

HERITAGE WALKDOWN REPORT

for the approved Komsberg East And West Wind Energy Facilities near Sutherland
in the Northern and Western Cape

Prepared by



CTS HERITAGE

In Association with

Savannah

June 2021



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EXECUTIVE SUMMARY

Komsberg Wind farm (Pty) Ltd received Environmental Authorisation on the 08 September 2016 for the construction of the Komsberg West Wind Energy Facility (up to 275MW maximum capacity), the Komsberg East Wind Energy Facility (also up to 275MW maximum capacity) and their associated infrastructure near Sutherland within the Laingsburg Local Municipality, which falls under the jurisdiction of the Central Karoo District Municipality in the Western Cape Province.

In their Final Comment for this application issued in June 2016, SAHRA required that the final layout must be subjected to a walk-down by a qualified archaeologist and palaeontologist to ensure that no heritage resources are impacted by construction activities. The requirement for an archaeological walk-down of the final layout is reiterated in the amended EA for both the Komsberg East and West WEFs (dated June 2020). This walkdown report is drafted in order to satisfy this requirement.

The findings of this walkdown assessment largely endorse the findings of Hart (2015). Hart (2015) and the results of this walkdown found that the overall archaeological sensitivity is generally low. As noted by Hart (2015), "Ridge tops tend to be dry, windswept and very cold in winter, and those of the Komsberg are no exception. The ridge tops at Komsberg are extremely harsh, covered with loose shale and almost devoid of soil and vegetation. Unless there was a large rock shelter, source of water or a raw material, it is not expected that the system of ridges within the study area are likely to be sensitive in terms of archaeology. There are few rock shelters in the project area, and those which do exist have steeply sloping floors not suitable for habitation. The turbine sites which are normally situated on high ground are likely to be relatively insensitive."

None of the heritage resources identified by Hart (2015) will be impacted by the proposed development layout for Komsberg West and East WEFs. A number of additional resources were identified in the walkdown conducted in May 2021, some of which will be impacted by the proposed development. Various mitigation measures are proposed in the recommendations below (Table 3) in order to ensure that negative impact does not take place.

Interestingly, the rock art site identified as KE05 is the first rock art site ever located in the area and it is very significant in terms of its relative rarity in the local area as compared to other regions containing rock paintings. As such, the site must be proactively conserved to ensure that no indirect impacts resulting from the WEF occur. It is therefore recommended that a Conservation Management Plan be developed for the proactive conservation of the rock art site.



Table 3: Sites located within close proximity to the final layout with mitigation measures

Site No.	Site Name	Description	Co-ordinates		Grading	Mitigation
<i>Komsberg West - Northern Cape</i>						
KW03	Komsberg West 3	Grave and ruin, Johanna Elizabeth Victor	-32.82453	20.81511	IIIA	No impact anticipated. 100m no-go buffer recommended
<i>Komsberg West - Western Cape</i>						
KW04	Komsberg West 4	Ruined stone walled kraal on river bank	-32.76189	20.85365	IIIB	No impact anticipated
KW05	Komsberg West 5	Another stone walled kraal part of Ventersvlei farm complex	-32.76038	20.85482	IIIB	No impact anticipated
KW06	Komsberg West 6	Ventersvlei farmhouse	-32.7602	20.8551	IIIA	No impact anticipated
KW07	Komsberg West 7	Another kraal further up Ventersvlei kloof	-32.7526933	20.85429908	IIIB	No impact anticipated
<i>Komsberg East - Western Cape</i>						
KE01	Komsberg East 1	Stone walled kraal	-32.74881346	21.05189119	IIIB	100m no-go buffer required. Road diverted.
KE05	Komsberg East 5	Rock art site in kloof, oes, and faded painting	-32.73827	20.95874	IIIA	No impact anticipated. 100m no-go buffer recommended
KE09	Komsberg East 9	Stone walling along edge of stream bank, part of Bothma farmhouse complex	-32.73694	20.93104	IIIA	200m no-go buffer required. Road diverted south.
KE10	Komsberg East 10	Old Bothma farmhouse complex, ruined walling, kraal etc	-32.73639	20.92989	IIIA	200m no-go buffer required. Road diverted south.
KE11	Komsberg East 11	At least 16 graves, marked by stone and headstones, part of Bothma farmhouse complex	-32.73482	20.92961	IIIA	200m no-go buffer required. Road diverted south.

The following is therefore recommended in terms of the final layout for the Komsberg West WEF:

- A 100m no development buffer is required around KW03, KW04, KW05, KW06 and KW07. No amendments to the final layout are anticipated.
- Safeguarding of chance fossil finds (preferably *in situ*) during the construction phase by the responsible ECO, followed by reporting of finds to Heritage Western Cape / SAHRA in line with the attached Chance Fossil Finds Procedure (Appendix 1).
- Do not disturb any old stone kraals or ruins, do not remove stone from walls, or artefacts from the earth or earth surface.
- Do not demolish without HWC authorisation, ideally reuse old structures and cottages, care for the fabric but change it as little as possible.
- Adhere to the findings and recommendations of the VIA
- Should any heritage resources be impacted during the course of construction activities, work in the vicinity of the resource must cease and HWC (in the Western Cape) or SAHRA (in the Northern Cape) must be contacted regarding an appropriate way forward.



The following is therefore recommended in terms of the final layout for the Komsberg East WEF:

- A 100m no development buffer is required around KE01 and KE05
- A 200m no development buffer is required around KE09-11. This will require the rerouting of roads to avoid impact. It is recommended that the road be diverted south around KE09 and KE10 to ensure that the integrity of the Old Bothma Farm Complex remains intact (Figure 8.4).
- Safeguarding of chance fossil finds (preferably *in situ*) during the construction phase by the responsible ECO, followed by reporting of finds to Heritage Western Cape in line with the attached Chance Fossil Finds Procedure (Appendix 1).
- Do not disturb any old stone kraals or ruins, do not remove stone from walls, or artefacts from the earth or earth surface.
- Do not demolish without HWC authorisation, ideally reuse old structures and cottages, care for the fabric but change it as little as possible.
- Adhere to the findings and recommendations of the VIA
- Should any heritage resources be impacted during the course of construction activities, work in the vicinity of the resource must cease and HWC (in the Western Cape) must be contacted regarding an appropriate way forward.



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1. INTRODUCTION

1.1 Background Information on Project

Komsberg East Wind Energy Facility

Komsberg Wind farm (Pty) Ltd received Environmental Authorisation on the 08 September 2016 for the construction of the Komsberg East Wind Energy Facility (up to 275MW maximum capacity) and its associated infrastructure near Sutherland within the Laingsburg Local Municipality, which falls under the jurisdiction of the Central Karoo District Municipality in the Western Cape Province.

The infrastructure associated with this facility includes:

- Up to 34 wind turbines (between 2MW and 5MW in capacity and with a 140m rotor diameter and a hub height of up to 120m);
- Foundations and hardstanding associated with wind turbines
- Up to 8m wide internal access road to each turbine, the substation complex and the ancillary infrastructure including underground cabling adjacent to the roads. Road length would be up to approximately 40km in total;
- A 100m x 150m on site substation complex to facilitate stepping up the voltage from medium to high voltage to enable the connection of the wind farm to the national grid;
- An approximately 55km high voltage powerline (132kV) from the on-site substation to the national grid at the Eskom Komsberg Main Transmission Substation;
- A 30m x 50m operations and services workshop area/ office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant totalling 150m x 100m in extent.

An amendment to the Environmental Authorisation was issued on 08 June 2020. The project description was amended as follows:

- Up to 43 wind turbines up to 6.5 MW in capacity with a rotor diameter of up to 180m and a hub height of up to 150m.
- Up to 8m wide internal access road to each turbine, the substation complex and the ancillary infrastructure including cabling adjacent to the roads. Road length would be up to approximately 68km in total.

Komsberg West Wind Energy Facility

Komsberg Wind farm (Pty) Ltd received Environmental Authorisation on the 08 September 2016 for the construction of the The Komsberg West Wind Energy Facility (up to 275MW maximum capacity) and its associated infrastructure near Sutherland within the Laingsburg Local Municipality, which falls under the jurisdiction of the Central Karoo District Municipality in the Western Cape Province.

The infrastructure associated with this facility includes:

- Up to 36 wind turbines (between 2MW and 5MW in capacity and with a 140m rotor diameter and a hub height of up to 120m);



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- Foundations and hardstanding associated with wind turbines;
- Up to 8m wide internal access road to each turbine, the substation complex and the ancillary infrastructure including underground cabling adjacent to the roads. Road length would be up to approximately 40km in total;
- Medium voltage cabling between turbines and the substation, to be laid underground where practical;
- Overhead medium Voltage cables between certain turbine strings or rows;
- A 100m x 150m on site substation complex to facilitate stepping up the voltage from medium to high voltage to enable the connection of the wind farm to the national grid;
- An approximately 55km high voltage powerline (132kV) from the on-site substation to the national grid at the Eskom Komsberg Main Transmission Substation;
- A 30m x 50m operations and services workshop area/ office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant totalling 150m x 100m in extent.

An amendment to the Environmental Authorisation was issued on 08 June 2020. The project description was amended as follows:

- Up to 45 wind turbines up to 6.5 MW in capacity with a rotor diameter of up to 180m and a hub height of up to 150m.
- Up to 8m wide internal access road to each turbine, the substation complex and the ancillary infrastructure including cabling adjacent to the roads. Road length would be up to approximately 40km in total.

SAHRA Comments

Two of the properties that form part of the Komsberg West WEF and a portion of the OHLs fall within the Northern Cape and as such, fall under the jurisdiction of SAHRA (the South African Heritage Resources Agency) in terms of impacts to heritage resources.

Case 9564 is for the Proposed Komsberg West Grid Connection, Case 9565 is for the Proposed Komsberg West WEF and Case 9602 is for the Proposed Komsberg East Grid Connection aspects that fall within the Northern Cape.

In response to these applications, SAHRA's final comment issued on 23 June 2016 recommended that the recommendations in the HIA must be implemented and in addition:

- The final layout of the Komsberg West WEF (including final positions of all associated infrastructure such as access roads) must be subjected to a palaeontological Walk-Down prior to construction to ensure that no fossil resources are impacted. If fossil resources are identified, the impacts to the palaeontological material must be assessed and mitigation measures provided. The results of the walk-down and impact assessment must be submitted to SAHRA prior to construction. No construction may occur without comments from SAHRA;
- The final layout of the Komsberg West WEF (including final positions of all associated infrastructure such as access roads) must be subjected to an archaeological Walk-Down prior to construction to ensure that no



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heritage resources are impacted. If heritage resources are identified, the impacts to the heritage must be assessed and mitigation measures provided. The results of the walk-down and impact assessment must be submitted to SAHRA prior to construction. No construction may occur without comments from SAHRA;

- If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Itumeleng Masiteng/Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required.

Case 13673 on SAHRIS is for the Proposed Komsberg WEF Amendment (April 2019). In response to this application, SAHRA's final comment dated 6 May 2019 states that:

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objection to the proposed amendment to the authorised development. The following additional conditions must be included in the Environmental Management Programme (EMPr) and completed should the Amended EA be granted:

The Interim Comment provided to the original EA application is referenced below:

- *The final layout of the Komsberg West WEF (including final positions of all associated infrastructure such as access roads) must be subjected to a palaeontological Walk-Down prior to construction to ensure that no fossil resources are impacted. If fossil resources are identified, the impacts to the palaeontological material must be assessed and mitigation measures provided. The results of the walk-down and impact assessment must be submitted to SAHRA prior to construction. No construction may occur without comments from SAHRA;*
- *The final layout of the Komsberg West WEF (including final positions of all associated infrastructure such as access roads) must be subjected to an archaeological Walk-Down prior to construction to ensure that no heritage resources are impacted. If heritage resources are identified, the impacts to the heritage must be assessed and mitigation measures provided. The results of the walk-down and impact assessment must be submitted to SAHRA prior to construction. No construction may occur without comments from SAHRA.*

The above conditions apply to the proposed amended development and the following additional conditions must be complied with:

- The Final Amendment Report and EMPr must be uploaded to the SAHRIS application for record purposes;
- If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted. If unmarked human burials are uncovered, the



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SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 35(3) and 36(6) of the NHRA. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA

HWC Comments

The majority of the area proposed for the Komsberg West and East WEF's and associated infrastructure fall within the Western Cape and as such, fall under the jurisdiction of Heritage Western Cape (HWC) for heritage matters. The HWC reference number for this project is 15072103WD0727M. In the Final Comment from HWC, it was noted that:

- The requirements of section 38(3) of the NHRA have been met. The committee supports the proposal subject to the conditions included in the recommendations made on pages 43; 51 and 63 of the Heritage Impact Assessment for the proposed Komsberg East and West Wind Energy Facilities and grid connections dated November 2015.

The recommendations referred to above are included in section 4.1 below.

EA Requirements

In the EA granted for both the Komsberg East WEF and Komsberg West WEF each dated 8 August 2016, the following conditions apply in terms of impacts to heritage:

- 18.11 A Conservation Management Plan must be drafted and submitted to SAHRA for review and comment. The management plan, as recommended by SAHRA, must be included in the Final EMPr.
- 119. A 60m buffer must be applied around all identified archaeological sites
- 120. Pre-construction archaeological monitoring is required. The appointed archaeologist must keep a list identifying all identified farm infrastructure.
- 121. If concentrations of archaeological heritage material, fossils and human remains are uncovered during construction, all work must cease immediately and be reported to SAHRA so that systematic and professional investigation/excavation can be undertaken.
- 122. Construction managers/foremen must be informed before construction starts of the possible types of heritage sites and cultural material that may be encountered and the procedures to follow when they find sites.
- 123. All buffers and no-go areas stipulated in this report must be adhered to for both the facilities and all roads and powerlines.
- 124. Should any human remains be uncovered during development, they must be immediately protected in situ and reported to the heritage authorities or to an archaeologist. The remains will need to be exhumed at the cost of the developer.
- 125. All construction and maintenance crew and vehicles (except small vehicles which may use existing farm tracks) must be kept out of the buffer zones.



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126. The final layout must be shown to the appointed archaeologist before implementation and to confirm that all significant heritage resources have been adequately protected.
130. Exclusion of sensitive ecological, heritage and palaeontological areas from construction activities must inform micro-siting of all development activities.

In amendment letters dated 8 June 2020, it is noted that Condition 120 articulated above was amended to:

Pre-construction archaeological walk-through is required. The appointed archaeologist must keep a list documenting all identified features of archaeological significance which may be impacted by the development and which must be demarcated as no-go areas.

Please note that some of the requirements in the EA are not aligned with the National Heritage Resources Act (Act 25 of 1999). This is in specific reference to the requirements for engaging with SAHRA for the required management plan and chance heritage finds. In this regard, SAHRA is responsible for such activities in the Northern Cape while HWC is responsible for such activities in the Western Cape.

1.2 Description of Property and Affected Environment

The Komsberg West and East WEFs lie in the Moordenaars Karoo which is about 40km north of Laingsburg and south of the Komsberg mountains that hold the Komsberg Pass, a well-known tourist attraction in the Sutherland area. Many of the farms in the Moordenaars Karoo are currently abandoned and isolated ruins dot the area. The currently active farms are mainly used for sheep farming, guesthouses, small-scale game farming and crop agriculture where enough water is available.

The region is semi-arid and lies partly within the Roggeveld Shale Renosterveld, Central Mountain Shale Renosterveld and the Koedoesberge-Moordenaars Karoo vegetation regions. Typical Karoo shrubbery and succulents are present in a sparsely vegetated area and the ground cover is very rocky with few sandy areas. The turbine positions at Komsberg West predominantly follow the ridgetops of Diehelftesberg and Jantjieskop along north-south orientated hills. Komsberg East has two clusters, one on the Putterskraal farm and the other on Anysvlei farm. In both clusters the ridges also follow a roughly north-south line and the elevation gains gradually as one moves from south to north towards the Platberg plateau that is on the same elevation as Sutherland.



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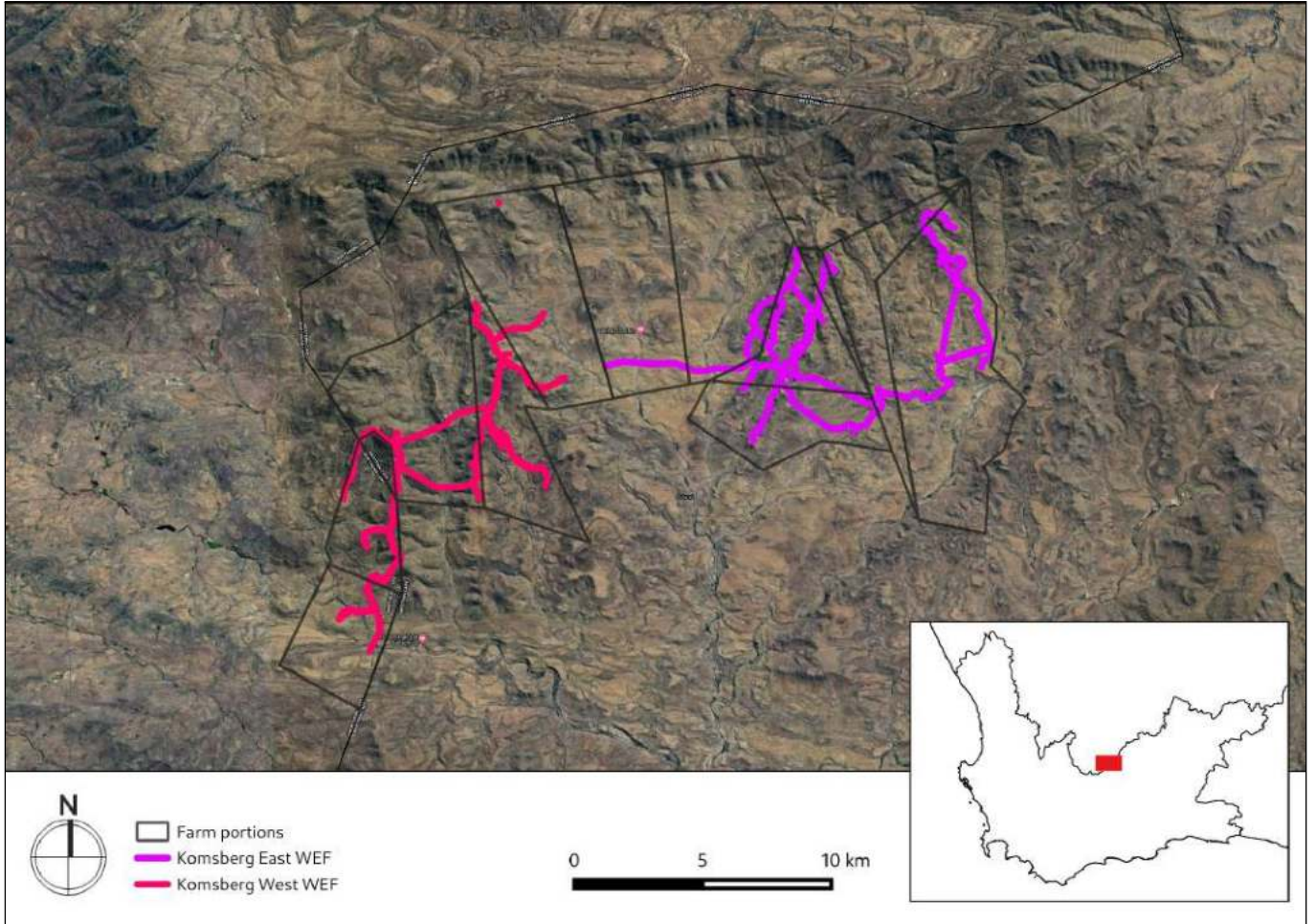


Figure 1.1: Close up satellite image indicating proposed location of the Komsberg WEF development



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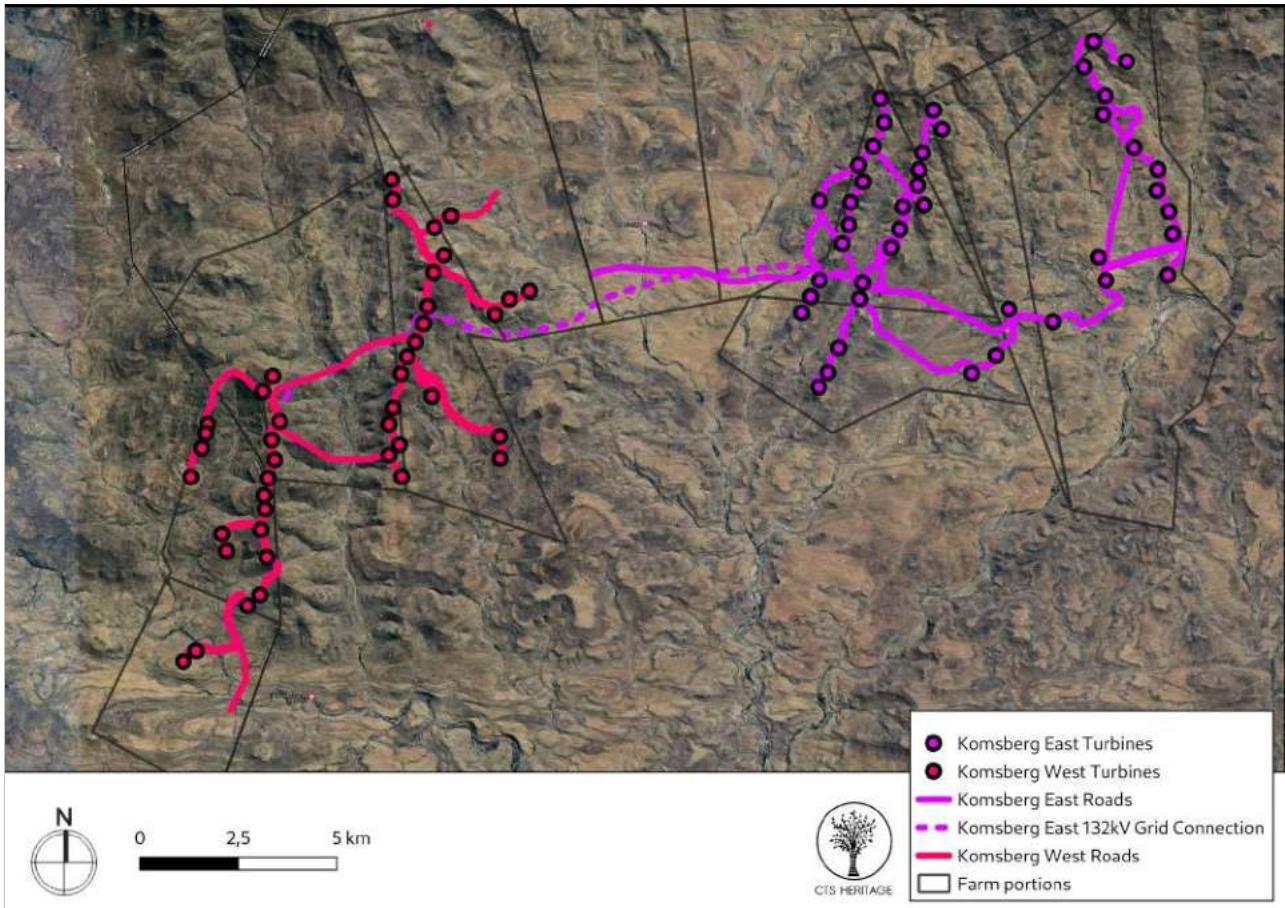


Figure 1.2: Final proposed layout for the Komsberg WEF development

2. METHODOLOGY

2.1 Purpose of Walkdown

In their Final Comment for this application issued in June 2016, SAHRA required that the final layout must be subjected to a walk-down by a qualified archaeologist and palaeontologist to ensure that no heritage resources are impacted by construction activities. The requirement for an archaeological walk-down of the final layout is reiterated in the amended EA for both the Komsberg East and West WEFs (dated June 2020). This walkdown report is drafted in order to satisfy this requirement.

2.2 Summary of steps followed

- An archaeologist, Mr N. Wiltshire, conducted a full detailed walkdown and micro-siting of the Final development footprint for the Komsberg East and West WEF development footprints between 01 and 07 June 2021 (7 days) to determine what archaeological resources are likely to be impacted by the proposed development.
- The area proposed for development was assessed on foot and by 4x4 vehicle, photographs of the context and finds were taken, and tracks were recorded (at 20m intervals) using a GPS.
- The identified resources were assessed to evaluate their heritage significance in terms of the grading system outlined in section 3 of the NHRA (Act 25 of 1999).



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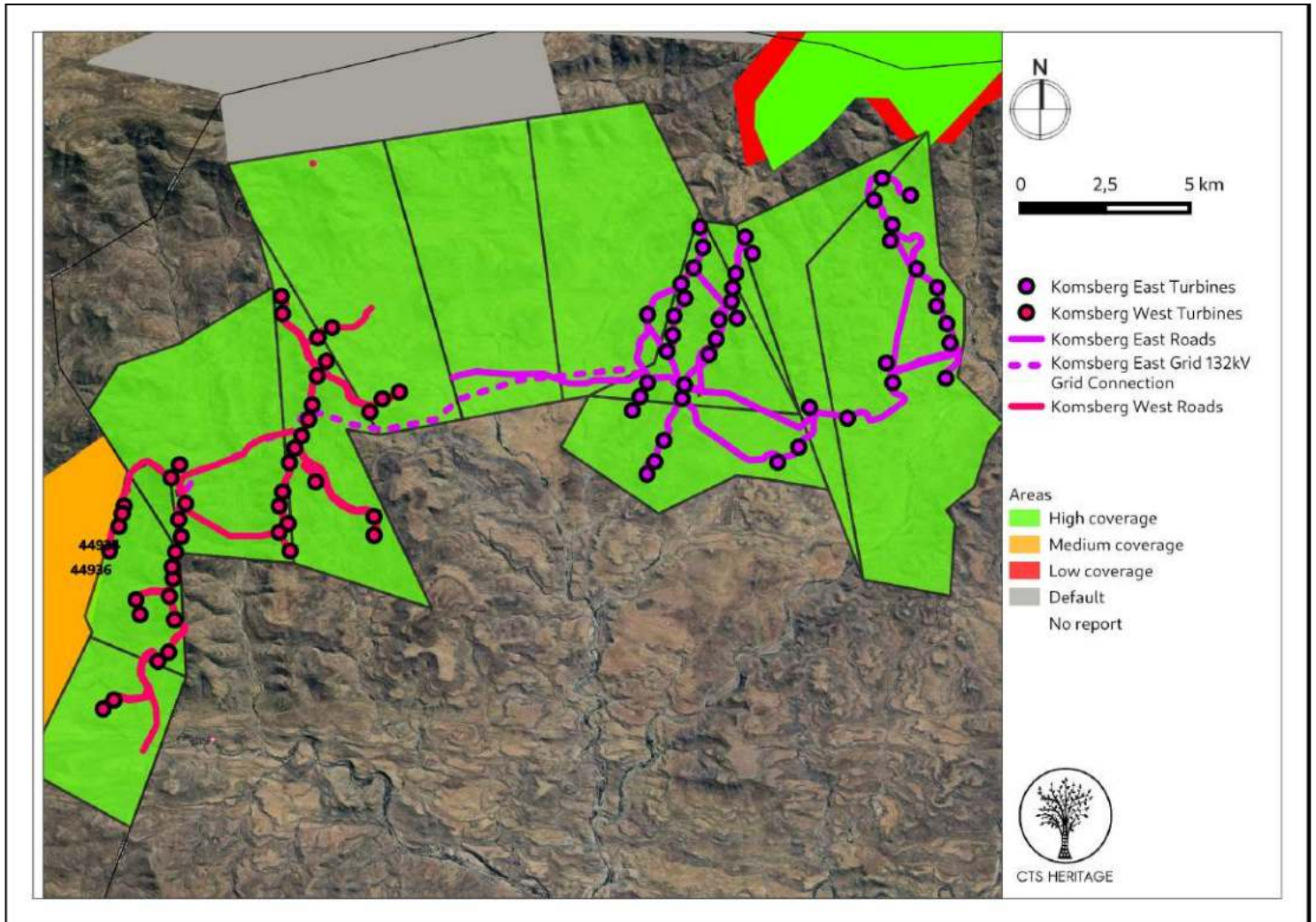


Figure 2: Close up satellite image indicating proposed location of development in relation to heritage studies previously conducted

2.3 Constraints & Limitations

The vegetation did not pose any challenges to the archaeological survey but much of the ground was covered in broken rock and stone eroding down the slopes of the ridges. This is where most of the turbine positions have been placed to take advantage of the better wind conditions. This obscured the visibility of the Stone Age material to some degree but given the time spent on walkdowns in this area the very low artefact counts on the ridges is consistent and resonates with previous studies conducted in the vicinity. However, the material is present, albeit in low amounts. Low density concentrations of Middle and Later Stone Age material were found more easily in areas covering the undeveloped kloofs and floodplains en route to the turbine positions.

A rock art site was found for the Komsberg East WEF and it is likely that a dedicated rock art survey of the Roggeveld and Moordenaars Karoo areas would reveal more sites that would give a better representation of the paintings made in the area. Fortunately these sites tend to be located in areas that are completely unsuitable for the development of the WEFs and associated infrastructure assessed during the walkdowns.



The walkthrough has provided a thorough assessment of the archaeological sensitivity of the proposed development area.

3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

Hart (2015, SAHRIS ID 361705) and Van der Walt (2015) drafted a concise background of the broader context in their HIAs originally drafted for the proposed WEF developments in the Komsberg and Roggeveld. Their background to the development area is summarised here.

The area proposed for development is located in the Moordenaars Karoo. According to Van der Walt (2015) “Due to the geological nature of the Sutherland area, some early geologists, like E. J. Dunn and A. H. Green, suspected that coal could be found in the region. Two boreholes were dug in 1886 and 1887 respectively near the Kruidfontein Station at Sutherland, but nothing was found. Prospectors also dug for oil; three boreholes were constructed between 1939 and 1970. These endeavors were however equally unsuccessful. During the excavation for oil it was however discovered that uranium deposits were present in the area. These deposits were spread over a large area, but rewarding concentrations of uranium were in most cases only found in isolated patches.” The Palaeontological assessment conducted by Almond for the nearby Gunstfontein WEF (2015) identified some such uranium deposits.

Scattered throughout the Karoo is evidence of historic and prehistoric occupation in the form of Early, Middle and Later Stone Age lithics and other material remains. The descendents of the historic and prehistoric occupants of the region are found in the indigeous Khoe and San, the Griqua as well as modern inhabitants of the area. Furthermore, by the end of the 17th Century, the Trekboer movement had begun to cross this landscape. According to Van Der Walt (2015), “The first Europeans to settle in the Northern Cape were missionaries, but there was a larger influx of white men into the province during the 1860s and 1870s when diamonds were discovered in Griqualand.” The discovery of diamonds in the Northern Cape eventually led to the Anglo-Boer War, which took place between 1899 and 1902 in South Africa.

The area proposed for the WEF development is located approximately 40km north of Laingsburg and 45km southeast of Sutherland. Sutherland was founded in 1855 as a church and market town to serve the area’s sheep farmers. By 1872 the town had a population of 138 registered citizens living in 19 houses. During the Anglo-Boer War the church was used as a fort by garrisoned British soldiers. During the war a number of engagements between British and Boer forces occurred in the town and in its immediate surroundings.

According to Hart (2015, SAHRIS NID 361705 and 363269), “the main sensitivities of both Komsberg East and Komsberg West lie within the valley bottoms where there is much evidence of 19th century historic Trekboer farming includes numerous stone kraals, stock posts and occasional historic farmsteads, two of which in the study area have been assigned field grades of IIIA. The precolonial archaeology of the study area is almost non-existent. Despite travelling several hundreds of kilometres (with 4 team members with archaeological knowledge) within the study area none were found. This is attributable to the complete lack of raw material (rock) in the project areas that can be used for making stone artefacts”. Hart also remarked on the landscape qualities of the



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Moordenaars Karoo and characterised the sense of isolation one feels when moving through the area due to the rural, sparsely developed farms and windswept mountain tops. Fossil finds are also found throughout the shale rocks of the Abrahamskraal formation and also include dinosaur trackways (see John Almond's specialist PIA in Hart 2015).

According to Hart (2015), "Indications are that most of the farms in the study area would have started as loan farms. A loan farm was given out after a person petitioned the government for permission to use a piece of land. They paid tithes to the government for the use but it was not generally recorded in title deeds with surveyor's diagrams. Many of these loan farms were circular in shape because of a custom that allowed the farmer to take a measurement from a central spot, such as a homestead, spring or rock formation. The walking-off distance was regarded as about 750 roods, amounting to an area of around 3000 morgen. Weak springs are at the centres of most of loan farms indicates the importance of even the most meagre water resources on this landscape. The formal granting of title deeds only took place in the early 19th century, however judging by the kinds of artefacts and structures found on the landscape, many of the farms were established informally long before land was formally granted or loaned."

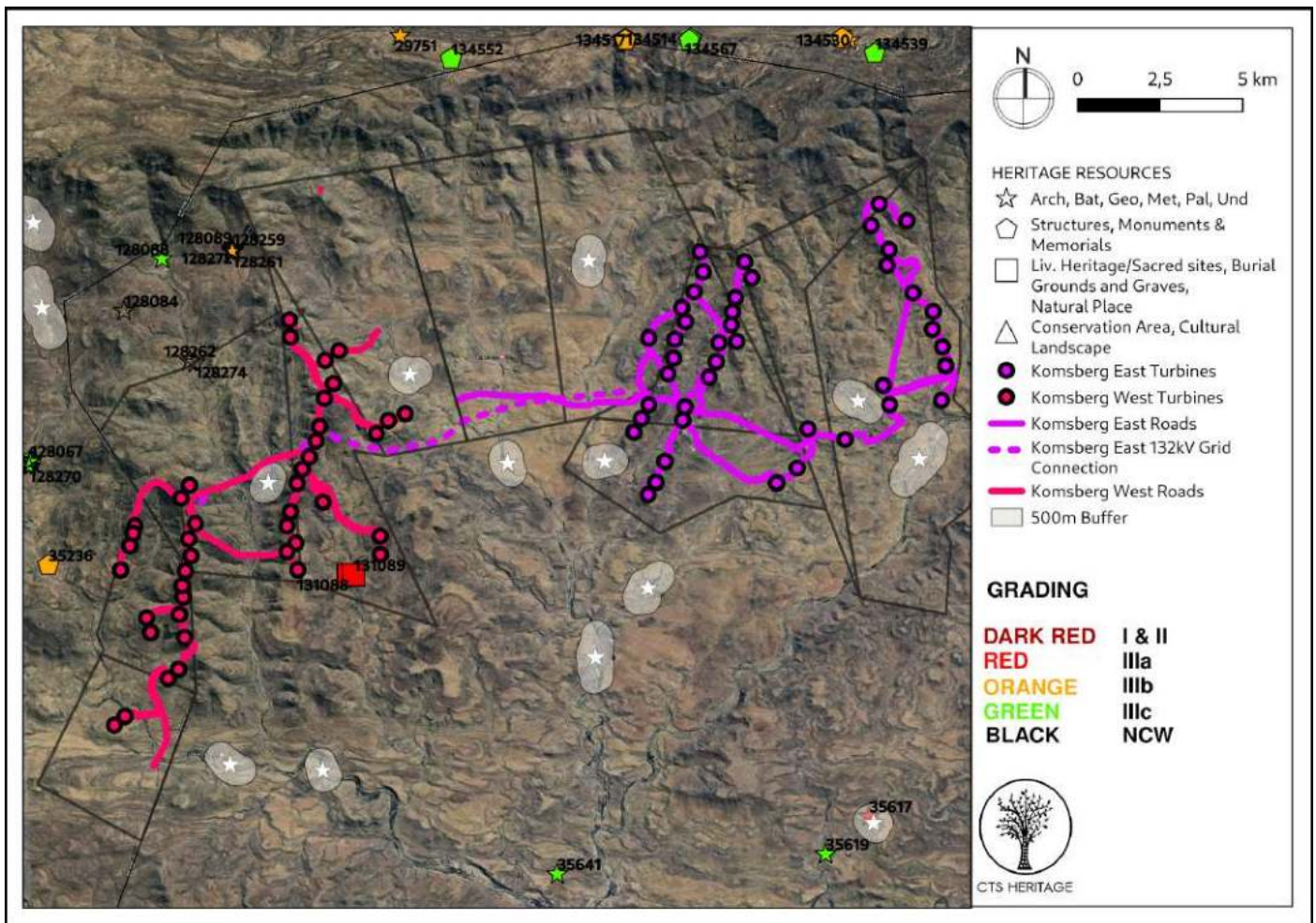


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area from Hart (2015) with 500m buffer areas indicated



4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Findings of previous assessments

Hart (2015) completed a Heritage Impact Assessment for the proposed Komsberg East and West WEF projects which looked at identifying significant heritage resources within the development area including archaeology, palaeontology and other culturally significant resources.

In terms of impacts to palaeontology, Hart (2015) references Almond (2015) who indicates that “Very few vertebrate fossil occurrences were recorded within the Komsberg West WEF study area during the present field assessment, despite the presence here of several excellent exposures of Lower Beaufort Group mudrocks (with well-developed pedoconcrete horizons) as well as a range of sandstone facies. Isolated fragments of fossil bone were observed within down-wasted surface gravels but no *in situ* material or well-preserved, articulated specimens were seen, with the exception of a few small fragments of rolled bone in channel lag breccias. Although several scientifically important specimens are recorded from equivalent geological horizons and facies just outside the study area. There are verbal accounts of sizeable fossil bones seen by local farm workers, and occasional collected specimens can be seen at farmsteads in the region (e.g. Gemsbokfontein in the Komsberg East WEF study area). This material has mostly been lost or locality data is unavailable. Vertebrate fossils clearly occur here, but are apparently rare.”

Almond (2015) goes on to note that from a scientific viewpoint, the most interesting fossil site recorded during the present field study is a moderately extensive palaeosurface on the upper surface of a channel sandstone bed. The palaeosurface – the bed of an ancient river or pond – preserves numerous tetrapod tracks as well as a few recognisable trackways and other trace fossils (*N.B.* This site occurs just **outside** the Komsberg West study area and, given its sensitivity, precise localities details are not provided). No fossils were observed within the various Late Cenozoic superficial deposits represented within the Komsberg WEF study area during the present field study.

In terms of impacts to archaeological heritage, Hart (2015) notes that “Ridge tops tend to be dry, windswept and very cold in winter, and those of the Komsberg are no exception. The ridge tops at Komsberg are extremely harsh, covered with loose shale and almost devoid of soil and vegetation. Unless there was a large rock shelter, source of water or a raw material, it is not expected that the system of ridges within the study area are likely to be sensitive in terms of archaeology. There are few rock shelters in the project area, and those which do exist have steeply sloping floors not suitable for habitation. The turbine sites which are normally situated on high ground are likely to be relatively insensitive.”

Hart (2015) goes on to note that very few archaeological sites were recorded during the survey. Only one questionable artefactual find was recorded on any of the ridges, while several ephemeral scatters of ESA and MSA material were recorded in river gravels and valley bottoms. No late Stone Age archaeological sites were recorded. Hart (2015) also notes that although no Khoe kraals were identified in the study area, within the valley bottoms evidence of colonial period settlement is quite prolific. There are numerous stone walled kraals, simple dwellings and single room abodes made of dry stone.”

Hart (2015) indicates that only one grave was positively identified in his field assessment. According to Hart (2015), graves are generally found associated with historic farms and appear to be confined to alluvial deposits in river valleys as elsewhere soil depth is very shallow, if not non-existent. Because of this it is anticipated that the likelihood of graves existing in the project area is extremely low (but the possibility cannot be completely ruled out).

Hart (2015) provides a table of finds resulting from his assessment in his report. This table is repeated below. It is important to note that no GPS co-ordinates were provided in Hart (2015). It is understood that the co-ordinates were not included in the HIA (2015) over concerns regarding the security of the heritage resources identified and their vulnerability in terms of vandalism and unpermitted destruction (Hart, pers comm. 2021). Based on evidence gathered, the authors of this report have managed to extrapolate the likely location of the finds recorded in Hart (2015) (Figure 3 above) however we have not been able to link the find locations with the table of finds below (Table 1) from Hart (2015) and as such, we have not been able to determine the significance of the finds mapped in Figure 3.

Table 1: Description of the various archaeological occurrences recorded by the ACO and Natura Viva in Hart (2015)

Obs #	Description (Hart 2015)
19	Venters River farm house. A small stone 19th century structure with pitched corrugated iron roof, Victorian sash windows and door. A large barn has been added to the eastern gable-end. There is a very nicely built stone kraal behind the house, and further ruins close to the bank of the river. <i>Proposed Grade IIIB</i>
20	Venters River: historic stone kraal in the vicinity
21	Venters River: a small fenced cemetery with a single grave and headstone in memory of Huibrect Bothma - born 1880 and died 1950 (possibly the last resident of the farm).
22	022 Venters River: A threshing floor (trapvloer) of some 10 m in diameter indicates that wheat was grown in the valley in the past.
23	A stone ruin, stone hut ruin and a kraal indicating a 19th century - early 20th century stock post. Up against a small ridge, close to the road. Also in the immediate area are five historic period stone kraals of rounded, square and rectangular form. One of these abuts a small ridge/cliff.
24	At this point there is a tumbled stone ruin over the river.
025-028	Historic kraal against a ridge, stock post with outdoor oven and ruins of a hut built against the cliff under a large bush
29	An animal trap (wolvehok) small stone ruin approx. 1.2m wide. Close to the road on top of a rise
30	Stone ruins on other side of river.
31	031 Two historic stone kraals built against a ridge facing a river. A previous one marked across the river. No artefacts
32	032 A small round stone ruin - single space, possibly shepherds hut
33	033 A small rock shelter/overhang that has been walled off - no deposit or artefacts noted, To the left of the track high up on the ridge
34	Two small stone ruins next to river, on other side of an historic stone kraal (oval-rectangle)
35	Recent picnic/camping place. Stone seats, fire pit and ?memorial
36	Gemsbokfontein farm house. A vernacular 18-19th century vernacular house with stoep and end benches, loft and



	traditional fireplace, cooking shelter made of bush behind the house. Casement windows, very old glass panes <i>Proposed Grade IIIB</i>
37	Gemsbokfontein cemetery some 50 m south of south of the farm house, single grave. Also abandoned stone kraals situated close to the river.
Y001	Small stone hut next to large rectangular kraal (over 20m long) built in small slope otherwise very flat area between the ridges. Some ceramics not much else. Small stone oven (1-2m) behind hut
37	Possible grave/stone cairn
JA 069.	Fresh-looking flaked material among surface rubble of weathered sandstone to N of wind mast. This may not be of archaeological origin
JA 071-072	Fresh to patinated, water-worn artefacts on upper surface of calcretised fluvial gravels
JA 073	Isolated flakes of Matjiesfontein chert among surface gravels
JA 078	.Isolated flakes of Matjiesfontein chert among surface gravels

Recommendations from Hart (2015):

Hart (2015) provides general recommendations as well as specific recommendations for each WEF and associated OHL.

Hart's general recommendations include:

- Given the apparent rarity of significant fossil sites within the Komsberg West and East WEF study areas, no specialist palaeontological monitoring or mitigation for this project is recommended, pending the discovery of significant new fossil sites during development (e.g. well-preserved vertebrate bones, teeth and trackways, concentrations of petrified wood and/ or other plant fossils). The ECO responsible for the construction phase of the project should be aware of the necessity of conserving fossils and should monitor all substantial excavations into sedimentary rocks for fossil remains.
- The archaeology of the Komsberg East and Komsberg West wind energy facilities does not warrant any specific mitigation.
- No mitigation is required for any colonial period structures or heritage sites apart from observing general good practise. That is do not demolish or reuse the stone from ruins, walls or kraals. Leaving them "as is", and do not remove any artefacts or materials.

Specific recommendations for the Komsberg East and West WEFs:

- Safeguarding of chance fossil finds (preferably *in situ*) during the construction phase by the responsible ECO, followed by reporting of finds to Heritage Western Cape / SAHRA.
- Recording and judicious sampling of significant chance fossil finds by a qualified palaeontologist, together with pertinent contextual data (stratigraphy, sedimentology, taphonomy) within the final footprint.
- Curation of fossil material within an approved repository (museum / university fossil collection) by a qualified palaeontologist
- Do not disturb any old stone kraals or ruins, do not remove stone from walls, or artefacts from the earth or earth surface.
- Report any chance discoveries of human remains to an archaeologist or a heritage authority.

- Do not demolish without HWC authorisation, ideally reuse old structures and cottages, care for the fabric but change it as little as possible.
- Adhere to the findings and recommendations of the VIA

Specific recommendations for the Komsberg East and West OHLs:

- Safeguarding of chance fossil finds (preferably *in situ*) during the construction phase by the responsible ECO, followed by reporting of finds to Heritage Western Cape / SAHRA.
- Recording and judicious sampling of significant chance fossil finds by a qualified palaeontologist, together with pertinent contextual data (stratigraphy, sedimentology, taphonomy) within the final footprint.
- Curation of fossil material within an approved repository (museum / university fossil collection) by a qualified palaeontologist
- Do not disturb any old stone kraals or ruins, do not remove stone from walls, or artefacts from the earth or earth surface.
- Avoid farm yards and buildings
- Report any chance discoveries of human remains to an archaeologist or a heritage authority.
- Avoid farmsteads and structures (at least 400 m buffer).
- Consider using a lattice tower form as these are visually more permeable, at a distance are almost invisible against a backdrop.

Unfortunately, due to the lack of coordinates for the heritage finds included in the Hart (2015) HIA, the authors were not able to verify his findings.



Figure 4.1: Contextual Image of development area - Komsberg East



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Figure 5.2: Contextual Image of development area - Komsberg East



Figure 5.3: Contextual Image of development area - Komsberg East



Figure 5.4: Contextual Images of Development Area - Komsberg East



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Figure 5.5: Contextual Images of Development Area - Komsberg East



Figure 5.6: Contextual Images of Development Area - Komsberg East



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Figure 5.7: Contextual Images of Landscape - Komsberg East



Figure 5.8: Contextual Images of Development Area - Komsberg East



CTS HERITAGE



Figure 5.9: Contextual Images of Development Area - Komsberg East



Figure 5.10: Contextual Images of Development Area - Komsberg East



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Figure 5.11: Contextual Images of Development Area - Komsberg East



Figure 5.12: Contextual Images of Development Area - Komsberg East



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Figure 5.13: Contextual Images of Development Area - Komsberg West



Figure 5.14: Contextual Images of Development Area - Komsberg West



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Figure 5.15: Contextual Images of Development Area - Komsberg West



Figure 5.16: Contextual Images of Development Area - Komsberg West



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Figure 5.17: Contextual Images of Development Area - Komsberg West



Figure 5.18: Contextual Images of Development Area - Komsberg West



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Figure 5.19: Contextual Images of Development Area - Komsberg West



Figure 5.20: Contextual Images of Development Area - Komsberg West



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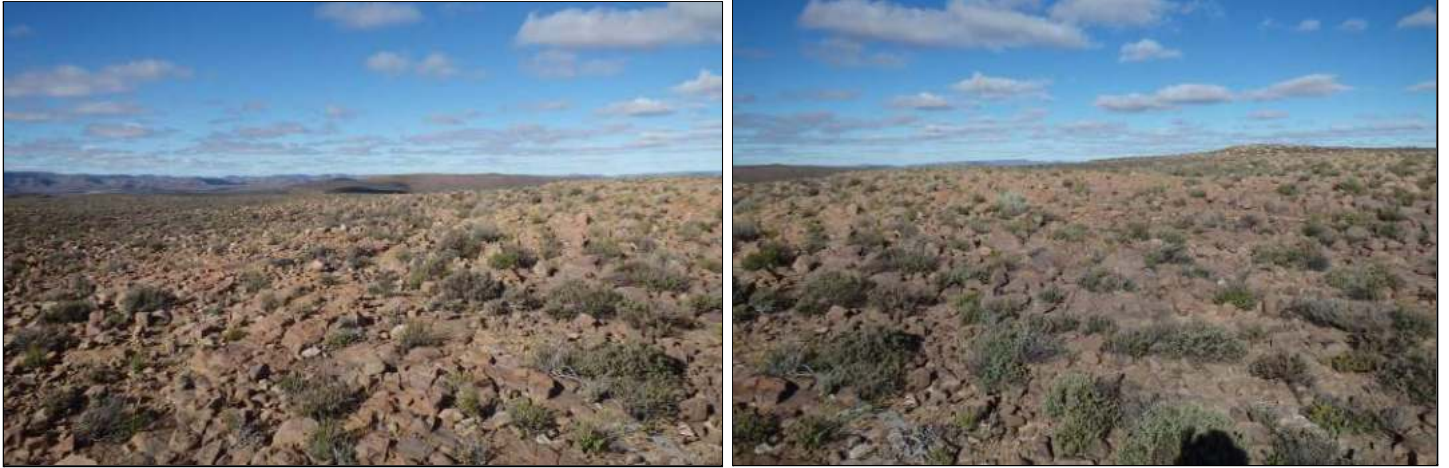


Figure 5.21: Contextual Images of Development Area - Komsberg West



Figure 5.22: Contextual Images of Development Area - Komsberg West



Figure 5.23: Contextual Images of Development Area - Komsberg West



Figure 5.24: Contextual Images of Development Area - Komsberg West

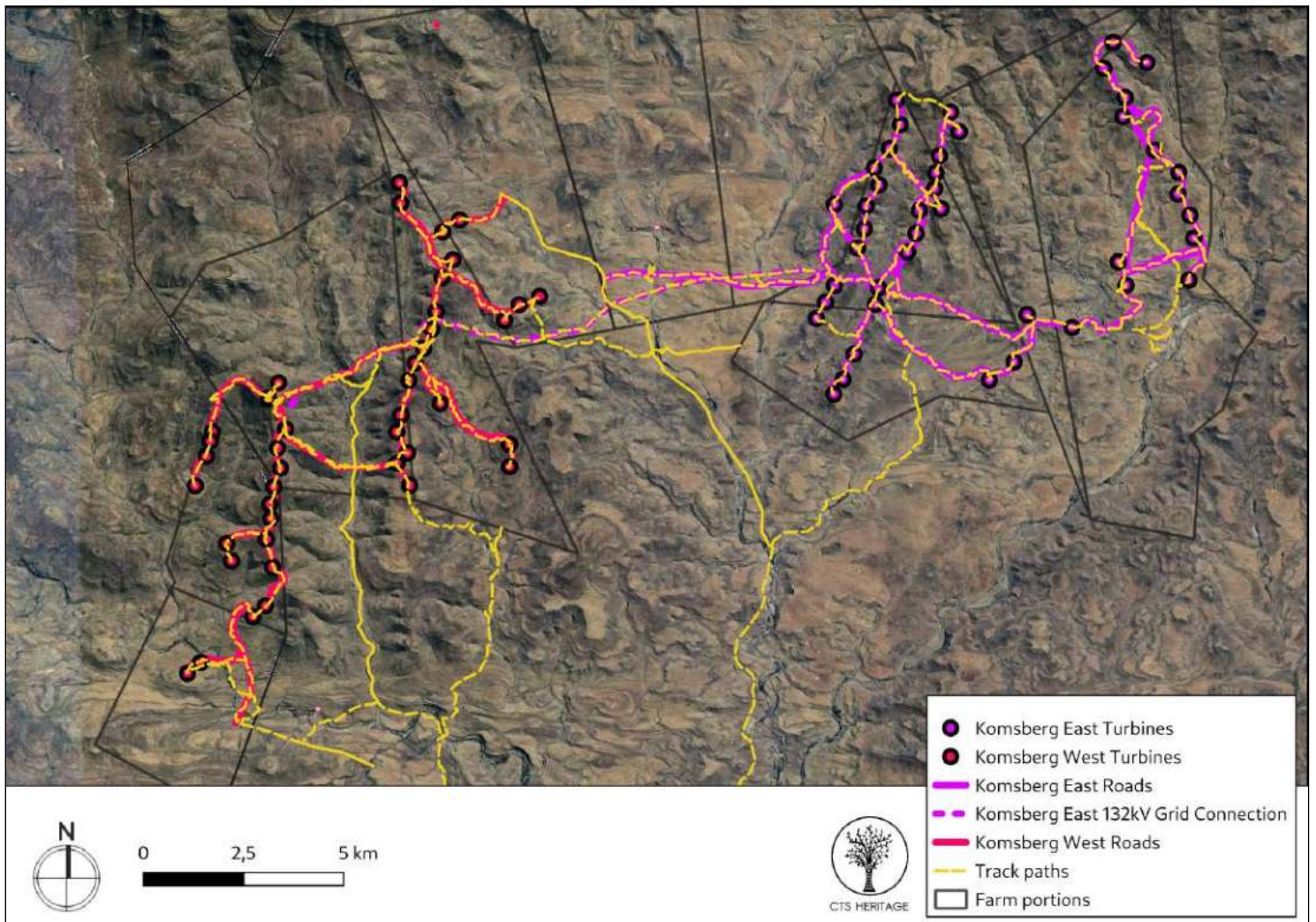


Figure 5.1: Overall track paths of foot survey

4.2 Heritage Resources identified in the Walkdown

Most of the built environment heritage resources were recorded during the earlier preliminary studies by Hart in 2015 such as the Rondawel, Ventersvlei, Spitskop, Putterskraal and Anysvlei farmhouse complexes. In particular, the Ventersvlei werf is currently unoccupied and is surrounded by a series of stone walled kraals and associated ruins, fields and buildings. One very large ruined werf was not documented during the previous assessment as the layouts were presumably not available. This werf is part of one of the original farming settler families in the area (the Bothma family) and consists of kraal walling, ruined buildings and at least 16 graves (KE09 -11). The proposed access road to Komsberg East will have to be re-aligned to avoid this werf as it currently follows a direct path through the middle of the historical site. Another interesting site within the Komsberg West area is the grave (KE03) of Johanna Elizabeth Victor (1798 - 1862) which is located inside a stone walled ruin or a purpose-built walled enclosure. This site is outside of the development area.

Very few LSA and MSA artefacts were found on the ridges where the roads, powerlines and turbine positions for the WEF are proposed despite covering the ground extensively on foot. Historical objects included porcelain, metal and glass items. None of the open site Stone Age and historical archaeological heritage resources identified during the walkdown were of significance but they have added to the generally sparse findings recorded in the Roggeveld and Moordenaars Karoo thus far. The ridges are very rocky underfoot and are exposed which goes a long way to explaining the very low amount of archaeological material found on them. As mentioned earlier, the broken rock is likely obscuring some of the archaeological material but it is clear that there are very few open sites with high densities of MSA or LSA material in the areas proposed for the WEF infrastructure in the final layout. Contrary to the findings of Hart (2015), we do not believe that the absence of dolerite outcrops is driving the low distribution of MSA and LSA artefact observations in this area. Close inspection during the walkdown revealed use of quartzites and other available shales and it is more likely that the positioning of the WEF infrastructure on unfavourable ridges (for Stone Age occupation) and lack of surveying in more suitable areas of the Moordenaars Karoo is driving the pattern of low archaeological sites from the Stone Age period.

One rock art site (KE05) was found in the Gemsboksrivier kloof running west of the first cluster of the Komsberg East WEF near Putterskraal farm. This site includes faded paintings, including a probable ostrich facing left, a probable eland facing left next to the ostrich and remnants further to the right hand side of shelter with likely figures which are unclear. This site is not affected by the road and powerline intended for the WEF but it was the first rock art site ever located in the area. The site was found when departing from the alignment of the proposed road to the OHL and was only located fortuitously as most of the WEF infrastructure has been placed to avoid kloofs likely to contain rock art sites. This site is definitely indicative of more rock art sites in the area, likely in low densities when compared to the Cederberg or Drakensberg regions, and future surveys focussing on rock art are intended to better understand the distribution of rock paintings in the Moordenaars Karoo.



Table 2: Archaeological, palaeontological and built environment observations noted during the walk down

Site No.	Site Name	Description	Co-ordinates		Grading
<i>Komsberg West - Northern Cape</i>					
KW01	Komsberg West 1	Hornfels flakes, cores, next to stream bed	-32.83702	20.82044	NCW
KW02	Komsberg West 2	Stone walled kraal	-32.81766975	20.80746644	IIIB
KW03	Komsberg West 3	Grave and ruin, Johanna Elizabeth Victor 1798 to 1862	-32.82453	20.81511	IIIA
<i>Komsberg West - Western Cape</i>					
KW04	Komsberg West 4	Ruined stone walled kraal on river bank	-32.76189	20.85365	IIIB
KW05	Komsberg West 5	Another stone walled kraal part of Ventersvlei farm complex	-32.76038	20.85482	IIIB
KW06	Komsberg West 6	Ventersvlei farmhouse	-32.7602	20.8551	IIIA
KW07	Komsberg West 7	Another kraal further up Ventersvlei kloof	-32.7526933	20.85429908	IIIB
KW08	Komsberg West 8	Hornfels flake on ridge	-32.74724	20.90035	NCW
KW09	Komsberg West 9	Hornfels flake	-32.72465	20.88389	NCW
KW10	Komsberg West 10	Quartz flake in a small sandstone shelter, boulder	-32.72699	20.87509	NCW
<i>Komsberg East - Western Cape</i>					
KE01	Komsberg East 1	Stone walled kraal	-32.74881346	21.05189119	IIIB
KE02	Komsberg East 2	Quartzite flake, formal retouch	-32.74586	21.03016	NCW
KE03	Komsberg East 3	Fine grained quartzite flake, no retouch	-32.74013	21.05417	NCW
KE04	Komsberg East 4	Hornfels flake retouched	-32.7432	20.92152	NCW
KE05	Komsberg East 5	Rock art site in kloof, oes, faded paintings: 1- probable ostrich facing left, crude fine 2 - probable eland facing left next to ostrich, fine line 3 - Remnants further to the right hand side of shelter with likely figures which can't be made out	-32.73827	20.95874	IIIA
KE06	Komsberg East 6	Chert cores	-32.73816	20.95031	NCW
KE07	Komsberg East 7	Hornfels flake	-32.73731	20.94671	NCW
KE08	Komsberg East 8	Quartz flake retouched	-32.73697	20.93618	NCW
KE09	Komsberg East 9	Stone walling along edge of stream bank, part of Bothma farmhouse complex	-32.73694	20.93104	IIIA
KE10	Komsberg East 10	Old Bothma farmhouse complex, ruined walling, kraal etc	-32.73639	20.92989	IIIA
KE11	Komsberg East 11	At least 16 graves, marked by stone and headstones, part of Bothma farmhouse complex	-32.73482	20.92961	IIIA
KE12	Komsberg East 12	Two quartzite flakes, no retouch	-32.73628	20.92556	NCW
KE13	Komsberg East 13	Stone walled kraal	-32.75982	20.99705	IIIB
KE14	Komsberg East 14	Stone kraal and ruined house	-32.71652749	20.99808336	IIIA
KE15	Komsberg East 15	Quartzite flake	-32.73692	21.07364	NCW
KE16	Komsberg East 16	Stone beacon - either farm beacon marker or more recent marker for turbine placements	-32.71409	21.0711	NCW
KE17	Komsberg East 17	Heavily patinated hornfels flake	-32.71025	21.065	NCW
KE18	Komsberg East 18	Heavily patinated hornfels flake	-32.70244	21.06029	NCW



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KE19	Komsberg East 19	Stone walled dam	-32.73314	21.03771	IIIB
KE20	Komsberg East 20	"Polisie stasie" stone ruin, kraals, Kok family, porcelain, metal, glass, stone tools	-32.71134	21.03318	IIIA
KE21	Komsberg East 21	Stone walled kraal part of Anysvlei farmhouse complex	-32.73795213	21.045072	IIIB

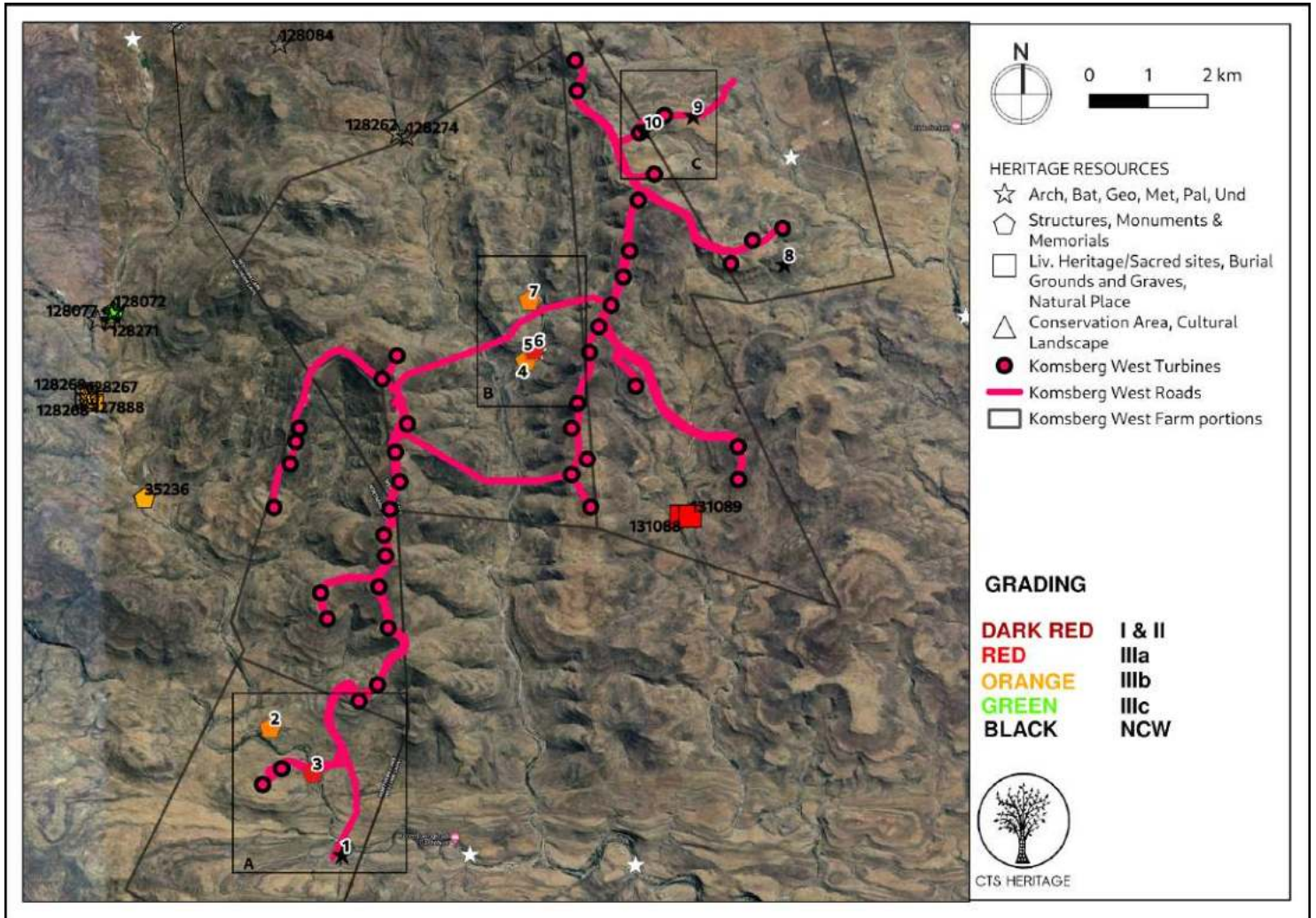


Figure 6.1: Observations from Komsberg West WEF area



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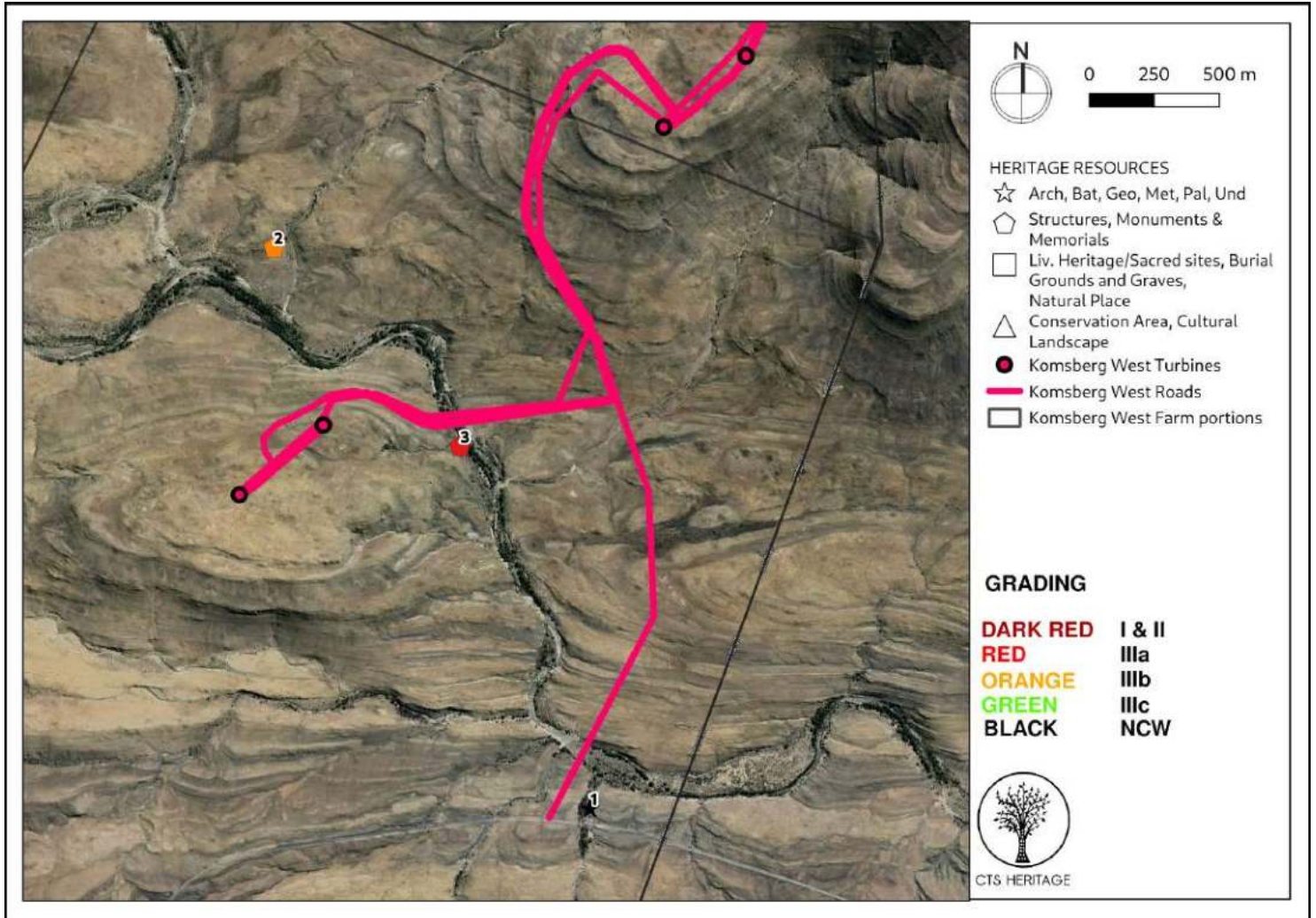


Figure 6.2: Observations from Komsberg West WEF area - Inset A



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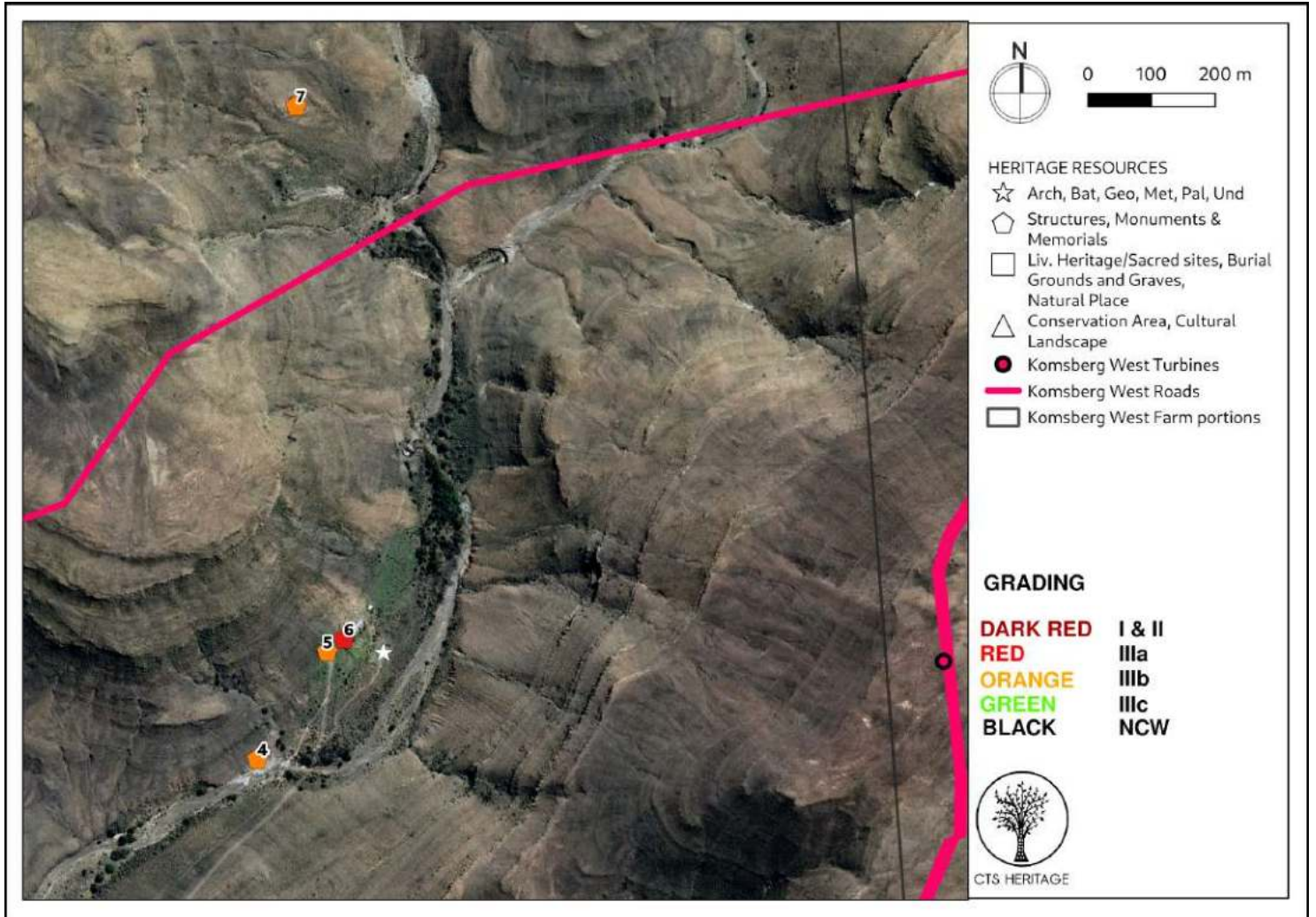


Figure 6.3: Observations from Komsberg West WEF area - Inset B



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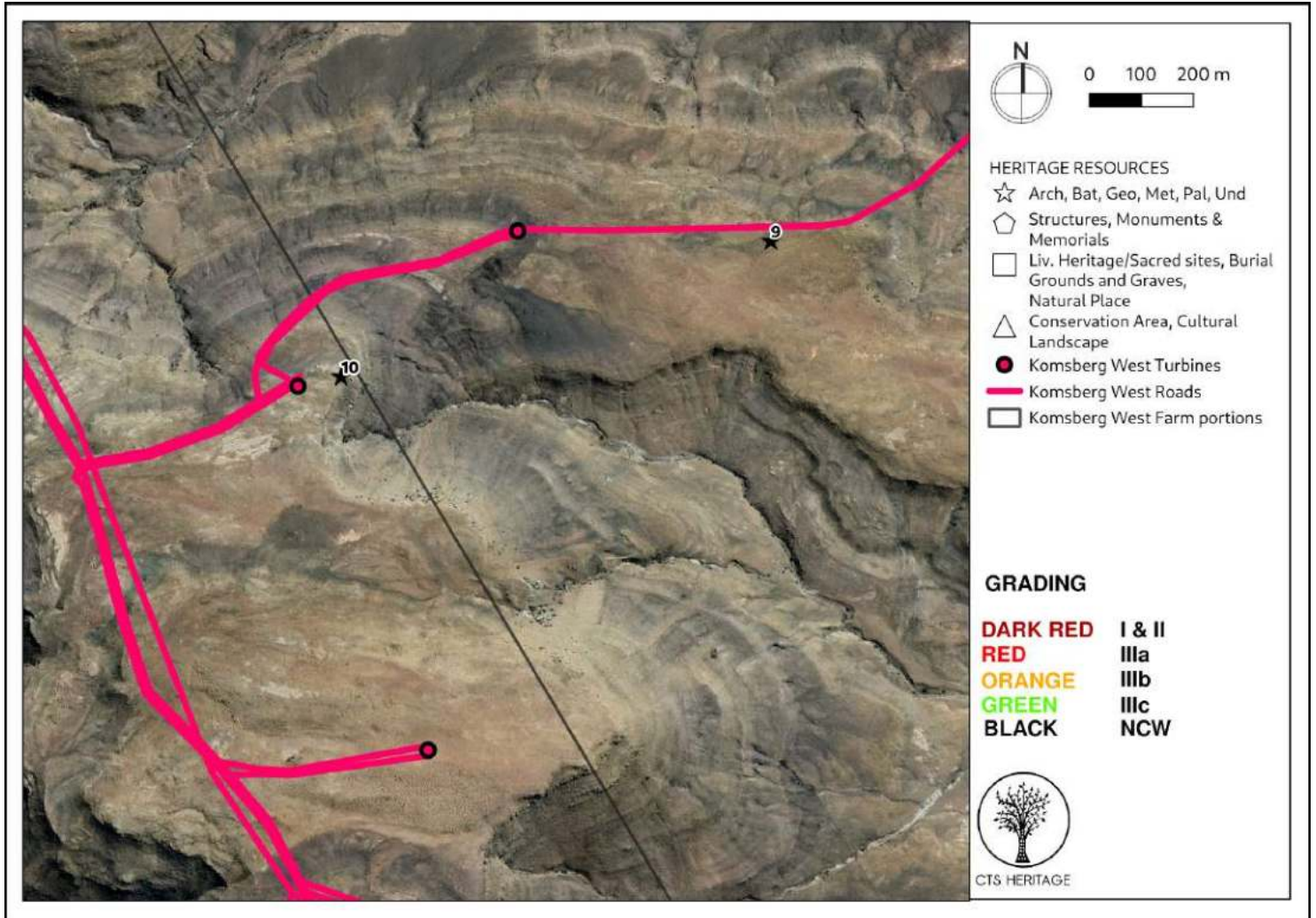


Figure 6.4: Observations from Komsberg West WEF area - Inset C



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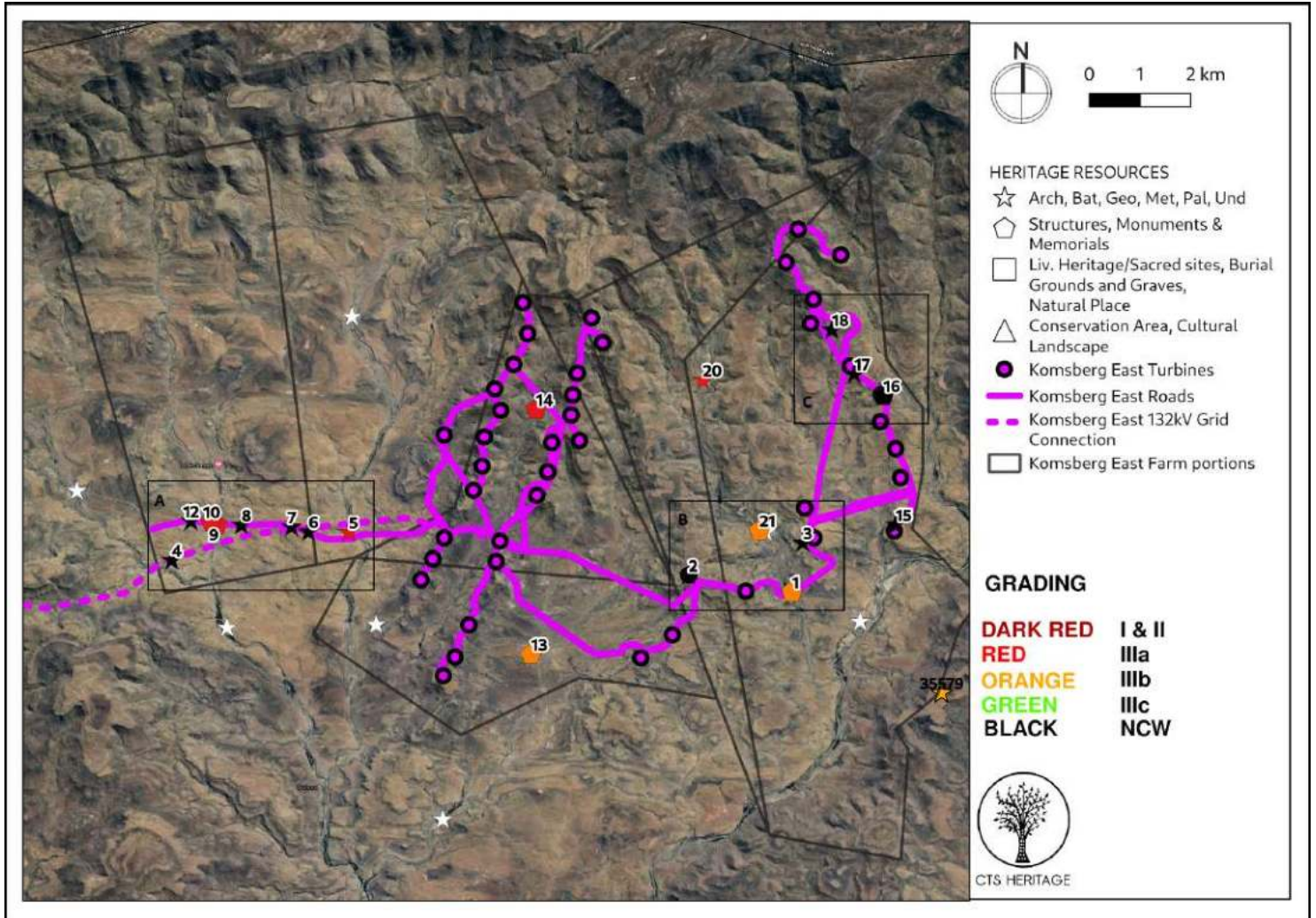


Figure 6.5: Observations from Komsberg East WEF area



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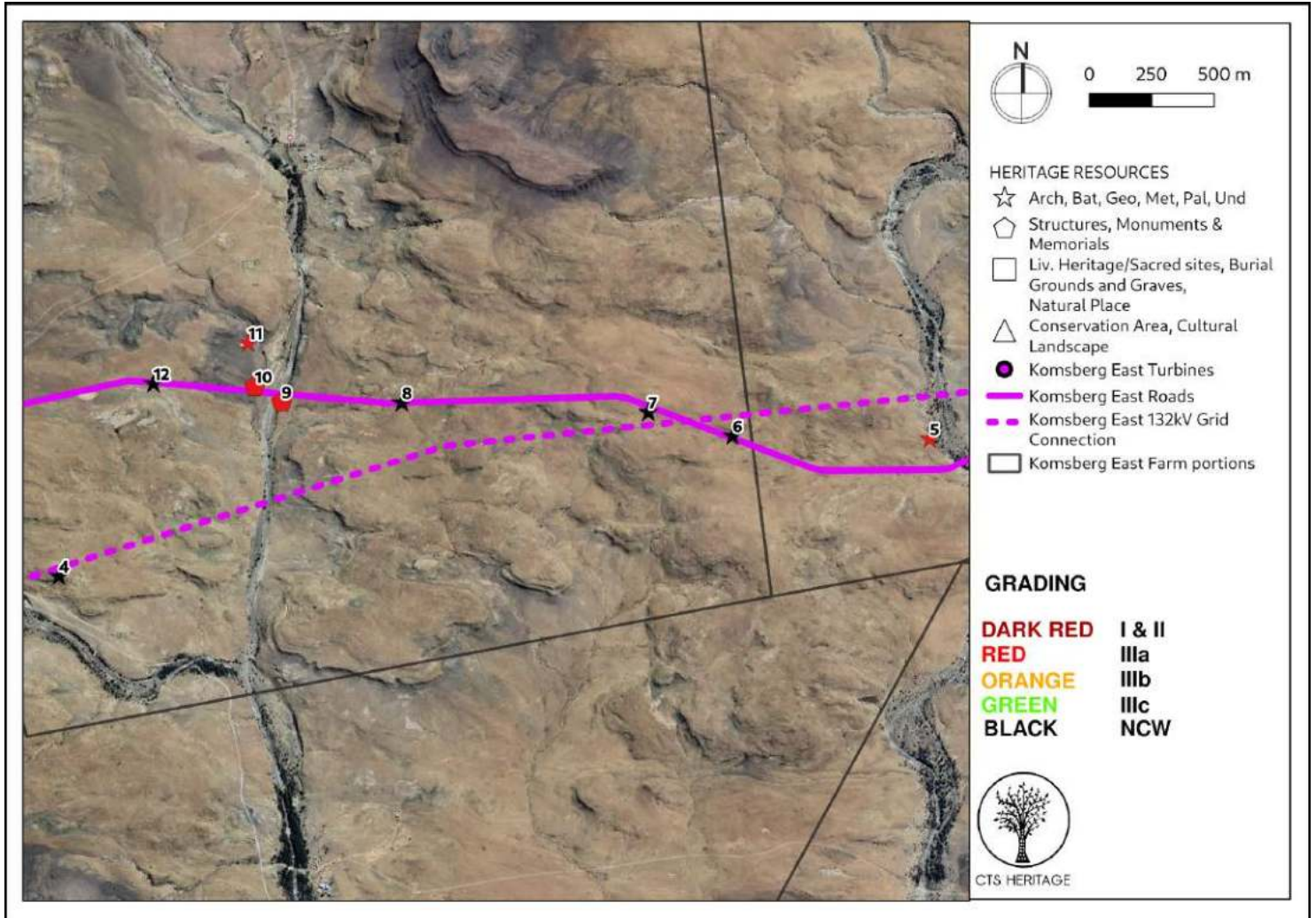


Figure 6.6: Observations from Komsberg East WEF area - Inset A



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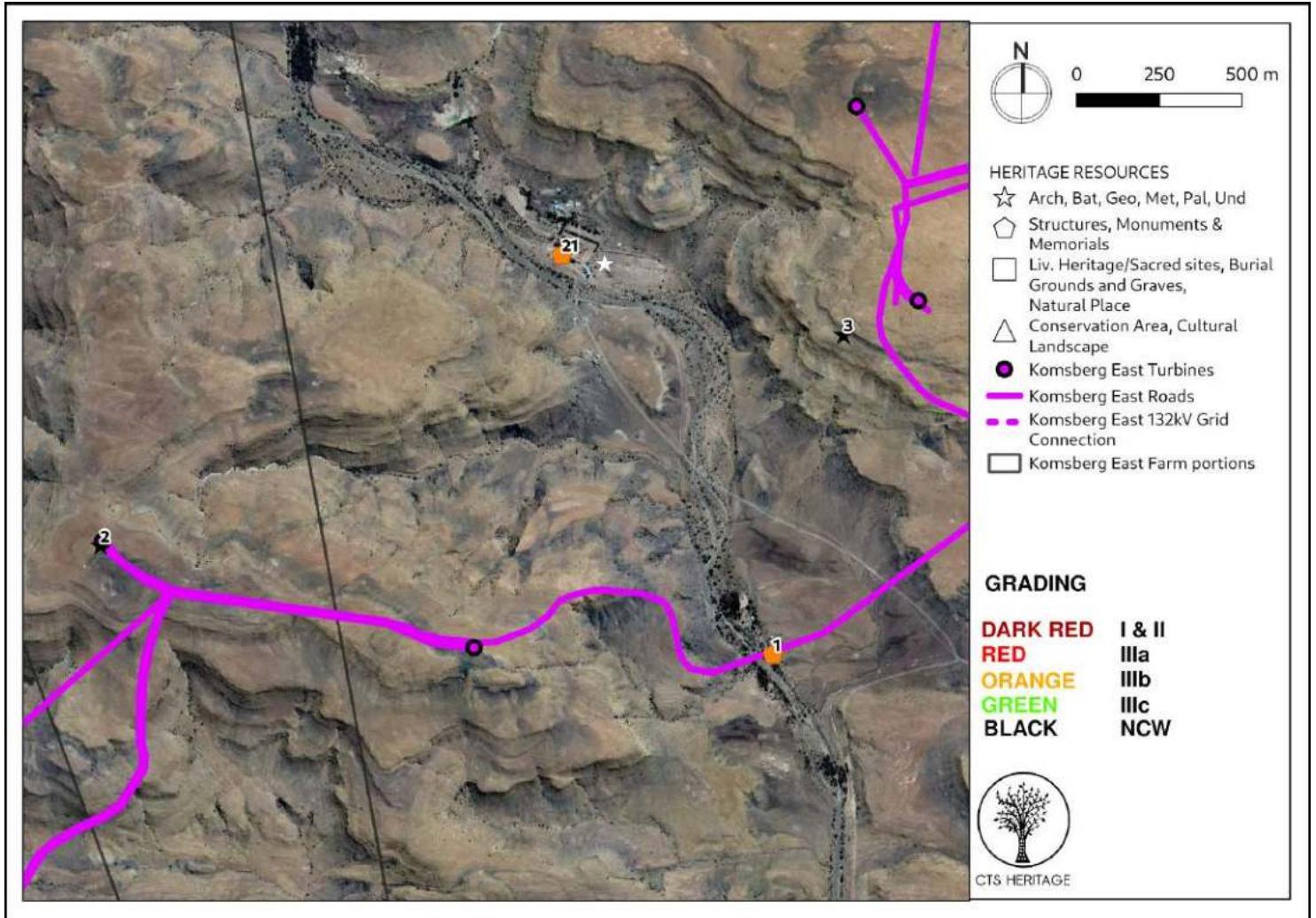


Figure 6.7: Observations from Komsberg East WEF area - Inset B



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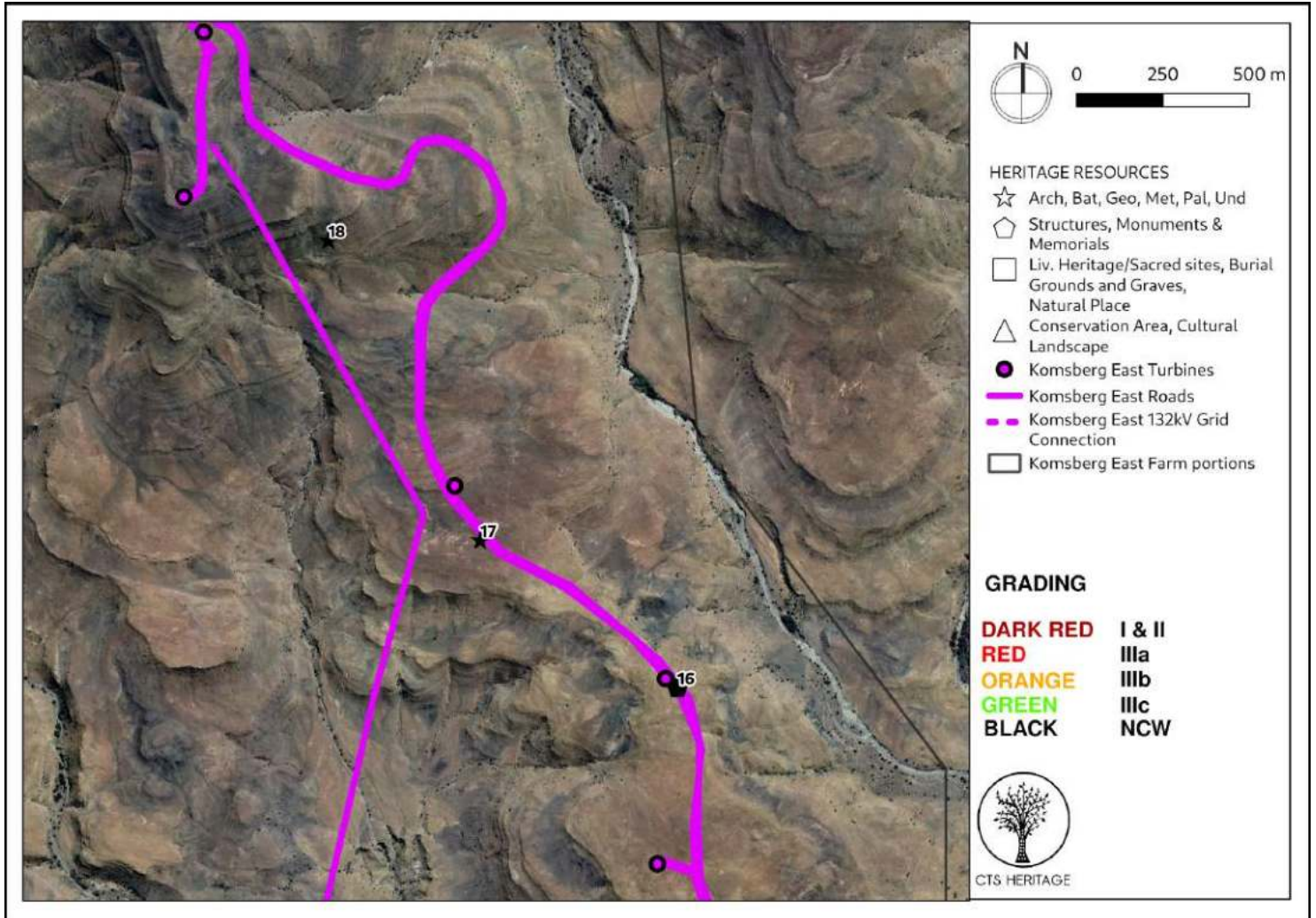


Figure 6.8: Observations from Komsberg East WEF area - Inset C



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4.3 Selected photographic record

(a full photographic record is available upon request)



Figure 7.1: Komsberg West - KW01 and KW02



Figure 7.2: Komsberg West - KW03



Figure 7.3: Komsberg West - KW04 and KW05



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Figure 7.4: Komsberg West - KW06



Figure 7.5 Komsberg West - KW08



Figure 7.6 Komsberg East - KE01



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Figure 7.7 Komsberg East - KE05 Rock Art site



Figure 7.8 KE05 Rock art with D-Stretch



Figure 7.9 KE05 Rock art with D-Stretch



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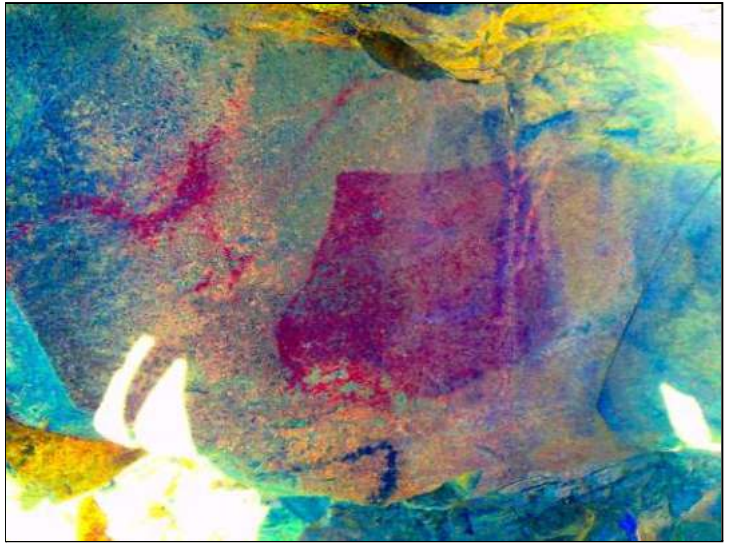


Figure 7.10 KE05 Rock art with D-Stretch



Figure 7.11 Komsberg East - KE09



Figure 7.12 Komsberg East - KE10: Old Bothma Farm Complex



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Figure 7.13 Komsberg East - KE10: Old Bothma Farm Complex



Figure 7.14 Komsberg East - KE10: Old Bothma Farm Complex



Figure 7.15 Komsberg East - KE11 Burial Ground



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Figure 7.16 Komsberg East - KE13



Figure 7.17 Komsberg East - KE20



Figure 7.18 Komsberg East - KE20



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Figure 7.19 Komsberg East - KE21 Anysvlei Farm Complex



Figure 7.20 Komsberg East - KE21 Anysvlei Farm Complex

5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Archaeological Resources

Komsberg West WEF Layout

The final layout as mapped in Figure 1.2 above does not impact directly on any of the significant heritage resources identified in Hart (2015) (Figure 3 above) or in this walkdown assessment. In the Northern Cape, the nearest proposed WEF infrastructure is located approximately 80m from site KW03 (Figure 8.1) - a site described as a grave and ruin (Graded IIIA). No impact to this resource is anticipated.

In the Western Cape, the nearest proposed WEF infrastructure is located more than 200m from KW07 (a stone kraal graded IIIB). The proposed WEF infrastructure is located more than 500m from the Ventersvlei Farm Werf (Graded IIIA and IIIB, KW04, KW05 and KW06) and as such, no impact is anticipated (see Figure 6.3 above).

Komsberg East WEF Layout

The whole of the Komsberg East WEF falls within the Western Cape. The final layout as mapped in Figure 1.2 above does not impact directly on any of the significant heritage resources identified in Hart (2015) (Figure 3 above).

Three areas of impact are anticipated resulting from the findings of this walkdown assessment and require further interrogation. The site KE01 is described as a stone wall kraal that has been graded IIIB. The site is part of a larger complex with additional structures located along the river. The proposed road and OHL go directly through the site (Figure 8.2). This site will be directly impacted by the layout as proposed. As such it is recommended that a no-go buffer area of 100m is implemented around this farm complex as indicated by KE01. This will require that the proposed road be diverted to avoid impact.

Site KE05 is located more than 100m from the nearest proposed WEF infrastructure (Figure 8.3). This site is unlikely to be affected by the road and powerline intended for the WEF however, as it is the first rock art site ever located in the area, it is very significant. As such, the site must be proactively conserved to ensure that no indirect impacts resulting from the WEF occur.

Further west, the proposed Komsberg East WEF infrastructure proposes to cut through the remnants of a farm werf consisting of the Old Bothma farmhouse complex including ruined walling, kraal (KE10) as well as additional stone kraals (KE09) and a historic burial ground (KE11). The historic burial ground (KE11) is located more than 100m from the proposed infrastructure, however the proposed road is anticipated to dissect the historic farm werf by cutting between sites KE09 and KE10. In the proposed layout, this historic ruined farm complex will therefore be directly impacted by the proposed layout. As such it is recommended that a no-go buffer area of 200m is implemented around this farm complex as indicated by sites KE09-11 (Figure 8.4). This will require that the proposed road be diverted to avoid impact. It is recommended that the road be diverted south in order to ensure that the relationship between the sites KE09, KE10 and KE11 are retained.

Based on the walkdown assessment completed, the area proposed for development has an overall low archaeological sensitivity. The heritage resources identified during this walkdown assessment are mapped in relation to the final layout below with the recommended buffer areas proposed. No impact is anticipated on condition that the recommendations included below are implemented.

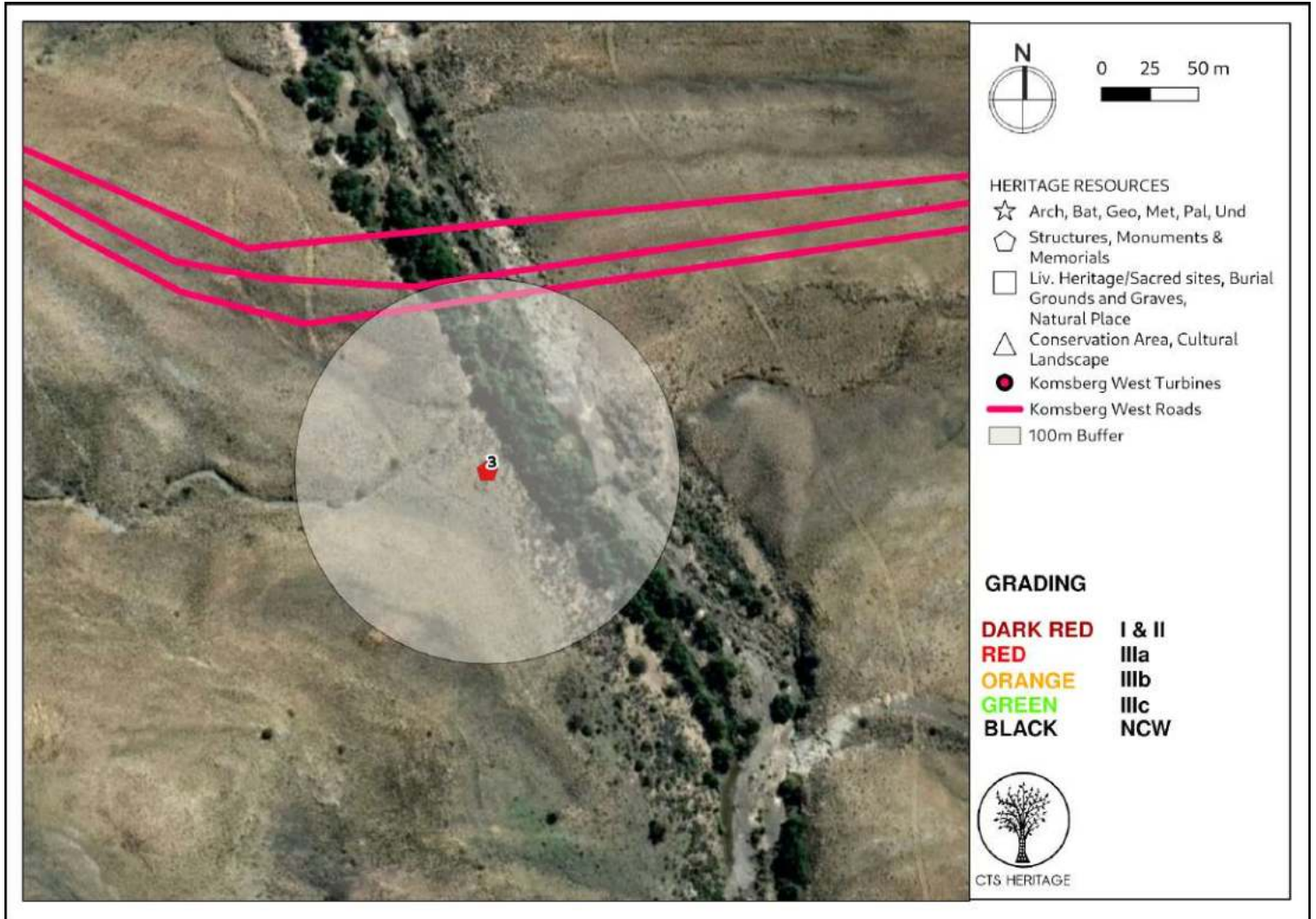


Figure 8.1: Map of heritage resources relative to the final proposed development footprint for the Komsberg West WEF with buffer areas indicated for Site KW03



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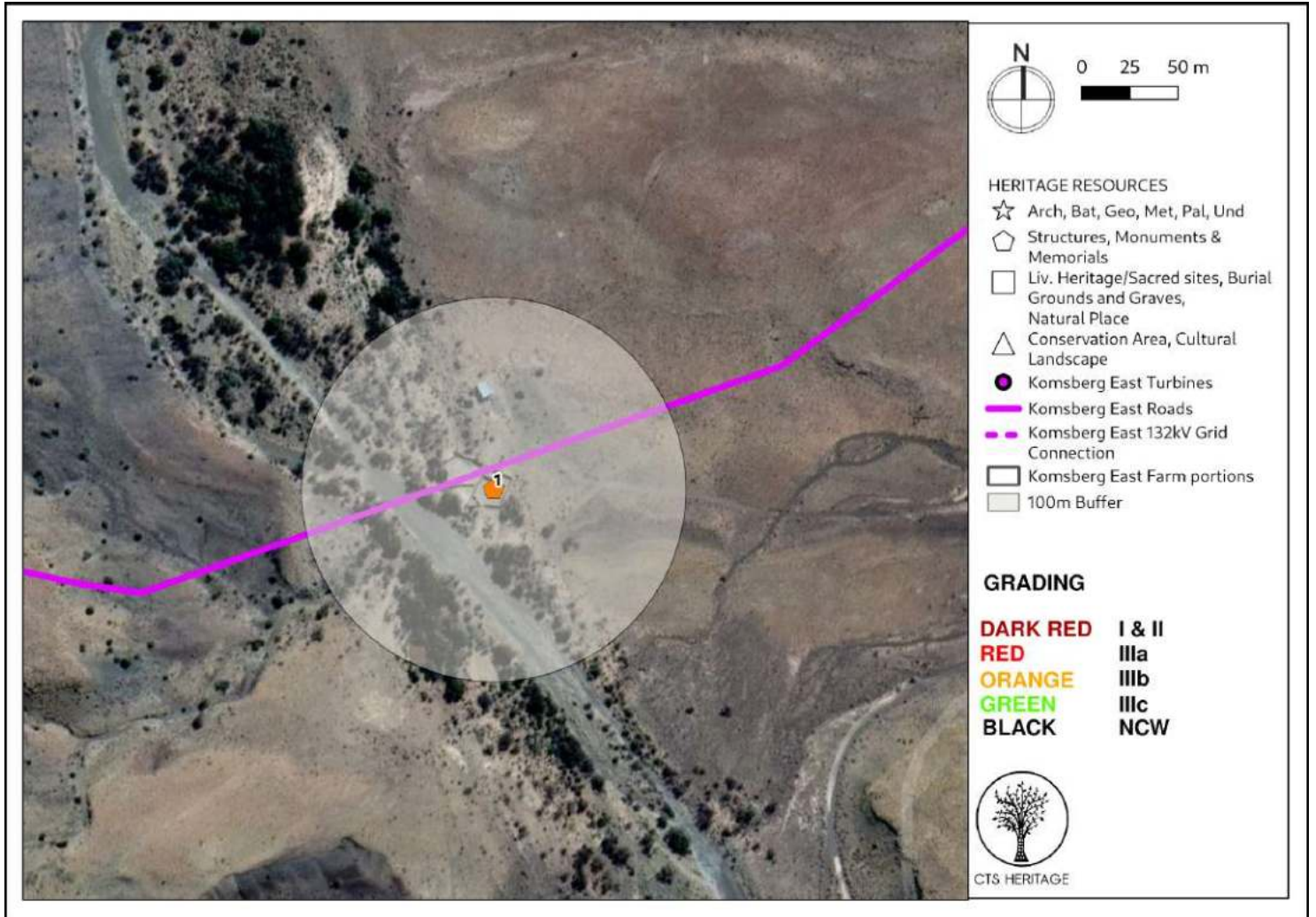


Figure 8.2: Map of heritage resources relative to the final proposed development footprint for the Komsberg East WEF with buffer areas indicated for Site KE01



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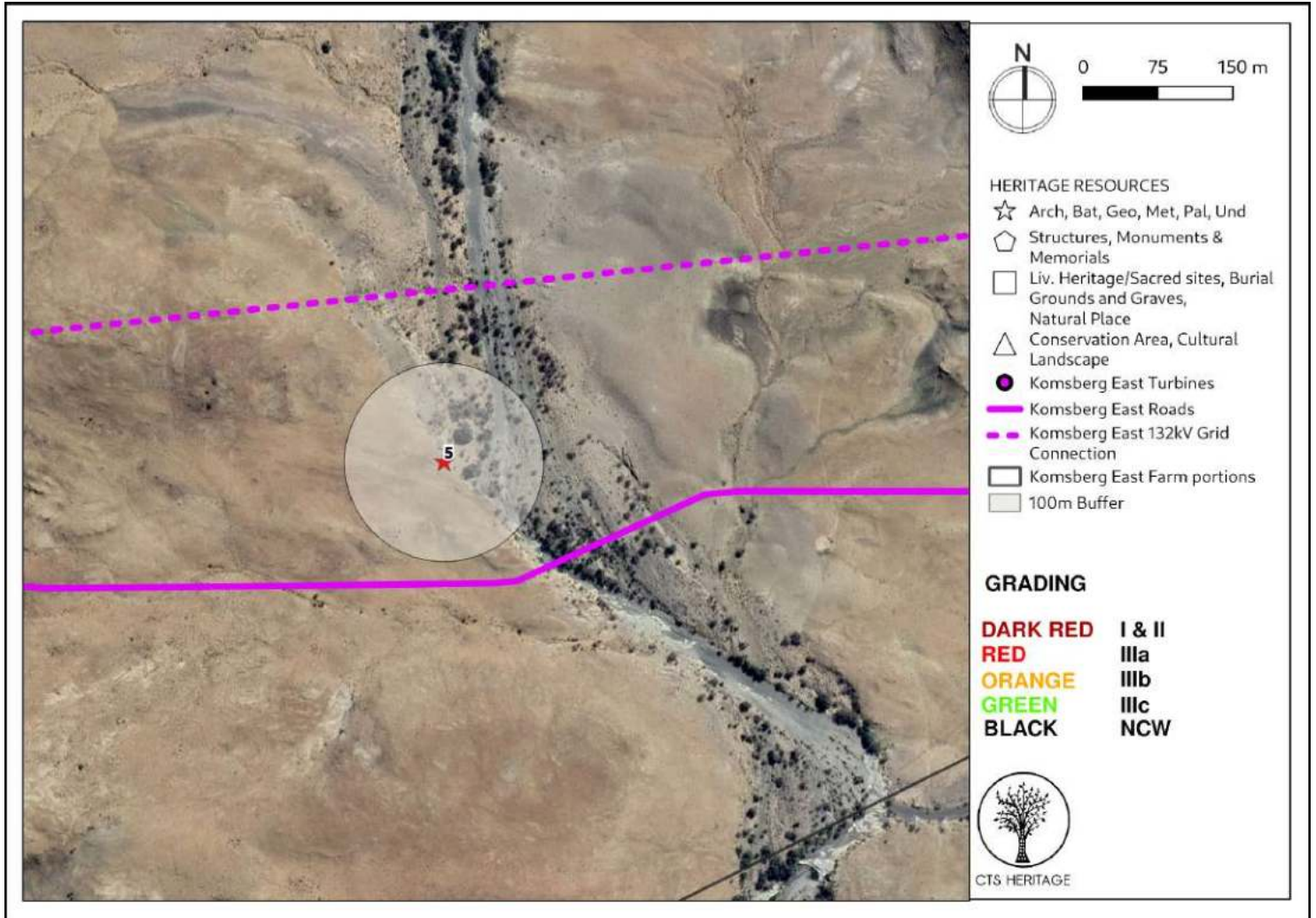


Figure 8.3: Map of heritage resources relative to the final proposed development footprint for the Komsberg East WEF with buffer areas indicated for Site KE05

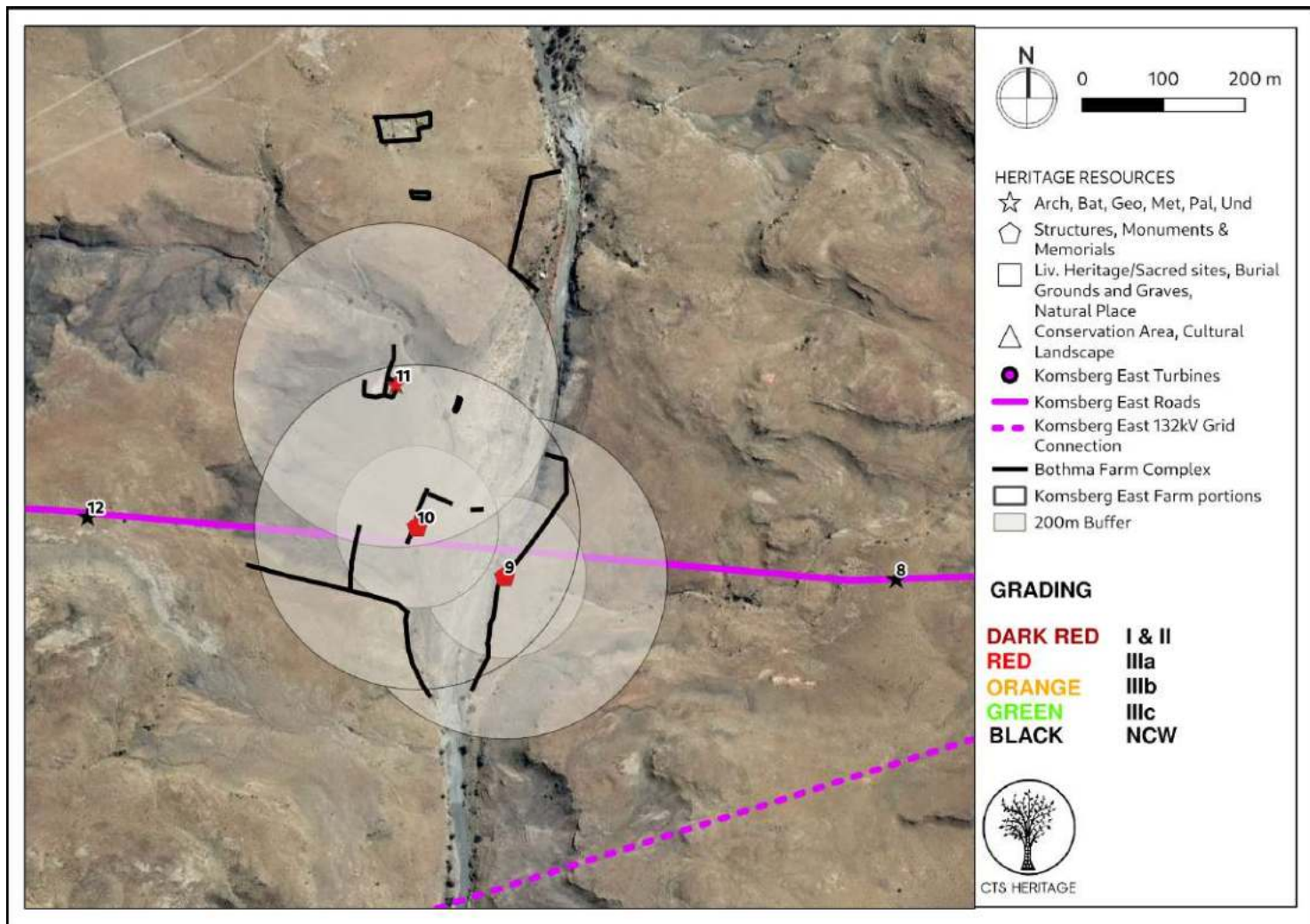


Figure 8.4: Map of heritage resources relative to the final proposed development footprint for the Komsberg East WEF with buffer areas indicated for Sites KE09, KE10 and KE11 and the Bothma Farm Complex structures indicated

6. CONCLUSION AND RECOMMENDATIONS

The findings of this walkdown assessment largely endorse the findings of Hart (2015). Hart (2015) and the results of this walkdown found that the overall archaeological sensitivity is generally low. As noted by Hart (2015), “Ridge tops tend to be dry, windswept and very cold in winter, and those of the Komsberg are no exception. The ridge tops at Komsberg are extremely harsh, covered with loose shale and almost devoid of soil and vegetation. Unless there was a large rock shelter, source of water or a raw material, it is not expected that the system of ridges within the study area are likely to be sensitive in terms of archaeology. There are few rock shelters in the project area, and those which do exist have steeply sloping floors not suitable for habitation. The turbine sites which are normally situated on high ground are likely to be relatively insensitive.”

None of the heritage resources identified in Hart (2015) will be impacted by the proposed development layout for Komsberg West and East WEFs. A number of additional resources were identified in the walkdown conducted in May 2021, some of which will be impacted by the proposed development. Various mitigation measures are proposed in the recommendations below (Table 3) in order to ensure that negative impact does not take place.



Interestingly, the rock art site identified as KE05 is the first rock art site ever located in the area and it is very significant. As such, the site must be proactively conserved to ensure that no indirect impacts resulting from the WEF occur. It is therefore recommended that a Conservation Management Plan be developed for the proactive conservation of the rock art site.

Table 3: Sites located within close proximity to the final layout with mitigation measures

Site No.	Site Name	Description	Co-ordinates		Grading	Mitigation
<i>Komsberg West - Northern Cape</i>						
KW03	Komsberg West 3	Grave and ruin, Johanna Elizabeth Victor	-32.82453	20.81511	IIIA	No impact anticipated. 100m no-go buffer recommended
<i>Komsberg West - Western Cape</i>						
KW04	Komsberg West 4	Ruined stone walled kraal on river bank	-32.76189	20.85365	IIIB	No impact anticipated
KW05	Komsberg West 5	Another stone walled kraal part of Ventersvlei farm complex	-32.76038	20.85482	IIIB	No impact anticipated
KW06	Komsberg West 6	Ventersvlei farmhouse	-32.7602	20.8551	IIIA	No impact anticipated
KW07	Komsberg West 7	Another kraal further up Ventersvlei kloof	-32.7526933	20.85429908	IIIB	No impact anticipated
<i>Komsberg East - Western Cape</i>						
KE01	Komsberg East 1	Stone walled kraal	-32.74881346	21.05189119	IIIB	100m no-go buffer required. Road diverted.
KE05	Komsberg East 5	Rock art site in kloof, oes, and faded painting	-32.73827	20.95874	IIIA	No impact anticipated. 100m no-go buffer recommended
KE09	Komsberg East 9	Stone walling along edge of stream bank, part of Bothma farmhouse complex	-32.73694	20.93104	IIIA	200m no-go buffer required. Road diverted south.
KE10	Komsberg East 10	Old Bothma farmhouse complex, ruined walling, kraal etc	-32.73639	20.92989	IIIA	200m no-go buffer required. Road diverted south.
KE11	Komsberg East 11	At least 16 graves, marked by stone and headstones, part of Bothma farmhouse complex	-32.73482	20.92961	IIIA	200m no-go buffer required. Road diverted south.

The following is therefore recommended in terms of the final layout for the Komsberg West WEF:

- A 100m no development buffer is required around KW03, KW04, KW05, KW06 and KW07. No amendments to the final layout are anticipated.
- Safeguarding of chance fossil finds (preferably *in situ*) during the construction phase by the responsible ECO, followed by reporting of finds to Heritage Western Cape / SAHRA in line with the attached Chance Fossil Finds Procedure (Appendix 1).
- Do not disturb any old stone kraals or ruins, do not remove stone from walls, or artefacts from the earth or earth surface.
- Do not demolish without HWC authorisation, ideally reuse old structures and cottages, care for the fabric but change it as little as possible.



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- Adhere to the findings and recommendations of the VIA
- Should any heritage resources be impacted during the course of construction activities, work in the vicinity of the resource must cease and HWC (in the Western Cape) or SAHRA (in the Northern Cape) must be contacted regarding an appropriate way forward.

The following is therefore recommended in terms of the final layout for the Komsberg East WEF:

- A 100m no development buffer is required around KE01 and KE05
- A 200m no development buffer is required around KE09-11. This will require the rerouting of roads to avoid impact. It is recommended that the road be diverted south around KE09 and KE10 to ensure that the integrity of the Old Bothma Farm Complex remains intact (Figure 8.4).
- Safeguarding of chance fossil finds (preferably *in situ*) during the construction phase by the responsible ECO, followed by reporting of finds to Heritage Western Cape in line with the attached Chance Fossil Finds Procedure (Appendix 1).
- Do not disturb any old stone kraals or ruins, do not remove stone from walls, or artefacts from the earth or earth surface.
- Do not demolish without HWC authorisation, ideally reuse old structures and cottages, care for the fabric but change it as little as possible.
- Adhere to the findings and recommendations of the VIA
- Should any heritage resources be impacted during the course of construction activities, work in the vicinity of the resource must cease and HWC (in the Western Cape) must be contacted regarding an appropriate way forward.



7. REFERENCES

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, 132kvV 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 SoetwaterSwitching Station Complex, 132kV Double Circuit Overhead Power Line, SoetwaterFacility 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
361705	HIA	Tim Hart	15/11/2015	HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED KOMSBERG EAST AND WEST WIND ENERGY FACILITIES AND GRID CONNECTIONS TO BE SITUATED IN THE WESTERN CAPE PROVINCE, ESCARPMENT AREA, MOORDENAARS KAROO

Additional References:

Shaw, Matthew & Ames, Christopher & Phillips, Natasha & Chambers, Sherrie & Dosseto, Anthony & Douglas, Matthew & Goble, Ron & Jacobs, Zenobia & Jones, Brian & Lin, Sam & Low, Marika & Mcneil, Jessica-Louise & Nasoordeen, Shezani & O'driscoll, Corey & Saktura, Rosaria & Sumner, T. & Watson, Sara & Will, Manual & Mackay, Alex. (2020). **The Doring**



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River Archaeology Project: Approaching the Evolution of Human Land Use Patterns in the Western Cape, South Africa.

Smith, Andrew B., and Michael R. Ripp. “**An Archaeological Reconnaissance of the Doorn/Tanqua Karoo.**” *The South African Archaeological Bulletin*, vol. 33, no. 128, 1978, pp. 118–133



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APPENDIX 1:

Chance Fossil Finds Procedure

HWC PROCEDURE: CHANCE FINDS OF PALAEOLOGICAL MATERIAL

June 2016

Introduction

This document is aimed to inform workmen and foremen working on a construction and/or mining site. It describes the procedure to follow in instances of accidental discovery of palaeontological material (please see attached poster with descriptions of palaeontological material) during construction/mining activities. This protocol does not apply to resources already identified under an assessment undertaken under s. 38 of the National Heritage Resources Act (no 25 of 1999).

Fossils are rare and irreplaceable. Fossils tell us about the environmental conditions that existed in a specific geographical area millions of years ago. As heritage resources that inform us of the history of a place, fossils are public property that the State is required to manage and conserve on behalf of all the citizens of South Africa. Fossils are therefore protected by the National Heritage Resources Act and are the property of the State. Ideally, a qualified person should be responsible for the recovery of fossils noticed during construction/mining to ensure that all relevant contextual information is recorded.

Heritage Authorities often rely on workmen and foremen to report finds, and thereby contribute to our knowledge of South Africa's past and contribute to its conservation for future generations.

Training

Workmen and foremen need to be trained in the procedure to follow in instances of accidental discovery of fossil material, in a similar way to the Health and Safety protocol. A brief introduction to the process to follow in the event of possible accidental discovery of fossils should be conducted by the designated Environmental Control Officer (ECO) for the project, or the foreman or site agent in the absence of the ECO

It is recommended that copies of the attached poster and procedure are printed out and displayed at the site office so that workmen may familiarise themselves with them and are thereby prepared in the event that accidental discovery of fossil material takes place.

Actions to be taken

One person in the staff must be identified and appointed as responsible for the implementation of the attached protocol in instances of accidental fossil discovery and must report to the ECO or site agent. If the ECO or site agent is not present on site, then the responsible person on site should follow the protocol correctly in order to not jeopardize the conservation and well-being of the fossil material.

Once a workman notices possible fossil material, he/she should report this to the ECO or site agent.

Procedure to follow if it is likely that the material identified is a fossil:

- i. The ECO or site agent must ensure that all **work ceases** immediately in the vicinity of the area where the fossil or fossils have been found;
- ii. The ECO or site agent must **inform HWC of the find immediately**. This information must include photographs of the findings and GPS co-ordinates;
- iii. The ECO or site agent must compile a **Preliminary Report and fill in the Fossil Discoveries: HWC Preliminary Record Form** within 24 hours without removing the fossil from its original position. The **Preliminary Report** records basic information about the find including:
 - The date
 - A description of the discovery
 - A description of the fossil and its context (e.g. position and depth of find)
 - Where and how the find has been stored
 - Photographs to accompany the preliminary report (the more the better):
 - A scale must be used
 - Photos of location from several angles
 - Photos of vertical section should be provided
 - Digital images of hole showing vertical section (side);
 - Digital images of fossil or fossils.

Upon receipt of this **Preliminary Report**, HWC will inform the ECO or site agent whether or not a rescue excavation or rescue collection by a palaeontologist is necessary.

- v. **Exposed finds must be stabilised where they are unstable and the site capped, e.g. with a plastic sheet or sand bags.** This protection should allow for the later excavation of the finds with due scientific care and diligence. HWC can advise on the most appropriate method for stabilisation.
- vi. If the find cannot be stabilised, **the fossil may be collect with extreme care** by the ECO or the site agent and put aside and protected until HWC advises on further action. Finds collected in this way must be safely and securely stored in tissue paper and an appropriate box. Care must be taken to remove the all fossil material and any breakage of fossil material must be avoided at all costs.

No work may continue in the vicinity of the find until HWC has indicated, in writing, that it is appropriate to proceed.

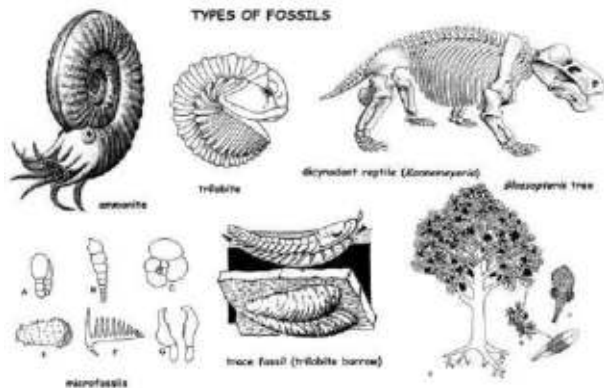
FOSSIL DISCOVERIES: HWC PRELIMINARY RECORDING FORM

Name of project:		
Name of fossil location:		
Date of discovery:		
Description of situation in which the fossil was found:		
Description of context in which the fossil was found:		
Description and condition of fossil identified:		
GPS coordinates:	Lat:	Long:
If no co-ordinates available then please describe the location:		
Time of discovery:		
Depth of find in hole		
Photographs (tick as appropriate and indicate number of the photograph)	Digital image of vertical section (side)	
	Fossil from different angles	
	Wider context of the find	
Temporary storage (where it is located and how it is conserved)		
Person identifying the fossil	Name: Contact:	
Recorder	Name: Contact:	
Photographer	Name: Contact:	

Palaeontology: what is a fossil?

Fossils are the traces of ancient life (animal, plant or microbial) preserved within rocks and come in two forms:

- Body fossils preserve parts, casts or impressions of the original tissues of an organism (e.g. bones, teeth, wood, pollen grains); and
- Trace fossils such as trackways and burrows record ancient animal behaviour.



How to report chance fossil finds: What should I do if I find a fossil during construction/mining?

If you think you have identified a fossil:

Immediately inform the ECO or Site Agent. He/she will then contact HWC and write a report and if necessary operations will stop in that specific area until the fossil is recovered

Heritage Western Cape
ceoheritage@westerncape.gov.za

021 483 5959

www.hwc.org.za

Ilifa le-Indaba
Erfenis Wes-Kaap
Heritage Western Cape

Types of palaeontological finding - What does a fossil look like?

Fossils vary in size, from fossilised tree trunks and dinosaur bones down to very small animals or plants. Finds can be **individual fossils** (one isolated wood log or bone) or **clusters and beds** (several bones, teeth, animal or plant remains, trace fossils in close proximity or bones resembling part of a skeleton). A bed of fossils is a layer with many fossil remains.

Below there is a list of few examples of fossils which may be identified during excavations in the Western Cape.

Image	Description	Image	Description
	Leaves		Snail shells and other shells
	Fossil wood		Bones of larger animals
	The remains of fish and marine life (e.g. teeth, scales, starfish)		Large burrows made by moles and other animals
	Stromatolites		Traces made by burrowing insects (ants, wasps, dung-beetles etc.).
	Animal footprints		

Images provided by Dr John Almond

Text by HWC's Archaeology, Palaeontology & Meteorites Committee June 2016





27 July 2021

Tebogo Mapinga
Savannah Environmental

Dear Ms Mapinga,

RE: HERITAGE WALKDOWN REPORT FOR THE APPROVED KOMSBERG EAST AND WEST WIND ENERGY FACILITIES NEAR SUTHERLAND IN THE NORTHERN AND WESTERN CAPE

Komsberg Wind farm (Pty) Ltd received Environmental Authorisation on the 08 September 2016 for the construction of the Komsberg West Wind Energy Facility (up to 275MW maximum capacity), the Komsberg East Wind Energy Facility (also up to 275MW maximum capacity) and their associated infrastructure near Sutherland within the Laingsburg Local Municipality, which falls under the jurisdiction of the Central Karoo District Municipality in the Western Cape Province.

In their Final Comment for this application issued in June 2016, SAHRA required that the final layout must be subjected to a walk-down by a qualified archaeologist and palaeontologist to ensure that no heritage resources are impacted by construction activities. The requirement for an archaeological walk-down of the final layout is reiterated in the amended EA for both the Komsberg East and West WEFs (dated June 2020).

In June 2021, CTS Heritage completed a walkdown of the final layout of the Komsberg East and West Wind Energy Facility and associated infrastructure. As a result of this walkdown, a number of additional heritage resources were identified that would be impacted by the final layout (see the table below from the CTS Heritage report dated July 2021). Included in the completed walkdown report were a number of recommendations made to ensure that the newly identified heritage resources would not be impacted by the proposed development.

Subsequent to the completion of the CTS Heritage Walkdown Report for the Komsberg East and West WEFs (July 2021), the final layout was amended to ensure that none of the identified heritage resources would be impacted by the proposed development.

This letter is therefore drafted to confirm that the final amended layout dated July 2021 for the Komsberg East and West WEFs does not impact any known heritage resources and adheres to



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the recommendations included in the CTS Heritage Walkdown report for this development (July 2021). Please see the attached maps as confirmation.

Site No.	Site Name	Description	Co-ordinates		Grading	Mitigation
<i>Komsberg West - Northern Cape</i>						
KW03	Komsberg West 3	Grave and ruin, Johanna Elizabeth Victor	-32.82453	20.81511	IIIA	No impact anticipated. 100m no-go buffer recommended
<i>Komsberg East - Western Cape</i>						
KE01	Komsberg East 1	Stone walled kraal	-32.7488134 6	21.05189119	IIIB	100m no-go buffer required. Road diverted.
KE05	Komsberg East 5	Rock art site in kloof, oes, and faded painting	-32.73827	20.95874	IIIA	No impact anticipated. 100m no-go buffer recommended
KE09	Komsberg East 9	Stone walling along edge of stream bank, part of Bothma farmhouse complex	-32.73694	20.93104	IIIA	200m no-go buffer required. Road diverted south.
KE10	Komsberg East 10	Old Bothma farmhouse complex, ruined walling, kraal etc	-32.73639	20.92989	IIIA	200m no-go buffer required. Road diverted south.
KE11	Komsberg East 11	At least 16 graves, marked by stone and headstones, part of Bothma farmhouse complex	-32.73482	20.92961	IIIA	200m no-go buffer required. Road diverted south.

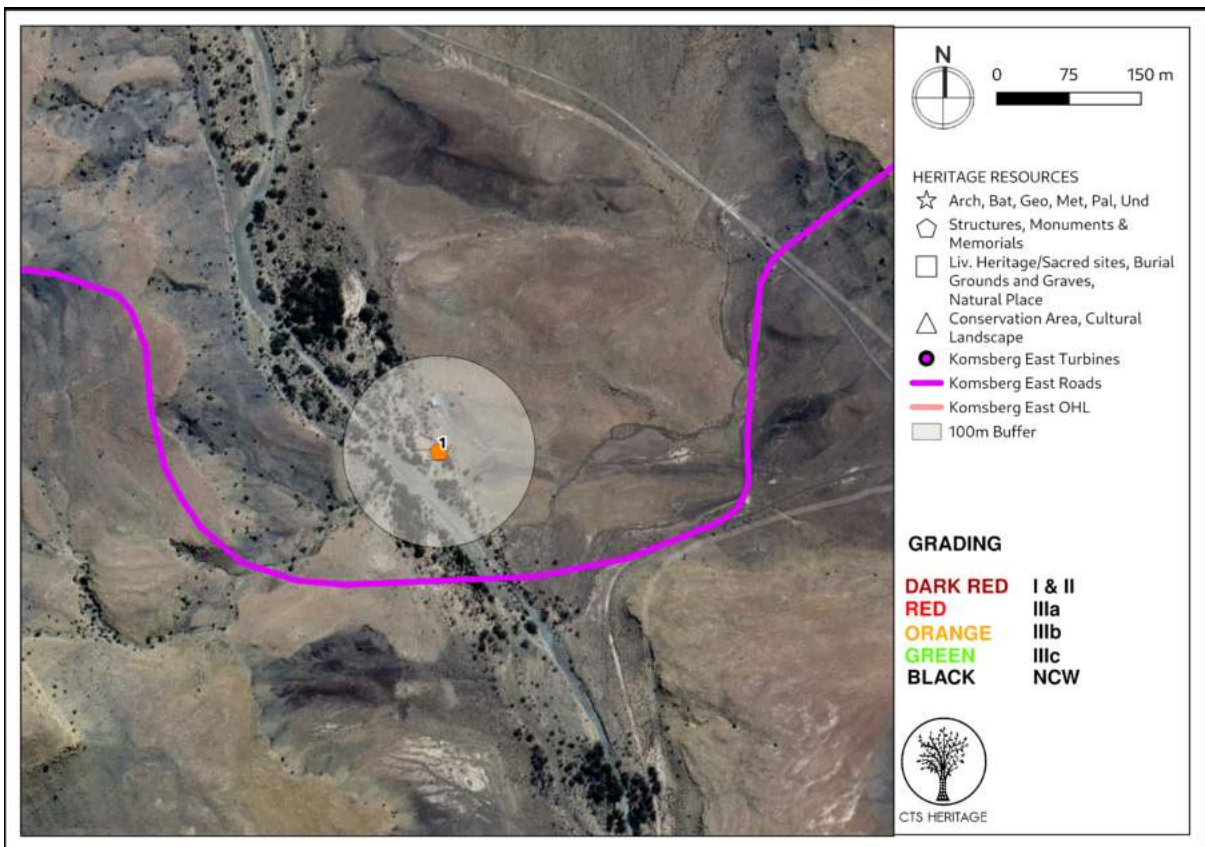
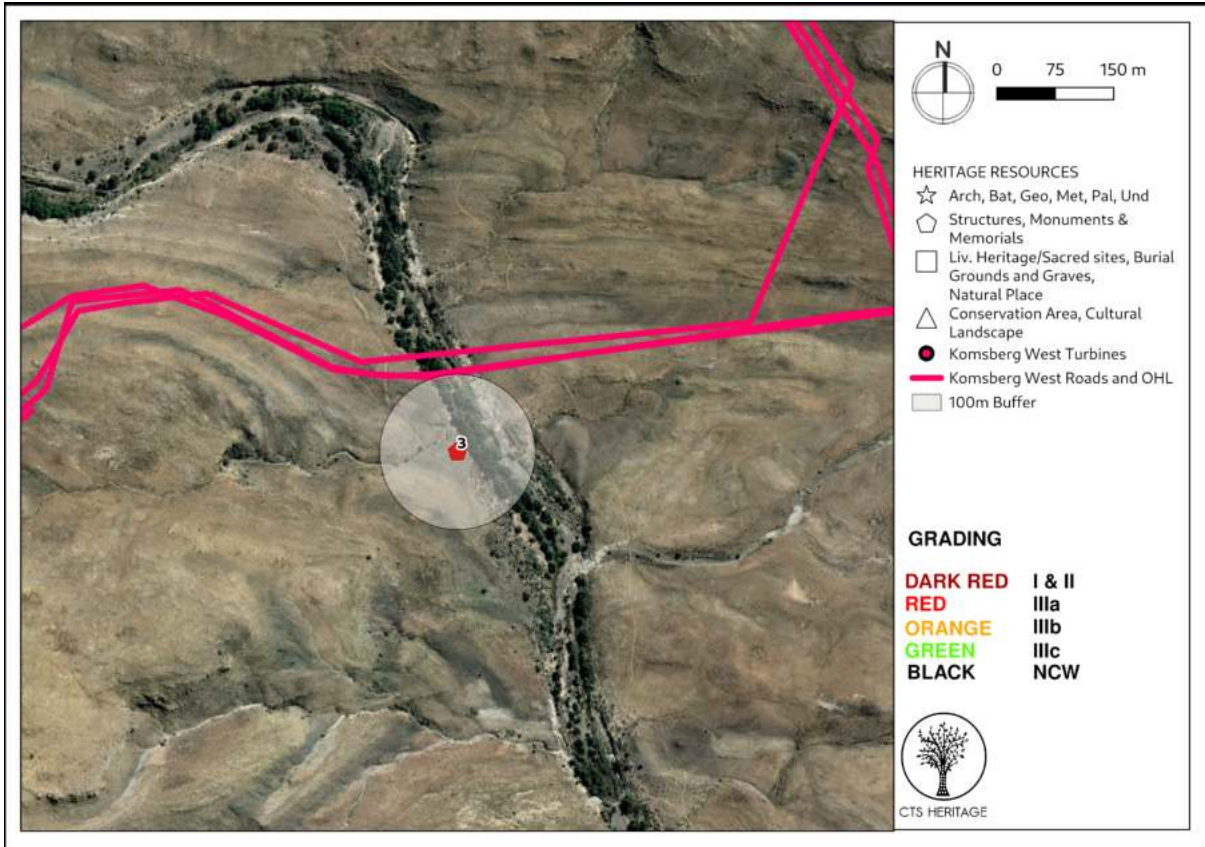
Please feel free to contact me should you have any further questions or concerns in this regard.

Yours sincerely

Jenna Lavin
Archaeologist
Heritage Assessment Practitioner



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Cedar Tower Services (Pty) Ltd t/a CTS Heritage

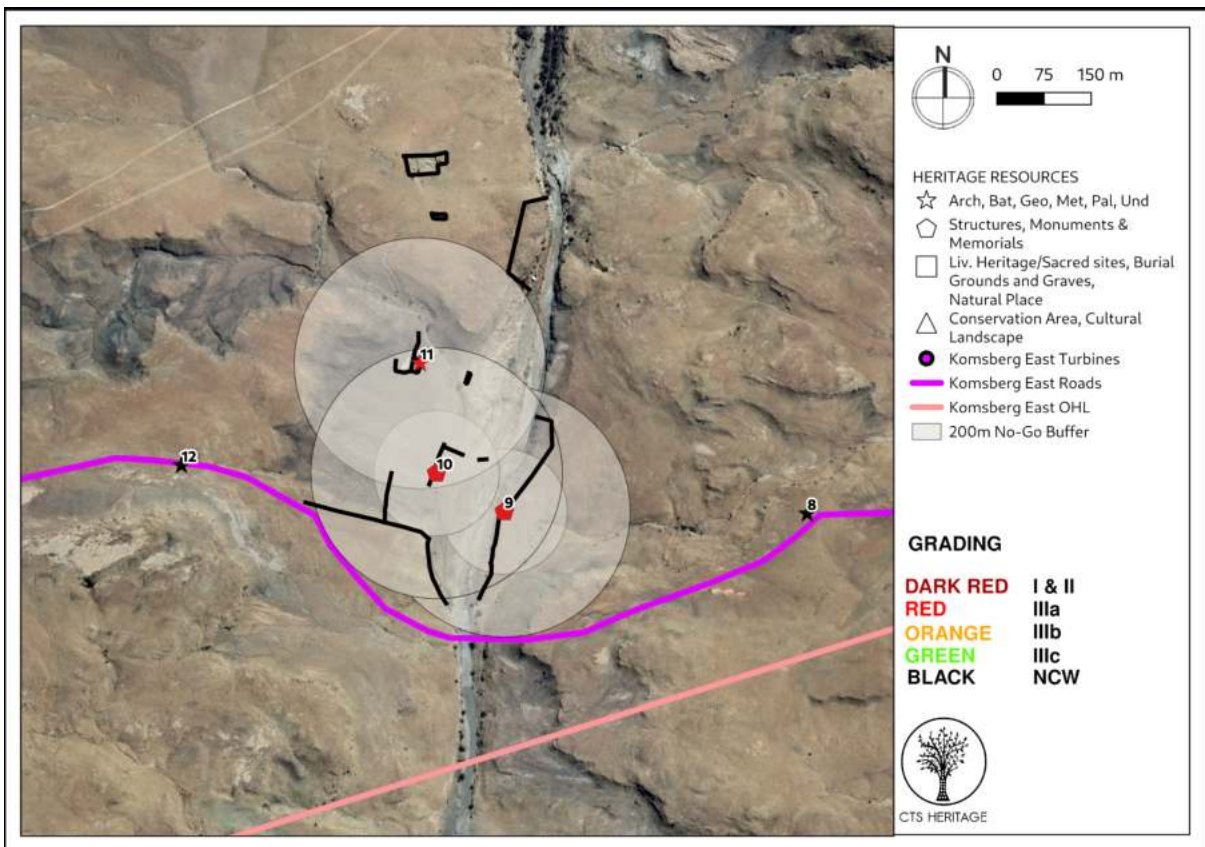
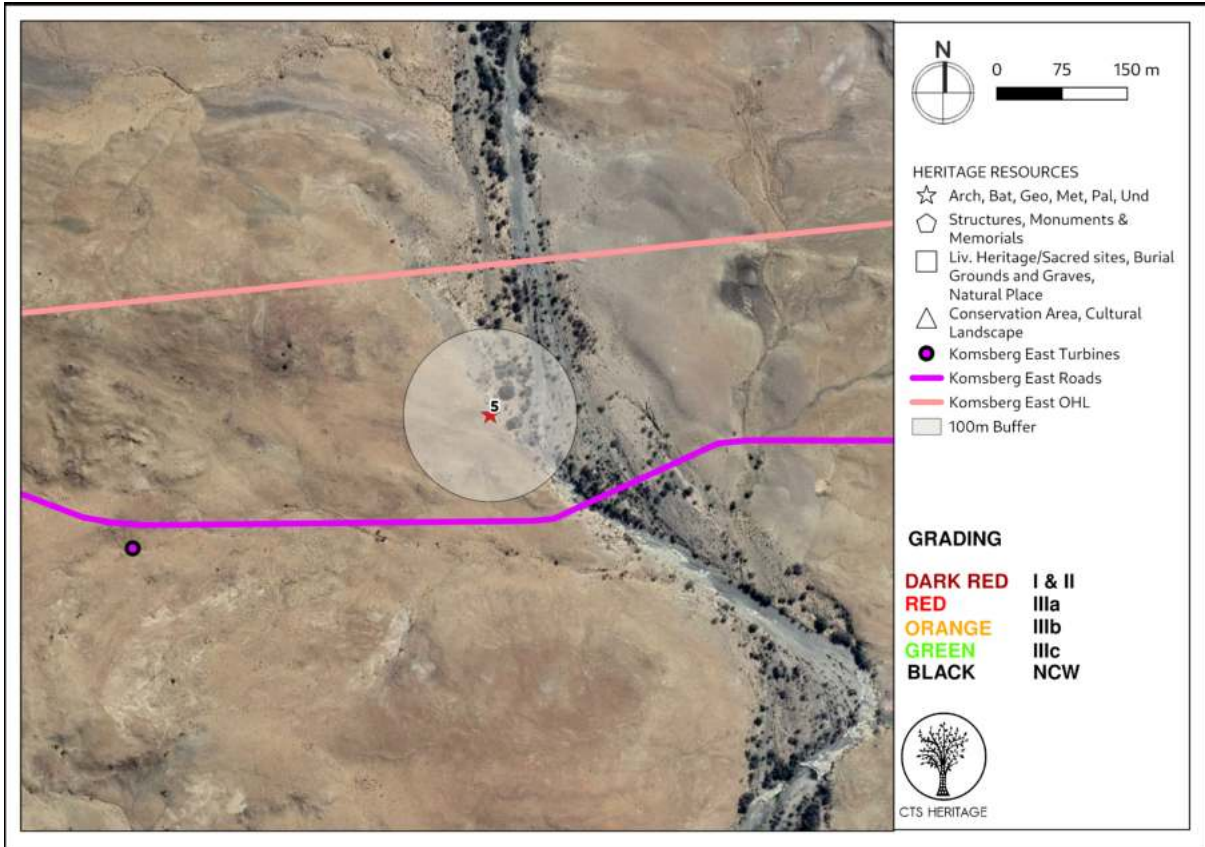
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34 Harries Street, Plumstead, Cape Town, 7945

Tel: +27 (0)87 073 5739 Email: info@ctsheritage.com Web: www.ctsheritage.com



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Cedar Tower Services (Pty) Ltd t/a CTS Heritage

Reg: 2013/211135/07 VAT No: 4160278950

34 Harries Street, Plumstead, Cape Town, 7945

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