

HERITAGE IMPACT ASSESSMENT

PROPOSED HOUSING DEVELOPMENT ON PORTION 1 OF FARM UITKOMS NO. 463 (KURUMAN RD), KATHU NORTHERN CAPE

Prepared for:

ENVIROAFRICA

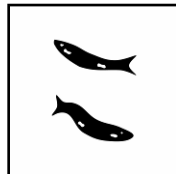
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Executive summary

1. Introduction

ACRM was instructed by EnviroAfrica cc to conduct a Heritage Impact Assessment (HIA) – specialist archaeological study, for a proposed upmarket housing development on Portion 1 of the Farm Uitkoms No. 463 in Kathu in the Northern Cape Province.

The HIA forms part of an EIA process that is being conducted by EnviroAfrica cc, which includes a Palaeontological Impact Assessment (PIA) by Dr John Almond of Natura Viva.

The ± 112ha site is located alongside Frikkie Meyer Street on the north eastern edge of the town, inside the urban edge. A large portion of the proposed development site is occupied by the Uitkoms Horse Club, including associated infrastructure (stables, paddocks, club house, obstacle course, etc). The remainder of the site is covered in natural vegetation (trees, shrubs & grass). Most of the property is underlain by calcrete with a thin layer of red surface sands. Footpaths, roads and informal tracks intersect the site, but overall, apart from the horse club, the proposed site development is relatively, undisturbed.

The property is currently zoned Agricultural I and Special Zone (Mining Area) and will need to be rezoned in order for the proposed development to proceed.

2. The development proposal

The total number of residential opportunities is ± 172 erven, including associated services such as internal streets, electricity, water and sewerage. A ± 4ha portion of the property alongside the entrance at Frikkie Meyer Street has been set aside as Private Open Space, and is a 'No-Go development' area according to the Gamagara Local Municipality Spatial Development Framework Plan. This Open Space area has been as a site of high local archaeological significance.

3. Aim of the HIA

The overall purpose of the HIA 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.

4. Results of the study

A fairly detailed foot survey of the proposed development site was undertaken in March 2014, in which the following observations were made:

- Limited numbers of Early Stone Age (ESA) and Middle Stone Age (MSA) implements of low (Grade 3C) significance were encountered across the proposed development site.
- Large numbers of Acheleun ESA implements were recorded near the entrance to the property, alongside Frikkie Meyer Street, in the protected Open Space area. Surrounding what appears to be a pan (or depression), this open-air site, located on an outcropping of ironstone, has been shown to be an extension of the highly significant archaeological site known as Kathu Townlands, which is located south of Frikkie Meyer Street. Large blocks/slabs of flaked ironstone were also noted, suggesting that the site was repeatedly visited by early hominins as a source of raw material for making stone tools. The Open Space Area is a little degraded, but otherwise the archaeological site (called Kathu Townlands Extension), appears to be relatively undisturbed, hidden among tall grassland, trees and thicket vegetation. An old gravel road cuts across the site, where relatively large numbers of tools are exposed on the compact Pleistocene sands, below the superficial top soils.

Note: No development will take place in the south western corner of the property (i. e. the Open Space area) alongside Frikkie Meyer Street. This portion of the site is acknowledged by the applicant as a heritage site of great importance, and is also noted as a core conservation area in the Gamagara Local Municipality Spatial Development Framework Plan. This important archaeological site, is therefore, protected and has been set aside as a `No-Go development area.

- There are no visible graves or grave markers on the proposed development site.
- There are no old buildings, structures or historical features that will be impacted by the proposed development.

Significance of the archaeological resources:

Kathu Townlands (south of Frikkie Meyer Street) and Kathu Townlands Extension north of Frikkie Meyer Street have been nominated as a Grade 1 National Heritage Site (NHS). The proposed Grade 1 status has been approved by the Council of the South Africa Heritage Resources Agency (SAHRA), but has not yet been declared. According to the SAHRIS website (12 June, 2017), the declaration is still pending and under assessment

5. Predicted impacts

Indications are that, a proposed housing development on the Farm Uitkoms 463/1 will not have an impact of great significance on archaeological resources. A low density scatter of ESA and MSA tools were recorded in the proposed footprint area, but these are spread very unevenly over the surrounding landscape, and appear to be mostly discarded flakes and flake debris. The overall impact significance of the proposed development is, therefore rated as being Low.

The Private Open Space area in the south western corner of the property alongside Frikkie Meyer Street has, however, been identified as an archaeological site of high significance. According to the Gamagara Local Municipality Spatial Development Framework Plan for Kathu, this Open Space area has been set aside as a `No-Go`

development area. This archaeological resource has been identified as an extension of the ESA Acheleun site known as Khatu Townlands, which has been nominated as a Grade 1 National Heritage Site. The site will therefore be protected.

Measures to ensure the long protection and conservation of Kathu Townlands Extension are proposed. Mitigation proposals include the preparation and implementation of a Heritage Management Plan (HMP) to manage the activities and all phases of the proposed development that may impact heritage resources, identification and establishment of a buffer zone around sensitive archaeological areas, and monitoring of development activities during the construction phase of the project.

6. Recommendations

With regard to a proposed housing development on the Farm Uitkomst 463/1, the following recommendations are made, which must be approved by SAHRA:

1. No development must take place in the south western corner of the property alongside Frikkie Meyer Street, which has been set aside as a Private Open Space area. This Open Space area has been recognised by the applicant as an archaeological site of high local significance and is a nominated Grade 1 National Heritage Site. The protected open space area is also acknowledged in the Gamagara Local Municipality Spatial Development Framework Plan for Kathu, as a 'No-Go' development area (my emphasis).

2. An information board must be erected near the protected archaeological site.

3. Excavations for building foundations and services (e. g. water, sewerage & septic tanks) must be monitored by an appropriately qualified Early Stone Age archaeologist.

4. Funds must be made available by the applicant to cover all costs of fieldwork and any sampling and dating of archaeological deposits that might be required.

5. A Heritage Management Plan must be prepared and implemented to manage the activities and phases of the development that may impact heritage resources, particularly in the Open Space area. This will ensure no accidental or indirect impacts occur during all phases of the proposed development.

6. It is recommended that SAHRA sign a Heritage Agreement with the Sishen Iron Ore Company, to ensure the long term conservation and management of the site. This agreement should be signed before development activities commence, and should include the location details of the artefact scatter. It is further recommended that the Heritage Management Plan for the site form part of this Heritage Agreement. The Heritage Management Plan must cover issues relating to appropriate behaviour around the archaeological resource, as well as appropriate signage

7. In order to ensure that heritage resources are not negatively impacted by proposed development activities, ongoing management and monitoring must be undertaken.

8. Any future proposals to 'develop' the protected Private Open Space area alongside Frikkie Meyer Street as an open-air educational facility, for example, must be undertaken in close consultation with SAHRA, and must include all Interested and Affected Parties

such as the McGregor Museum in Kimberley, as well as professional archaeologists who have been working on nearby related sites in Kathu.

9. Should any unmarked human burials or ostrich eggshell water flask caches, for example, be uncovered during construction activities, these must immediately be reported to the archaeologist (Jonathan Kaplan 082 321 0172), or Ms Natasha Higgitt at the South African Heritage Resources Agency (021 462 4502). Burials must not be removed or disturbed until inspected by the archaeologist.

10. The above recommendations must be included in the Environmental Management Plan (EMP) for the proposed development.

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1. INTRODUCTION

ACRM was instructed by EnviroAfrica cc, on behalf of the Sishen Iron Ore Company (Pty) Ltd to conduct a Heritage Impact Assessment (HIA) – specialist archaeological study for a proposed upmarket housing development on Portion 1 of the Farm Uitkoms No. 463 in Kathu (Gamagara Local Municipality) in the Northern Cape Province of South Africa (Figures 1 & 2).

The ± 112ha property is located alongside Frikkie Meyer Street on the north eastern edge of the town, inside the urban edge.

A Palaeontological Impact Assessment (or PIA) for the proposed development has been conducted by Dr John Almond (2015) of Natura Viva as, part of the wider HIA for the project.

EnviroAfrica cc is the appointed independent Environmental Assessment Practitioner (EAP) responsible for facilitating the assessment process.

2. THE DEVELOPMENT PROPOSAL

The total number of housing opportunities proposed is ± 172 erven. This includes single residential erven and sectional title blocks, and associated engineering services such as internal streets, electricity, water and sewerage (Figure 3). A ± 4ha portion of the property alongside the entrance at Frikkie Meyer Street has been set aside as Private Open Space and a 'No-Go' development area. A large portion of the farm is currently occupied by the Kathu Horse Club, which forms part of the development proposal.

The property is currently zoned Agricultural I and Special Zone (Mining Area) and will need to be rezoned in order for the proposed activities to proceed.

3. HERITAGE LEGISLATION

The National Heritage Resources Act (Act No. 25 of 1999) makes provision for a compulsory Heritage Impact Assessment (HIA) when an area exceeding 5000 m² is being developed. This is to determine if the area contains heritage sites and to take the necessary steps to ensure that they are not damaged or destroyed during development.

The NHRA provides protection for the following categories of heritage resources:

- Landscapes, cultural or natural (Section 3 (3))
- Buildings or structures older than 60 years (Section 34);
- Archaeological sites, palaeontological material and meteorites (Section 35);
- Burial grounds and graves (Section 36);
- Public monuments and memorials (Section 37);
- Living heritage (defined in the Act as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) (Section 2 (d) (xxi)).

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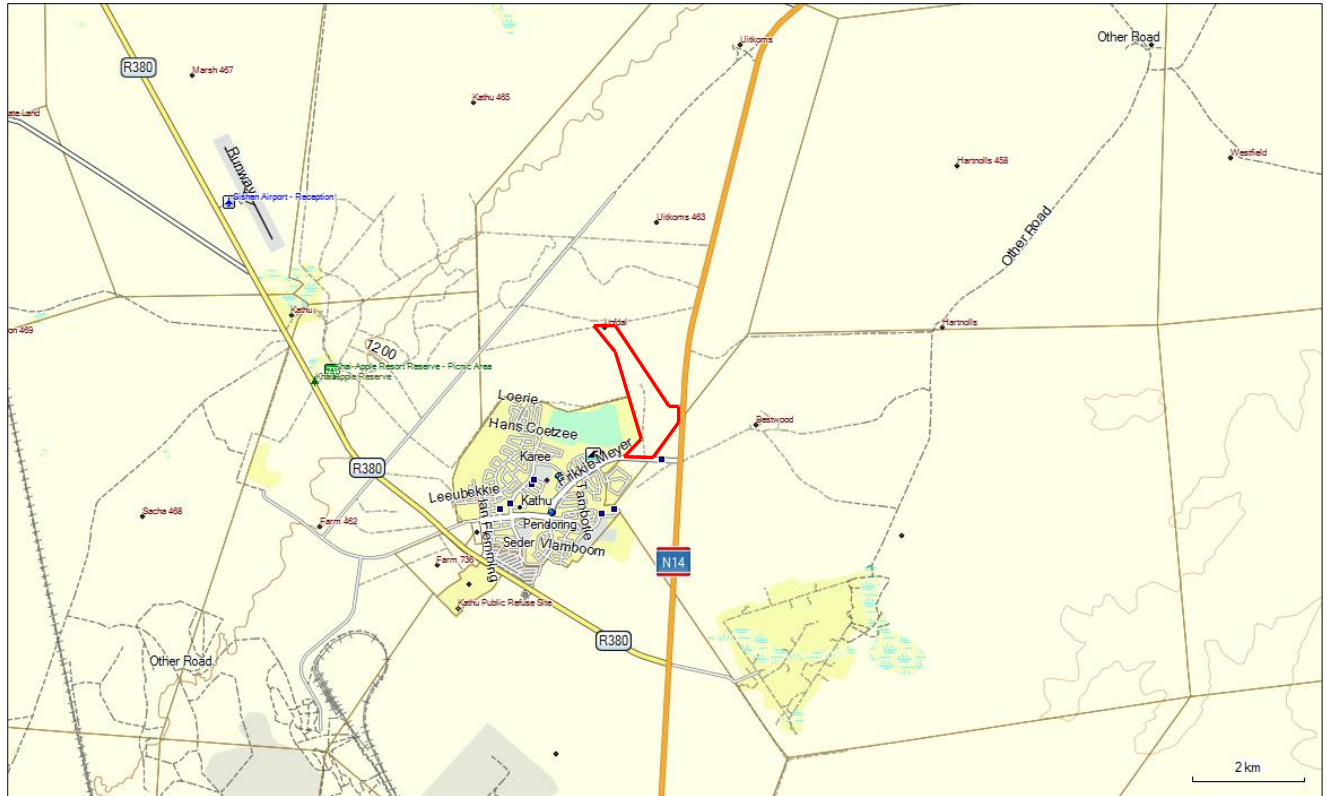


Figure 1. Locality map indicating the proposed development site (red polygon)



Figure 2. Google satellite map of Kathu indicating the location of the proposed development site (green polygon).

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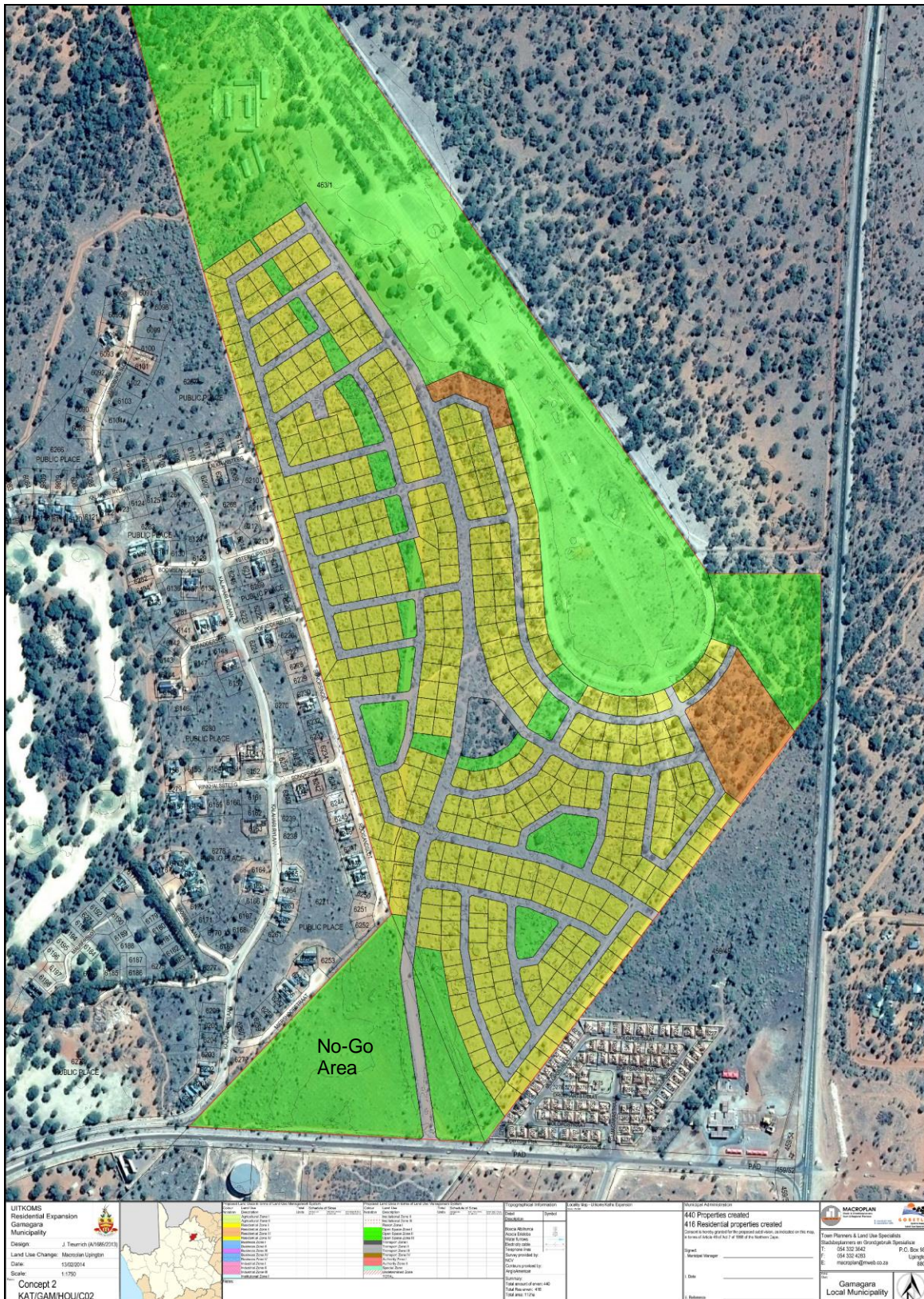


Figure 3. Farm 463/1. Proposed site development plan. The large green shaded area alongside Frikkie Meyer Street has been set aside as Private Open Space, and a 'No-Go' development area according to the Gamagara Local Municipality Spatial Development Framework Plan for Kathu.

4. TERMS OF REFERENCE

The terms of reference for the study were to:

- Determine whether there are likely to be any archaeological resources that may be impacted by the proposed development;
- Indicate any constraints that would need to be taken into account in considering the development proposal;
- Identify sensitive archaeological areas, and
- Recommend any further mitigation action.

5. THE STUDY SITE

Kathu is located about 50kms south of Kuruman and 240kms north east of Upington on the N14. The proposed development site is situated directly north of Frikkie Meyer Street, inside the urban edge. Access to the property is via Frikkie Meyer Street. A large portion of the property is currently occupied by the Uitkoms Horse Club and includes facilities such as stables, paddocks, obstacle course, clubhouse, parking and recreational facilities. The club will be incorporated into the proposed infill development.

Most of the property is underlain by calcrete, with a thin layer of red surface sands. Medium-tall trees, open bushveld and grasslands virtually cover the entire development site (Figures 4-10). A large, formally protected Camelthorn Forest is located alongside the eastern boundary of the farm, which spills into the property. The Sishen Golf Course and residential development, borders the property on the western boundary and Frikkie Meyer Street contains the property on the southern boundary. Footpaths, small roads and informal tracks crisscross the property, but overall, the proposed development site is relatively undisturbed.



Figure 4. View of the site facing west, toward the Sishen Golf Course and Residential Estate



Figure 5. View of the site facing south



Figure 6. View of the site facing east



Figure 7. Private Open Space area. The water tower is located alongside Frikkie Meyer Street. View facing south



Figure 8. View of the site facing south east. Note the Camelthorn Tree forest in the background



Figure 9. View of the proposed site facing south east



Figure 10. Private Open Space area. View facing north west

6. STUDY APPROACH

6.1 Method

The purpose of the HIA is to assess the sensitivity of archaeological resources in the proposed development site, to determine the potential impacts on such resources, and to avoid and/or minimize 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 detailed foot survey of the proposed development site was undertaken on 10th March 2014.

The position of identified archaeological resources, were plotted in situ using a Garmin Oregon 600 hand held GPS unit set on the map datum WGS 84.

A track path of the survey was also captured².

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

6.2 Constraints and limitations

The proposed development site is covered in dense vegetation (trees, shrubs & grass), but overall archaeological visibility was still quite good.

6.3 Identification of potential risks

The primary risk is the long term protection and conservation of the Kathu Townlands Acheleun ESA site that is present in the south west corner of the property alongside Frikkie Meyer Street. This ± 4ha portion of the proposed development site has been set aside as Private Open Space by the applicant. This core conservation area is also noted as a 'No-Go' development area according to the Spatial Development Framework Plan for the Gamagara Local Municipality (Figure 11). No physical development will therefore take place in the protected Open Space area, but measures to ensure the long term protection of the important heritage resource are proposed.

² Unfortunately, due to a GPS malfunction, the archaeologists track paths and all the waypoints were lost and could not be recovered.

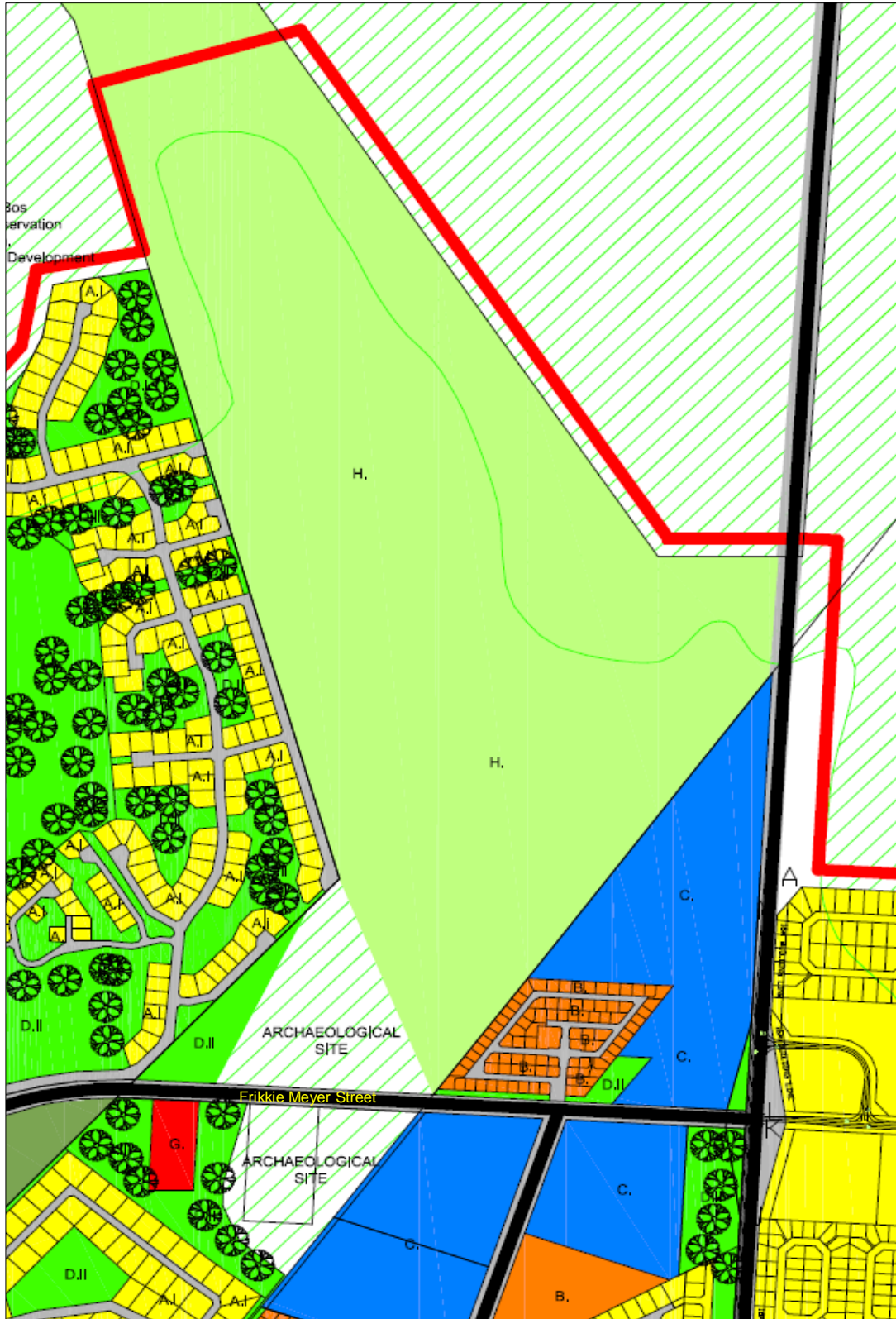


Figure 11. Detail of the Spatial Development Framework Plan for the Gamagara Local Municipality. Note the protected status of the archaeological site (Kathu Townlands) that includes the proposed development site north of Frikkie Meyer Street.

7. ARCHAEOLOGICAL HERITAGE

According to Chazan et al (2012), the area around Kathu is the location of a number of important Early Stone Age (ESA) localities. Kathu Pan for example, which is located about 5kms north west of the proposed development site is a sinkhole site where excavations by Beaumont and Vogel (2006) produced a rich assemblage of Acheulean and Fauresmith implements and associated fauna more than 700 000 years old (see also Beaumont 2004; Beaumont & Morris 1990).

Kathu Townlands, which is located south of the proposed development site, alongside Frikkie Meyer Street, is an open-air ESA Acheulean site whose surface is covered with a dense scatter of cores, flakes and occasional handaxes over an area of \pm 25ha (Beaumont 1990, 2004).

Kathu Pan, Kathu Townlands, Bestwood (Beaumont 2006a) and Uitkoms (Beaumont 2004) are all, collectively, part of a much larger and complex archaeological landscape (Chazan et al 2012; Walker 2012).

There is a complicated history with regard to several archaeological surveys undertaken in the area surrounding the proposed development site (i.e. Farm 463/1). Walker et al (2012) have attempted to unravel the convoluted ownership and rezoning history that has shaped the development of the surrounding erven north east of Kathu. Suffice to say is that Walker et al (2012) have established that a number of commercial archaeological impact assessments (AIAs) that were done south of Frikkie Meyer Street between 2008 and 2006, appear to have intruded into Farm 463/1 (Figure 12). These include mainly AIAs done by Beaumont (2006a, b, c), who estimated that more than 400 million ESA implements may be present across this archaeological landscape.

Beaumont (2004) also identified dense scatterings of ESA artefacts on a hilltop site at Uitkoms Farm about 3kms north-east of Kathu Townlands. Additional surveys undertaken in 2011 established that the Uitkoms lithic scatters cover an area of about 30ha, mostly contained within the boundaries of the Bestwood Farm (Chazan et al 2012). On-going research of the Uitkoms archaeological deposits demonstrate that the lithics lie directly on the surfaces of fine-grained ironstone bedrock, and are mainly composed of this material (Chazan et al 2012).

Kathu Townlands, Uitkoms 1-4, Bestwood and Kathu Pan, are, collectively, considered part of a complex archaeological landscape of great importance. The ESA sites have been nominated as a Grade 1 National Heritage Site (NHS)³, as a landscape of international archaeological significance. Collectively, they inform our understanding of ESA behaviour and the emergence of early modern humans in southern Africa.

³ According to Mr Andrew Solomon (pers. comm.2014) of the South African Heritage Resources Agency (SAHRA), the proposed Grade 1 status of the Kathu Townlands site has been approved by the SAHRA Council, but hasn't yet been declared. It is anticipated that declaration/promulgation of the NHS will take place in 2015/16. According to the SAHRIS website (12 June, 2017), the declaration is still pending and under assessment

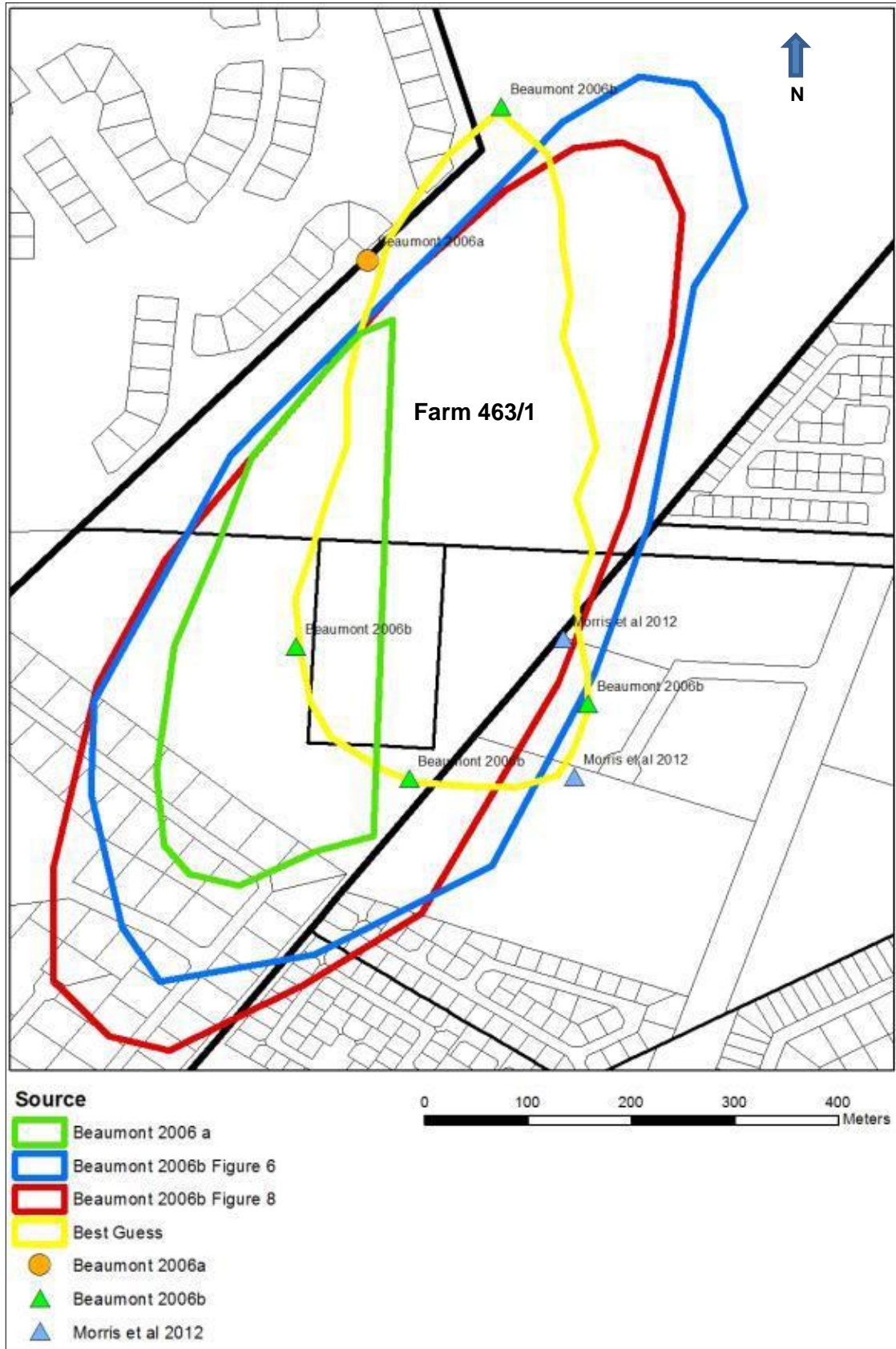


Figure 12. Various site boundaries for the Kathu Townlands Site (Walker et al 2012)

8. FINDINGS

A description of the archaeological finds is presented in Appendix A. As indicated a GPS malfunction resulted in the archaeologist losing all his track paths and waypoints.

Limited numbers of ESA, MSA and LSA lithics of low (Grade 3C) significance were recorded across the proposed development site. These comprise mostly single, isolated finds that are spread very thinly and unevenly over the surrounding landscape. They appear on the surface of the superficial red sands, in old tracks and gravel roads, on scraped and eroded gravel and clay surfaces and among piles of ironstone gravels alongside old diggings (Figures 13-16). The majority of the tools are in fine grained banded ironstone, but several smaller tools in quartzite, chalcedony and indurated shale were also noted. They comprise mostly large and smaller, modified and unmodified flakes, triangular shaped MSA flakes with prepared platforms, cores, and chunks. The occasional biface was also found. Some of the tools are weathered and rolled, indicating some fluvial activity. Indications are that most of the tools recorded are probably discarded flakes and flake debris. No organic remains such as pottery or ostrich eggshell were found.



Figure 13. Collection of tools. Scale is in cm



Figure 14. Collection of tools. Scale is in cm



Figure 15. Collection of tools. Scale is in cm



Figure 16. Collection of tools. Scale is in cm

Kathu Townlands Extension

An extremely high density of Acheulean ESA implements (Sites 060-073); comprising mainly large and smaller modified and unmodified flakes, large angular and flaked chunks, occasional retouched/utilized blades, round cores and incomplete bifaces (handaxes), in fine grained ironstone were recorded in the south western corner of the site alongside Frikkie Meyer Street. Surrounding what appears to be a pan (or depression), this open-air workshop site, located partly on an outcropping of ironstone, has been shown to be an extension of the highly significant archaeological site known as Kathu Townlands (Beaumont 2006a, b; Walker et al 2012 & Figure 17). Blocks and slabs of heavily flaked ironstone and flake debris were also noted scattered about (Figures 18-20), indicating that the site was repeatedly visited by early hominins and utilised as a source of raw material for the manufacture of stone tools. The artefacts are in good condition with no apparent rolling, abrading or weathering, indicating that the majority of the tools are most likely situated in-situ. The sheer number of tools and flake debris on the site also suggests a quarrying or procurement site. Few formal tools such as choppers or handaxes were noted, suggesting that complete tools were most likely removed from the site. The extent of the archaeological deposit was not determined by the archaeologist, but it is clear that the archaeological landscape extends beyond the gravel entrance road at Frikkie Meyer Street, and is visible in the powerline servitude that services the Kathu Horse Club. The protected Open Space Area (refer to Figure 3) is a little degraded, but otherwise the archaeological site appears to be relatively undisturbed, well hidden among the tall grasslands, trees and thicket vegetation. An old tarred road cuts across the site, and many tools are exposed on the compact Pleistocene sands, below the superficial top soils (Figures 21-25).



Figure 17. Kathu Townlands Extension. The proposed development site / protected Open Space. The water tower and reservoir are located just over the road (N14). View facing south



Figure 18. Exposed ironstone surface deposits



Figure 21. Tools exposed in old road below the topsoils



Figure 19. Exposed ironstone surface deposits



Figure 22. Close up of tools in old road below the topsoils



Figure 20. Exposed blocks /slabs of flaked ironstone



Figure 23. Tools in road below the topsoils. Scale is in cm



Figure 24. Tools in old road. Scale is in cm



Figure 25. Tools in old road. Scale is in cm

8.1 Graves

There are no visible graves or typical grave markers on the proposed development site.

8.2 Buildings and structures

There are no old buildings, structures or historical features that will be impacted by the proposed development. Piles of (modern) building rubble from several ancillary buildings occur in the south eastern portion of the property, close to the Kathu Horse Club obstacle course.

9. PREDICTED IMPACTS

Indications are that, a proposed housing development on the Farm Uitkoms 463/1 will not have an impact of great significance on archaeological resources. A low density scatter of ESA and MSA tools were recorded in the proposed footprint area, but these are spread very unevenly over the surrounding landscape, and appear to be mostly discarded flakes and flake debris. The overall impact significance of the proposed development is, therefore rated as being Low.

The Private Open Space area in the south western corner of the property alongside Frikkie Meyer Street has, however, been identified as an archaeological site of high significance. According to the Gamagara Local Municipality Spatial Development Framework Plan for Kathu, this Open Space area has been set aside as a 'No-Go' development area (refer to Figure 11). The archaeological resource has been identified as an extension of the ESA Acheleun site known as Kathu Townlands, which has been nominated as a Grade 1 National Heritage Site (NHS). The site will therefore be protected

Measures to ensure the long protection and conservation of Kathu Townlands Extension are proposed. Mitigation proposals include the preparation and implementation of a Heritage Management Plan (HMP) to manage the activities and all phases of the

proposed development that may impact heritage resources, identification and establishment of a buffer zone around sensitive archaeological areas, and monitoring of development activities during the construction phase of the project.

10. RECOMMENDATIONS

With regard to a proposed housing development of Farm Uitkomst 463/1, the following recommendations are made, which must be approved by the South Africa Heritage Resources Agency:

1. No development must take place in the south western corner of the property alongside Frikkie Meyer Street, which has been set aside as Private Open Space. This Open Space area has been recognised by the applicant as an archaeological site of high significance and is a nominated Grade 1 National Heritage Site. The protected open space area is also acknowledged in the Gamagara Local Municipality Spatial Development Framework Plan for Kathu, as a 'No-Go' development area (my emphasis).
2. An information board must be erected near the protected archaeological site.
3. Excavations for building foundations and services (e. g. water, sewerage & septic tanks) must be monitored by an appropriately qualified Early Stone Age archaeologist.
4. Funds must be made available by the applicant to cover all costs of fieldwork and any sampling and dating of archaeological deposits that might be required.
5. A Heritage Management Plan must be prepared and implemented to manage the activities and phases of the development that may impact heritage resources, particularly in the Open Space area. This will ensure no accidental or indirect impacts occur during all phases of the proposed development.
6. It is recommended that SAHRA sign a Heritage Agreement with the Sishen Iron Ore Company, to ensure the long term conservation and management of the site. This agreement should be signed before development activities commence, and should include the location details of the artefact scatter. It is further recommended that the Heritage Management Plan for the site form part of this Heritage Agreement. The Heritage Management Plan must cover issues relating to appropriate behaviour around the archaeological resource, as well as appropriate signage
7. In order to ensure that heritage resources are not negatively impacted by proposed development activities, ongoing management and monitoring must be undertaken.
8. Any future proposals to 'develop' the protected Private Open Space area alongside Frikkie Meyer Street as an open-air educational facility, for example, must be undertaken in close consultation with SAHRA, and must include all Interested and Affected Parties such as the McGregor Museum in Kimberley, as well as professional archaeologists who have been working on nearby related sites in Kathu.
9. Should any unmarked human burials or ostrich eggshell water flask caches, for example, be uncovered during construction activities, these must immediately be

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reported to the archaeologist (Jonathan Kaplan 082 321 0172), or Ms Natasha Higgit at the South African Heritage Resources Agency (021 462 4502). Burials must not be removed or disturbed until inspected by the archaeologist.

10. The above recommendations must be included in the Environmental Management Plan (EMP) for the proposed development.

11. REFERENCES

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Appendix A

Table of archaeological finds

Heritage Impact Assessment, proposed housing development, Farm Uitkoms No. 463/1,
Kathu, Northern Cape

Site	Name of Farm	Description of finds	Grading	Suggested mitigation
	Farm Uitkoms 463/1, Kuruman RD, Kathu			
031		MSA quartzite flake in sandy track	3C	None required
032		Ironstone core/chunk	3C	None required
033		Small ironstone core	3C	None required
034		Broken ironstone chunk	3C	None required
035		Small ironstone chunk on bed of calcrete chunks	3C	None required
036		Large, round misc. retouched ironstone flake	3C	None required
037		LSA Chalcedony chunk	3C	None required
038		Misc. retouched ironstone chunk	3C	None required
039		Retouched ironstone flake	3C	None required
040		Large ironstone chunk	3C	None required
041		Misc. retouched ironstone pebble	3C	None required
042		Retouched ironstone chunk	3C	None required
043		Ironstone chunk	3C	None required
044		Utilized & retouched ironstone flake	3C	None required
045		Utilized ironstone flake	3C	None required
046		Large, worked out weathered, ironstone core	3C	None required
047		Triple sided ironstone scraper/retouched flake	3C	None required
048		Large, retouched ironstone MSA flake in track	3C	None required
049		Retouched, weathered, ironstone flake	3C	None required
050		Ironstone chunk	3C	None required
051		Broken quartzite flake and chunk	3C	None required
052		Misc. retouched ironstone chunk	3C	None required
053		Ironstone cobble/chunk	3C	None required
054		Step retouched ironstone flake	3C	None required
055		Retouched MSA ironstone flake	3C	None required
056		Ironstone chunk on gravel patch	3C	None required
057		Ironstone flake	3C	None required
058		Several ironstone flakes & chunk in road	3C	None required
059		Several ironstone chunks on piles of gravel	3C	None required
074		Ironstone flakes in powerline servitude probably an extension of protected Kathu Townlands ESA site	3C	None required – site falls within the protected Open Space area
075		Ironstone chunk	3C	None required
076		Large ironstone retouched flake	3C	None required
077		Large ironstone chunk	3C	None required
078		Large ironstone flake & chunk, & biface	3C	None required
079		Ironstone chunk among a pile of rubble from demolished building on edge of obstacle course. A few ironstone flakes, chunks, ESA	3C	None required

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		biface in small informal road		
080		MSA quartzite flake on soft white sand	3C	None required
081		Ironstone flake on pile of ironstone gravels alongside diggings	3C	None required
082		Snapped indurated shale MSA flake	3C	None required
083		Retouched/utilized chunk & small ironstone biface on white sands edge of obstacle course / road.	3C	None required
084		Several ironstone flakes & chunk	3C	None required
085		Ironstone flake and chunk on pile of ironstone gravels alongside small diggings	3C	None required
086		2 large ironstone chunks, utilized/retouched ironstone flake in scraped area alongside main access road	3C	None required
087		Ironstone flake & chunk on pile of ironstone gravels alongside main access road	3C	None required
088		Several large and small ironstone flakes in large burnt out area, also glass, charcoal, ash broken water pipe – alongside burnt Camelthorn Tree – probably old dump alongside obstacle course	3C	None required
089		Large retouched ESA ironstone flake about 40m north east of powerline servitude	3C	None required
	Private Open Space / Kathu Townlands Extension archaeological site		Has been nominated as a Grade 1 National Heritage Site of High significance	Heritage Conservation Management Plan, and Heritage Agreement to be implemented (refer to recommendations)
061		Large, retouched and utilized ironstone flake in old road		
061		Large ironstone biface (incomplete handaxe) in old road		
062		MSA ironstone retouched flake in old road		
063		Ironstone chunk in old road		
064		MSA retouched ironstone flake in old road		
065		Scatter of modified & unmodified ironstone flakes in old road (below the topsoils), including incomplete biface (handaxe), flakes, utilized/retouched pieces		
066		Several ironstone utilized/retouched flakes, core, chunks, blade tools (?Fauresmith)		

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		on compact red clay below the topsoils in old road		
067		Retouched ironstone flake		
068		Large retouched/utilized blade (probably Fauresmith)		
069		Banded ironstone flake		
070		Exceptionally dense scatter of large ironstone flakes & chunks, retouched pieces, on exposed beds of ironstone, hidden among tall grass, localised around pan/depression		
071		Exposed beds and slabs of ironstone, large density of flakes and flake debris		
072		Scatter of ironstone flakes and chunks 20m from gravel entrance road		
073		Scatters of ironstone flakes and flake debris		

Table 1. Description of archaeological finds