

ARCHAEOLOGICAL IMPACT ASSESSMENT

Proposed industrial development on Erf 755 Olyvenhoutsdrift, near Upington Northern Cape

Assessment conducted under Section 38 (3) of the National Heritage
Resource Act (No. 25 of 1999)

Prepared for:

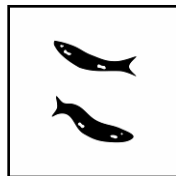
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Executive summary

Introduction

ACRM was instructed by EnviroAfrica to conduct an Archaeological Impact Assessment (AIA) for a proposed development on Erf 755 Olyvenhoutsdrift, near Upington in the Northern Cape.

The proposed development site is located about 4kms south east of Upington, along the N10 / Groblaarshoop Road.

The intention is to rezone 3.2ha of the 9.9ha property, from agriculture to light industrial for the development of an industrial park. The remainder of the property (6.7ha) will retain its agricultural zoning.

The AIA forms part of a Basic Assessment process that is being conducted by EnviroAfrica.

Objectives

The overall purpose of the AIA is to assess the sensitivity of archaeological resources on the proposed development site, to determine the potential impacts on such resources, and to avoid and/or minimise such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur.

Findings

A field assessment of the proposed development site was conducted by ACRM in October 2016.

The following observations were made:

- The proposed development site comprises a severely transformed and degraded industrial landscape
- More than 70 Later Stone Age implements, mostly flakes, chunks and cores were recorded on the proposed development site, but these are spread very thinly and unevenly over the area. Two scrapers were found, but no pottery or ostrich eggshell was encountered. More than 95% of the implements are in banded ironstone. Several indurated shale Middle Stone Age flakes were also recorded. No Early Stone Age tools were found.
- No graves, or typical grave markers were encountered during the field assessment

Grading of the archaeological resources

The severely disturbed and degraded context in which they were found means that the archaeological resources have been rated as having *low* (Grade 3C) significance.

Impact statement

The results of the study indicate that the proposed development of an industrial park on Erf 755 Olyvenhoutsdrift will not have an impact of great significance on archaeological heritage.

Conclusion

The proposed development site is not a sensitive archaeological landscape. No settlement sites or evidence of human occupation were found. Most of the tools are assigned to the Later Stone Age, while a few Middle Stone Age lithics were also recorded. The majority of the tools recorded (flakes, chunks & a few cores) most likely represent discarded flakes or flake debris.

The impact significance of the proposed development on important archaeological heritage is assessed as LOW

Therefore, there are no objections to the authorization of the proposed development.

Recommendations

1. No archaeological mitigation is required.
2. Should any unmarked human burials/remains or ostrich eggshell water flask caches be uncovered, or exposed during preparation of the lands for cultivation, , these must immediately be reported to the archaeologist (Jonathan Kaplan 0823210172), or the South African Heritage Resources Agency (Ms Natasha Higgitt 021 4624502). Burials, etc. must not be removed or disturbed until inspected by the archaeologist.

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1. INTRODUCTION

ACRM was instructed by EnviroAfrica, on behalf of Kobus Duvenhage Bouers (Pty) Ltd to conduct an Archaeological Impact Assessment (AIA) for a proposed development on Erf 755 Olyvenhoutsdrift (//Khara Hais Local Municipality), near Upington in the Northern Cape (Figures 1 & 2).

The site for the proposed development is located about 4kms south east of Upington along the N10 / Groblaarshoop Road.

The intention is to rezone 3.2ha of the 9.9ha property, from agriculture to light industrial for the development of an industrial park. The remainder of the property (6.7ha) will retain its agricultural zoning.

The AIA forms part of a Basic Assessment process that is being conducted by EnviroAfrica.



Figure 1. Locality Map. Red polygon illustrates the location of the proposed development site



Figure 2. Google image illustrating the location of the proposed development site (red polygon).

2. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA No. 25 of 1999) protects archaeological and palaeontological sites and materials, as well as graves/cemeteries, battlefield sites and buildings, structures and features over 60 years old. The South African Heritage Resources Agency (SAHRA) administers this legislation nationally, with Heritage Resources Agencies acting at provincial level. According to the Act (Sect. 35), it is an offence to destroy, damage, excavate, alter or remove from its original place, or collect, any archaeological, palaeontological and historical material or object, without a permit issued by the SAHRA or applicable Provincial Heritage Resources Agency, viz. Heritage Western Cape (HWC).

Notification of HWC is required for proposed developments exceeding certain dimensions (Sect. 38), upon which they will decide whether or not the development must be assessed for heritage impacts (an HIA) that may include an assessment of archaeological (a AIA) or palaeontological heritage (a PIA).

3. TERMS OF REFERENCE

The terms of reference for the archaeological study were to:

- Determine whether there are likely to be any important archaeological resources that may be impacted by the proposed development;

- Identify potentially sensitive archaeological areas, and
- Recommend any further mitigation action.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The proposed development site is a flat, vacant, undeveloped piece of land on a compact eroded gravel surface with loose sand, stone and gravel (Figures 3-7). The site is severely degraded, and is located in a featureless, industrial landscape. Large portions of the site have been heavily scraped, and diggings are widespread. Old gravel roads and pedestrian footpaths cross the site. Burrowing (meerkat) is extensive and large amounts of broken glass cover the site, as does rusted metal, plastic and old fencing. Dumping is also visible. The vegetation on the site is characterised by dry scrubby bush and weeds, with sporadic trees occurring in places. The eastern portion of the site is bound by a timber yard and an SAD dried fruit building, while a railway line and gravel road defines the western boundary. Surrounding land use comprises light industry, commercial and vacant industrial land. Several modern, pre-fabricated buildings in the north western corner have been demolished, while only the concrete foundations remain and rubble. Existing infrastructure comprises an Eskom servitude.



Figure 3. Erf 755 Olyvenhoutsdrift. The proposed 3.2 ha development site (red polygon)



Figure 4. Erf 755 Olyvenhoutsdrift. View of the site facing north



Figure 5. Erf 755 Olyvenhoutsdrift. View of the site facing south



Figure 6. Erf 755 Olyvenhoutsdrift. View of the site facing south



Figure 7. Erf 755 Olyvenhoutsdrift. View of the site facing south

5. STUDY APPROACH

5.1 Method of survey

The overall purpose of the study is to assess the sensitivity of archaeological resources on the proposed development site, to determine the potential impacts on such resources, and to avoid and/or minimise such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact

types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur.

A survey track path was captured (refer to Figure 8) and the position of identified archaeological occurrences were fixed with a hand held GPS unit set on the map datum wgs 84.

A literature survey was carried out to assess the archaeological context surrounding the proposed development site.

5.2 Constraints and limitations

There were no constraints associated with the study. Archaeological visibility was very good.

5.3 Identification of potential risks

The results of the study indicate that there are no archaeological risks associated with the proposed development of an industrial park on Erf 755 Olyvenhoutsdrift.

5.4 Results of the desk top study

In Upington, no systematic archaeological work has been done. Although an increasingly large number of commercial archaeology surveys have been undertaken as part of the EIA process. These studies have shown that stone artefact frequencies in the Upington area tend to be low, temporally mixed and occurring in an isolated and displaced context (Beaumont 2006a, b, c, d, 2008; Kaplan 2008; Dreyer 2013; Van Schalkwyk 2014a, 2014b; Nilssen 2012).

Morris (2014) notes that there are substantial herder encampments along the floodplain of the Orange/Gariep River but these tend to be short duration visits by small groups of hunter-gatherers. Most of these encampments have been destroyed by intensive agricultural development alongside the river.

A study done for Mercedes Benz on a proposed high speed test track about 40kms north of the airport recorded well-preserved LSA campsites with large numbers of tools, hammerstones, cores, anvils, formal tool, ostrich eggshell and pottery. Dispersed scatters of MSA tools were also encountered on the farm (Kaplan 2015).

Relatively large numbers of Later Stone Age tools in banded ironstone, including modified and unmodified flakes, chunks, cores, hammerstones and an anvil were recorded in Louisevale about 10kms west of the Erf 755. Several dispersed scatters of tools were also recorded alongside a drainage channel on the same site.

Early and Middle Stone Age sites are rare in the Upington area, but small scatters of tools such as handaxes, cleavers cores and blades have been documented north of the town (Morris 2014, Morris 2010, 2012; Kaplan 2013a & b).

6. FINDINGS

More than 75 stone artefacts were logged and counted during the baseline study of Erf 755 Olyvenhoutsdrift (refer to Table 1). The majority of the finds are assigned to the Later Stone Age (LSA), but a handful of Middle Stone Age (MSA) implements were also counted. No Early Stone Age resources were found. Most of the tools comprise modified (i.e. utilized and retouched) flakes and chunks, but a few round cores were also recorded, including a quartz core (Site 773), and a quartzite MSA core (Site 778). Two scrapers (Sites 774 & Site 770) were found. Some of the chunks are also retouched and utilized. LSA retouch on an older MSA indurated shale flake (Site 774) was also noted. Four MSA flakes on weathered indurated shale were found, including a possible MSA retouched/utilized blade (Site 779). No hammerstones or anvils were found. No pottery or ostrich eggshell was found on the highly degraded site. More than 95% of the tools are in locally available banded ironstone, with the remainder in (weathered) indurated shale, quartz and quartzite. Banded ironstone was favoured by Stone Age people for its exceptional flaking qualities and the vast majority of finds from all previously recorded sites are in this raw material (Kaplan 2016). The majority of the tools recorded (utilized/modified flakes, chunks & a few cores) most likely represent discarded flakes, or flake debris (i. e. chunks).

Grading of the archaeological resources

The severely degraded context in which they were found means that the archaeological resources have been rated as having *low* (Grade 3C) significance.

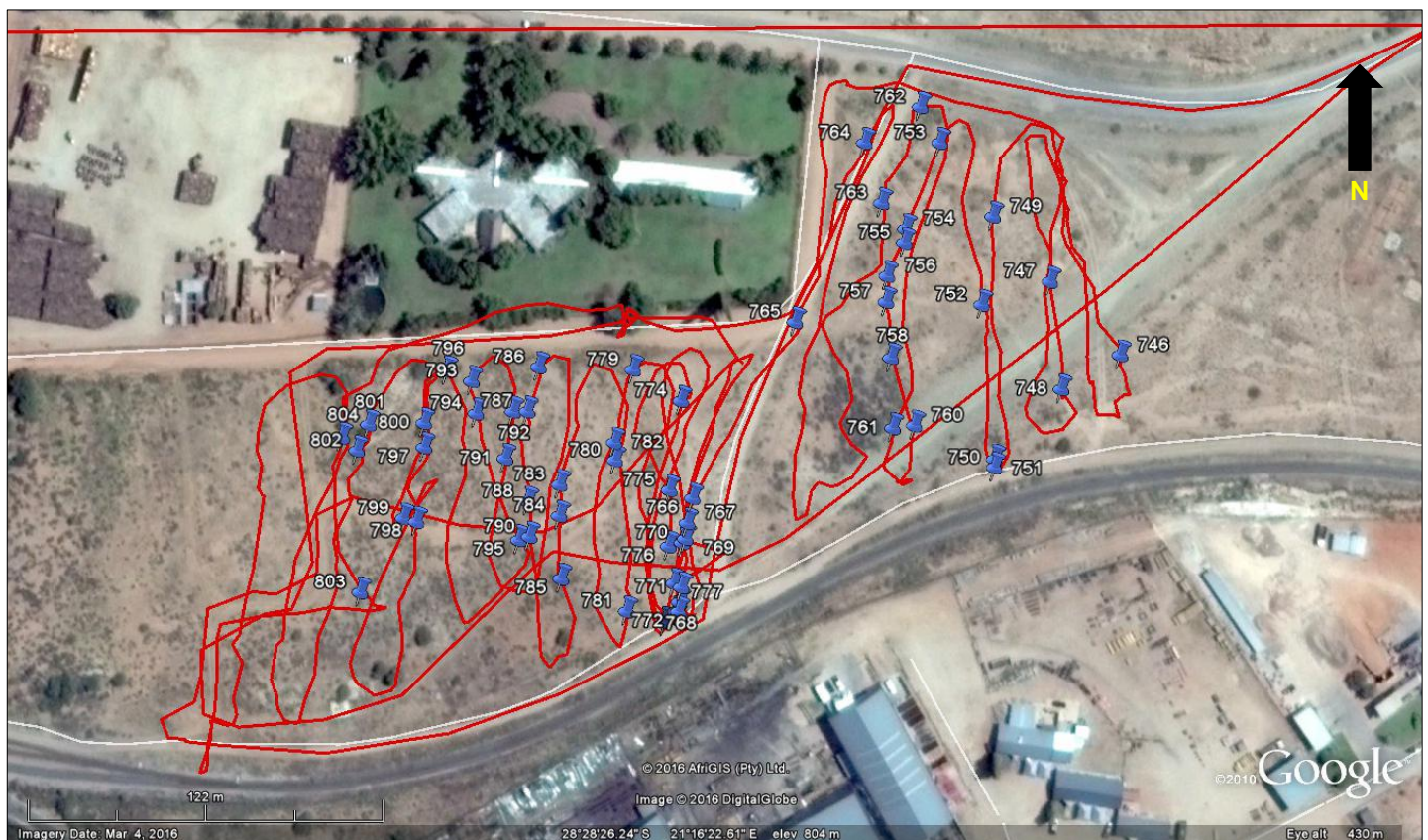


Figure 8. Survey track paths (red) and waypoints of archaeological finds

Archaeological Impact Assessment, proposed industrial development, Erf 755 Olyvenhoutsdrift near Upington

Site	Farm Name	Lat/Long	Description of finds	Grading	Suggested mitigation
	Erf 755 Olyvenhoutsdrift		All in banded ironstone, unless otherwise indicated		
746		S28° 28.427' E21° 16.463'	Miscellaneous retouched piece (MRP)	3C	None required
747		S28° 28.413' E21° 16.448'	MRP	3C	None required
748		S28° 28.433' E21° 16.450'	Broken MSA flake, chunk, large cobble	3C	None required
749		S28° 28.400' E21° 16.437'	Flat, worked out core and utilised/retouched blade	3C	None required
750		S28° 28.447' E21° 16.435'	Chunk	3C	None required
751		S28° 28.445' E21° 16.435'	MRP/chunk	3C	None required
752		S28° 28.417' E21° 16.434'	Retouched blade	3C	None required
753		S28° 28.386' E21° 16.426'	Chunk	3C	None required
754		S28° 28.402' E21° 16.419'	Large chunk, cortex flake	3C	None required
755		S28° 28.405' E21° 16.418'	X 2 chunks/retouched	3C	None required
756		S28° 28.411' E21° 16.414'	Snapped utilized/retouched flake	3C	None required
757		S28° 28.415' E21° 16.414'	Chunk, 2 broken utilized flakes	3C	None required
758		S28° 28.426' E21° 16.414'	Weathered MR flaked and chunk	3C	None required
760		S28° 28.439' E21° 16.419'	Cobble/chunk/core	3C	None required
761		S28° 28.439' E21° 16.414'	Cortex core/cobble	3C	None required
762		S28° 28.380' E21° 16.423'	Cortex cobble/core & chunk	3C	None required
763		S28° 28.397' E21° 16.414'	Snapped/broken MSA flake	3C	None required
764		S28° 28.386' E21° 16.411'	Chunk	3C	None required
765		S28° 28.419' E21° 16.394'	Round, indurated shale cortex core	3C	None required
766		S28° 28.450' E21° 16.371'	Core reduced flake & retouched chunk	3C	None required
767		S28° 28.455' E21° 16.370'	Chunk	3C	None required
768		S28° 28.469' E21° 16.368'	Retouched chunk	3C	None required
769		S28° 28.458' E21° 16.370'	2 chunks	3C	None required
770		S28° 28.458' E21° 16.369'	Indurated shale, & end retouched cortex flake/?scraper	3C	None required
771		S28° 28.467' E21° 16.368'	Chunk	3C	None required
772		S28° 28.471' E21° 16.368'	Retouched cortex flake	3C	None required
773		S28° 28.471' E21° 16.367'	?quartz core	3C	None required
774		S28° 28.432' E21° 16.370'	?side scraper on cortex flake & weathered indurated shale MSA cortex flake with LSA retouch	3C	None required
775		S28° 28.449' E21° 16.367'	Chunk & utilized/retouched flake	3C	None required
775		S28° 28.459' E21° 16.366'	Chunk	3C	None required
777		S28° 28.466' E21° 16.367'	Cobble/cortex core	3C	None required
778		S28° 28.473' E21° 16.365'	Flat, utilized/retouched chunk	3C	None required
779		S28° 28.426' E21° 16.360'	?MSA weathered, retouched flake blade	3C	None required
780		S28° 28.443' E21° 16.355'	Chunk & flake	3C	None required
781		S28° 28.471' E21° 16.357'	Broken, retouched/utilized flake	3C	None required
782		S28° 28.439' E21° 16.355'	Large utilized chunk	3C	None required
783		S28° 28.447' E21° 16.344'	Utilized and retouched flake	3C	None required
784		S28° 28.453' E21° 16.343'	Utilized/retouched flake	3C	None required
785		S28° 28.464' E21° 16.343'	Chunk	3C	None required
786		S28° 28.425' E21° 16.340'	Large round cortex core	3C	None required
787		S28° 28.433' E21° 16.337'	X 2 flakes and chunk	3C	None required

Archaeological Impact Assessment, proposed industrial development, Erf 755 Olyvenhoutsdrift near Upington

788		S28° 28.450' E21° 16.337'	Chunk & flake	3C	None required
790		S28° 28.456' E21° 16.337'	Chunk	3C	None required
791		S28° 28.442' E21° 16.332'	Weathered indurated shale chunk	3C	None required
792		S28° 28.433' E21° 16.334'	Chunk & flake	3C	None required
793		S28° 28.427' E21° 16.326'	Small chunk	3C	None required
794		S28° 28.433' E21° 16.327'	Chunk	3C	None required
795		S28° 28.457' E21° 16.335'	Core	3C	None required
796		S28° 28.425' E21° 16.321'	Chunk	3C	None required
797		S28° 28.439' E21° 16.315'	Large cortex flake/chunk	3C	None required
798		S28° 28.453' E21° 16.313'	Round quartzite core	3C	None required
799		S28° 28.452' E21° 16.310'	Chunk	3C	None required
800		S28° 28.452' E21° 16.310'	Large cobble chunk/core	3C	None required
801		S28° 28.434' E21° 16.304'	Snapped retouched/utilized flake	3C	None required
802		S28° 28.439' E21° 16.301'	Retouched/utilized flake	3C	None required
803		S28° 28.465' E21° 16.301'	Flake	3C	None required
804		S28° 28.437' E21° 16.298'	Cortex utilized flake	3C	None required

Table 1. Spreadsheet of waypoints and description of archaeological finds



Figure 9. Collection of tools from Erf 755. Scale is in cm



Figure 11. Collection of tools from Erf 755. Scale is in cm



Figure 10. collection of tools from Erf 755. Scale is in cm



Figure 12. Collection of tools from Erf 755. Scale is in cm

6.2 Graves

No graves, or typical grave features or markers were encountered during the study.

7. IMPACT STATEMENT

In the case of the proposed industrial park development on Erf 755 Olyvenhoutsdrift, indications are that the overall impact on important archaeological resources is rated as being *low*.

8. CONCLUSION

The proposed development site is not a sensitive archaeological landscape. No settlement sites or evidence of human occupation were found. Most of the tools are assigned to the Later Stone, while a few Middle Stone Age lithics were recorded. The majority of the tools recorded (flakes, chunks & a few cores) most likely represent discarded flakes or flake debris.

The results of the study indicate that the proposed development will not have an impact of great significance on the archaeological heritage.

Therefore, there are no objections to the authorization of the proposed development.

9. RECOMMENDATIONS

With regard to the proposed development and rezoning of Erf 755 Olyvenhoutsdrift near Upington, the following recommendations are made:

1. No archaeological mitigation is required is prior to construction activities commencing
2. Should any unmarked human burials/remains or ostrich eggshell water flask caches be uncovered, or exposed during construction activities, these must immediately be reported to the archaeologist (Jonathan Kaplan 082 321 0172), or the South African Heritage Resources Agency (SAHRA) (Att Ms Katie Smuts 021 462 4502). Burials must not be removed or disturbed until inspected by the archaeologist.

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