

HERITAGE IMPACT ASSESSMENT FOR A PROPOSED LOW WATER CROSSING OVER THE GOURITZ RIVER NEAR HERBERTSDALE, RIVERSDALE AND MOSSEL BAY MAGISTERIAL DISTRICTS, WESTERN CAPE

(Assessment conducted under Section 38 (8) of the
National Heritage Resources Act (No. 25 of 1999) as part of an EIA.)

Prepared for

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EXECUTIVE SUMMARY

The UCT Archaeology Contracts Office was asked by CCA Environmental to assess the potential heritage impacts that might occur through construction of a proposed low water bridge through the Gouritz River. Two location alternatives exist after others were earlier screened out. They lie to the south of Herbertsdale. An original crossing was present at Site B which remains a proclaimed road but it washed away in 1974.

Two surveys took place, one in 2010 where the initially identified alternatives were assessed and the second in 2012 to assess one new alternative. The two alternatives that have been further assessed are Site B and Site C. Finds and features were photographed and positions were taken by GPS. Dense vegetation limited the survey in places.

The area is strongly characterised by agriculture and almost all available flat land in the river valleys has been cultivated. The proposed project would occur largely within this agricultural landscape. Little is known about archaeological heritage in this area but ESA artefacts are known to occur quite widely in the Southern Cape. Historical buildings abound in the landscape.

The 2010 survey documented a number of archaeological sites at Site B but only one lay immediately alongside the road alignment. It may be marginally impacted through road widening but it is not a significant site and does not merit further work. Parallel tree lines occur along the road in one part of Site B. At least one of these would need to be retained in order to preserve the landscape character.

Overall, the project should be allowed to proceed on either site since impacts are deemed to be of low significance. The following requirements apply:

- For Site B the ECO should monitor excavations into the eastern river bank. If any human burials are found, work in that area must cease, the find must be reported, and it will need to be exhumed by an archaeologist.
- Also for Site B the tree line on at least one side of the road must be retained. If possible, both sides should be retained.

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1. INTRODUCTION

The UCT Archaeology Contracts Office was asked by CCA Environmental to assess the potential heritage impacts that might occur through construction of a proposed low water bridge through the Gouritz River. Two alternatives exist after others were earlier screened out. They lie to the south of Herbertsdale (Figures 1 & 2). The project is needed because two earlier structures washed away in 1974 and 2006 and the alternative routes to cross the river from this point are lengthy. Some farms are split by the river and farm workers are at times forced to use canoes to cross the river. The sites lie on the following properties:

- Site B: Schaduwdal 190/4 (167 ha) & Middelstedrift 186/3 (263 ha)
- Site C: Middelstedrift 186/4 (147 ha) & Peach Grove 199/4 (107 ha)

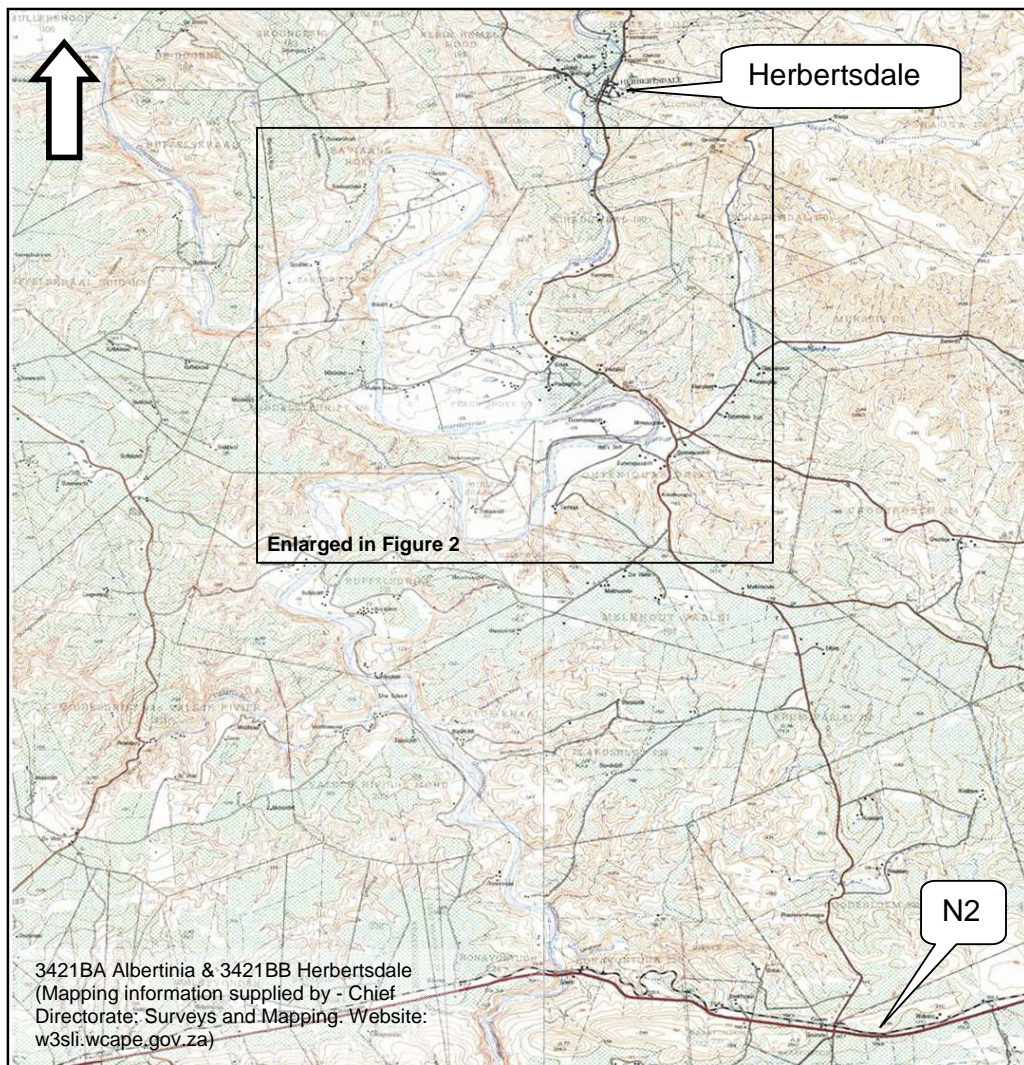


Figure 1: Map showing the general location of the study area to the south of Herbertsdale.

The original crossing was positioned at Site B and the approach roads on either side are still proclaimed roads. For this alternative two sections of road would be surfaced – one near the existing homestead and another on the steep ground to the west of the river. For Alternative

C new gravel roads would be required to traverse agricultural lands and join an existing track before reaching the road again. For either alternative a 20 m servitude would be required and the constructed road would be 7 m wide. This may require widening of existing roads for Site B.

A Notification of Intent to Develop (NID) was submitted to Heritage Western Cape (HWC) and their response indicated that a Heritage Impact Assessment was required and that the study should focus on archaeology but include a general appraisal of all other heritage resources encountered in the area. The present report aims to fulfil this requirement.

An earlier assessment served as a scoping assessment of the four initial sites but the present report assesses one further site and provides impact assessment ratings for the two final sites.

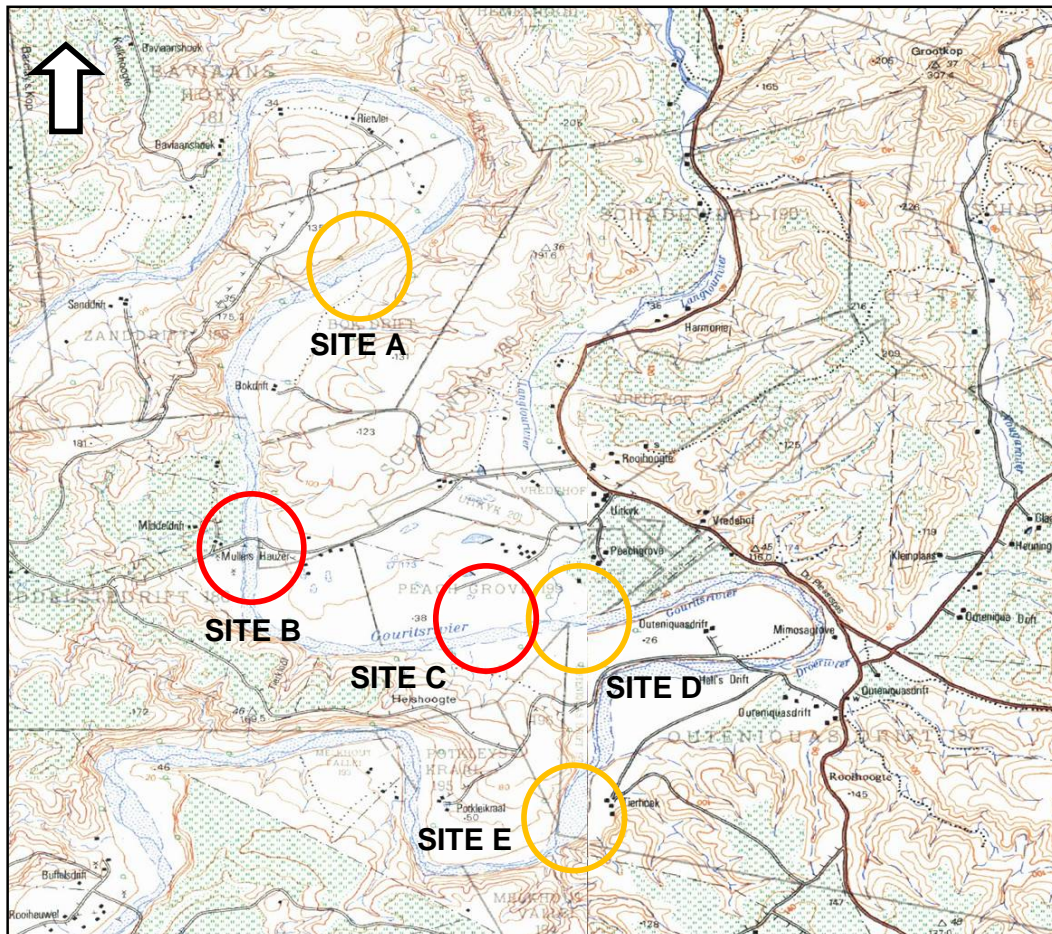


Figure 2: Enlargement of the boxed area in Figure 1 showing the two alternative locations (red circles) and those previously examined and screened out (orange circles).

2. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA) No. 25 of 1999 protects a variety of heritage resources including palaeontological, prehistoric and historical material (including ruins) more than 100 years old (Section 35), human remains older than 60 years and located outside of a

formal cemetery administered by a local authority (Section 36) and non-ruined structures older than 60 years (Section 34). Landscapes with cultural significance are also protected under the definition of the National Estate (Section 3 (3.2d)). Section 38 (2a) states that if there is reason to believe that heritage resources will be affected then an impact assessment report must be submitted. This report fulfils that requirement.

Since the project is subject to a Basic Assessment, Heritage Western Cape (HWC) is required to provide comment on the proposed project in order to facilitate final decision making by the Department of Environmental Affairs and Development Planning (DEA&DP).

3. METHODS

Two surveys have been conducted for this project. The first was carried out on the 17th and 18th of February 2010 when the initial four sites were examined (these are now referred to as Sites A, B, D and E). The second looked only at the newly proposed site, now known as Site C, and was conducted on the 6th of February 2012. The sites were examined on foot and finds and features were photographed and recorded. Their positions were taken using a handheld GPS receiver set to the WGS84 datum. This report focuses on Site C with further details of Site B available in Orton (2010). The impact assessment ratings for Sites B and C are based on standard ratings supplied by CCA Environmental.

3.1. Limitations

Field conditions at Site C were not ideal since ground cover in places was not conducive to adequate archaeological survey. In particular, areas to the north of the river were covered by low vegetation while the northern river bank has dense thorny thicket. To the south, a field of full grown mielies could not be searched at all. The furthest southern part of the study area was under indigenous vegetation which was fairly dense, although patches of open ground could be profitably examined.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The area is strongly agricultural and most of the flat land in the valleys is under crops (Figure 3). Steeper ground is still under indigenous vegetation. The farm land is locally variable with some fields covered by grass, others by low crops and others by tall crops (Figures 4). Still others have dry land agriculture where the crops have been harvested and soil is exposed (Figure 5). Along the northern edge of the river at Site C is a dense thorny thicket with grass patches in between (Figure 6). The slopes at the southern end of the Site C study area have indigenous vegetation (Figure 7) and the proposed road would run along this interface, probably just outside of the agricultural lands (Figure 8).



Figure 3: General view of the study area showing typical landscape characteristics and vegetation coverage.



Figure 4: View towards the south from the northern end of the study area. Here the road would run along the right hand side of the fence where grass and low crops are growing.



Figure 5: View towards the northeast showing dry land agriculture, a dam and, in the background, densely vegetated agricultural lands.



Figure 6: Thicket and grass patches along the margin of the river.



Figure 7: View towards the northwest showing the indigenous vegetation in the southern part of the study area.



Figure 8: View towards the west showing the interface between indigenous vegetation on the steep ground and agriculture below at Site C. The proposed road would run along the area.

Figure 9 presents a schematic cross-section through the study area indicating the various environments and terraces that are present in the Gouritz River valley. Due to topography, the environments crossed by the two sites were not entirely the same as indicated in the figure.

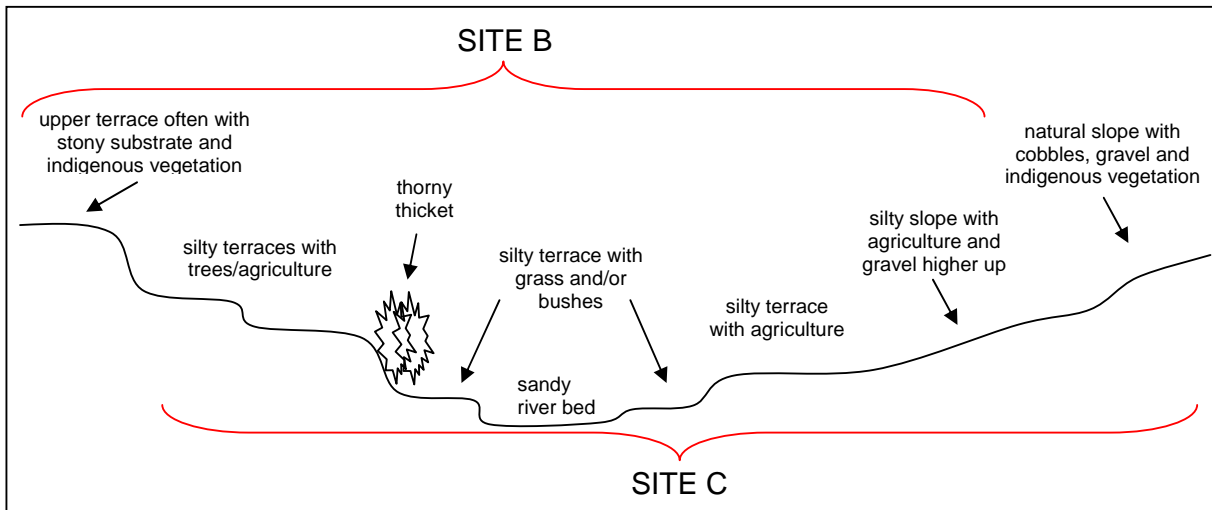


Figure 9: Generalised schematic cross-section through the banks of the Gouritz River incorporating aspects of both sites currently under examination. The red brackets indicate the environments covered by the two sites.

5. HERITAGE CONTEXT

The 2008 SAHRA database indicates no projects having been conducted in the vicinity of Herbertsdale. However, general experience in the southern Cape suggests that Early Stone Age (ESA) material would be found on open terraces and in alluvial gravels (MacFarlane 1949). Such observations were indeed made in the Riversdale and Heidelberg areas by Webley and Orton (2009). The earlier survey for the present project again found similar ESA artefacts in places but Later Stone Age material was also present (Orton 2010).

The surrounding area is liberally sprinkled with old farm buildings, probably mostly 19th century.

6. FINDINGS

6.1. Site B

The findings from Site B were fully described in the earlier report and are only described briefly here in Table 1. Their locations are mapped on Figure 10. It should be noted that the initial survey was less focused and assessed a wider area with the result that more heritage was found and documented. The LSA sites were focused along the edge of the alluvial terrace and no doubt reflect places where LSA people camped on the edge of and overlooking the river.

Table 1: Record of archaeological and other heritage occurrences described in Orton (2010).

Site number	Site character	Description	Co-ordinate	Heritage significance
MD-01	LSA artefacts	Area with a few artefacts and from which two graves were apparently excavated and moved some 30 years ago.	S34 04 34.2 E21 43 18.6	Very low
MD-02	LSA site	Site with stone artefacts, ostrich eggshell and bone. Heavily eroded but <i>in situ</i> material may be preserved within the slope.	S34 04 34.3 E21 43 19.8	Medium
MD-03	LSA site	Similar to MD-02 but more heavily eroded. Artefacts and bone fragments present.	S34 04 39.3 E21 43 17.7	Low-medium
MD-04	LSA site	Dense stone artefact scatter with no organic materials noted. <i>In situ</i> material may be present.	S34 04 30.6 E21 43 20.1	Medium-high
SD-01	LSA site	Low density artefact scatter in a similar context to the above sites.	S34 04 27.9 E21 43 20.1	Very low
SD-02	LSA site	Low density but spatially extensive artefact scatter. East and west co-ordinates provided.	S34 04 24.5 E21 43 22.7	Medium
			S34 04 25.5 E21 43 19.3	
SD-03	LSA site	Low density artefact scatter in a similar context to the above sites.	S34 04 22.6 E21 43 17.4	Very low
SD-04	LSA site	Low density artefact scatter on level ground.	S34 04 17.9 E21 43 17.0	Low
SD-05	ESA & LSA artefacts	Low density scatter of ESA in a ploughed field. A single grindstone is likely LSA in age.	S34 04 17.7 E21 43 18.2	Very low
SD-06	Structure	Clay brick and mud house with recent additions perhaps aimed mostly at supporting the collapsing structure. It is in poor condition.	S34 04 18.5 E21 43 23.7	Very low
SD-07	LSA site	Scatter of LSA artefacts and one MSA flake with a faceted platform.	S34 04 12.8 E21 43 11.9	Very low
MD-05	LSA and historical artefacts	Low density scatter of LSA artefacts and some historical glass and ceramics. The latter probably originate from the house at MD-06.	S34 04 11.2 E21 42 52.9	Very low
MD-06	Historical ruin	South-facing stone and mud ruin of about 18 m by 6 m including a stoep. Probably mid- to late 19 th century.	S34 04 11.0 E21 42 51.3	Medium
MD-07	Historical ruins	Two small outbuildings, one of stone and brick and the other of brick only. They may be less than 100 years of age and are almost certainly younger than MD-06.	S34 04 11.9 E21 42 49.4	Low

Site number	Site character	Description	Co-ordinate	Heritage significance
MB-08	Historical artefacts	Glass and ceramics likely dating to the late 19 th or early 20 th century.	S34 04 12.8 E21 42 50.7	Very low
MD-09	Tree line	Gum tree line along the road leading down to the river. East and west co-ordinates provided.	S34 04 25.0 E21 42 50.1 S34 04 28.8 E21 42 39.5	Medium
SD-08	Historical ruin	Series of cement footings of unknown function on a rocky outcrop alongside the river. They do not appear to be very old.	S34 04 01.2 E21 43 06.8	Very low



Figure 10: Aerial view of the Site B study area showing the location of the planned structure and road (red line) and all heritage occurrences found in the area (yellow).

6.2. Site C

A detailed record of newly found heritage resources from Site C is now presented. These are mapped in Figure 11.

6.2.1. MD-10

Location: S34 05 02.8 E21 44 28.7

This is a low density scatter of LSA artefacts in a ploughed area (Figure 12). The artefacts were found in the foreground of Figure 5 above. The following artefacts were noted: 1 crystal quartz chip, 1 quartz core, some silcrete flakes, 2 quartzite irregular cores, some quartzite flakes and chunks and 1 quartzite chunk / hammer stone. A few other cobbles and cobble

fragments may have been brought to the site but could also be natural. One possible grindstone fragment was noted. Given the disturbed context and low artefact density it is considered to be of low significance and the landform suggests that it is an eroding rather than depositional context such that *in situ* deposits should not be present beneath the surface.

6.2.2. MD-11

Location: S34 05 03.0 E21 44 11.8 (west); S34 05 13.6 E21 44 40.1 (east)

This is a furrow that has been excavated along the foot of the slope to catch run-off and channel it to the west (Figure 13). Its age is unknown but one section has been filled in and it is no longer fully functional. Its significance is low.

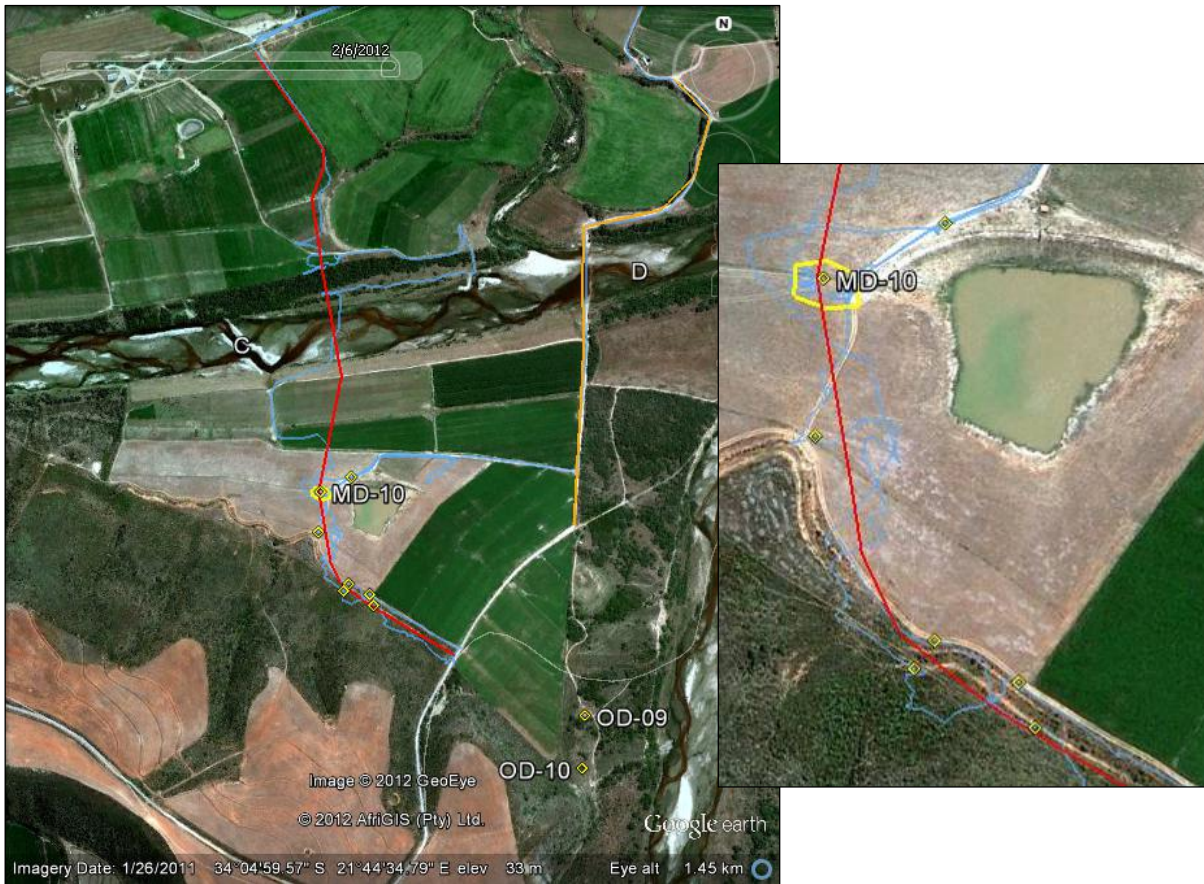


Figure 11: Aerial view of the Site C study area showing the location of the planned structure and road (red line) and all heritage occurrences found in the area (yellow). The inset shows a detail from the area in which Stone Age material was recorded.



Figure 12: Stone artefacts and one bone fragment (on the notebook) found at MD-10. Scale in cm.



Figure 13: View of the furrow (MD-11) that runs along the base of the slope above the ploughed lands.

6.2.3. MSA artefacts

Location: artefacts all along the slope and exposed by the furrow at MD-11.

This is not a site but rather just an exposure of stone artefacts, probably of MSA or ESA origin. The former seems more likely based on the absence of larger forms from the observed scatter. Such artefacts probably occur widely on the local landscape. It is a very low density scatter associated with cobbles and gravel along the lower slopes of the mountain. Many were revealed in an old furrow that separates the ploughed and unploughed land. The artefacts are mostly of quartzite, but silcrete and quartz were also present (Figure 14). Since it is not a site, the occurrence has not been labelled on Figure 11 but is represented by the cluster of symbols along the interface between ploughed and natural land. These artefacts are of low archaeological significance.



Figure 14: Stone artefacts found at MD-11. Scale in cm.

6.2.4. OD-09

Location: S34 05 17.7 E21 44 51.0

This is a small vernacular house in ruined state. It was not visited but only noted from a distance. It is 300 m away from the project area, would not be impacted and is noted only for the record (Figure 15). It is likely of medium significance.



Figure 15: View towards the house (OD-09) and ruin (OD-10). The house is obvious but the position of the ruin is marked by the yellow arrow. The photograph is taken from the road at the south-eastern end of this alternative.

6.2.5. OD-10

Location: S34 05 25.3 E21 44 50.8

This is a ruined structure which was also not visited (Figure 15). It is 360 m away from the project area, would not be impacted and is noted only for the record. It is likely of low-medium significance.

7. ASSESSMENT OF IMPACTS

7.1. Site B

Only two heritage concerns exist at Site B. One is the archaeological site that occurs immediately alongside the road at SD-02 (see Figure 10). The site could be disturbed during road widening but, given the size (c. 100 m) and density of the site, no highly significant impacts to the site are expected. No mitigation is suggested. A very small chance of finding human burials beneath the surface does also exist.

The second concern is the gum tree lines at MD-09 (see Figure 10). Should the road be upgraded within its current footprint, or else left as is, then no impacts are expected. However, should the road need to be widened, then the tree line on one or other side of the road, and thus the general landscape, may be impacted. The new structure would not result in any landscape impacts, since it is the type of structure expected within the local landscape context. It would be low and humble and would not in any way dominate the landscape.

Table 2 shows the impact rating assigned to heritage resources for Site B. The archaeological site is deemed to be of lesser significance than the tree line and the table thus reflects impacts to the latter. It also assumes that only trees on one side of the road would be felled if widening is required. Visual concerns are negligible and the built environment is not affected at all. Note that the significant ratings have been adjusted for the sake of consistency with significance in heritage terms.

Table 2: Assessment of impacts to heritage resources for Site B (tree line).

CRITERIA	WITHOUT MITIGATION	WITH MITIGATION
Extent	Local	Local
Duration	Permanent	Medium term
Intensity	Low	Very low
Probability	Probable	Probable
Confidence	High	High
Significance	Low	Very low
Cumulative impact	n/a	n/a
Nature of Cumulative impact	No cumulative impacts are expected as other similar developments threatening similar heritage resources are unknown in the area.	
Degree to which impact can be reversed	Archaeological impacts are irreversible but the tree line could be reinstated if necessary and is thus fully reversible.	
Degree to which impact may cause irreplaceable loss of resources	High for archaeological resources. Low for the tree line.	
Degree to which impact can be mitigated	Low (according to the prescribed ratings, but in heritage terms it is considered that the heritage mitigation will be highly successful)	

7.2. Site C

No significant concerns are present within this alignment; the only heritage resources that would be impacted are of very low archaeological significance. The chance of intersecting burials on the siltier north bank of the river exists but this cannot be predicted and assessed.

Table 3: Assessment of impacts to heritage resources for Site C.

CRITERIA	WITHOUT MITIGATION	WITH MITIGATION
Extent	Local	n/a
Duration	Permanent	n/a
Intensity	Very low	n/a
Probability	Highly probable	n/a
Confidence	High	n/a
Significance	Very low	n/a
Cumulative impact	n/a	n/a
Nature of Cumulative impact	The cumulative impacts to archaeology are of little concern given the very low significance and lack of similar developments in the area.	
Degree to which impact can be reversed	Archaeological impacts are irreversible.	
Degree to which impact may cause irreplaceable loss of resources	High for archaeological resources.	
Degree to which impact can be mitigated	Low (but none is suggested owing to low significance)	

8. CONCLUSIONS

From a heritage perspective, Site C would likely result in less impacts. However, tree lines frequently exist alongside roads and, because of the existing tree line at Site B, this alternative is seen as a good one to use rather than creating a new road. Furthermore, the precedent is set, albeit long ago, by the original crossing having been in this location. The possibility of intersecting burials is deemed to be higher for Site B than Site C. Overall, however, either site can be used.

8.1. Mitigation requirements

8.1.1. Site B

Monitoring of excavations through the river terrace in the vicinity of SD-02 should be conducted by the ECO such that any human burials intersected could be noted at the earliest stage. The burial would need to be reported to an archaeologist or to HWC and then subsequently recovered by an archaeologist at the expense of the developer.

At least one side of the tree line at MD-02 must be retained. Should any road widening be required then this must be carried out on one side only such that the trees along one side of the road can be retained. This would help retain the sense of place created by the trees.

Similarly, as much as possible of the indigenous bush along the eastern river bank should be retained.

8.1.2. Site C

No archaeological mitigation is required. However, as with Site B, the amount of clearing of indigenous bush along the river should be minimised so as to retain as much as possible of the existing landscape qualities.

9. RECOMMENDATIONS

The project should be allowed to proceed on either of the two proposed alternative sites but subject to the following requirements:

- For Site B the ECO should monitor excavations into the eastern river bank. If any human burials are found, work in that area must cease, the find must be reported, and it will need to be exhumed by an archaeologist.
- Also for Site B the tree line on at least one side of the road must be retained. If possible, both sides should be retained.

10. REFERENCES

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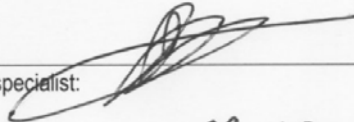
4.2 The specialist appointed in terms of the Regulations_

I, JAYSON ORTON , declare that --

General declaration:

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of the specialist:



09-02-2012

Name of company (if applicable):

UCT. Archaeology Contracts Office.

Date: