

# DRAFT ARCHAEOLOGICAL SPECIALIST STUDY

In terms of Section 38(8) of the NHRA for a

## **Proposed development of the Aberdeen WEF, Eastern Cape**

**Prepared by**



**CTS HERITAGE**

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In Association with

**Savannah Environmental**

July 2022



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## EXECUTIVE SUMMARY

Atlantic Energy Partners (Pty) Ltd is proposing to develop a cluster of 4 x 170MW wind farms plus grid connection infrastructure comprising a 132/400kV collector switching station and a 132/400kV overhead power line (within a 100km long and 300m wide corridor) on a site near Aberdeen in the Eastern Cape Province.

The findings of this assessment largely correlate with the findings of other assessments completed in the vicinity such as the findings of the Booth and Sanker (2013, SAHRIS NID 251161). It is noted that high numbers of quarried stone artefacts predominantly from the Middle Stone Age and Later Stone Age period were found within the development area which is consistent with observations on neighbouring farms through impact assessments and research surveys. The majority of the lithic material identified is of low significance (not conservation-worthy), and even though the resources may be destroyed during construction, the impact is inconsequential. No mitigation is required for archaeological material recorded in the footprint areas of the proposed development.

Despite the high number of observations of artefacts, these resources are common and representative of similar scatters across widespread areas of the Karoo. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low.

Two burial areas were located within the area proposed for development (ABD044 and ABD124), graded IIIA due to their high levels of local significance. No impact to these sites may occur and as such, appropriate no-development buffers around these sites are proposed. All of the other significant resources identified are either historic kraals, occupied farm werfs or the ruins of historic farm werfs. While no direct impact to any of these sites is anticipated in the layout provided (except for site ABD110), it is recommended that a no-development buffer of 500m is implemented around these sites.

In the layout provided, the proposed road alignment passes directly through site ABD110 which is likely to significantly negatively impact on this resource. As such, it is recommended that the proposed road alignment be amended to avoid impact.

### ***Recommendations***

Based on the outcomes of this report, it is not anticipated that the proposed development of the wind energy facilities will negatively impact on significant archaeological heritage on condition that:

- A 500m no-go development buffer is implemented around sites ABD003, 004, 036, 037, 039, 044, 061, 062, 063, 091, 093, 109, 110, 124, 134, 144, 147 and 173.
- A 100m no-go development buffer is implemented around SAHRIS Site 35548
- The proposed road alignment must be adjusted to respect a minimum of a 50m buffer around site ABD110
- Although all possible care has been taken to identify sites of cultural importance during the investigation of the study area, it is always possible that hidden or subsurface sites could be overlooked during the assessment. If



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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, burials or other categories of heritage resources are found during the proposed development, work must cease in the vicinity of the find and ECPHRA must be alerted immediately to determine an appropriate way forward.



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## **1. INTRODUCTION**

### **1.1 Background Information on Project**

Atlantic Energy Partners (Pty) Ltd is proposing to develop a cluster of 4 x 170MW wind farms plus grid connection infrastructure comprising a 132/400kV collector switching station and a 132/400kV overhead power line (within a 100km long and 300m wide corridor) on a site near Aberdeen in the Eastern Cape Province.

The project site is located within the Beaufort West Renewable Energy Development Zone (REDZ) and the grid connection corridor falls within the Central and Eastern Corridors of the Strategic Transmission Corridors. The Applications for Authorisation for the 4x 170MW wind farms and grid connection infrastructure will therefore follow a Basic Assessment (BA) process.

### **1.2 Description of Property and Affected Environment**

The proposed Aberdeen WEF lies to the south of the Kambdebooberge 20km west of the town of Aberdeen. The tarred R61 main road forms the northern boundary and links the area to Beaufort West 140km away in a northwesterly direction from the study area. The majority of the turbines have been positioned in a grid alignment running southwest to northeast to take advantage of the predominant winds sweeping through the open and level ground over which the WEF is proposed. The recent 7 year-long drought impacted the sheep farming activities heavily in this area and a number of ruined farms are being managed centrally as they have no longer been viable to farm as separate businesses. Jeep tracks and a few well constructed gravel roads connect the farms and many of the WEF access roads have been planned along these existing routes. Small-scale crop agriculture is also present and clustered along the water courses growing fodder for the stock farming production in the area.

The vegetation observed during the survey had been severely degraded by the multi-year drought and what was left for sheep to graze. At least one small scale wild game enclosure was also found. The vegetation is sparse and falls within the Karoo biome of succulents and shrubs. The WEF is one of many renewable energy projects proposed in the area around Aberdeen as it has reliable winds, abundant sun exposure and direct access to the national grid which passes directly through the study area.



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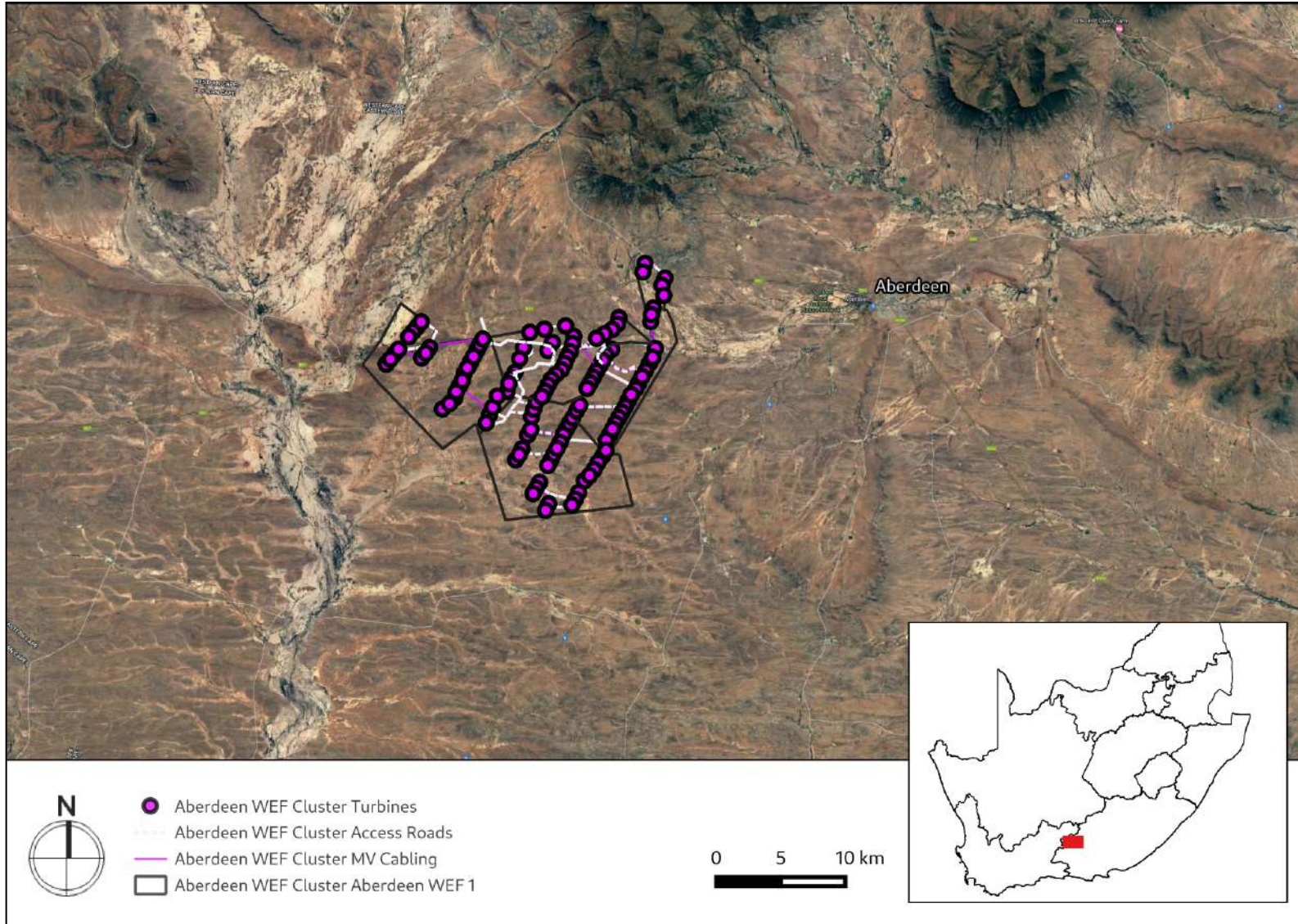


Figure 1.1: Satellite image indicating proposed location of development

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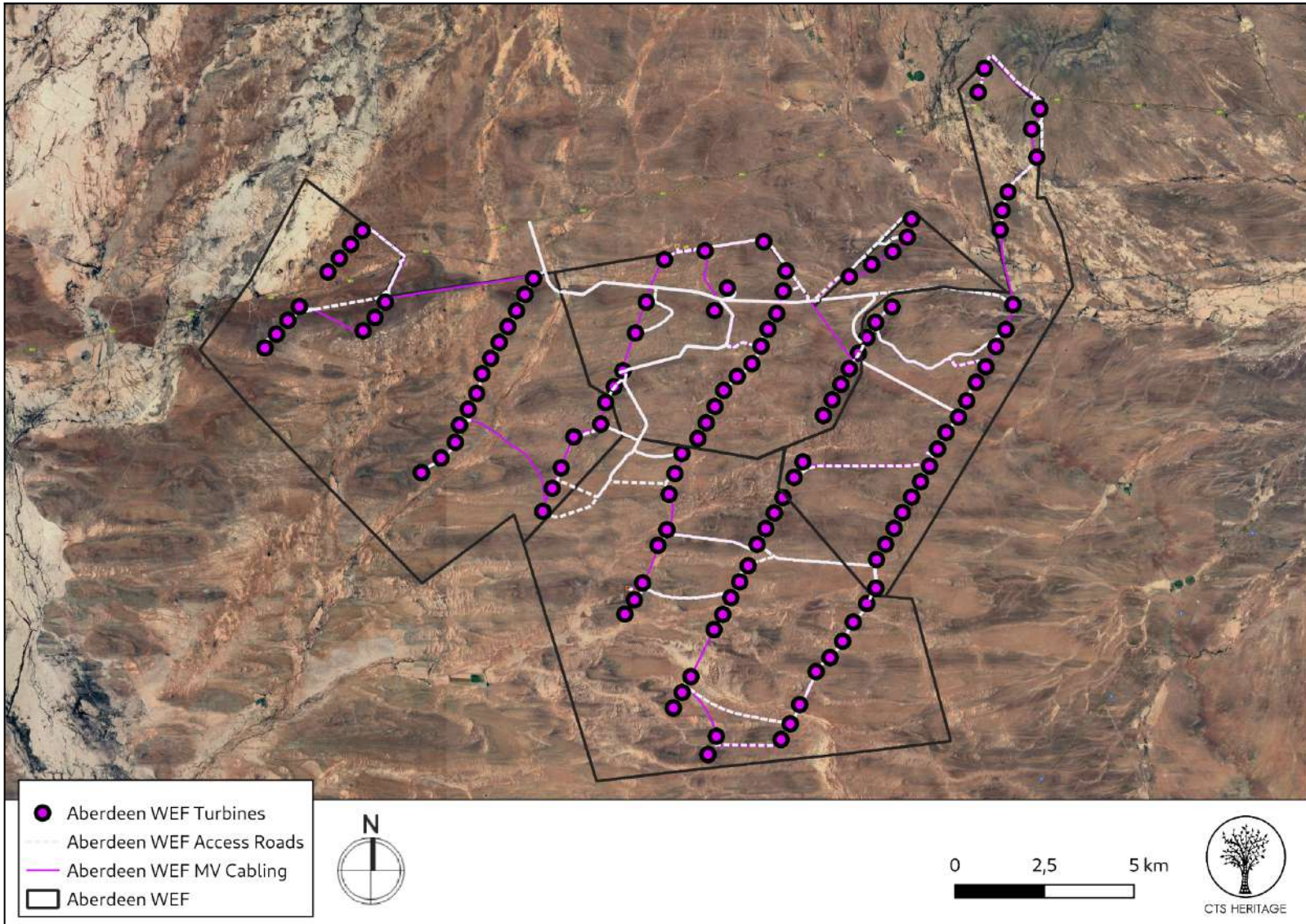


Figure 1.2: Proposed project boundary

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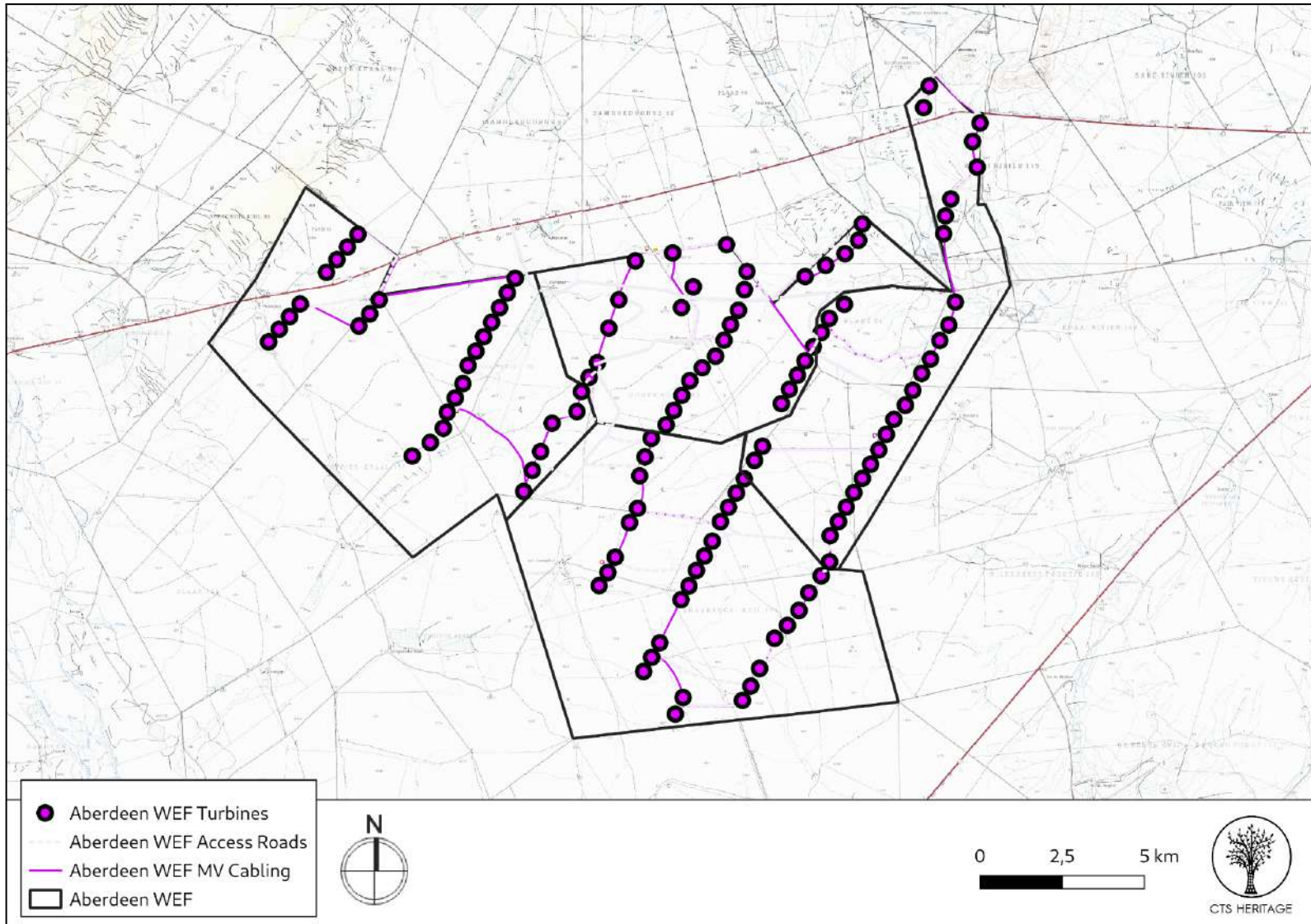


Figure 1.3: Proposed project boundary

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## **2. METHODOLOGY**

### **2.1 Purpose of Archaeological Study**

The purpose of this archaeological study is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999) in terms of impacts to archaeological resources.

### **2.2 Summary of steps followed**

- An archaeologist (N. Wiltshire) conducted a survey of the site and its environs from 15 to 20 July 2022 to determine what archaeological resources are likely to be impacted by the proposed development.
- The area proposed for development was assessed on foot, photographs of the context and finds were taken, and tracks were recorded 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).
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner.

### **2.3 Constraints & Limitations**

The ground was level with very few changes in elevation spread across the study area. No rock shelters or natural outcrops of dolerite boulders were found and the vegetation posed no challenges in terms of survey visibility as the ground was sparsely vegetated.

The experience of the heritage practitioner, and observations made during the study, allow us to predict with some accuracy the archaeological sensitivity of the receiving environment.



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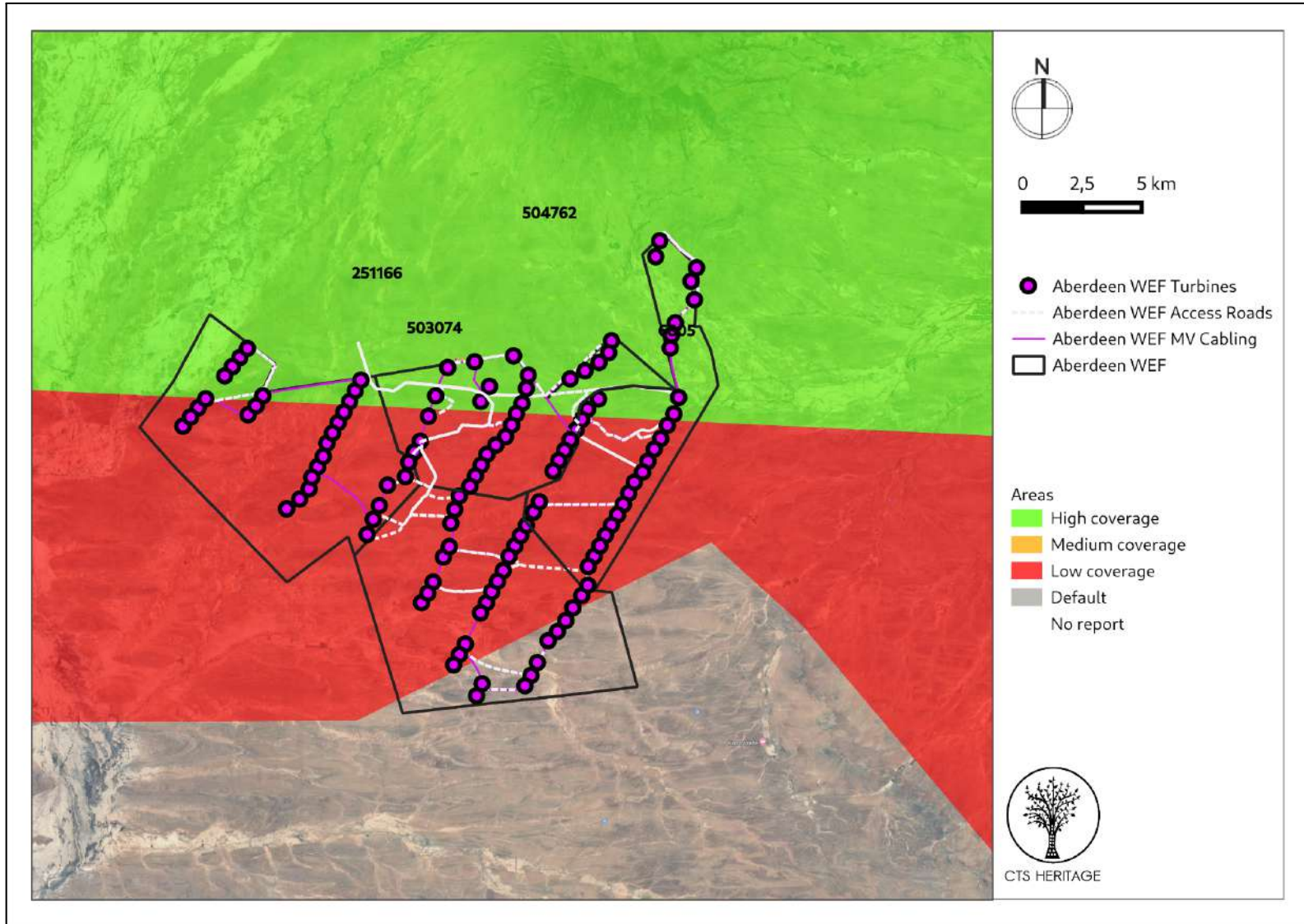


Figure 2: Close up satellite image indicating proposed location of development in relation to heritage studies previously conducted

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### 3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

#### **Background:**

The area proposed for the Aberdeen Renewable Energy Facility Projects is located approximately 25km west of Aberdeen in the Eastern Cape, and is located within the identified Beaufort West REDZ (Figure 2b). With its numerous examples of Victorian architecture, it is one of the architectural conservation areas of the Karoo. The town is some 55 km south-west of Graaff-Reinet, 155 km east-south-east of Beaufort West and 32 km south of the Camdeboo Mountains. Laid out on the farm Brakkefontein as a settlement of the Dutch Reformed Church in 1856, it became a municipality in 1858. It is named after Aberdeen in Scotland, birthplace of the Reverend Andrew Murray of Graaff-Reinet, relieving minister. Aberdeen is filled with examples of Victorian architecture, and the Steeple of the Dutch Reformed Church, with its 50 metre Tower, is the highest in South Africa. There is a Local Authority Nature Reserve found here, as well as The Fonteinbos Nature Reserve which is both beautiful and functional, as its natural spring (Die Oog) supplies the entire town and its agricultural sector with its water.

#### **Archaeology**

Very few heritage assessments have been completed within close proximity to the area proposed for development (Figure 2a). According to Nilssen (2014, SAHRIS NID 504763), “The Karoo houses a long and rich archaeological record dating from the earliest stages of Stone Age technology that are over a million years old, to the historic period that consists of the last few hundred years of human occupation (see Nilssen 2011 and references therein). Archaeological sites include caves and rock shelters, open air artefact scatters, rock engravings and historic structures with their associated cultural materials.” According to the ACO (2013, SAHRIS NID 503074), “Because of the scarcity of caves and shelters, more than 90% of Karoo archaeological sites are open sites of stone artefacts, ostrich eggshell fragments and occasionally, pottery. Bone remains are rarely preserved. Artefacts of both the Early and Middle Stone Age are widespread and may generally be described as an ancient litter that occurs at a low frequency across the landscape. Where definable scatters of Early and Middle Stone Age material occur, they are considered to be significant heritage sites.

More intensive occupation of the Karoo started around 13 000 years ago during the Later Stone Age, which is essentially the heritage of Khoisan groups who lived throughout the region. The legacy of the San includes numerous open sites while traces of their presence can also be found in most large rock shelters, often in the form of rock art. They frequently settled a short distance from permanent water sources (springs or waterholes) and made use of natural shelters such as rock outcrops or large boulders or even large bushes. In the Great Karoo, natural elevated features such as dolerite dykes and ridges played a significant role in San settlement patterns” and as such, this broader area is renowned for its well-preserved rock art and other artefacts from this time, including rock engravings and rock gongs. It is likely that similar archaeological heritage exists within the areas proposed for development and as such, impact to these resources must be assessed.

A Heritage Impact Assessment was completed in 2013 for the proposed Aberdeen WEF located immediately north of the area proposed for development (Booth and Sanker, SAHRIS NID 251161). The findings of this assessment therefore



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provide an indication of the kinds of heritage resources likely to be present within this proposed development area. Booth and Sanker (2013) noted that “Surface scatters of predominantly Middle Stone Age stone artefacts were observed over most of the area proposed for the development, these included isolated as well as dense occurrences. Eight areas / sites have been identified that comprise relatively dense scatters of stone artefacts over large areas with several micro-sites within the demarcated sites. It was observed that denser distributions of stone artefacts occurred in the north and central areas of the study area, filtering out towards the south. No associated archaeological material or organic remains were documented with the stone artefact surface scatters. An historical stonewalling farmstead complex is situated adjacent to one of the proposed access roads. The complex comprised the remains of the house and two kraals. Packed stones were identified in the south-central area. The packed stone may resemble a kraal that has now collapsed. Fragments of glass and pottery were found within this area, as well as a No. 2 Musket Eley bullet casing associated with the Second Anglo-Boer War.” All of the resources identified by Booth and Sanker (2013) have been mapped relative to the proposed development in Figure 3.1 and 3.2.



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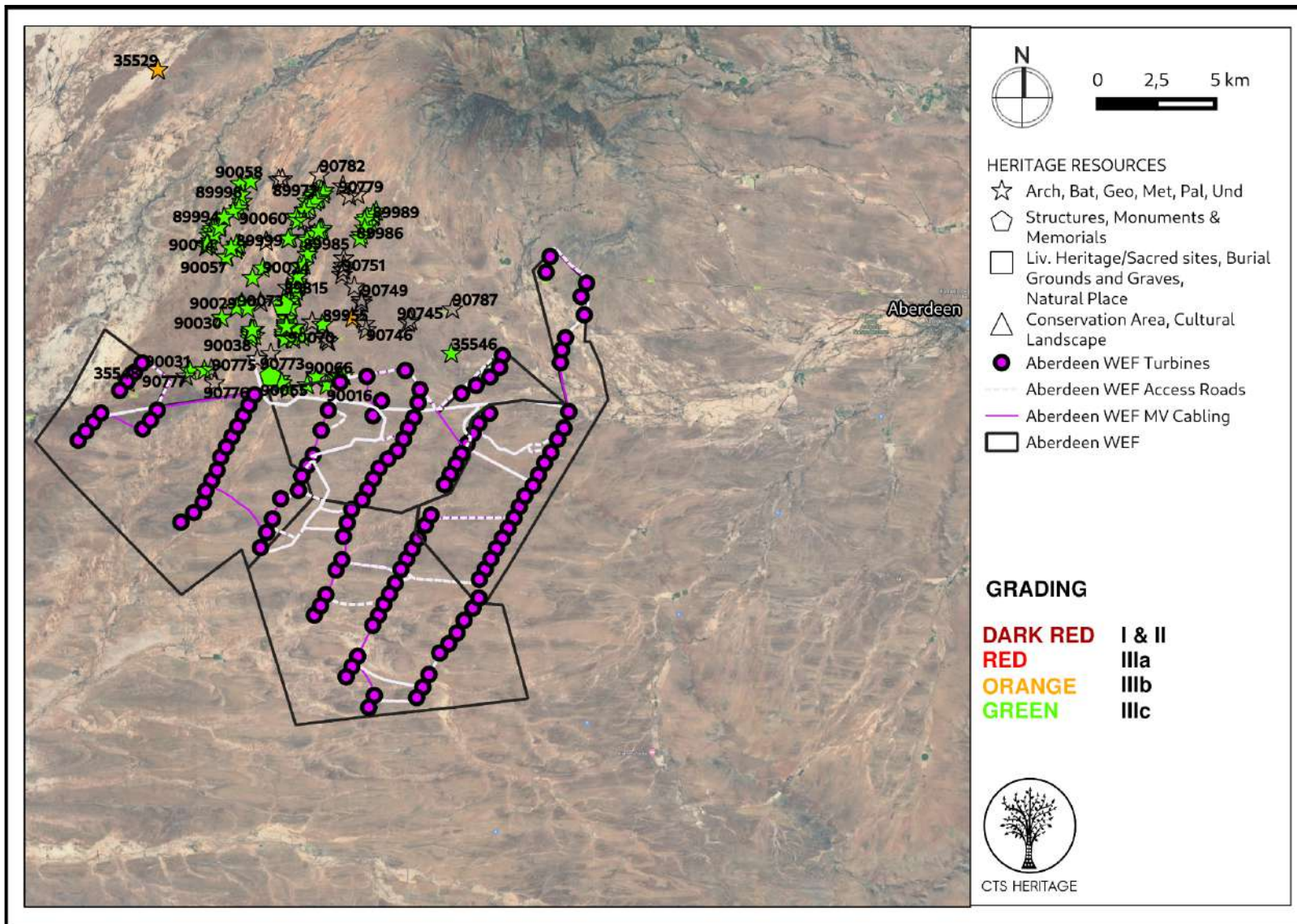


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated

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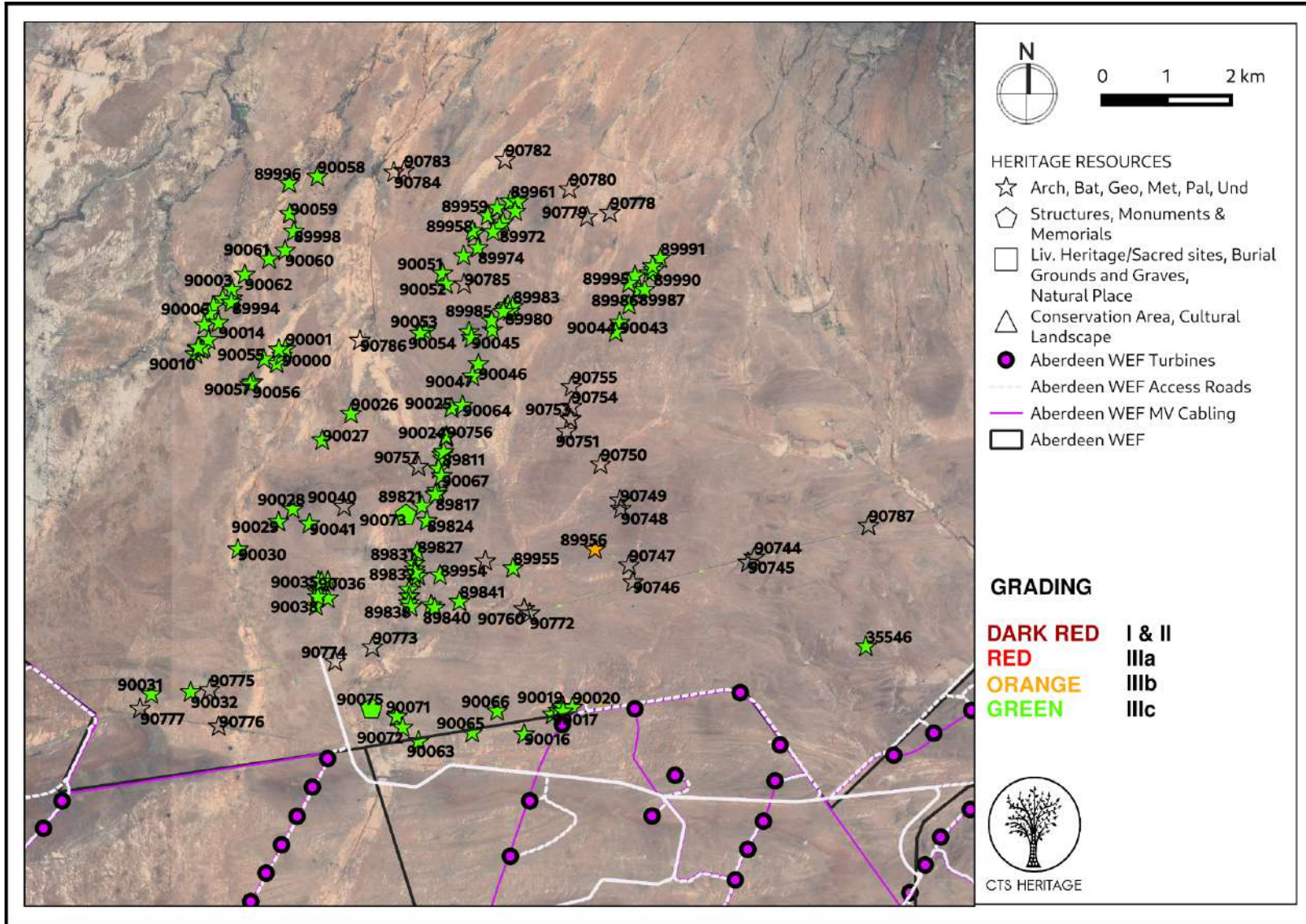


Figure 3.1. Heritage Resources Map. Inset A

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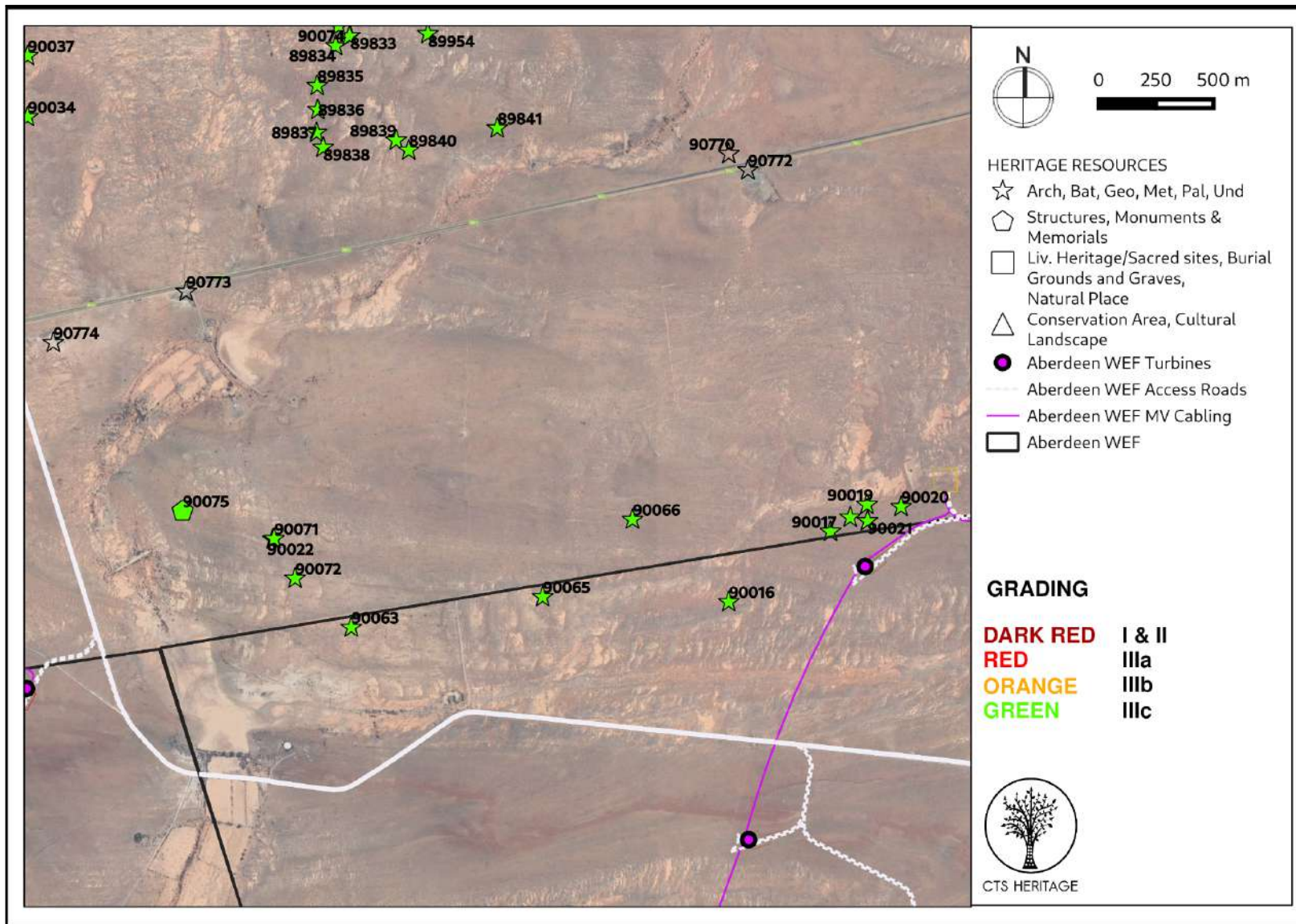


Figure 3.2. Heritage Resources Map. Inset B

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## 4. IDENTIFICATION OF HERITAGE RESOURCES

### 4.1 Field Assessment

The field assessment completed for the Aberdeen WEF should be understood in conjunction with the findings made by Booth to the north of the R61 for the Eskom WEF (not built yet) in 2013. Given the lack of natural rock shelters on the landscape and absence of dolerite boulders favoured by rock engravers during the Later Stone Age, the vast majority of the observations consisted of open air scatters of Middle and Later Stone Age artefact scatters. The MSA material found clearly spanned a very wide period of time as many examples of early MSA artefacts were found along with diagnostic pieces such as blade flakes, blanks, unifacial points, radial cores and bifacially retouched flakes. Locally abundant raw materials were extensively utilised as siltstones and hornfels contributed most of the stone used to make artefacts as well as a smaller but significant percentage of chert, particularly in the LSA assemblages. The artefacts are spread thinly but widely throughout the area with no particular focal points other than the slightly elevated ridges that are no more than 10-20m higher than the surrounding landscape.

The historic to modern farming use of the landscape has contributed to the built environment pattern of settlement in the area with typical Karoo werfs, many now ruined, dotting the landscape. A number of farm dams have been made in the past by using earthmoving equipment to push up dirt banks along the watercourses. The historic stonework of the ruined dam at observation #036 is near some possible graves and careful consideration of the upgrades to the existing access road must be made at this location as well as the roads at the very large vernacular stone kraal enclosure at #173.



Figure 4.1: Contextual Images of Landscape





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Figure 4.2: Contextual Images of Landscape



Figure 4.3: Contextual Images of Landscape



Figure 4.4: Contextual Images of Landscape

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Figure 4.5: Contextual Images of Landscape



Figure 4.6: Contextual Images of Landscape



Figure 4.7: Contextual Images of landscape

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Figure 4.8: Contextual Images of Landscape



Figure 4.9: Contextual Images of Landscape



Figure 4.10: Contextual Images of Landscape

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Figure 4.11: Contextual Images



Figure 4.12: Contextual Images



Figure 4.13: Contextual Images

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Figure 4.14: Contextual Images



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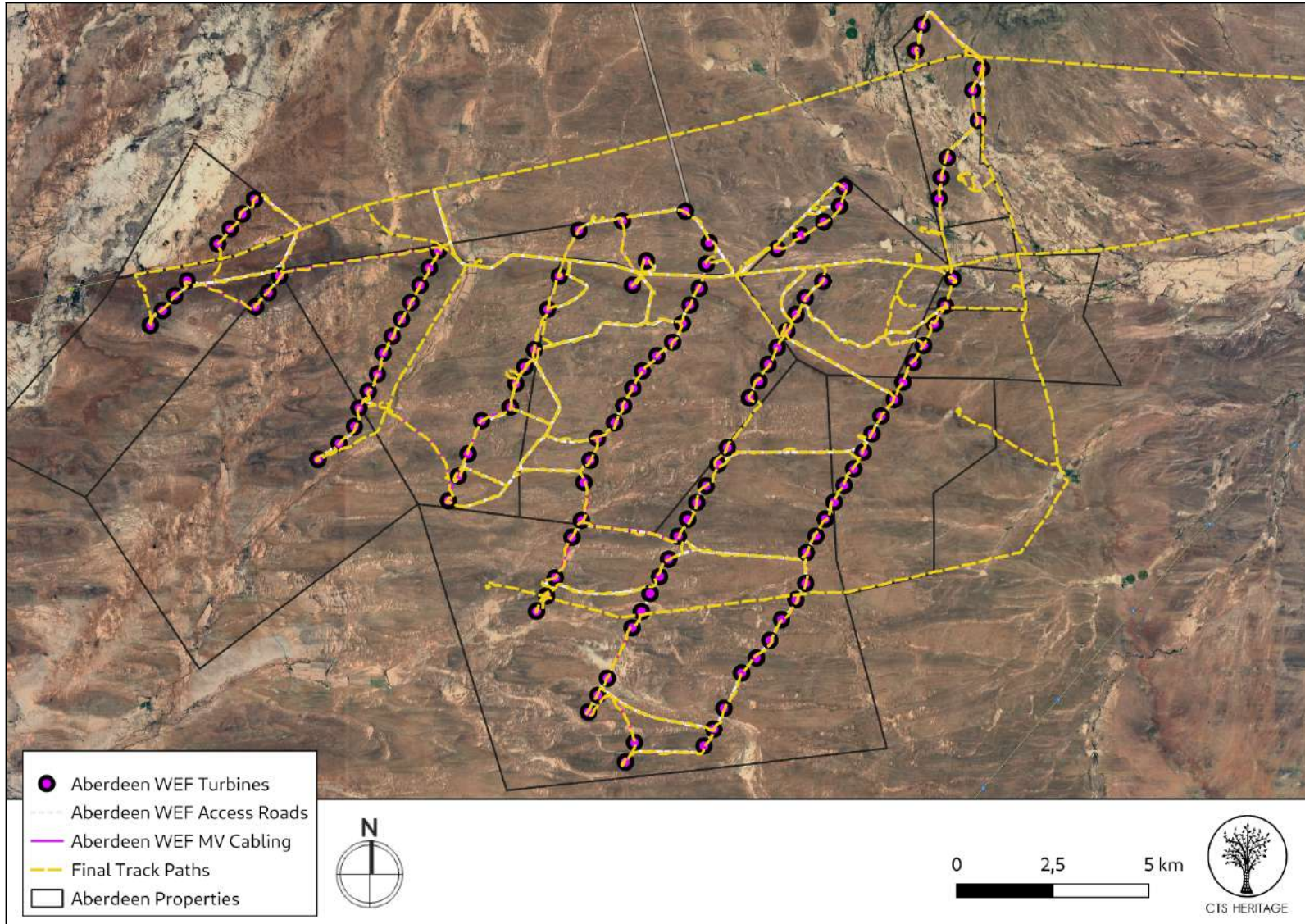


Figure 5: Overall track paths of foot survey

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## 4.2 Archaeological Resources identified

**Table 1: Observations noted during the field assessment**

POINT	Project Name	Description	Density/ m <sup>2</sup>	Period	Co-ordinates		Grading	Mitigation
ABD001	Aberdeen WEF 4	Fine grained quartzite flake unworked	0 to 5	MSA	-32.452372	23.867969	NCW	NA
ABD002	Aberdeen WEF 4	Farm dam	0 to 5	MSA	-32.453321	23.859429	NCW	NA
ABD003	Aberdeen WEF 1	Ruined long building, no roof, sandstone walls, metal windows x 3 on southern end	n/a	Historic	-32.509487	23.643425	IIC	500m Buffer
ABD004	Aberdeen WEF 1	Pretoriuskuil farmhouse complex, Victorian hipped roofs, 3 labourers cottages	n/a	Historic	-32.511697	23.644984	IIC	500m Buffer
ABD005	Aberdeen WEF 4	Siltstone flakes and cores	5 to 10	MSA	-32.456395	23.873796	NCW	NA
ABD006	Aberdeen WEF 1	Siltstone flakes and cores	0 to 5	MSA	-32.51913	23.649397	NCW	NA
ABD007	Aberdeen WEF 1	White chert core	0 to 5	LSA	-32.515726	23.653664	NCW	NA
ABD008	Aberdeen WEF 1	Early MSA flake prepared platform, prominent bulb of percussion siltstone	0 to 5	MSA	-32.511897	23.659404	NCW	NA
ABD009	Aberdeen WEF 1	Chert flakes	0 to 5	LSA	-32.515224	23.669892	NCW	NA
ABD010	Aberdeen WEF 1	Hornfels flake, edge worked back, possible adze	0 to 5	LSA+MSA	-32.515918	23.67819	NCW	NA
ABD011	Aberdeen WEF 1	Chert microliths	0 to 5	LSA	-32.514105	23.679974	NCW	NA
ABD012	Aberdeen WEF 1	Siltstone flake worked for hafting	0 to 5	MSA	-32.510639	23.683446	NCW	NA
ABD013	Aberdeen WEF 1	Chert and quartzite microliths	5 to 10	LSA	-32.503667	23.686759	NCW	NA
ABD014	Aberdeen WEF 1	Siltstone flake blade point and core	0 to 5	MSA	-32.496712	23.686448	NCW	NA
ABD015	Aberdeen WEF 1	Siltstone core and flakes	5 to 10	MSA	-32.49256	23.680454	NCW	NA
ABD016	Aberdeen WEF 1	Chert flakes retouched, siltstone core	0 to 5	LSA	-32.494472	23.674687	NCW	NA
ABD017	Aberdeen WEF 1	Quartzite blades	0 to 5	MSA	-32.499921	23.669211	NCW	NA
ABD018	Aberdeen WEF 1	Early MSA hornfels flake repatinated	0 to 5	MSA	-32.510323	23.673096	NCW	NA
ABD019	Aberdeen WEF 1	Siltstone flakes, clear dorsal spine	0 to 5	MSA	-32.507688	23.695748	NCW	NA
ABD020	Aberdeen WEF 1	Patinated siltstone flakes	0 to 5	MSA	-32.506332	23.706908	NCW	NA
ABD021	Aberdeen WEF 1	Fine grained hornfels flakes, retouched, prepared platform	5 to 10	LSA+MSA	-32.503798	23.724975	NCW	NA
ABD022	Aberdeen WEF 1	Chert flakes, unworked	0 to 5	MSA	-32.508452	23.725052	NCW	NA
ABD023	Aberdeen WEF 1	Chert and siltstone blade forms	0 to 5	MSA	-32.514076	23.721802	NCW	NA
ABD024	Aberdeen WEF 1	Hornfels radial core and flake	0 to 5	MSA	-32.522763	23.716284	NCW	NA
ABD025	Aberdeen WEF 1	Hornfels core and chert flake	0 to 5	MSA	-32.525546	23.714154	NCW	NA
ABD026	Aberdeen WEF 1	Siltstone point and flake, prominent bulb of percussion	0 to 5	MSA	-32.526289	23.713653	NCW	NA
ABD027	Aberdeen WEF 1	Siltstone and hornfels flakes, cores	5 to 10	MSA	-32.52801	23.712643	NCW	NA
ABD028	Aberdeen WEF 1	Hornfels retouched blade flake and quartzite flake	0 to 5	MSA	-32.530474	23.711775	NCW	NA
ABD029	Aberdeen WEF 1	Siltstone flakes prepared platform	0 to 5	MSA	-32.532648	23.711176	NCW	NA
ABD030	Aberdeen WEF 1	Chert microliths	0 to 5	LSA	-32.534669	23.710081	NCW	NA
ABD031	Aberdeen WEF 1	Large unworked siltstone flakes	0 to 5	MSA	-32.537025	23.70843	NCW	NA
ABD032	Aberdeen WEF 1	Reddish siltstone flake core with radial secondary scarring, core	0 to 5	MSA	-32.539017	23.70837	NCW	NA
ABD033	Aberdeen WEF 1	Various siltstone flakes prepared platforms, no retouch	5 to 10	MSA	-32.540121	23.706352	NCW	NA
ABD034	Aberdeen WEF 1	Chert core and blade flake	0 to 5	MSA	-32.546119	23.704341	NCW	NA



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ABD035	Aberdeen WEF 1	Hornfels flake, some retouch, siltstone flakes	0 to 5	MSA	-32.550296	23.698656	NCW	NA
ABD036	Aberdeen WEF 1	Square sandstone ruined farm dam, metal drum, bullet casings, glass, ceramics	n/a	Historic	-32.542108	23.714568	IIIC	500m Buffer
ABD037	Aberdeen WEF 1	Pile of sandstone, possibly collapsed structure, but next to glass, ceramics, metal midden	30+	Historic	-32.541617	23.714636	IIIB	500m Buffer
ABD038	Aberdeen WEF 1	Earthen dam	n/a	Modern	-32.542156	23.716033	NCW	NA
ABD039	Aberdeen WEF 1	Ruined sandstone large kraal	n/a	Historic	-32.542266	23.713945	IIIB	500m Buffer
ABD040	Aberdeen WEF 1	Hornfels and siltstone flakes, early MSA	0 to 5	MSA	-32.540273	23.710448	NCW	NA
ABD041	Aberdeen WEF 1	Hornfels flakes and siltstone core	0 to 5	MSA	-32.545314	23.719789	NCW	NA
ABD042	Aberdeen WEF 1	Siltstone core	0 to 5	MSA	-32.548675	23.725609	NCW	NA
ABD043	Aberdeen WEF 1	Kraal, windmill and dam	n/a	Historic	-32.55124	23.699079	NCW	NA
ABD044	Aberdeen WEF 1	Possible graves, 5, maybe 6 headstones	n/a	Historic	-32.542874	23.715279	IIIA	500m Buffer
ABD045	Aberdeen WEF 1	Concrete dam, solar pump	n/a	Modern	-32.557353	23.7296	NCW	NA
ABD046	Aberdeen WEF 1	Hornfels microliths	0 to 5	LSA	-32.562941	23.739237	NCW	NA
ABD047	Aberdeen WEF 1	Patinated hornfels flake and quartz chunk	0 to 5	MSA	-32.558041	23.74327	NCW	NA
ABD048	Aberdeen WEF 1	Hornfels and quartz flakes	0 to 5	MSA	-32.549286	23.736922	NCW	NA
ABD049	Aberdeen WEF 1	Hornfels and siltstone flakes	0 to 5	MSA	-32.544088	23.739731	NCW	NA
ABD050	Aberdeen WEF 1	Siltstone flakes	0 to 5	MSA	-32.542237	23.745575	NCW	NA
ABD051	Aberdeen WEF 1	Patinated siltstone flakes	0 to 5	LSA	-32.535778	23.748986	NCW	NA
ABD052	Aberdeen WEF 3	Ccs microliths	0 to 5	MSA	-32.531201	23.751923	NCW	NA
ABD053	Aberdeen WEF 3	Very patinated hornfels segment	0 to 5	MSA	-32.523967	23.754941	NCW	NA
ABD054	Aberdeen WEF 3	Siltstone flakes	0 to 5	MSA	-32.517394	23.760382	NCW	NA
ABD055	Aberdeen WEF 3	Ccs microlith	0 to 5	LSA	-32.514644	23.766924	NCW	NA
ABD056	Aberdeen WEF 3	Patinated hornfels flake and siltstone flake	0 to 5	MSA	-32.507947	23.763756	NCW	NA
ABD057	Aberdeen WEF 3	Siltstone core and flake	0 to 5	MSA	-32.500353	23.765966	NCW	NA
ABD058	Aberdeen WEF 3	Retouched hornfels blade flake	0 to 5	MSA	-32.505482	23.75362	NCW	NA
ABD059	Aberdeen WEF 1	Windmill and concrete dam	n/a	Modern	-32.533696	23.74733	NCW	NA
ABD060	Aberdeen WEF 3	Concrete dam	n/a	Modern	-32.520015	23.757115	NCW	NA
ABD061	Aberdeen WEF 1	Doornpoort ruined farmhouse complex	n/a	Historic	-32.507317	23.738369	IIIC	500m Buffer
ABD062	Aberdeen WEF 4	Perseverance farmhouse complex, some buildings 1951, earlier Victorian building too	n/a	Historic	-32.505487	23.86107	IIIC	500m Buffer
ABD063	Aberdeen WEF 4	Perseverance ruins	n/a	Historic	-32.499254	23.861448	IIIC	500m Buffer
ABD064	Aberdeen WEF 4	Hornfels patinated flakes	0 to 5	MSA	-32.500187	23.867462	NCW	NA
ABD065	Aberdeen WEF 4	Hornfels thin blade flake and patinated flakes	5 to 10	MSA	-32.493154	23.866669	NCW	NA
ABD066	Aberdeen WEF 4	Siltstone flake blanks	0 to 5	MSA	-32.489288	23.866809	NCW	NA
ABD067	Aberdeen WEF 4	Siltstone flake retouched and core	0 to 5	MSA	-32.487455	23.867012	NCW	NA
ABD068	Aberdeen WEF 4	Hornfels blades	0 to 5	MSA	-32.48433	23.867727	NCW	NA
ABD069	Aberdeen WEF 4	Siltstone core	0 to 5	MSA	-32.480231	23.870008	NCW	NA
ABD070	Aberdeen WEF 4	Patinated hornfels flakes	0 to 5	MSA	-32.474679	23.876833	NCW	NA
ABD071	Aberdeen WEF 4	Corrugated iron shed, stock kraal	n/a	Modern	-32.470804	23.878399	NCW	NA
ABD072	Aberdeen WEF 4	Hornfels and siltstone flakes	0 to 5	MSA	-32.468664	23.87574	NCW	NA





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ABD073	Aberdeen WEF 4	Early MSA siltstone flake, large	0 to 5	MSA	-32.462922	23.878566	NCW	NA
ABD074	Aberdeen WEF 4	Hornfels core and flake	0 to 5	MSA	-32.51265	23.869772	NCW	NA
ABD075	Aberdeen WEF 4	Hornfels flakes	0 to 5	MSA	-32.517396	23.867857	NCW	NA
ABD076	Aberdeen WEF 4	Siltstone flake and core	0 to 5	MSA	-32.520892	23.863927	NCW	NA
ABD077	Aberdeen WEF 4	Hornfels core, point, siltstone core	5 to 10	MSA	-32.525421	23.862693	NCW	NA
ABD078	Aberdeen WEF 4	Hornfels patinated flakes	0 to 5	MSA	-32.52503	23.849577	NCW	NA
ABD079	Aberdeen WEF 4	Long siltstone flake early MSA	0 to 5	MSA	-32.521934	23.835411	NCW	NA
ABD080	Aberdeen WEF 3	Hornfels retouched flake	0 to 5	LSA	-32.517052	23.829281	NCW	NA
ABD081	Aberdeen WEF 3	Siltstone flake early MSA	0 to 5	MSA	-32.513014	23.831667	NCW	NA
ABD082	Aberdeen WEF 3	Hornfels blanks and long flake with some retouch	0 to 5	MSA	-32.512923	23.824353	NCW	NA
ABD083	Aberdeen WEF 3	Siltstone radial core	0 to 5	MSA	-32.524496	23.824034	NCW	NA
ABD084	Aberdeen WEF 4	Siltstone blade flakes	0 to 5	MSA	-32.529369	23.834374	NCW	NA
ABD085	Aberdeen WEF 4	Siltstone flakes	0 to 5	MSA	-32.535178	23.84787	NCW	NA
ABD086	Aberdeen WEF 4	Hornfels flake and siltstone blade	0 to 5	MSA	-32.535086	23.856285	NCW	NA
ABD087	Aberdeen WEF 4	Dark siltstone flake point and hornfels core flake	0 to 5	MSA	-32.545399	23.84854	NCW	NA
ABD088	Aberdeen WEF 4	Hornfels flake with longitudinal scarring, point patinated	0 to 5	MSA	-32.551165	23.835017	NCW	NA
ABD089	Aberdeen WEF 4	Chert and hornfels flakes	0 to 5	MSA	-32.551188	23.819385	NCW	NA
ABD090	Aberdeen WEF 3	Siltstone core and flake	0 to 5	MSA	-32.535018	23.815856	NCW	NA
ABD091	Aberdeen WEF 4	Nooitgedacht Sandstone ruin, brick alterations, next to fully demolished brick buildings	n/a	Historic	-32.512902	23.886884	IIIC	500m Buffer
ABD092	Aberdeen WEF 4	Karoorivier Farmhouse complex, hipped corrugated iron roof	n/a	Modern	-32.515982	23.890521	NCW	NA
ABD093	Aberdeen WEF 4	Plaas 94, farmhouse complex, hipped corrugated iron roof, outbuildings	n/a	Historic	-32.517275	23.857198	IIIC	500m Buffer
ABD094	Aberdeen WEF 3	Thinned hornfels flakes	0 to 5	MSA	-32.51731	23.816318	NCW	NA
ABD095	Aberdeen WEF 3	Siltstone flake blanks	0 to 5	MSA	-32.506405	23.815506	NCW	NA
ABD096	Aberdeen WEF 3	Retouched chert and hornfels flakes	5 to 10	LSA	-32.498449	23.833291	NCW	NA
ABD097	Aberdeen WEF 3	Chert core, hornfels core, siltstone flake	0 to 5	LSA+MSA	-32.491138	23.834719	NCW	NA
ABD098	Aberdeen WEF 3	Large siltstone core	0 to 5	MSA	-32.496742	23.828187	NCW	NA
ABD099	Aberdeen WEF 3	Hornfels microliths	0 to 5	LSA	-32.501151	23.82293	NCW	NA
ABD100	Aberdeen WEF 3	Quartz core and siltstone point	0 to 5	LSA	-32.507525	23.808055	NCW	NA
ABD101	Aberdeen WEF 3	Creamy white siltstone core and blade flake	0 to 5	MSA	-32.499483	23.801237	NCW	NA
ABD102	Aberdeen WEF 3	Siltstone points	0 to 5	MSA	-32.495024	23.792018	NCW	NA
ABD103	Aberdeen WEF 3	Hornfels blade and reddish flake	0 to 5	MSA	-32.496126	23.781583	NCW	NA
ABD104	Aberdeen WEF 3	Siltstone core	0 to 5	MSA	-32.49738	23.774064	NCW	NA
ABD105	Aberdeen WEF 3	Various hornfels flakes	5 to 10	MSA	-32.502143	23.778798	NCW	NA
ABD106	Aberdeen WEF 3	Long siltstone flake	0 to 5	MSA	-32.507056	23.785914	NCW	NA
ABD107	Aberdeen WEF 3	Siltstone flakes	0 to 5	MSA	-32.512928	23.786206	NCW	NA
ABD108	Aberdeen WEF 3	Glossy hornfels flake, retouched, siltstone flakes	0 to 5	MSA	-32.521358	23.786448	NCW	NA
ABD109	Aberdeen WEF 3	Sandstone walled old kraal	n/a	Historic	-32.514289	23.788289	IIIB	500m Buffer
ABD110	Aberdeen WEF 3	Windermere farmhouse complex	n/a	Historic	-32.52117	23.784322	IIIC	500m Buffer
ABD111	Aberdeen WEF 3	Milky quartz core and hornfels flake retouched	0 to 5	MSA	-32.516316	23.797424	NCW	NA



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ABD112	Aberdeen WEF 3	Long siltstone flake blank	0 to 5	MSA	-32.527108	23.791201	NCW	NA
ABD113	Aberdeen WEF 3	Hornfels flakes retouched	0 to 5	LSA	-32.531977	23.784722	NCW	NA
ABD114	Aberdeen WEF 3	Siltstone core and flakes	0 to 5	MSA	-32.539948	23.779234	NCW	NA
ABD115	Aberdeen WEF 2	Ccs/hornfels flaked core	0 to 5	MSA	-32.550458	23.771572	NCW	NA
ABD116	Aberdeen WEF 2	Siltstone core and flake	0 to 5	MSA	-32.555623	23.765118	NCW	NA
ABD117	Aberdeen WEF 2	Retouched hornfels flake	0 to 5	MSA	-32.554074	23.75052	NCW	NA
ABD118	Aberdeen WEF 2	Patinated siltstone flake	0 to 5	MSA	-32.547696	23.756984	NCW	NA
ABD119	Aberdeen WEF 3	Patinated hornfels flakes	0 to 5	MSA	-32.539923	23.761036	NCW	NA
ABD120	Aberdeen WEF 3	Hornfels point	0 to 5	LSA	-32.533506	23.756577	NCW	NA
ABD121	Aberdeen WEF 3	Siltstone radial core	0 to 5	MSA	-32.526013	23.761057	NCW	NA
ABD122	Aberdeen WEF 3	Siltstone core and flakes	0 to 5	MSA	-32.524304	23.768978	NCW	NA
ABD123	Aberdeen WEF 3	Hornfels core, siltstone flake, prepared platform	5 to 10	LSA+MSA	-32.521231	23.777057	NCW	NA
ABD124	Aberdeen WEF 4	Kraairivier ruined kraal buildings. Completely demolished, only sheep kraals remain. 2 possible graves	n/a	Historic	-32.487162	23.872703	IIIA	500m Buffer
ABD125	Aberdeen WEF 4	Patinated hornfels flakes	0 to 5	MSA	-32.55772167	23.84060068	NCW	NA
ABD126	Aberdeen WEF 4	Siltstone core and flake	0 to 5	MSA	-32.57167944	23.83145022	NCW	NA
ABD127	Aberdeen WEF 2	Siltstone core, debitage	0 to 5	MSA	-32.57561745	23.81783807	NCW	NA
ABD128	Aberdeen WEF 2	Hornfels and siltstone flake blanks and one retouched	0 to 5	MSA	-32.57257899	23.79528359	NCW	NA
ABD129	Aberdeen WEF 2	Siltstone flake blanks	0 to 5	MSA	-32.56080476	23.79970246	NCW	NA
ABD130	Aberdeen WEF 2	Retouched siltstone flake	0 to 5	MSA	-32.57016993	23.78541361	NCW	NA
ABD131	Aberdeen WEF 2	Siltstone core and flake debitage	0 to 5	MSA	-32.56882576	23.77262954	NCW	NA
ABD132	Aberdeen WEF 2	Siltstone flakes	0 to 5	MSA	-32.56361573	23.76892011	NCW	NA
ABD133	Aberdeen WEF 2	Hornfels core	0 to 5	LSA	-32.57418822	23.76271901	NCW	NA
ABD134	Aberdeen WEF 4	Skoongesig farmhouse complex, kraals, Victorian hipped roof, corrugated iron	n/a	Historic	-32.541497	23.871905	IIIB	500m Buffer
ABD135	Aberdeen WEF 2	Siltstone flake and blank	0 to 5	MSA	-32.5803082	23.76036900	NCW	NA
ABD136	Aberdeen WEF 2	Siltstone, prepared platform, flakes	0 to 5	MSA	-32.58416822	23.75840480	NCW	NA
ABD137	Aberdeen WEF 2	Patinated hornfels flake, siltstone with dorsal spine	0 to 5	MSA	-32.58397043	23.77106123	NCW	NA
ABD138	Aberdeen WEF 2	Retouched patinated hornfels flake	0 to 5	MSA	-32.58029787	23.78893561	NCW	NA
ABD139	Aberdeen WEF 2	Banded siltstone flakes, some retouch	0 to 5	MSA	-32.59364617	23.77994454	NCW	NA
ABD140	Aberdeen WEF 2	Hornfels point	0 to 5	LSA	-32.60026771	23.77645434	NCW	NA
ABD141	Aberdeen WEF 2	Patinated hornfels flake and siltstone flakes	5 to 10	MSA	-32.61069349	23.77025612	NCW	NA
ABD142	Aberdeen WEF 2	Siltstone core	0 to 5	MSA	-32.61604947	23.78108916	NCW	NA
ABD143	Aberdeen WEF 2	Siltstone debitage and flake blanks	0 to 5	MSA	-32.61560887	23.80221588	NCW	NA
ABD144	Aberdeen WEF 4	Mon Repos farmhouse complex	n/a	Historic	-32.55707	23.90482	IIIB	500m Buffer
ABD145	Aberdeen WEF 2	Vibracrete shed	n/a	Modern	-32.584941	23.825182	NCW	NA
ABD146	Aberdeen WEF 2	Windmill and tanks, kraal	n/a	Modern	-32.589897	23.777151	NCW	NA
ABD147	Aberdeen WEF 2	Kraanvoelkuil farmhouse complex	n/a	Historic	-32.582567	23.740764	IIIC	500m Buffer
ABD148	Aberdeen WEF 2	Siltstone core and flakes	0 to 5	MSA	-32.61250264	23.78535872	NCW	NA
ABD149	Aberdeen WEF 2	Hornfels microlithic point	0 to 5	LSA	-32.60361299	23.81156525	NCW	NA
ABD150	Aberdeen WEF 2	Siltstone flake blank from a prepared core	0 to 5	MSA	-32.59283571	23.82130036	NCW	NA
ABD151	Aberdeen WEF 2	Siltstone core and flake	0 to 5	MSA	-32.59011917	23.82345052	NCW	NA



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ABD152	Aberdeen WEF 2	Siltstone flake and broken upper grindstone	0 to 5	LSA+MSA	-32.55515168	23.75679576	NCW	NA
ABD153	Aberdeen WEF 3	Siltstone flakes and cores	5 to 10	MSA	-32.54525186	23.77665354	NCW	NA
ABD154	Aberdeen WEF 2	Siltstone flakes	0 to 5	MSA	-32.58401629	23.78080765	NCW	NA
ABD155	Aberdeen WEF 2	Siltstone and dark quartzite flakes	0 to 5	MSA	-32.5751333	23.80595454	NCW	NA
ABD156	Aberdeen WEF 4	Siltstone flakes, some with large bulbs of percussion	0 to 5	MSA	-32.55168795	23.80656658	NCW	NA
ABD157	Aberdeen WEF 3	Siltstone core	0 to 5	MSA	-32.54254194	23.81435704	NCW	NA
ABD158	Aberdeen WEF 2	Early MSA siltstone flakes	0 to 5	MSA	-32.6212902	23.78548873	NCW	NA
ABD159	Aberdeen WEF 2	More Early MSA siltstone cores, flakes, point forms	5 to 10	MSA	-32.60912316	23.77735281	NCW	NA
ABD160	Aberdeen WEF 2	Siltstone core and flake with prominent bulb of percussion	0 to 5	MSA	-32.60888487	23.80861144	NCW	NA
ABD161	Aberdeen WEF 4	Hornfels core and patinated point	0 to 5	MSA	-32.56478821	23.83626392	NCW	NA
ABD162	Aberdeen WEF 4	Hornfels microlith and quartz chunk	0 to 5	LSA	-32.55060417	23.84528476	NCW	NA
ABD163	Aberdeen WEF 1	Early MSA siltstone radial core	0 to 5	MSA	-32.54273913	23.75303353	NCW	NA
ABD164	Aberdeen WEF 1	Siltstone core, patinated hornfels elongated flake	0 to 5	MSA	-32.5566985	23.73364366	NCW	NA
ABD165	Aberdeen WEF 3	Early MSA siltstone flakes with flake scars off dorsal surfaces	0 to 5	MSA	-32.51371307	23.7597658	NCW	NA
ABD166	Aberdeen WEF 3	Patinated hornfels blade flake	0 to 5	MSA	-32.50432178	23.76348445	NCW	NA
ABD167	Aberdeen WEF 3	Siltstone flakes	0 to 5	MSA	-32.49544616	23.78708612	NCW	NA
ABD168	Aberdeen WEF 3	Patinated hornfels flakes, some retouched	5 to 10	MSA	-32.5069005	23.8036082	NCW	NA
ABD169	Aberdeen WEF 3	Chert CCS point and quartz chunk/core	0 to 5	LSA	-32.49470323	23.83875481	NCW	NA
ABD170	Aberdeen WEF 3	Siltstone core and flake	0 to 5	MSA	-32.51789479	23.82311456	NCW	NA
ABD171	Aberdeen WEF 3	Siltstone flake	0 to 5	MSA	-32.50969276	23.83470847	NCW	NA
ABD172	Aberdeen WEF 4	Hornfels flake with edge worked	0 to 5	LSA	-32.5230985	23.85850193	NCW	NA
ABD173	Aberdeen WEF 2	Large vernacular stone walled kraal with high walls (2.5m high), local stone used and prominent marker on the landscape	n/a	Historic	-32.620601	23.797257	IIIA	500m Buffer
ABD174	Aberdeen WEF 4	Siltstone debitage and flake blanks	0 to 5	MSA	-32.5320266	23.84066954	NCW	NA
ABD175	Aberdeen WEF 4	Siltstone flake with transverse scarring at base of platform	0 to 5	MSA	-32.45638324	23.86069768	NCW	NA
ABD176	Aberdeen WEF 4	Banded siltstone flakes	0 to 5	MSA	-32.47725894	23.8736445	NCW	NA
ABD177	Aberdeen WEF 2	Siltstone flake point with prominent bulb of percussion	0 to 5	MSA	-32.54818355	23.76391834	NCW	NA



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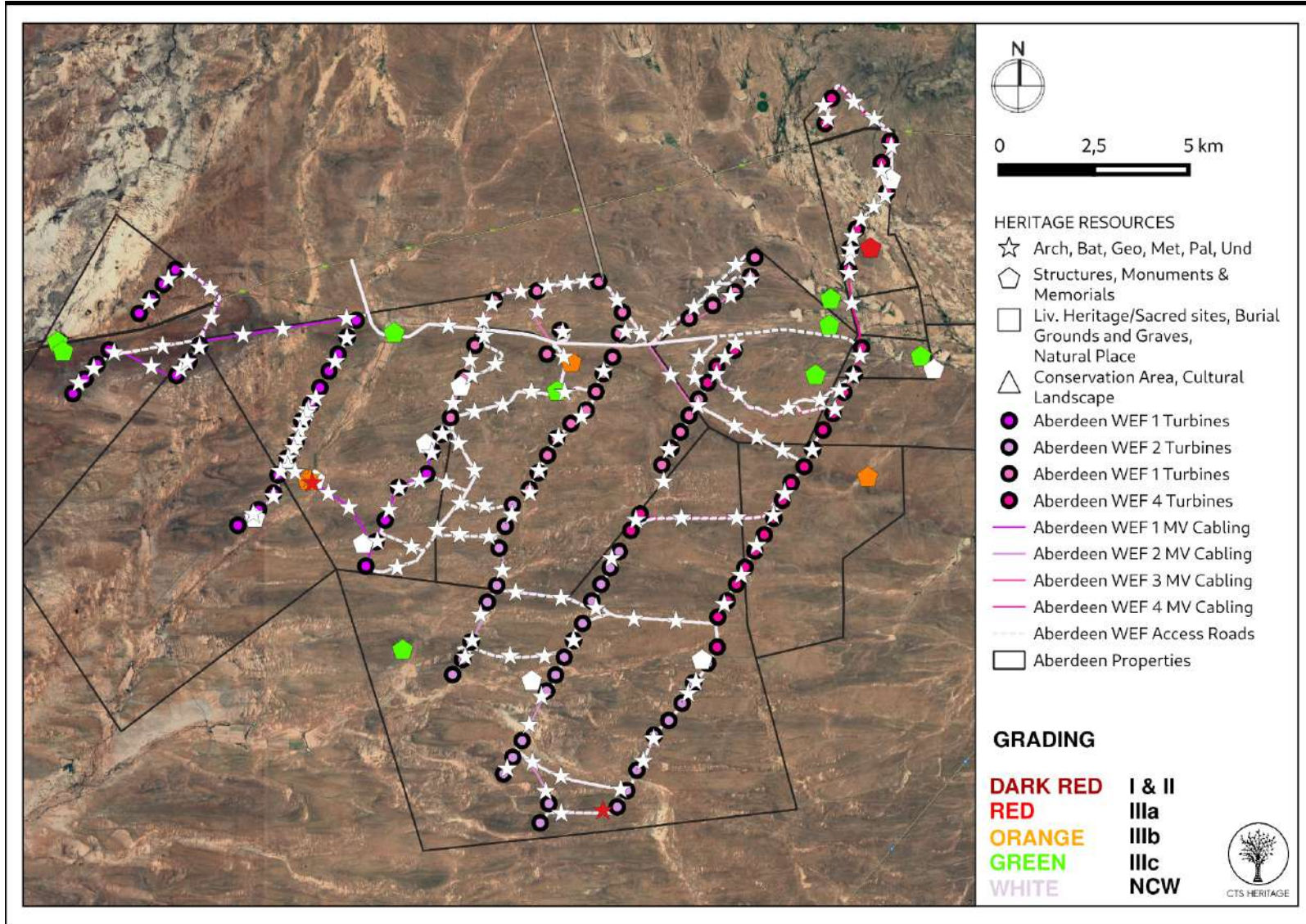


Figure 6: Map of all sites and observations noted within the development area

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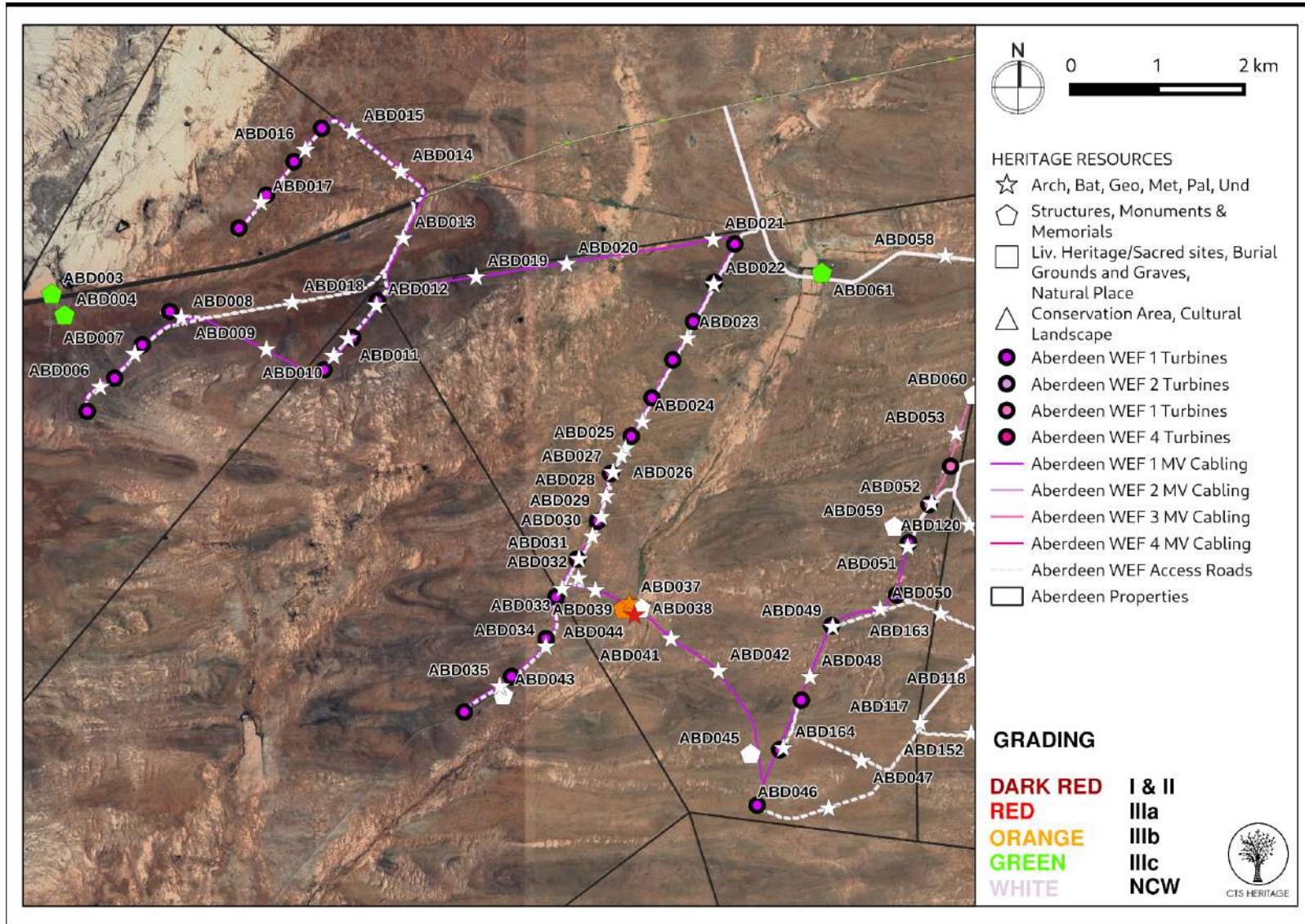


Figure 6.1: Map of all sites and observations noted within the development area for Aberdeen WEF 1



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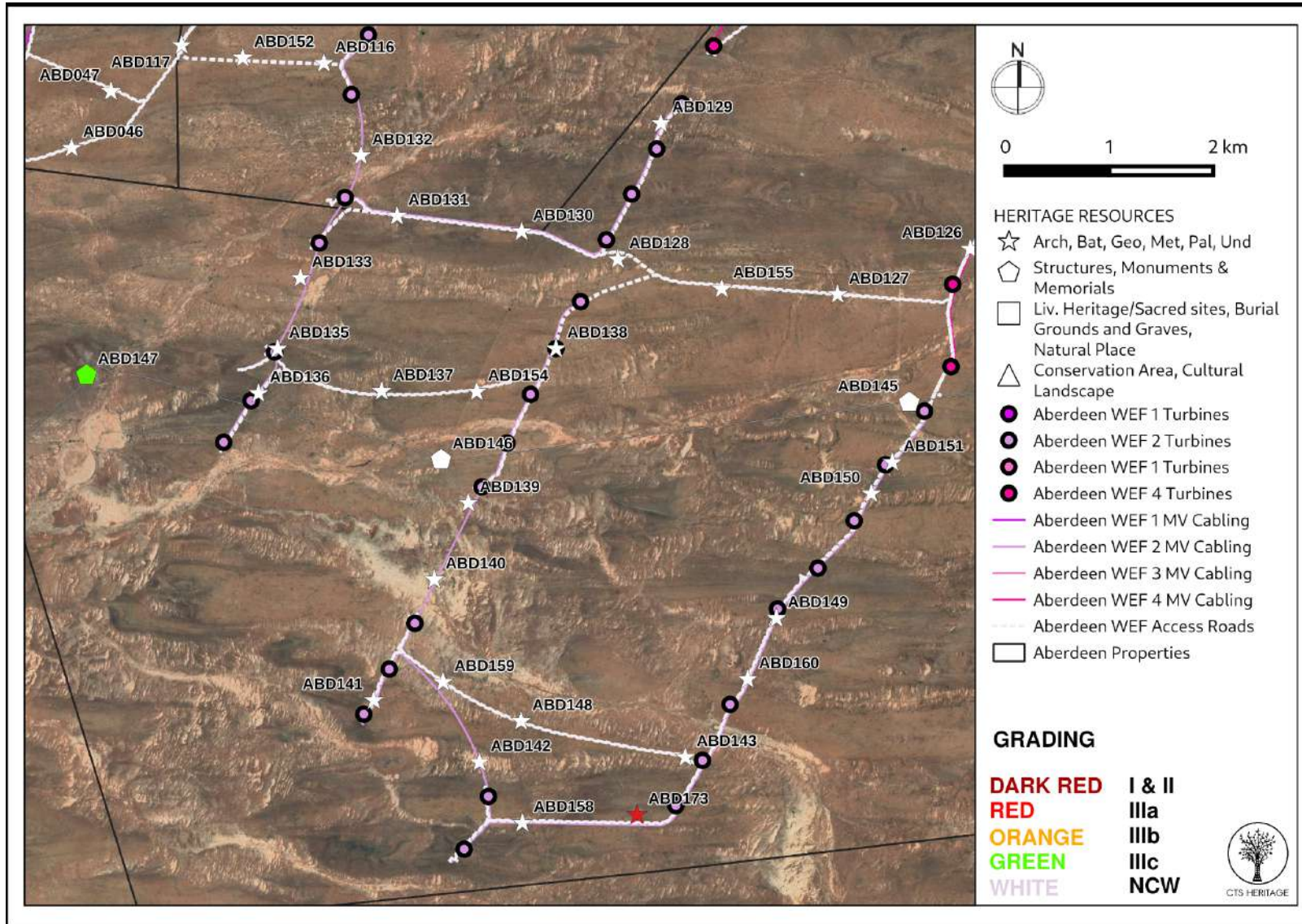


Figure 6.2: Map of all sites and observations noted within the development area for Aberdeen WEF 2

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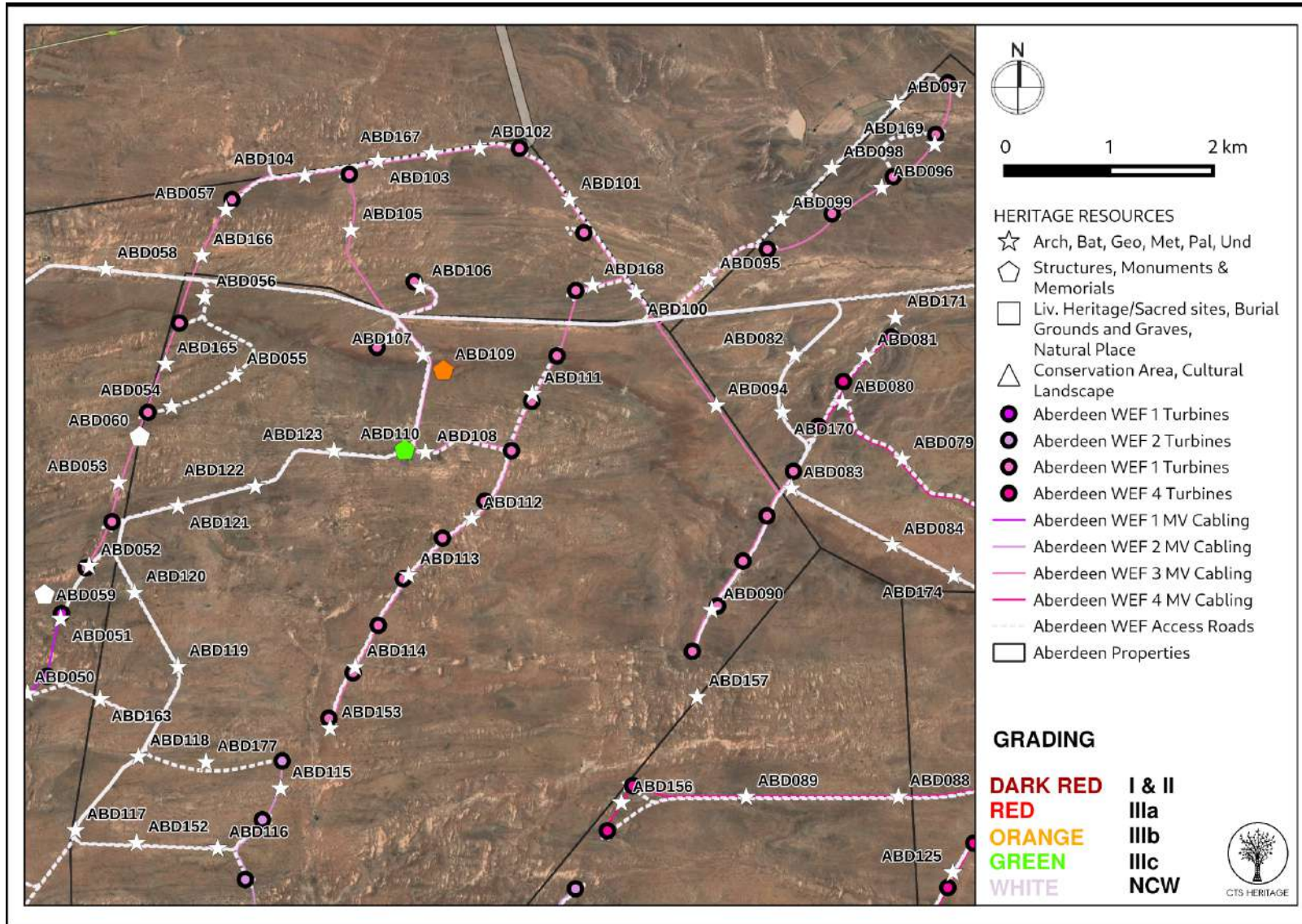


Figure 6.3: Map of all sites and observations noted within the development area for Aberdeen WEF 3

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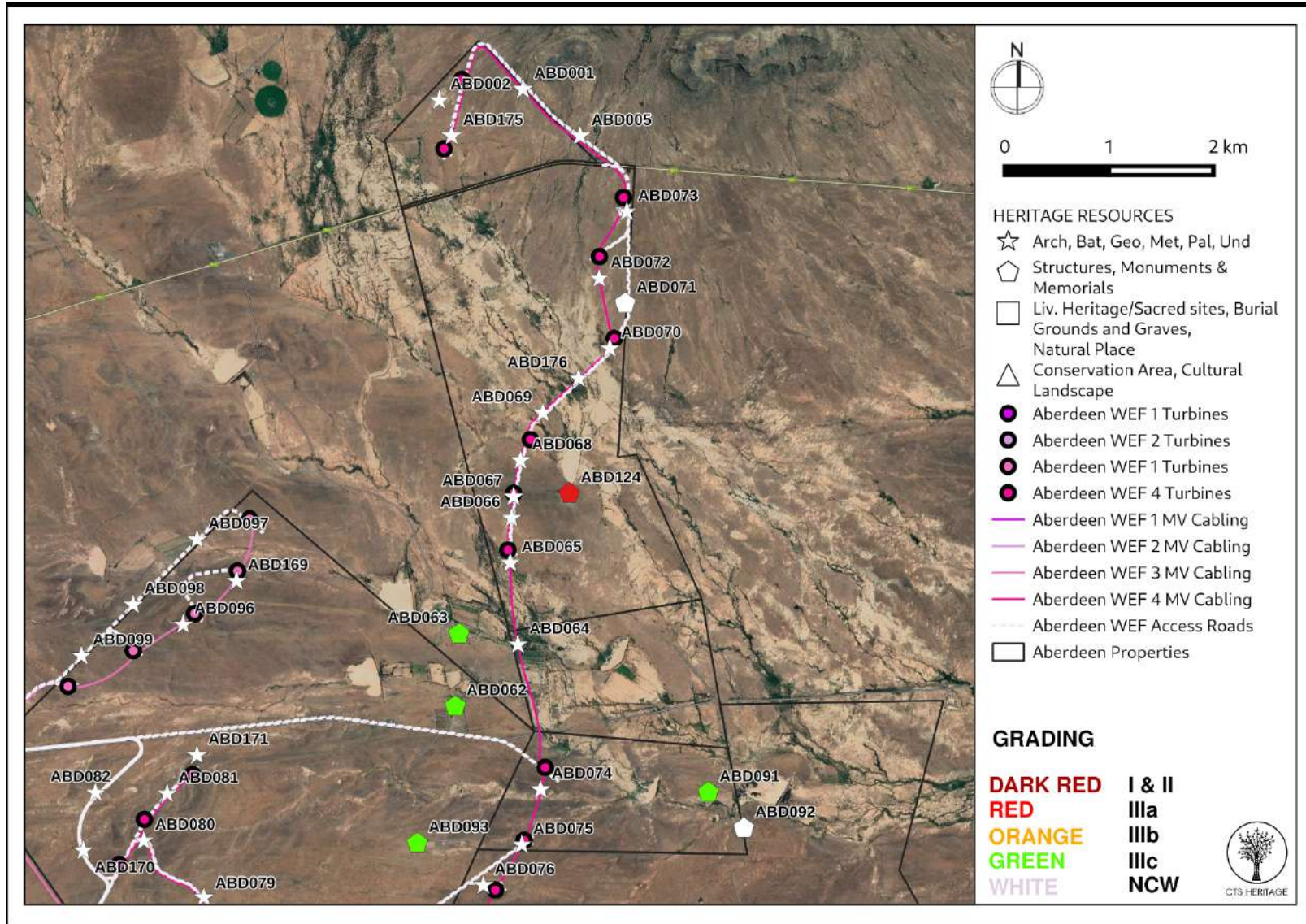


Figure 6.4: Map of all sites and observations noted within the development area for Aberdeen WEF 4

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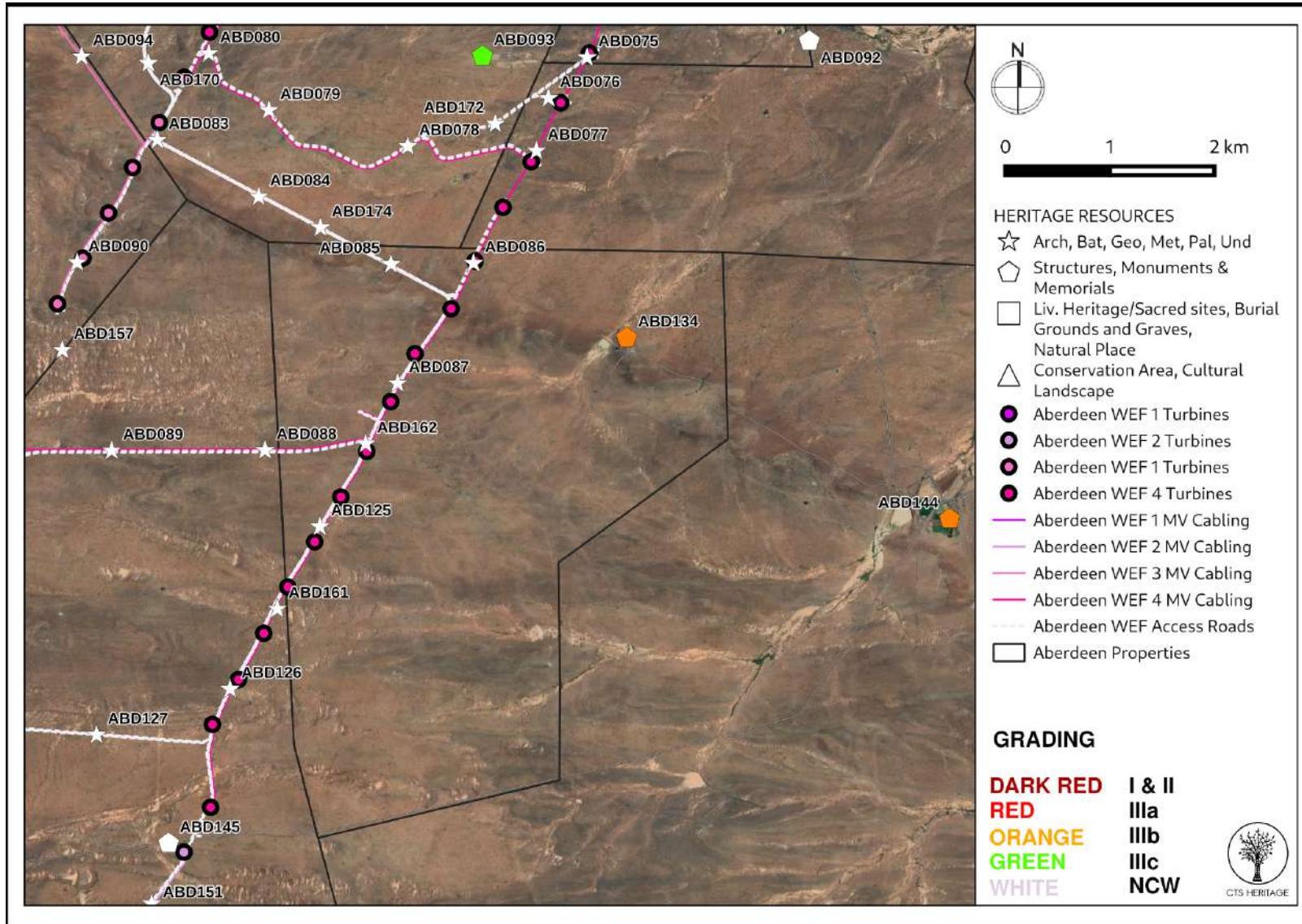


Figure 6.5: Map of all sites and observations noted within the development area for Aberdeen WEF 4

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### 4.3 Selected photographic record

(a full photographic record is available upon request)



Figure 6.1: Observation ABD003 - Ruined long building, no roof, sandstone walls, metal windows x 3 on southern end



Figure 6.2: Observation ABD004 - Pretoriuskuil farmhouse complex, Victorian hipped roofs, 3 labourers cottages



Figure 6.3: Observation ABD006 and ABD009 - Siltstone flakes and cores and Chert flakes



Figure 6.4: Observation ABD010 and ABD015 - Hornfels flake, edge worked back, possible adze and Siltstone core and flakes



Figure 6.5 Observation ABD021 and ABD026 - Fine grained hornfels flakes, retouched, prepared platform and Siltstone point and flake, prominent bulb of percussion



Figure 6.6 Observation ABD036 - Square sandstone ruined farm dam, metal drum, bullet casings, glass, ceramics



Figure 6.7 Observation ABD037 - Pile of sandstone, possibly collapsed structure, but next to glass, ceramics, metal midden



Figure 6.8 Observation ABD039 - Ruined sandstone large kraal



Figure 6.9: Observation ABD044 0 Possible graves, 5, maybe 6 headstones



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Figure 6.10: Observation ABD061 - Doornpoort ruined farmhouse complex



Figure 6.11: Observation ABD061 - Doornpoort ruined farmhouse complex



Figure 6.12: Observation ABD062 - Perseverance farmhouse complex, some buildings 1951



Figures 6.13: Observation ABD062 - Perseverance farmhouse complex, some buildings 1951, earlier Victorian building too



Figure 6.14: Observation ABD063 - Perseverance ruins



Figure 6.15: Observation ABD063 - Perseverance ruins



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Figure 6.16: Observation ABD091 - Nooitgedacht Sandstone ruin, brick alterations, next to fully demolished brick buildings



Figure 6.17: Observation ABD092 - Karroorivier Farmhouse complex, hipped corrugated iron roof



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Figure 6.18: Observation ABD093 - Plaas 94, farmhouse complex, hipped corrugated iron roof, outbuildings



Figure 6.19: Observation ABD097 - Chert core, hornfels core, siltstone flake



Figure 6.20: Observation ABD101 - Creamy white siltstone core and blade flake





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Figure 6.21: Observation ABD109 - Sandstone walled old kraal



Figure 6.22: Observation ABD110 - Windermere farmhouse complex



Figure 6.23: Observation ABD123 - Chert core, hornfels core, siltstone flake



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Figure 6.24: Observation ABD124 - Kraairivier ruined kraal buildings



Figure 6.25: Observation ABD134 - Skoongesig farmhouse complex, kraals, Victorian hipped roof, corrugated iron



Figure 6.26: Observation ABD144 - Mon Repos farmhouse complex



Figure 6.27: Observation ABD147 - Kraanvoelkuil farmhouse complex



Figure 6.28: Observation ABD152 - Siltstone flake and broken upper grindstone



Figure 6.29: Observation ABD164 - Siltstone core, patinated hornfels elongated flake



Figure 6.30: Observation ABD173 - Large vernacular stone walled kraal with high walls (2.5m high), local stone used and prominent marker on the landscape



Figure 6.31: Observation ABD177 - Siltstone flake point with prominent bulb of percussion



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## 5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

### 5.1 Assessment of impact to Archaeological Resources

The proposed development will not have a substantial negative impact on most of the archaeological resources identified within the proposed development area for the renewable energy facilities. The majority of the lithic material identified is of low significance (not conservation-worthy), and even though the resources may be destroyed during construction, the impact is inconsequential. No mitigation is required for archaeological material recorded in the footprint areas of the proposed development.

Despite the high number of observations of artefacts, these resources are common and representative of similar scatters across widespread areas of the Karoo. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low.

#### ***Aberdeen WEF 1***

A total of 52 observations were made within proximity to the proposed layout for Aberdeen WEF 1 (Figure 6.1). Of these, the majority are low density Middle Stone Age or Later Stone Age artefact scatters that have been determined to have limited scientific value and have been determined to be not conservation-worthy. Two of the archaeological resources identified within this area were determined to be conservation-worthy, ABD037 and ABD044. ABD037 is described as a pile of sandstone, possibly collapsed structure, but located next to glass, ceramics and metal midden. This site is graded IIIB. Site SBD044 is described as a group of possible graves including 5, maybe 6, headstones. This site has been graded IIIA for its high levels of social significance. These sites form part of a cluster of resources along with sites ABD036 and ABD039. Both of these sites represent the ruins of historic kraals with associated material remains and are graded IIIB and IIIC. This complex of resources, along with a more modern dam (ABD038, graded as not conservation-worthy) are located along an existing dirt track located within the development area. No direct impact to these resources is anticipated based on the layout provided. It is, however, recommended that a no-development buffer of 500m is implemented around this cluster of sites in order to maintain some of the sense of place of this cluster. No turbines are located within this 500m buffer in the layouts provided.

Three structures identified in the field assessment fall within the area proposed for the development of Aberdeen WEF 1. Sites ABD003 and ABD004, both graded IIIC, are located along the R61 more than 1km from the nearest proposed turbine. No direct impact to these structures is anticipated, however a no-development buffer of at least 500m is recommended in order to retain a sense of place for these structures. Site ABD061 represents the Doornpoort ruined farmhouse complex, graded IIIC. This farm complex is located along an existing road and is located more than 1km from the nearest proposed turbine location. No direct impact to these structures is anticipated, however a no-development buffer of at least 500m is recommended in order to retain a sense of place for this complex.



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Importantly, one of the turbines is located only 70m from a grade IIIB rock art site identified by Bandama and Chirikure (2014) and described as rock engravings of a train (SAHRIS Site ID 35548). A no-go buffer of at least 100m is recommended for this unusual site.

### ***Aberdeen WEF 2***

A total of 37 observations were made within proximity to the proposed layout for Aberdeen WEF 2 (Figure 6.2). Of these, the majority are low density Middle Stone Age or Later Stone Age artefact scatters that have been determined to have limited scientific value and have been determined to be not conservation-worthy. One archaeological site of high local significance, ABD173, graded IIIA, is located within the area proposed for the Aberdeen WEF 2 development. This site is described as a large vernacular stone walled kraal with high walls (2.5m high), made from local stone and is a prominent marker on the landscape. This site is located approximately 400m from the nearest turbine. It is recommended that this turbine be relocated to respect a recommended 500m no-development buffer around this site in order to retain a sense of place for the kraal.

The structure identified at Site ABD147 represents the Kraanvoelkuil farmhouse complex. This site is graded IIIC and is located more than 1km from the nearest proposed turbine. As such, no direct or indirect impact is anticipated from the proposed development in the layout provided.

### ***Aberdeen WEF 3***

A total of 48 observations were made within proximity to the proposed layout for Aberdeen WEF 3 (Figure 6.3). Of these, the majority are low density Middle Stone Age or Later Stone Age artefact scatters that have been determined to have limited scientific value and have been determined to be not conservation-worthy. Similar artefact scatters identified by Booth and Sanker (2013) are located in proximity to one of the turbines in the north of the WEF 3 development area, however no direct impact is anticipated in the proposed layout and no further mitigation is recommended.

Two structures of significance have been identified as having heritage value within the area proposed for the Aberdeen WEF 3 development area - sites ABD109, graded IIIB and ABD110, graded IIIC. Site ABD109 is described as a sandstone walled old kraal. This site is located approximately 150m from an existing road and is located more than 600m from the nearest proposed turbine based on the layout provided. As such, no direct or indirect impact is anticipated from the proposed development, however should the layout be amended, it is recommended that a 500m no-development buffer be implemented around this site in order to retain a sense of place for the kraal.

Site ABD110 marks the Windermere farmhouse complex (Graded IIIC). As this site is located more than 900m from the nearest proposed turbines, no direct or indirect impact is anticipated as a result from the proposed turbine infrastructure in the layout provided. However, as per the provided layout, it appears that a proposed road alignment runs right through this structure. In order to ensure that this structure is not impacted by the proposed road alignment, it is recommended that the road alignment be adjusted to run approximately 50m away from Site ABD110 as per Figure 8.5 below.



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#### ***Aberdeen WEF 4***

A total of 40 observations were made within proximity to the proposed layout for Aberdeen WEF 4 (Figure 6.4 and 6.5). Of these, the majority are low density Middle Stone Age or Later Stone Age artefact scatters that have been determined to have limited scientific value and have been determined to be not conservation-worthy. Sites ABD091 (graded IIIC), ABD134 (graded IIIB) and ABD144 (graded IIIB) are located more than 1.5km from the nearest proposed infrastructure and as such, no direct or indirect impact to these resources is anticipated.

Site ABD062 represents the Perseverance farmhouse complex. This farm complex includes some buildings dated to 1951 as well as an earlier Victorian building. This complex is graded IIIC and is located more than 1km from the nearest proposed turbine in the layout provided. Site ABD063 represents the ruins of older structures associated with the Perseverance farm. These ruins are also graded IIIC and are located more than 900m from the nearest proposed turbine in the layout provided. As such, no direct or indirect impact is anticipated from the proposed development to either site ABD062 or 063. However, should the layout be amended, it is recommended that a 500m no-development buffer be implemented around these sites in order to retain a sense of place.

Site ABD093 is described as Plaas 94, a farmhouse complex with a hipped corrugated iron roof and outbuildings. This site has been graded IIIC. This site is located approximately 800m from the nearest proposed turbine in the layout provided. As such, no direct or indirect impact is anticipated from the proposed development. However, should the layout be amended, it is recommended that a 500m no-development buffer be implemented around this site in order to retain a sense of place.

Site ABD124 is described as the Kraairivier ruined kraal buildings. These buildings have been completely demolished, and only sheep kraals remain. However, we did identify two possible graves associated with this complex. Due to the high local significance of the graves, this site has been graded as IIIA. This site is located approximately 500m from the nearest proposed turbine in the layout provided. As such, no direct or indirect impact is anticipated from the proposed development. However, should the layout be amended, it is recommended that a 500m no-development buffer be implemented around this site in order to retain a sense of place.



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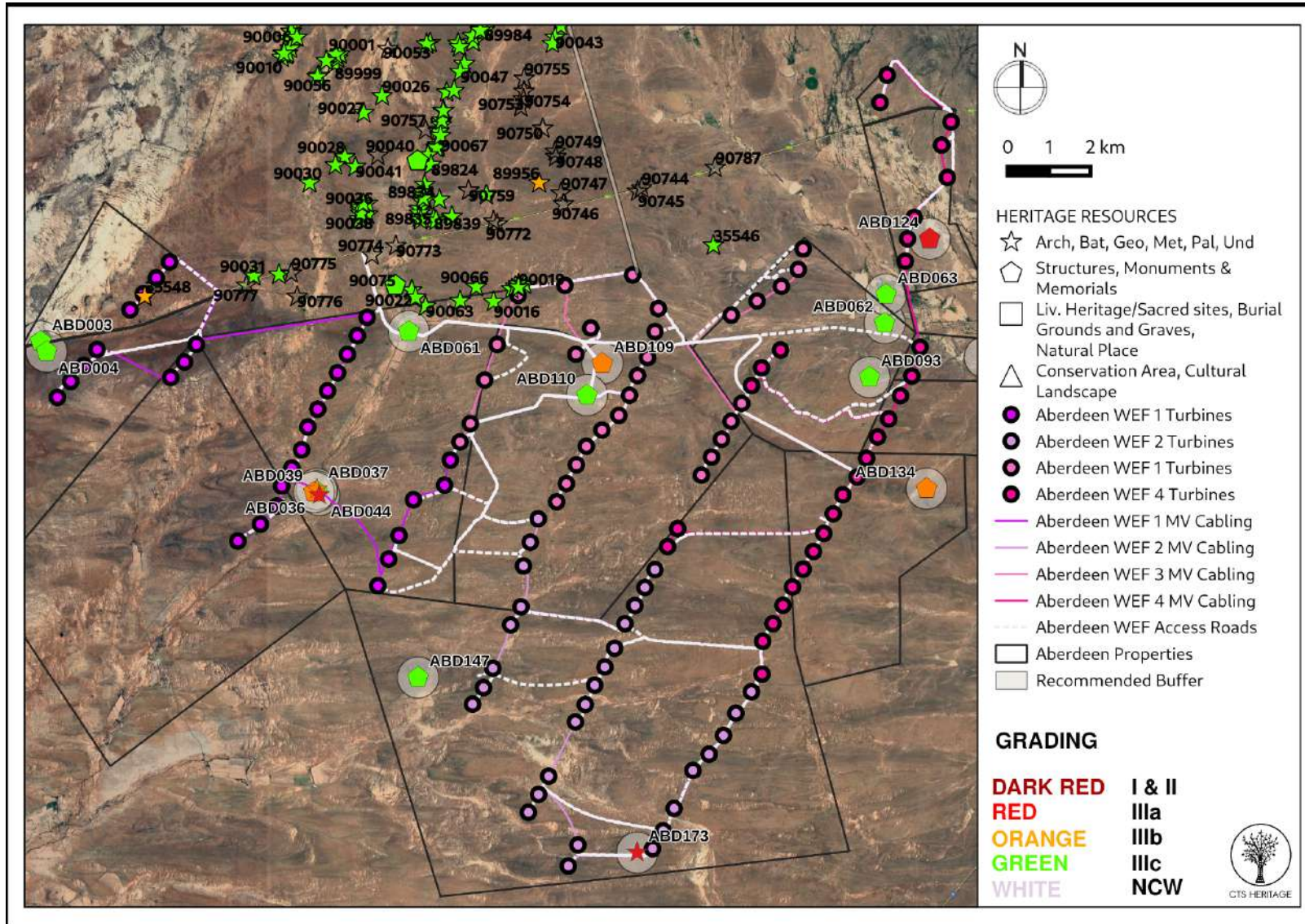


Figure 8: Map of all significant heritage resources noted within the development area

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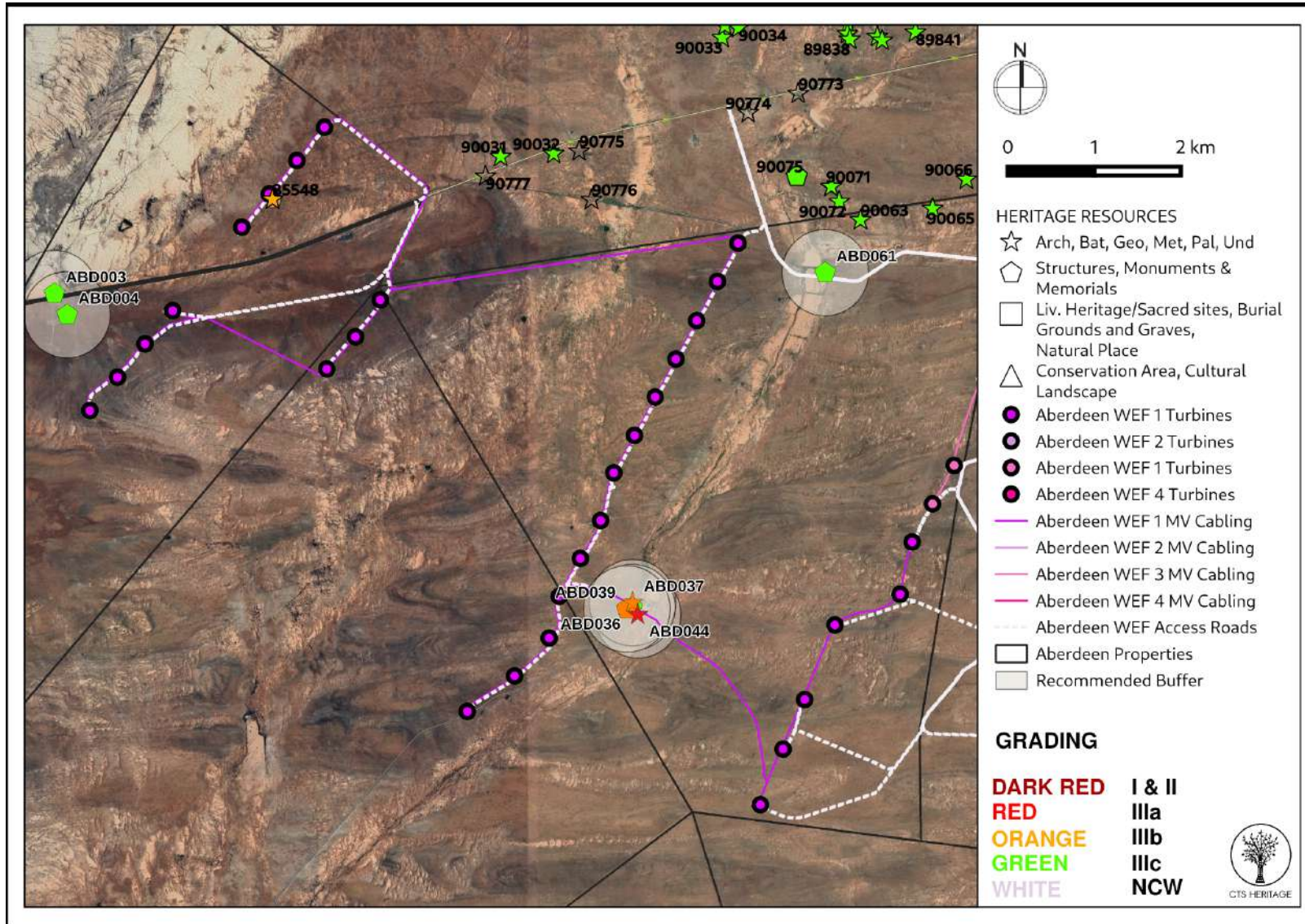


Figure 8.1: Map of all significant heritage resources noted within the development area for Aberdeen WEF 1

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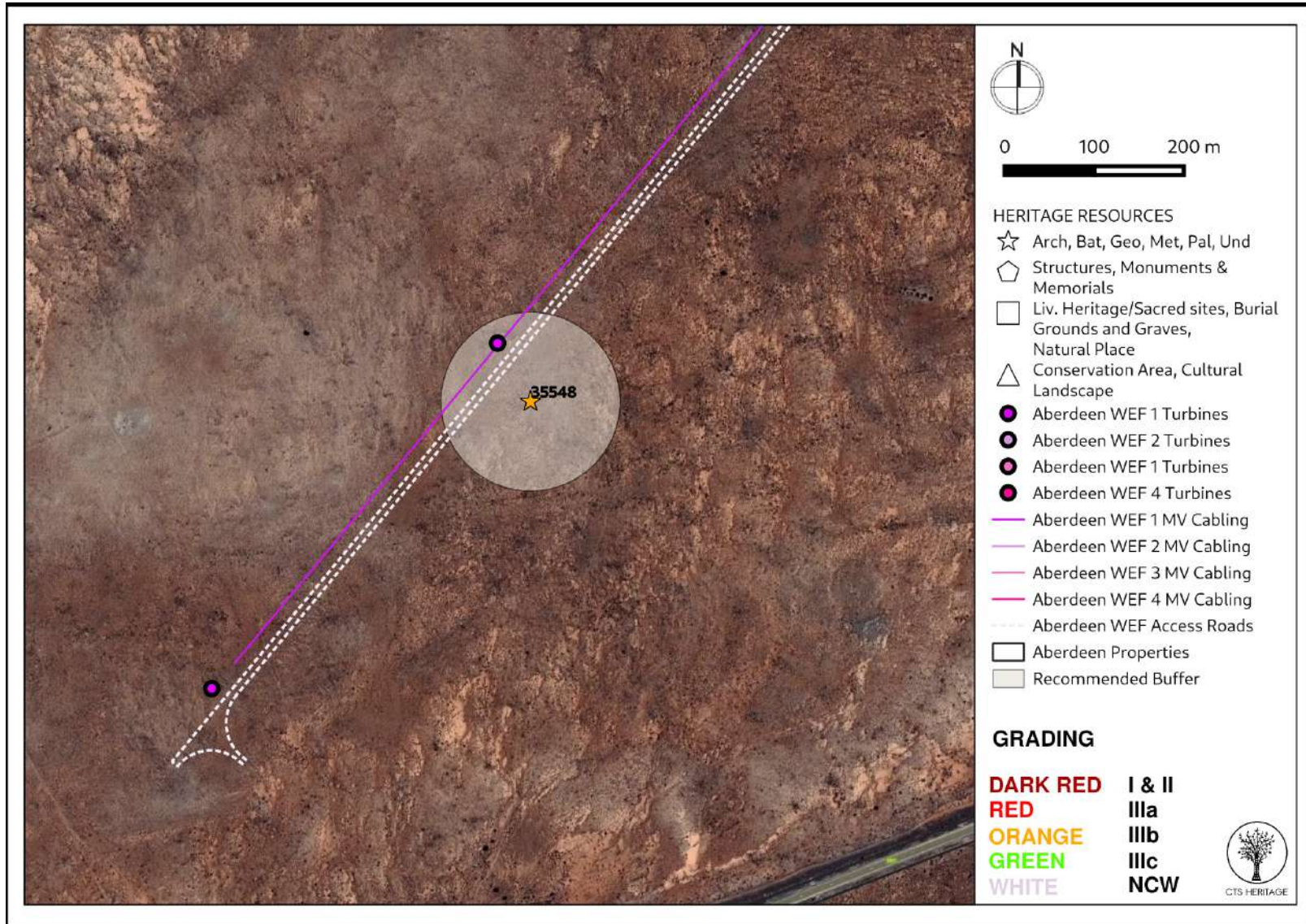


Figure 8.2: Map of significant heritage resources noted within the development area for Aberdeen WEF 1

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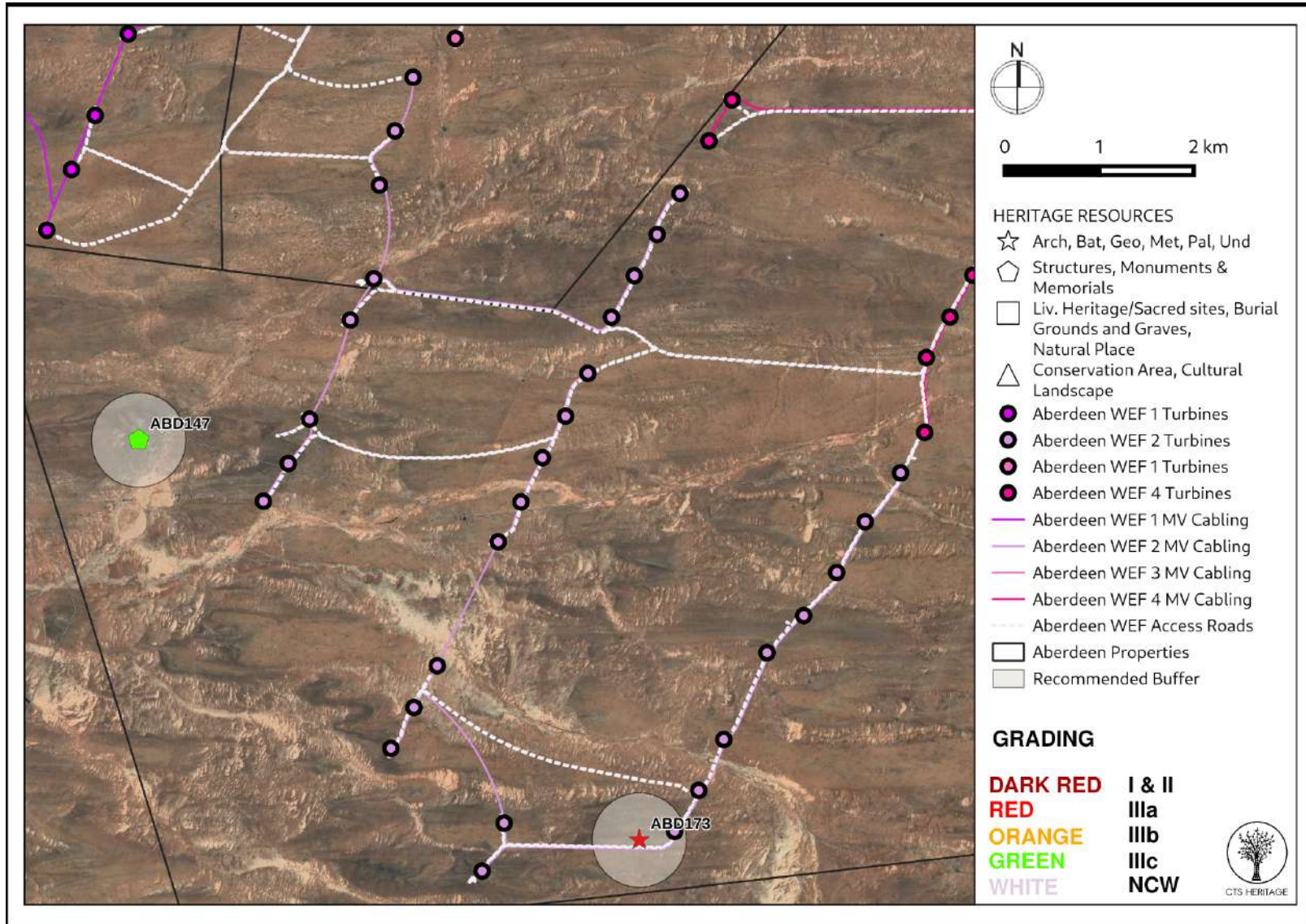


Figure 8.3: Map of all significant heritage resources noted within the development area for Aberdeen WEF 2

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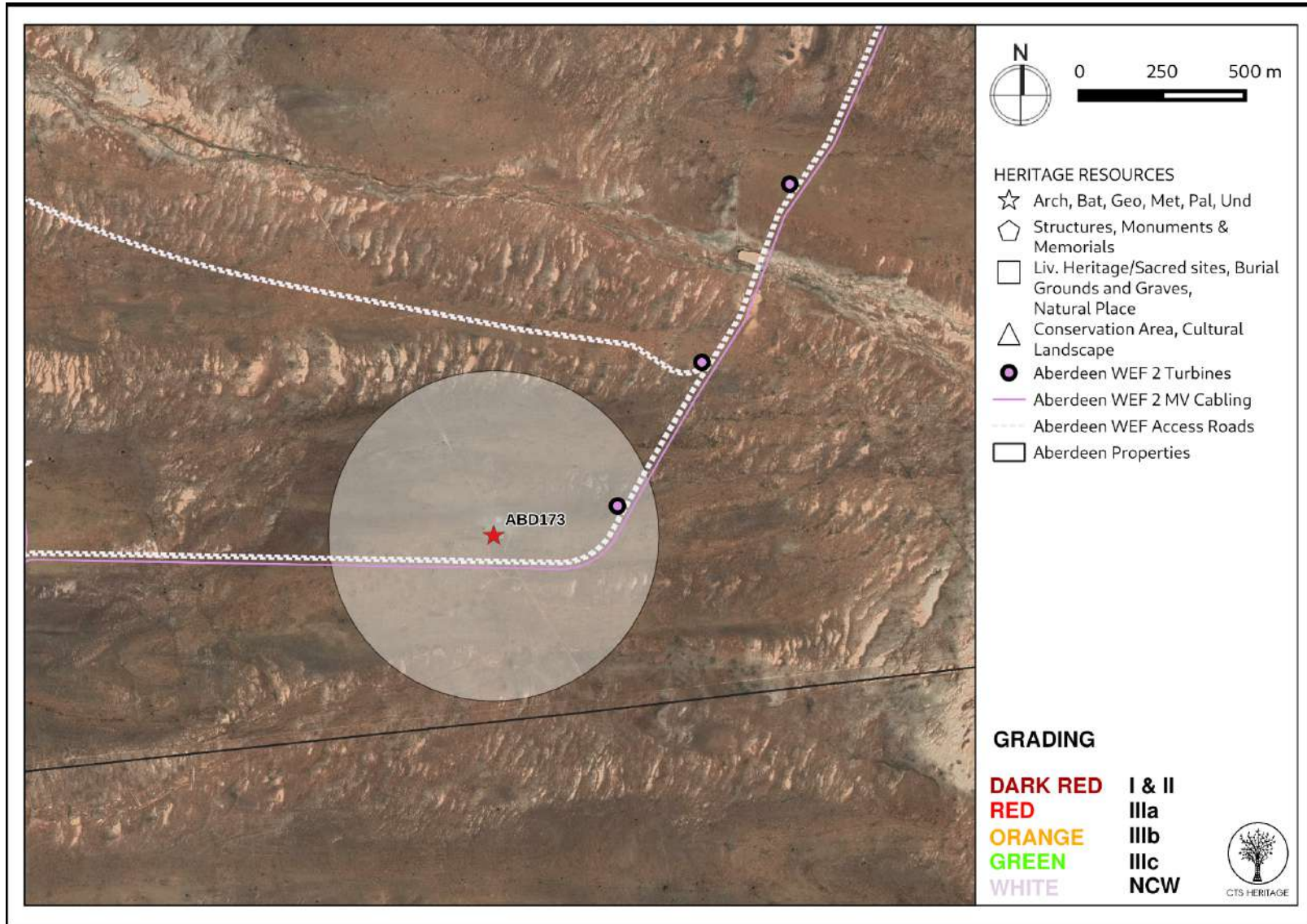


Figure 8.4: Map of all significant heritage resources noted within the development area for Aberdeen WEF 2

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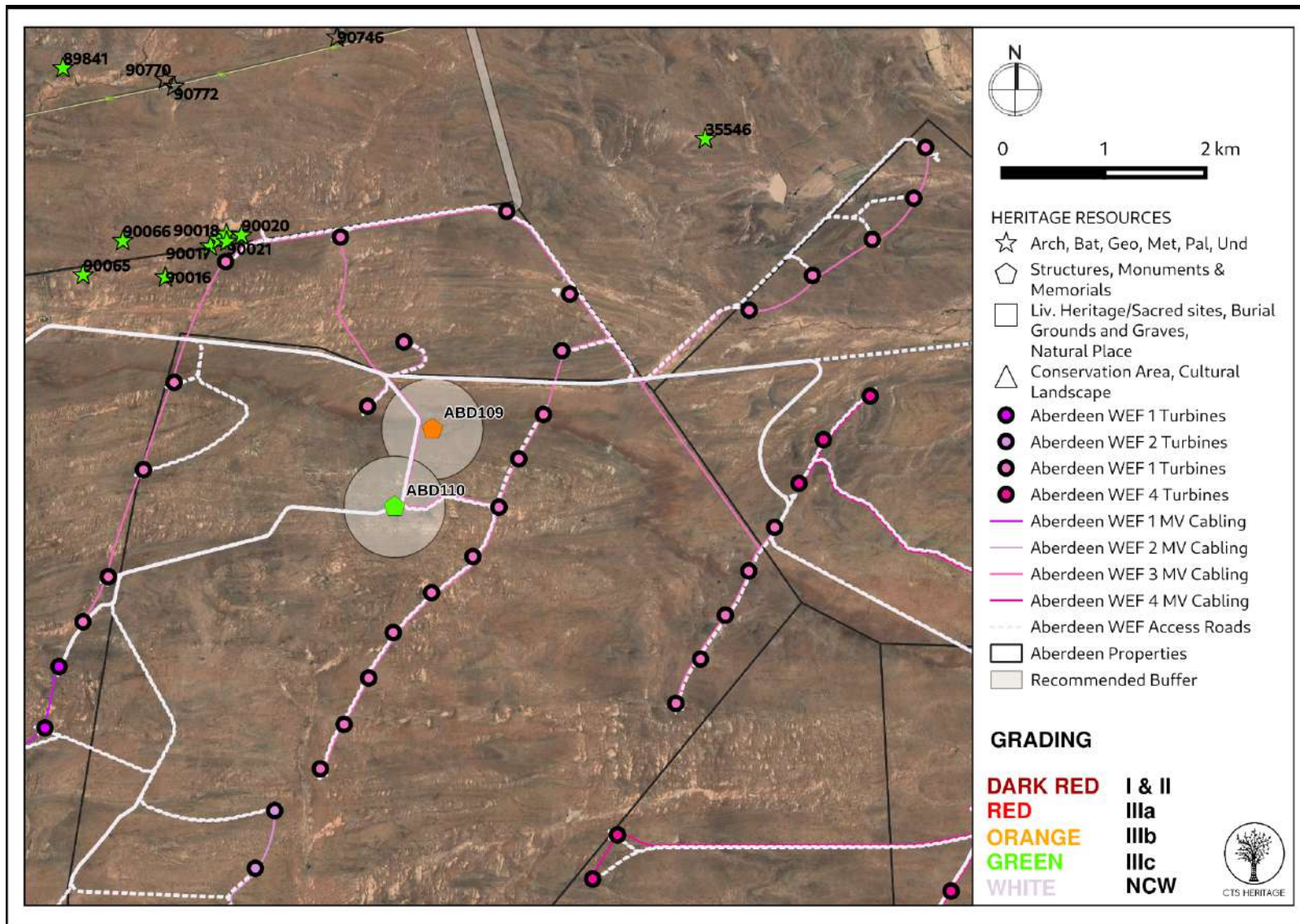


Figure 8.5: Map of all significant heritage resources noted within the development area for Aberdeen WEF 3

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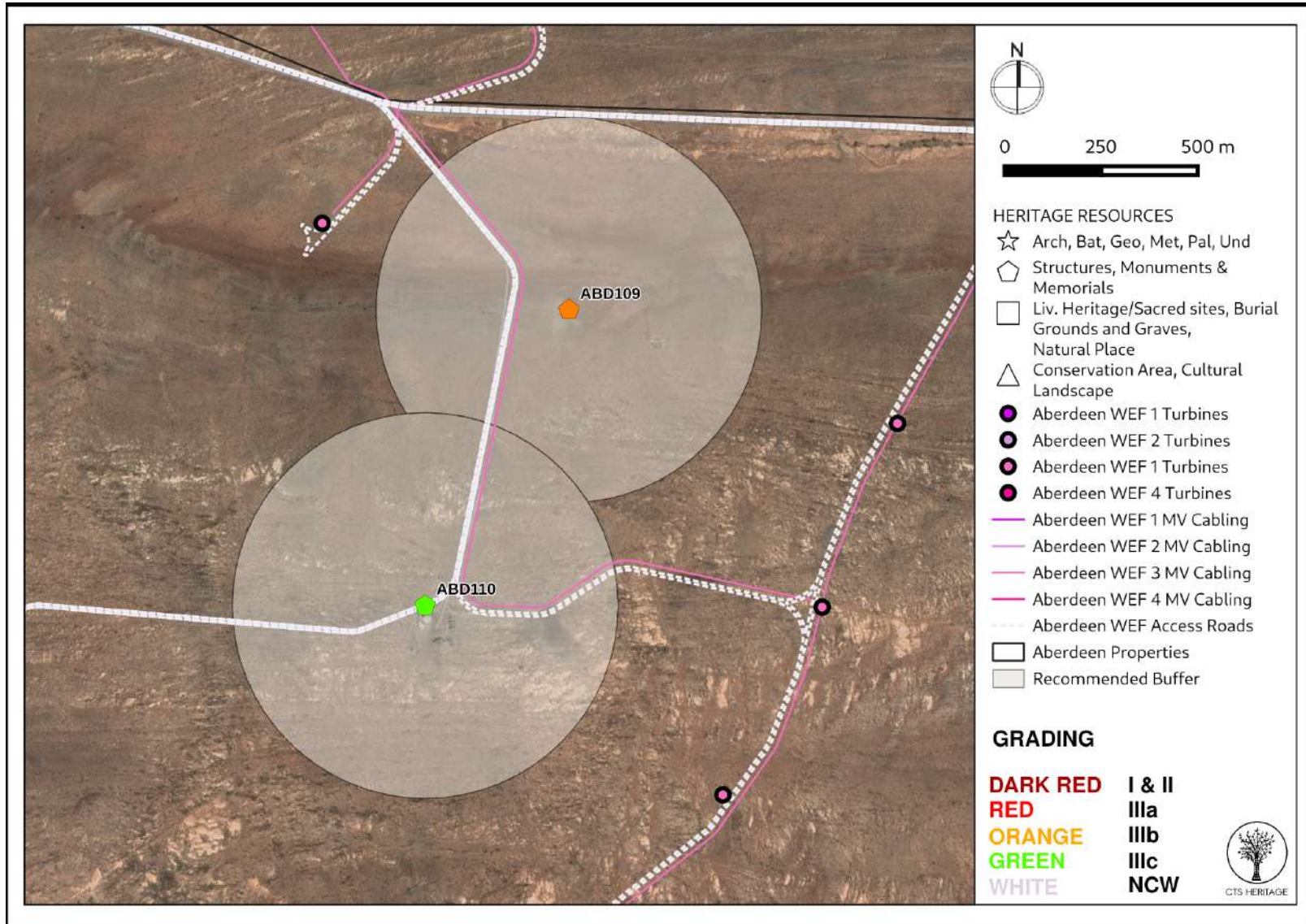


Figure 8.6: Map of all significant heritage resources noted within the development area for Aberdeen WEF 3

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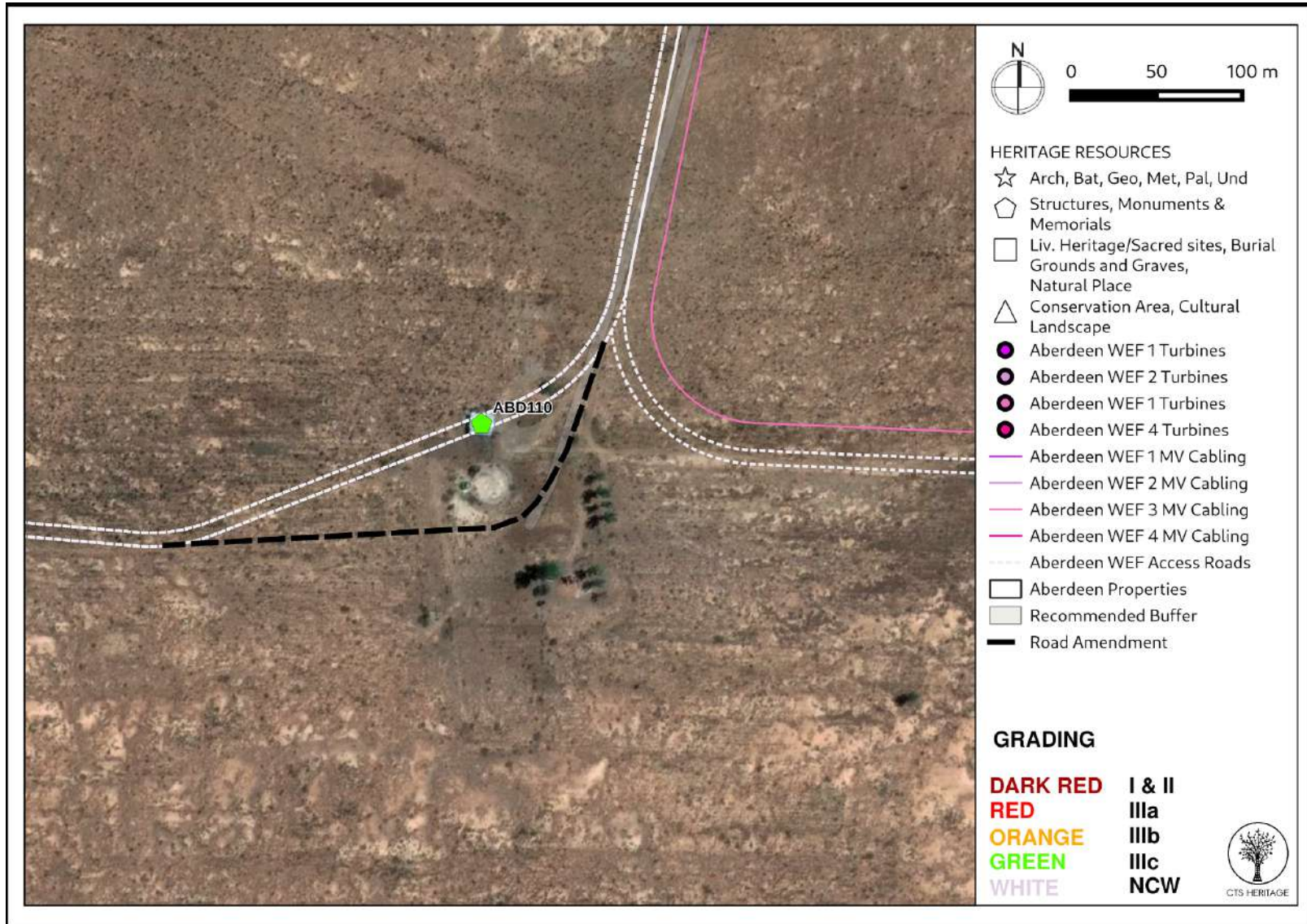


Figure 8.7: Map of all significant heritage resources noted within the development area for Aberdeen WEF 3

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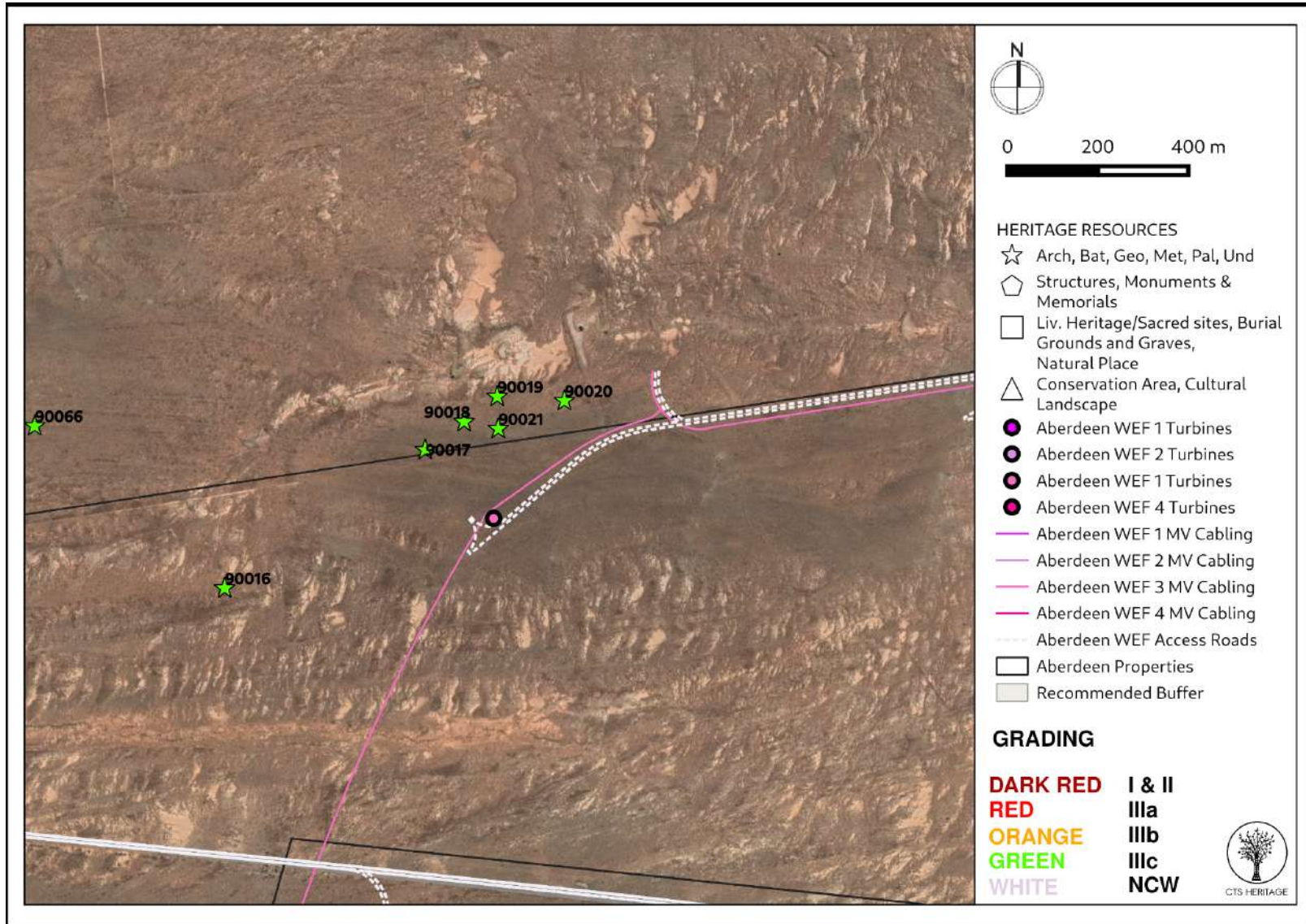


Figure 8.8: Map of all significant heritage resources noted within the development area for Aberdeen WEF 3

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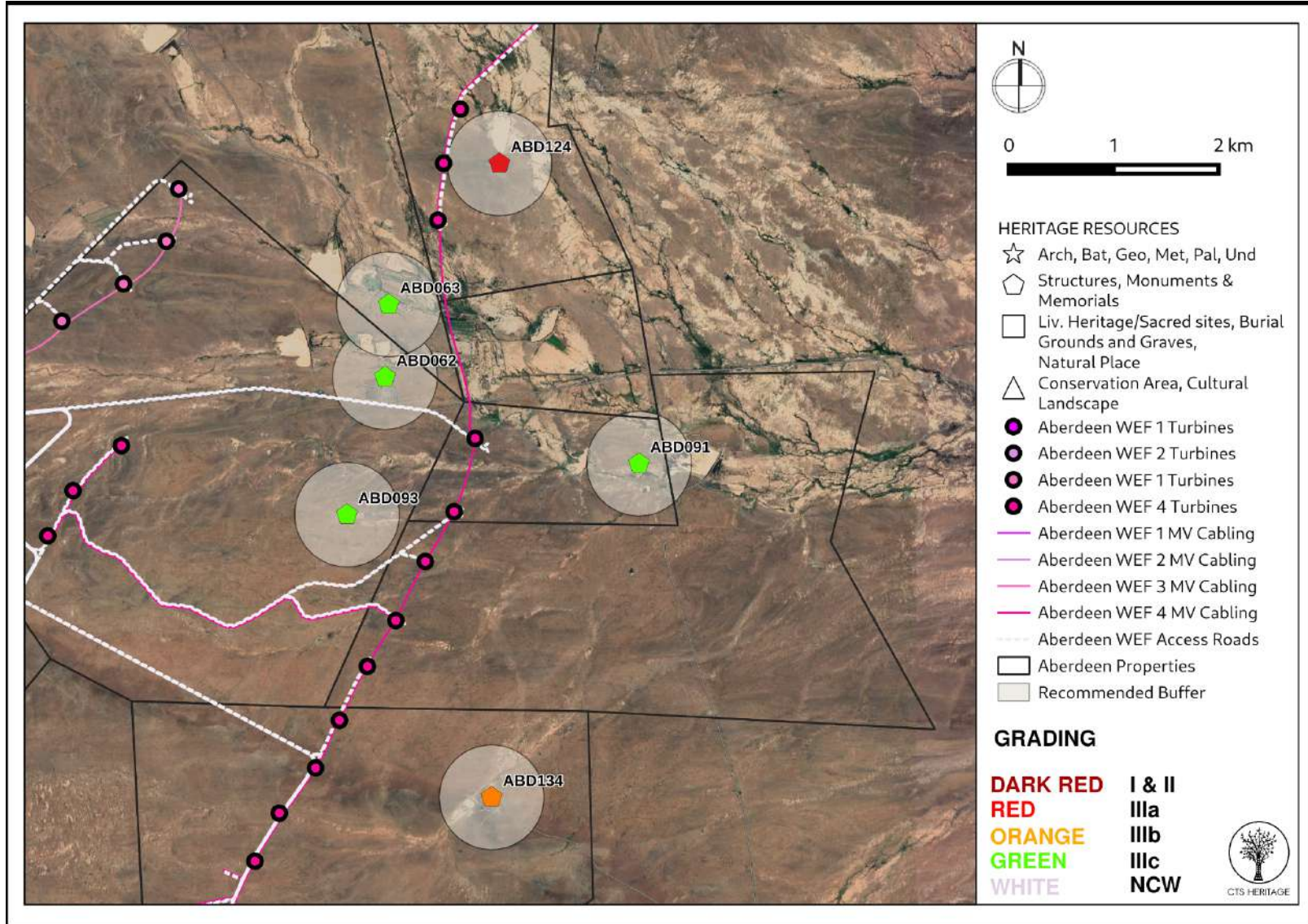


Figure 8.9: Map of all significant heritage resources noted within the development area for Aberdeen WEF 4

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## 6. CONCLUSION AND RECOMMENDATIONS

The findings of this assessment largely correlate with the findings of other assessments completed in the vicinity such as the findings of the Booth and Sanker (2013, SAHRIS NID 251161). It is noted that high numbers of quarried stone artefacts predominantly from the Middle Stone Age and Later Stone Age period were found within the development area which is consistent with observations on neighbouring farms through impact assessments and research surveys. The majority of the lithic material identified is of low significance (not conservation-worthy), and even though the resources may be destroyed during construction, the impact is inconsequential. No mitigation is required for archaeological material recorded in the footprint areas of the proposed development.

Despite the high number of observations of artefacts, these resources are common and representative of similar scatters across widespread areas of the Karoo. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low.

Two burial areas were located within the area proposed for development (ABD044 and ABD124), graded IIIA due to their high levels of local significance. No impact to these sites may occur and as such, appropriate no-development buffers around these sites are proposed. All of the other significant resources identified are either historic kraals, occupied farm werfs or the ruins of historic farm werfs. While no direct impact to any of these sites is anticipated in the layout provided (except for site ABD110), it is recommended that a no-development buffer of 500m is implemented around these sites.

In the layout provided, the proposed road alignment passes directly through site ABD110 which is likely to significantly negatively impact on this resource. As such, it is recommended that the proposed road alignment be amended to avoid impact.

### ***Recommendations***

Based on the outcomes of this report, it is not anticipated that the proposed development of the wind energy facilities will negatively impact on significant archaeological heritage on condition that:

- A 500m no-go development buffer is implemented around sites ABD003, 004, 036, 037, 039, 044, 061, 062, 063, 091, 093, 109, 110, 124, 134, 144, 147 and 173.
- A 100m no-go development buffer is implemented around SAHRIS Site 35548
- The proposed road alignment must be adjusted to respect a minimum of a 50m buffer around site ABD110
- Although all possible care has been taken to identify sites of cultural importance during the investigation of the study area, it is always possible that hidden or subsurface sites could be overlooked during the assessment. 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, burials or other categories of heritage resources are found during the proposed development, work must cease in the vicinity of the find and ECPHRA must be alerted immediately to determine an appropriate way forward.



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## 7. REFERENCES

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
251161	AIA Phase 1	Celeste Booth, Sholeen Shanker	25/03/2013	A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED 200MW ESKOM WIND ENERGY FACILITY, NEAR ABERDEEN, CAMDEBOO LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.
251166	Palaeontological Specialist Reports	John E Almond	31/12/2014	PALAEONTOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED ABERDEEN 200 MW WIND FARM, CAMDEBOO LOCAL MUNICIPALITY, EASTERN CAPE.
354680	HIA Phase 1	Lita Webley, David Halkett	30/11/2015	Heritage Impact Assessment: Proposed Uranium Mining and Associated infrastructure on portions of the farm Quaggasfontein and Ryst Kuil near Beaufort West in the Western Cape and De Pannen near Aberdeen in the Eastern Cape
354681	AIA Phase 1	Lita Webley	30/11/2015	Archaeological Impact Assessment: Proposed uranium mining and associated infrastructure on portions of the farms Quaggasfontein and Ryst Kuil near Beaufort West in the Western Cape and De Pannen near Aberdeen in the Eastern Cape
354683	PIA Phase 1	Bruce Rubidge	24/04/2008	Palaeontological study of the Rystkuil channel
6805	AIA Phase 1	Len van Schalkwyk, Elizabeth Wahl	01/09/2007	Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa
7852	AIA Phase 1	J Kinahan	03/10/2008	Archaeological Baseline Survey of the Proposed Ryst Kuil Uranium Project

Lavin, Winter, Almond (2022). Heritage Impact Assessment for the proposed development of the Poortjie Cluster of Renewable Energy Facilities near Nelspoort, Western Cape. Section 38(8) HIA submitted to HWC. Unpublished.