveyed yet - Few or no surveys have been undertaken in the area proposed for development. A full Heritage Impact Assessment with a detailed field component is recommended for the proposed development.

Note:

The responsibility for generating a response detailing the requirements for the development lies with the heritage authority. However, since the methodology utilised for the compilation of the Heritage Screeners is thorough and consistent, contradictory outcomes to the recommendations made by CTS should rarely occur. Should a discrepancy arise, CTS will immediately take up the matter with the heritage authority to clarify the dispute.

APPENDIX 5 -Summary of Specialist Expertise

Jenna Lavin, an archaeologist with an MSc in Archaeology and Palaeoenvironments, and currently completing an MPhil in Conservation Management , heads up the heritage division of the organisation since 2016, and has a wealth of experience in the heritage management sector. Jenna's previous position as the Assistant Director for Policy, Research and Planning at Heritage Western Cape has provided her with an in-depth understanding of national and international heritage legislation. Her 8 years of experience at various heritage authorities in South Africa means that she has dealt extensively with permitting, policy formulation, compliance and heritage management at national and provincial level and has also been heavily involved in rolling out training on SAHRIS to the Provincial Heritage Resources Authorities and local authorities.

Jenna is on the Executive Committee of the Association of Professional Heritage Practitioners (APHP), and is also an active member of the International Committee on Monuments and Sites (ICOMOS) as well as the International Committee on Archaeological Heritage Management (ICAHM). In addition, Jenna has been a member of the Association of Southern African Professional Archaeologists (ASAPA) since 2009. Recently, Jenna has been responsible for conducting training in how to write Wikipedia articles for the Africa Centre's WikiAfrica project.

Since 2016, Jenna has drafted over 100 Heritage Impact Assessments and Screening Assessments throughout South Africa.

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