
PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

**PART 1: UTILIZATION OF BORROW PITS –
O. R. TAMBO DISTRICT MUNICIPALITY,
EASTERN CAPE, SOUTH AFRICA**

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PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
PART 1: UTILIZATION OF BORROW PITS – O. R. TAMBO DISTRICT MUNICIPALITY,
EASTERN CAPE, SOUTH AFRICA

EXECUTIVE SUMMARY

TERMS OF REFERENCE:

BESC has been appointed as independent environmental consultant by the project proponent, the Department of Roads and Public Works, to prepare the EMP's for the greater *Utilization of Borrow Pits – O. R. Tambo District Municipality* project in the Eastern Cape. The project proposal centers on the utilization of 93 borrow pits along 29 roads across the O. R. Tambo District Municipal area. *Part 1* of the *Utilization of Borrow Pits – O. R. Tambo District Municipality* focuses on the 1st phase of the project; including 40 borrow pits along 13 roads. ArchaeoMaps has been appointed by BESC to conduct the Phase 1 AIA for the *Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality, Eastern Cape, South Africa* project.

THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT:

PROJECT AREA: O. R. Tambo District Municipal area, Eastern Cape.

GAP ANALYSIS: Phase 1 AIA field assessment included all 40 borrow pits.

METHODOLOGY: Five day field assessment; GPS co-ordinates – Garmin GPSMap60CSx; Photographic documentation – Pentax K20D. Archaeological and cultural heritage site significance assessment and mitigation recommendations – SAHRA 2007 system.

SUMMARY: No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment.

Road	Total	Borrow Pits	Recommendations
DR08033	3	033_BP02; 033_BP03; 033_BP04	N/A
DR08212	3	212_BP01; 212_BP02; 212_BP03	N/A
DR08290	2	290_BP01; 290_BP03	N/A
DR08019	5	019_BP02; 019_BP03; 019_BP04; 019_BP05; 019_BP07	N/A
DR08313	3	313_BP01; 313_BP02; 313_BP04	N/A
DR08174	2	174_BP01; 174_BP02	N/A
DR08191	3	191_BP01; 191_BP04; 191_BP06	N/A
DR08308	3	308_BP01; 308_BP03; 308_BP05	N/A
DR08309	1	309_BP01	N/A
DR18030	6	1/030_BP01; 1/030_BP02; 1/030_BP04; 1/030_BP04; 1/030_BP05; 1/030_BP06	N/A
DR08151	4	151_BP01; 151_BP02; 151_BP03; 151_BP04	N/A
DR08025	4	025_BP01; 025_BP02; 025_BP03; 025_BP04	N/A
DR08124	1	124_BP01	N/A

RECOMMENDATIONS:

It is recommended that the proposed development, *Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality* project, to be located in the O. R. Tambo District Municipal area of the Eastern Cape, proceeds as applied for without the developer having to comply with any additional cultural heritage compliance requirements.

PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

**UTILIZATION OF BORROW PITS –
AMATHOLE DISTRICT MUNICIPALITY,
EASTERN CAPE, SOUTH AFRICA**

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1) TERMS OF REFERENCE

Biotechnology and Environmental Specialist Consultancy (BESC) has been appointed as independent environmental consultant by the project proponent, the Department of Roads and Public Works, to prepare the Environmental Management Plans (EMP's) for the proposed greater *Utilization of Borrow Pits – O. R. Tambo District Municipality* project, in accordance with requirements of the Minerals and Petroleum Resources Development Act, No 28 of 2002 (MPRDA 2002). The project focuses on obtaining road construction material from 93 borrow pits for the upgrading / re-surfacing of 29 roads across the O. R. Tambo District Municipal area. *Part 1* of the *Utilization of Borrow Pits – O.R. Tambo District Municipality* focuses on the 1st phase of the project; including 40 borrow pits along 13 roads and including roads DR08033, DR08212, DR08290, DR08019, DR08313, DR08174, DR08191, DR08308, DR08309, DR18030, DR08151, DR08025, and DR08124. The remainder of the borrow pits will be addressed in a follow-up or Part 2 report. ArchaeoMaps Archaeological Consultancy has been appointed by BESC to conduct the Phase 1 Archaeological Impact Assessment (AIA) for the proposed *Part 1: Utilization of Borrow Pits – O.R. Tambo District Municipality, Eastern Cape, South Africa* project's EMP(s).

1.1) *Development Location, Details & Impact*

The *Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality* project will be situated within the boundaries of the O. R. Tambo District Municipal area of the Eastern Cape. The project centers on the proposed utilization of 40 identified borrow pits along 13 roads with the aim of obtaining road construction material for the upgrading / re-surfacing of the roads. The project application focuses on the utilization of the borrow pits only; roads or road portions to be upgraded do not form part of the scope of the project.

Development impact at each of the proposed borrow pits is averaged at 1-1.5ha. The estimated development footprint will be exceeded in cases where continuing use of large existing borrow pits are proposed. All borrow pits to be used will be formally fenced with access gates – demarcating development areas, minimizing development impact spill-over and channeling traffic during the implementation and operational phases.

The *Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality, Eastern Cape, South Africa* project can be summarized as:

1. Road DR08033 – 3 borrow pits;
2. Road DR08212 – 3 borrow pits;
3. Road DR08290 – 2 borrow pits;
4. Road DR08019 – 5 borrow pits;
5. Road DR08313 – 3 borrow pits;
6. Road DR08174 – 2 borrow pits;
7. Road DR08191 – 3 borrow pits;
8. Road DR08308 – 3 borrow pits;
9. Road DR08309 – 1 borrow pit;
10. Road DR18030 – 6 borrow pits;
11. Road DR08151 – 4 borrow pits;
12. Road DR08025 – 4 borrow pits; and
13. Road DR08124 – 1 borrow pit.



Figure 1: General locality of the proposed *Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality* study site

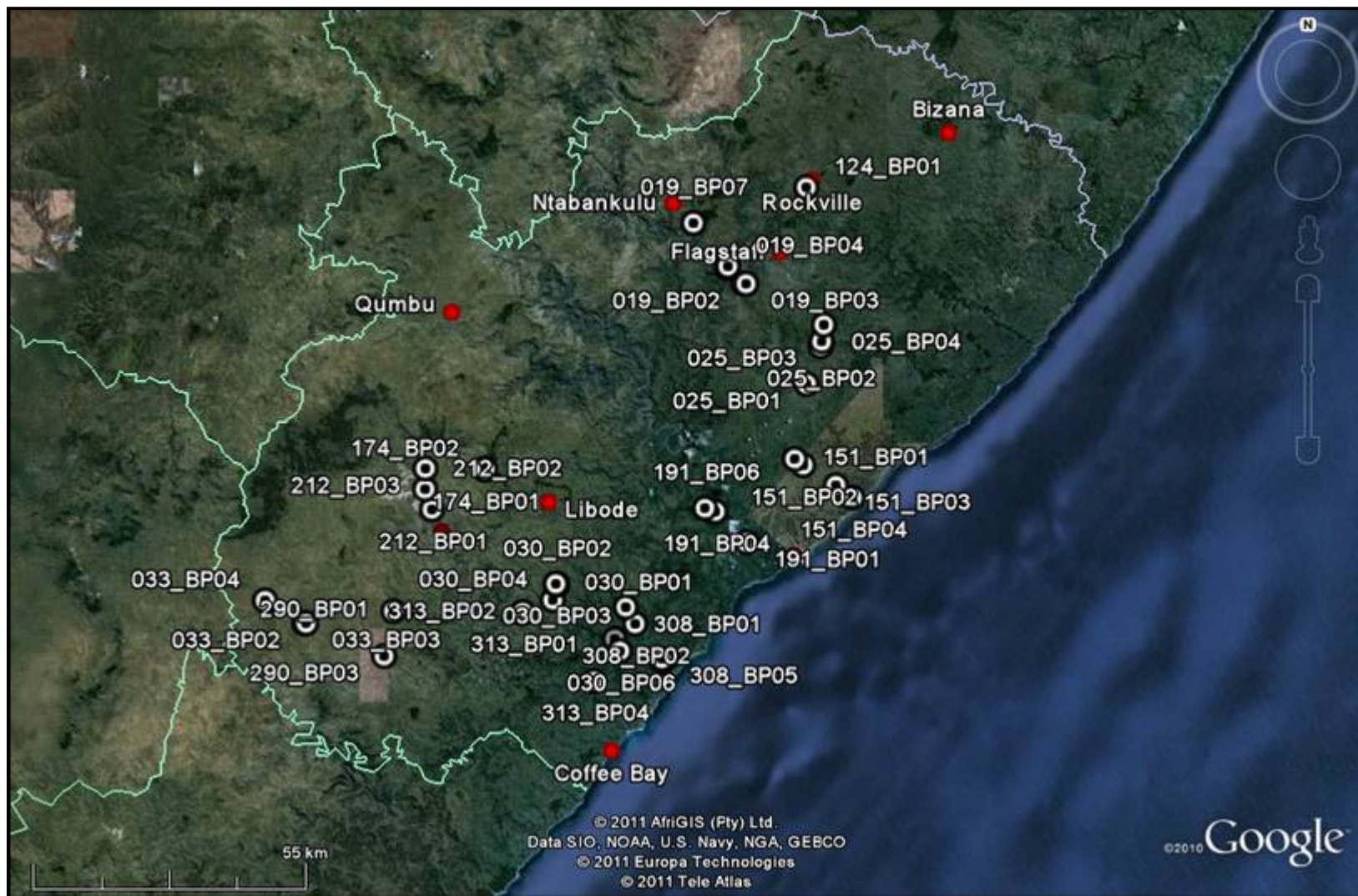


Figure 2: Spatial layout of the proposed Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality project

2) THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

2.1) *Archaeological Legislative Compliance*

The Phase 1 Archaeological Impact Assessment (AIA) was done for purposes of compliance to the South African Heritage Resources Agency's (SAHRA) requirements in terms of the National Heritage Resources Act, No 25 of 1999 (NHRA 1999), with specific reference to Section 38(1).

The Phase 1 AIA was requested as specialist sub-section to the HIA for the Environmental Management Plans (EMP's) of the proposed project in compliance with requirements of the Minerals and Petroleum Resources Development Act, No 28 of 2002 (MPRDA 2002), the National Environmental Management Act, No 107 of 1998 (NEMA 1998), the NEMA 2nd Amendment Act, No 62 of 2008 (NEMA 2008) and the NEMA Regulations (2006 & 2010), and the NHRA 1999 and NHRA Regulations (2000 & 2002).

The Phase 1 AIA aimed to locate, identify and assess the significance of cultural heritage resources, inclusive of archaeological deposits / sites, built structures older than 60 years, burial grounds and graves, graves of victims of conflict and cultural landscapes or viewsapes as defined and protected by the NHRA 1999, that may be affected by the proposed development.

- Palaeontological deposits / sites as defined and protected by the NHRA 1999 are not included as subject to this report.
- No socio-cultural consultation was done with the aim to identify intangible heritage resources or sites of cultural significance associated with oral histories.

2.2) *Methodology & Assessor Accreditation*

The Phase 1 AIA was conducted over a 5 day period (2011-07-19, 2011-08-19 to 08-20 and 2011-08-25 to 08-26) by one archaeologist. The assessment was done by vehicle and foot, and limited to a Phase 1 surface survey; no excavation or sub-surface testing was done. GPS co-ordinates were taken with a Garmin GPSmap 60CSx GPS (Datum: WGS84). Photographic documentation was done with a Pentax K20D camera. A combination of Garmap and Google Earth software was used in the display of spatial information.

SAHRA ARCHAEOLOGICAL AND CULTURAL HERITAGE SITE SIGNIFICANCE ASSESSMENT			
<i>SITE SIGNIFICANCE</i>	<i>FIELD RATING</i>	<i>GRADE</i>	<i>RECOMMENDED MITIGATION</i>
High Significance	National Significance	Grade 1	Site conservation / Site development
High Significance	Provincial Significance	Grade 2	Site conservation / Site development
High Significance	Local Significance	Grade 3A / 3B	Site conservation or extensive mitigation prior to development / destruction
High / Medium Significance	Generally Protected A	-	Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B	-	Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C	-	On-site sampling, monitoring or no archaeological mitigation required prior to or during development / destruction

Table 1: SAHRA archaeological and cultural heritage site significance assessment

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2007).

The assessment was done by Karen van Ryneveld (ArchaeoMaps):

- Qualification: MSc Archaeology (2003) WITS University.
- Accreditation:
 1. 2004 – Association of Southern African Professional Archaeologists (ASAPA) – Professional Member.
 2. 2005 – ASAPA CRM Section: Accreditation – Field Director (Stone Age, Iron Age, Colonial Period).
 3. 2010 – ASAPA CRM Section: Accreditation – Principle Investigator (Stone Age).

Karen van Ryneveld is a SAHRA listed CRM archaeologist.

2.3) Coverage and Gap Analysis

The Phase 1 AIA covered all 40 borrow pits along the 13 roads. In a number of cases homesteads or residences were situated in particular close proximity to the assessment areas. It is not the intention of the developer to impact on any of the homesteads / livelihoods of the local community, but where development necessitates relocation, this will be addressed in the Social Impact Assessment (SIA) of the project. The Phase 1 AIA was not done to homestead level; cultural heritage resources, particularly graves, may well be expected within the homestead yards. In the unlikely event that relocation will be considered associated homestead-level cultural heritage resources will be addressed.

2.4) Phase 1 AIA Assessment Findings

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the *Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality* projects' Phase 1 AIA. The proposed development poses no threat to any identified cultural heritage resources: It is recommended that development proceeds as applied for without the developer having to comply with additional heritage compliance requirements.

2.4.1) Road DR08033 (Road 033)



Figure 3: Proposed borrow pits in relation to Road 033

Road DR08033 (Road 033) measures approximately 32km in length with start and end co-ordinates being S31°50'04.0"; E28°33'40.0" and S31°38'30.0"; E28°22'21.0" respectively. Three borrow pits, namely 033_BP02, 033_BP03 and 033_BP04, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 033:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the three borrow pits proposed for development along Road 033.

2.4.1.1) 033_BP02 – S31°44'56.7"; E28°30'15.5"



Figure 4: Borrow Pit 033_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 033_BP02.

RECOMMENDATIONS: It is recommended that use of borrow pit 033_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 5: General view of borrow pit 033_BP02

2.4.1.2) 033_BP03 – S31°44'54.4"; E28°30'00.2"



Figure 6: Borrow Pit 033_BP03

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 033_BP03.

RECOMMENDATIONS: It is recommended that use of borrow pit 033_BP03 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 7: General view of borrow pit 033_BP03

2.4.1.3) 033_BP04 – S31°42'25.8"; E28°25'01.9"



Figure 8: Borrow Pit 033_BP04

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 033_BP04.

RECOMMENDATIONS: It is recommended that use of borrow pit 033_BP04 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 9: General view of borrow pit 033_BP04

2.4.2) Road DR08212 (Road 212)



Figure 10: Proposed borrow pits in relation to Road 212

Road DR08212 (Road 212) measures approximately 19km in length with start and end co-ordinates being S31°33'27.0"; E28°47'04.0" and S31°25'23.0"; E28°45'23.0" respectively. Three borrow pits, namely 212_BP01, 212_BP02 and 212_BP03, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 212:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the three borrow pits proposed for development along Road 033.

2.4.2.1) 212_BP01 – S31°32'37.5"; E28°46'21.2"



Figure 11: Borrow Pit 212_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 212_BP01.

RECOMMENDATIONS: It is recommended that use of borrow pit 212_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 12: View of a portion of the large 212_BP01 borrow pit study site

2.4.2.2) 212_BP02 – S31°30'24.8"; E28°45'29.7"



Figure 13: Borrow Pit 212_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 212_BP02.

RECOMMENDATIONS: It is recommended that use of borrow pit 212_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 14: General view of the 212_BP02 site

2.4.2.3) 212_BP03 – S31°28'10.3"; E28°45'32.9"



Figure 15: Borrow Pit 212_BP03

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 212_BP03.

RECOMMENDATIONS: It is recommended that use of borrow pit 212_BP03 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 16: View of a portion of the 212_BP03 study site

2.4.3) Road DR08290 (Road 290)



Figure 17: Proposed borrow pits in relation to Road 290

Road DR08290 (Road 290) measures approximately 12km in length with start and end co-ordinates being S31°43'31.0"; E28°41'36.0" and S31°49'05.0"; E28°40'15.0" respectively. Two borrow pits, namely 290_BP01 and 290_BP03, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 290:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the two borrow pits proposed for development along Road 290.

2.4.3.1) 290_BP01 – S31°43'39.6"; E28°41'23.7"



Figure 18: Borrow pit 290_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 290_BP01.

[Anthropic sterility at the study site has previously been reported on to SAHRA in the report referenced as:

- Van Ryneveld, K. 2010. *Phase 1 Archaeological Impact Assessment – Upgrade and Realignment of the N2, Sitebe Komkhulu to Viedgesville, near Mthatha, Eastern Cape, South Africa*. (Unpublished report to BESC).

Borrow pit 290_BP01 was labeled BP2 in the N2 upgrade and realignment development project data. Project scope, in addition to the linear component, included assessment of 9 borrow pits (BP1-BP9), 3 sandstone quarries (SQ1-SQ3) and a proposed main quarry (QS). Selected assessed borrow pits and quarries only were to be utilized for purposes of the project. BP2 was not included in the final selection of borrow pits; the study site was not impacted on by the N2 project and was in a similar state as recorded in 2010.]

RECOMMENDATIONS: It is recommended that use of borrow pit 290_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 19: View of a portion of the borrow pit 290_BP01 study site

2.4.3.2) 290_BP03 – S31°48'33.0"; E28°40'09.5"



Figure 20: Borrow pit 290_BP03

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 290_BP03.

RECOMMENDATIONS: It is recommended that use of borrow pit 290_BP03 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 21: General view of borrow pit 290_BP03

2.4.4) Road DR08019 (Road 019)



Figure 22: Proposed borrow pits in relation to Road 019

Road DR08019 (Road 019) measures approximately 62km in length with start and end co-ordinates being S31°09'03.0"; E29°27'36.0" and S3°58'06.0"; E29°18'05.0" respectively. Five borrow pits, namely 019_BP02, 019_BP02, 019_BP04, 019_BP05 and 019_BP07, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 019:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the five borrow pits proposed for development along Road 019.

2.4.4.1) 019_BP02 – S31°08'06.4"; E29°26'08.7"



Figure 23: Borrow pit 019_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 019_BP02.

RECOMMENDATIONS: It is recommended that use of borrow pit 019_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 24: Limited current impact at the 019_BP02 study site

2.4.4.2) 019_BP03 – S31°08'04.7"; E29°25'47.0"



Figure 25: Borrow pit 019_BP03

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 019_BP03.

RECOMMENDATIONS: It is recommended that use of borrow pit 019_BP03 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 26: General view of a portion of the 019_BP03 study site

2.4.4.3) 019_BP04 – S31°06'11.8"; E29°23'49.6"



Figure 27: Borrow pit 019_BP04

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 019_BP04.

RECOMMENDATIONS: It is recommended that use of borrow pit 019_BP04 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 28: Limited current impact at the proposed borrow pit 019_BP04 study site

2.4.4.4) 019_BP05 – S31°06'22.5"; E29°23'42.1"



Figure 29: Borrow pit 019_BP05

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 019_BP05.

RECOMMENDATIONS: It is recommended that use of borrow pit 019_BP05 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 30: Limited current impact at the proposed borrow pit 019_BP05 study site

2.4.4.5) 019_BP07 – S31°01'32.8"; E29°19'26.7"



Figure 31: Borrow pit 019_BP07

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 019_BP07.

RECOMMENDATIONS: It is recommended that use of borrow pit 019_BP07 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 32: Existing anthropologically sterile sections at the 019_BP07 study site

2.4.5) Road DR08313 (Road 313)

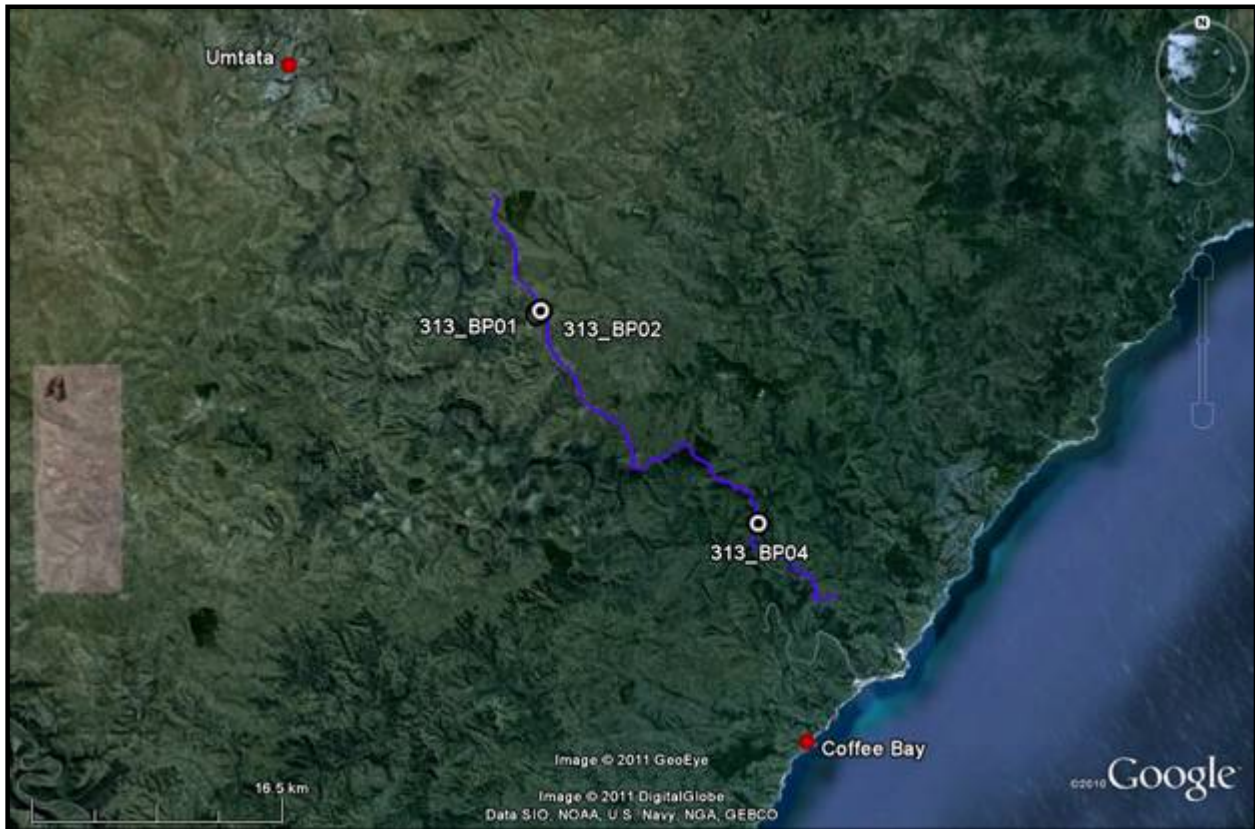


Figure 33: Proposed borrow pits in relation to Road 313

Road DR08313 (Road 313) measures approximately 46km in length with start and end co-ordinates being S31°39'45.0"; E28°55'56.0" and S31°53'52.0"; E29°10'11.0" respectively. Three borrow pits, namely 313_BP01, 313_BP02 and 313_BP04, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 313:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the three borrow pits proposed for development along Road 313.

2.4.5.1) 313_BP01 – S31°43'48.0"; E28°57'52.0"



Figure 34: Borrow pit 313_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 313_BP01.

RECOMMENDATIONS: It is recommended that use of borrow pit 313_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 35: General view of the 313_BP01 study site with the 313_BP02 borrow pit in the background

2.4.5.2) 313_BP02 – S31°43'54.0"; E28°57'44.0"



Figure 36: Borrow pit 313_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 313_BP02.

RECOMMENDATIONS: It is recommended that use of borrow pit 313_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 37: View of the 313_BP02 study site

2.4.5.3) 313_BP04 – S31°51'18.0"; E29°06'56.0"



Figure 38: Borrow pit 313_BP04

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 313_BP04.

[A contemporary residence / structure is situated within the Phase 1 AIA assessment area, immediately south of current borrowing impact. It is not the intention of the developer to impact on any contemporary homesteads / livelihoods of the local community. Should impact or relocation be necessary, particulars thereof will be addressed in the Social Impact Assessment (SIA)].

RECOMMENDATIONS: It is recommended that use of borrow pit 313_BP04 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 39: View of borrow pit 313_BP04, with the contemporary structure in the background

2.4.6) Road DR08174 (Road 174)

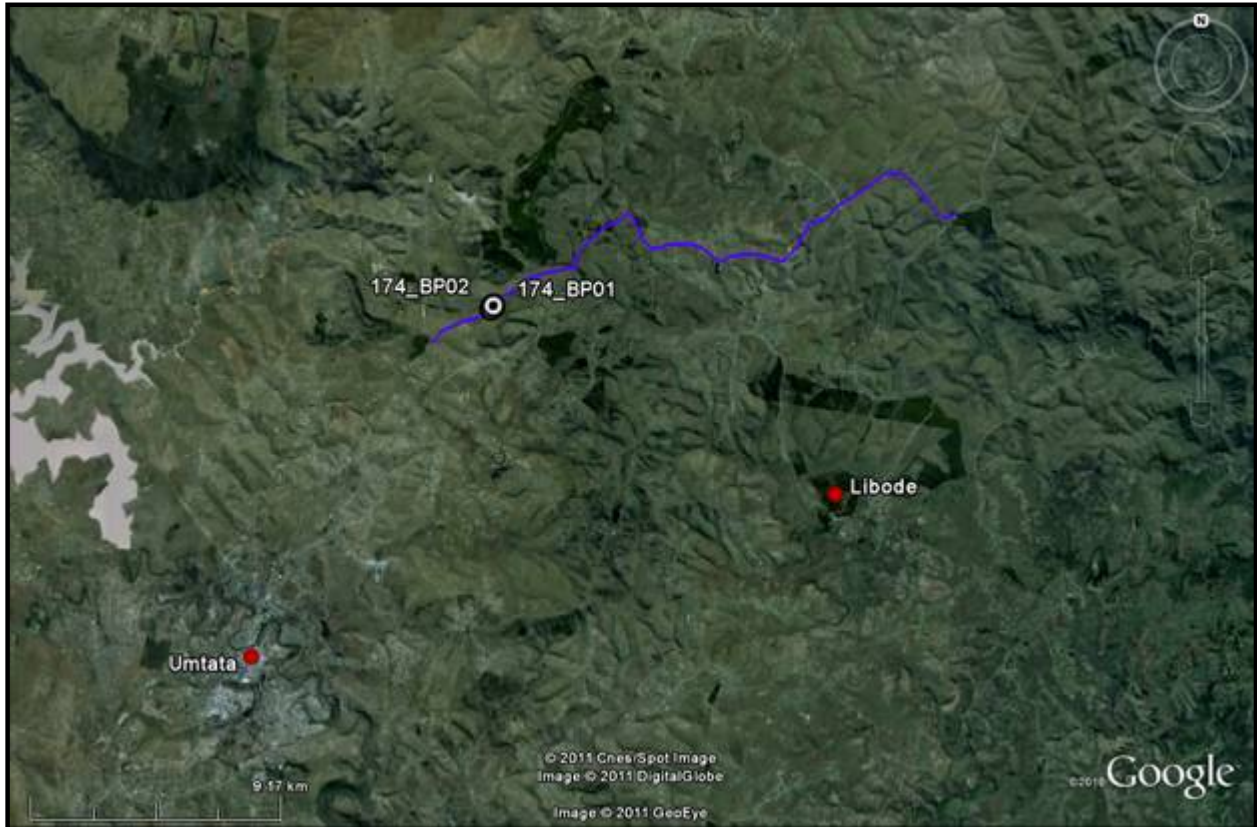


Figure 40: Proposed borrow pits in relation to Road 174

Road DR08174 (Road 174) measures approximately 25km in length with start and end co-ordinates being S31°28'59.9"; E28°51'40.0" and S31°26'29.0"; E29°03'48.0" respectively. Two borrow pits, namely 174_BP01 and 174_BP02, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 174:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the two borrow pits proposed for development along Road 174.

2.4.6.1) 174_BP01 – S31°28'18.1"; E28°53'04.3"



Figure 41: Borrow pit 174_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 174_BP01.

RECOMMENDATIONS: It is recommended that use of borrow pit 174_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 42: View of the northern part of the 174_BP01 study site

2.4.6.2) 174_BP02 – S31°28'14.6"; E28°53'07.1"



Figure 43: Borrow pit 174_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 174_BP02.

[Quarrying was ongoing at the site at the time of the assessment (2011-08-25), with upgrading of parts of Road 174 in progress].

RECOMMENDATIONS: It is recommended that use of borrow pit 174_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 44: Anthropologically sterile sections at the 174_BP02 study site

2.4.7) Road DR08191 (Road 191)



Figure 45: Proposed borrow pits in relation to Road 191

Road DR08191 (Road 191) measures approximately 45km in length with start and end co-ordinates being S31°36'24.0"; E29°26'53.0" and S31°33'22.0"; E29°13'54.0" respectively. Three borrow pits, namely 191_BP01, 191_BP04 and 191_BP06, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 191:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during Phase 1 AIA assessment of the three borrow pits proposed for development along Road 191.

2.4.7.1) 191_BP01 – S31°36'11.6"; E29°26'18.5"



Figure 46: Borrow pit 191_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 191_BP01.

[A contemporary residence / structure is situated in close proximity to the study site. It is not the intention of the developer to impact on any contemporary homesteads / livelihoods of the local community. Should impact or relocation be necessary, particulars thereof will be addressed in the Social Impact Assessment (SIA)].

RECOMMENDATIONS: It is recommended that use of borrow pit 191_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 47: General view of the borrow pit 191_BP01 study site

2.4.7.2) 191_BP04 – S31°32'51.0"; E29°22'19.0"



Figure 48: Borrow pit 191_BP04

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 191_BP04.

[A contemporary residence / structure is situated in close proximity to the study site. It is not the intention of the developer to impact on any contemporary homesteads / livelihoods of the local community. Should impact or relocation be necessary, particulars thereof will be addressed in the Social Impact Assessment (SIA)].

RECOMMENDATIONS: It is recommended that use of borrow pit 191_BP04 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 49: General view of the borrow pit 191_BP04 study site

2.4.7.3) 191_BP06 – S31°32'29.1"; E29°21'00.2"



Figure 50: Borrow pit 191_BP06

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 191_BP06.

[A number of contemporary homesteads are situated in fairly close proximity to the study site. It is not the intention of the developer to impact on any contemporary homesteads / livelihoods of the local community. Should impact or relocation be necessary, particulars thereof will be addressed in the Social Impact Assessment (SIA)].

RECOMMENDATIONS: It is recommended that use of borrow pit 191_BP06 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 51: Current impact at the 191_BP06 study site

2.4.8) Road DR08308 (Road 308)

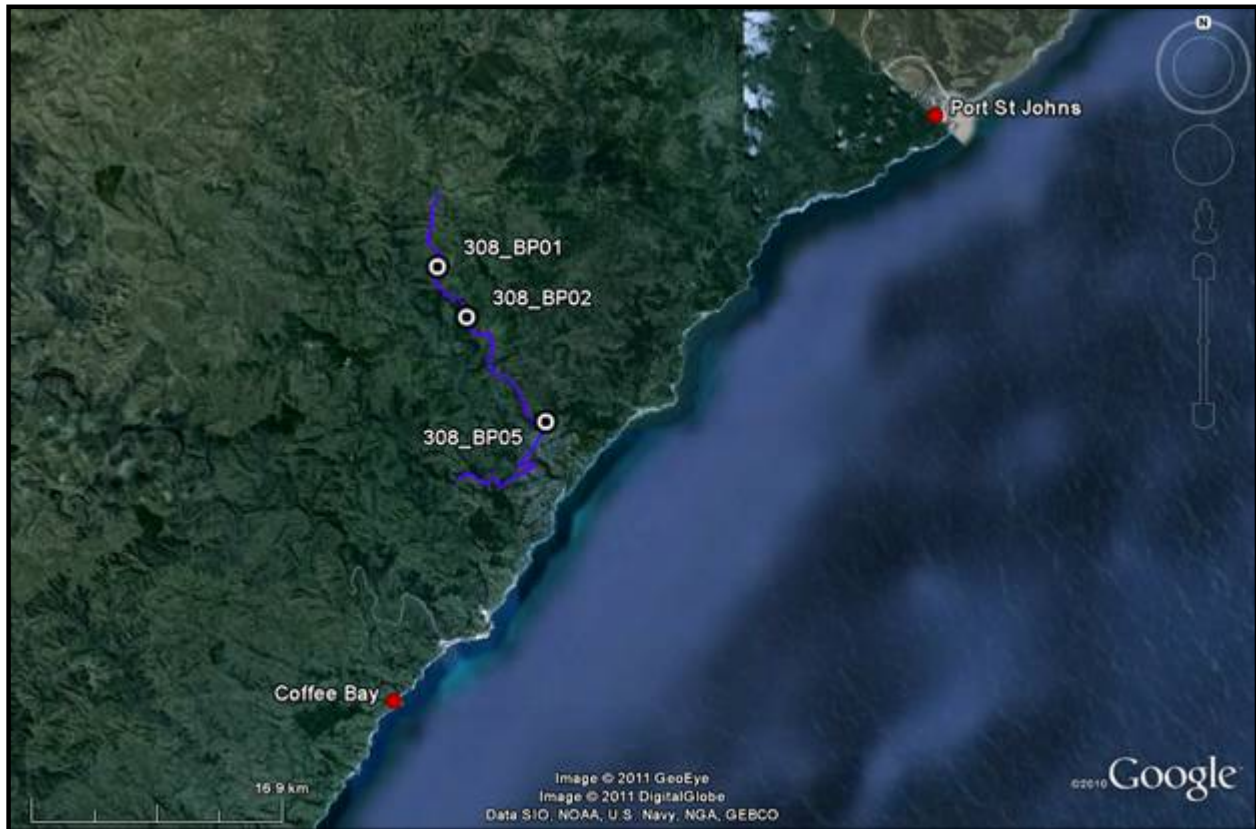


Figure 52: Proposed borrow pits in relation to Road 308

Road DR08308 (Road 308) measures approximately 36km in length with start and end co-ordinates being S31°40'39.0"; E29°10'57.0" and S31°51'05.0"; E29°12'41.0" respectively. Three borrow pits, namely 308_BP01, 308_BP02 and 308_BP05, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 308:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during Phase 1 AIA assessment of the three borrow pits proposed for development along Road 308.

2.4.8.1) 308_BP01 – S31°43'16.0"; E29°10'57.2"



Figure 53: Borrow pit 308_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 308_BP01.

RECOMMENDATIONS: It is recommended that use of borrow pit 308_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 54: General view of the borrow pit 308_BP01 study site

2.4.8.2) 308_BP02 – S31°45'04.4"; E29°12'09.8"



Figure 55: Borrow pit 308_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 308_BP02.

RECOMMENDATIONS: It is recommended that use of borrow pit 308_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 56: View of a portion of the existing 308_BP02 borrow pit

2.4.8.3) 308_BP05 – S31°48'52.6"; E29°15'33.1"



Figure 57: Borrow pit 308_BP05

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 308_BP05.

RECOMMENDATIONS: It is recommended that use of borrow pit 308_BP05 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 58: Anthropically sterile sections at the 308_BP05 borrow pit

2.4.9) Road DR08309 (Road 309)

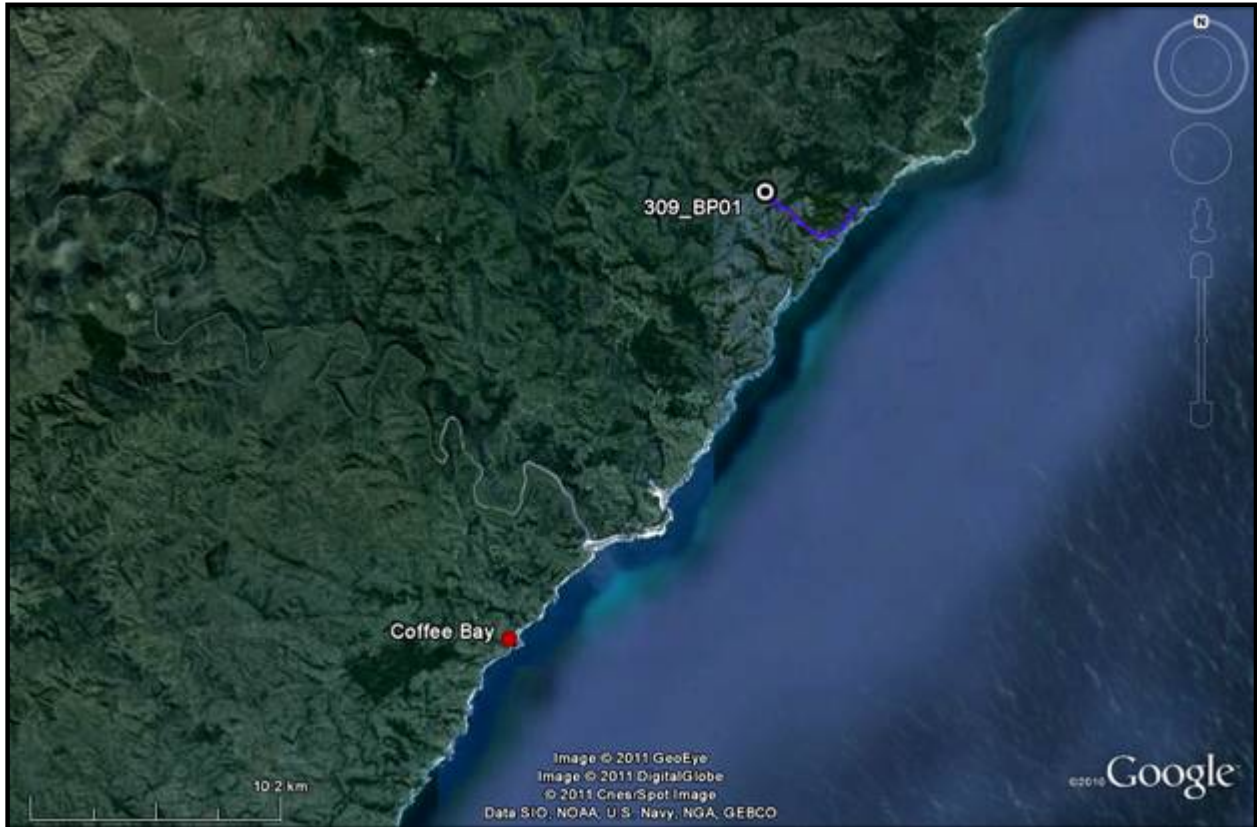


Figure 59: Proposed borrow pit in relation to Road 309

Road DR08309 (Road 309) measures approximately 4.5Km in length with start and end co-ordinates being S31°49'08.0"; E29°15'35.0" and S31°49'32.0"; E29°18'06.0" respectively. One borrow pit, namely 309_BP01, is proposed for development along the road portion.

Phase 1 AIA assessment focused on an approximate 1-1.5ha area immediately surrounding the borrow pit. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PIT ALONG ROAD 309:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the borrow pit proposed for development along Road 309.

2.4.9.1) 309_BP01 – S31°49'10.8"; E29°15'40.5"



Figure 60: Borrow pit 309_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 309_BP01.

[A number of contemporary homesteads are situated in particular close proximity to the study site. It is not the intention of the developer to impact on any contemporary homesteads / livelihoods of the local community. Should impact or relocation be necessary, particulars thereof will be addressed in the Social Impact Assessment (SIA)].

RECOMMENDATIONS: It is recommended that use of borrow pit 309_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 61: View of a portion of the 309_BP01 study site

2.4.10) Road DR18030 (Road 030)

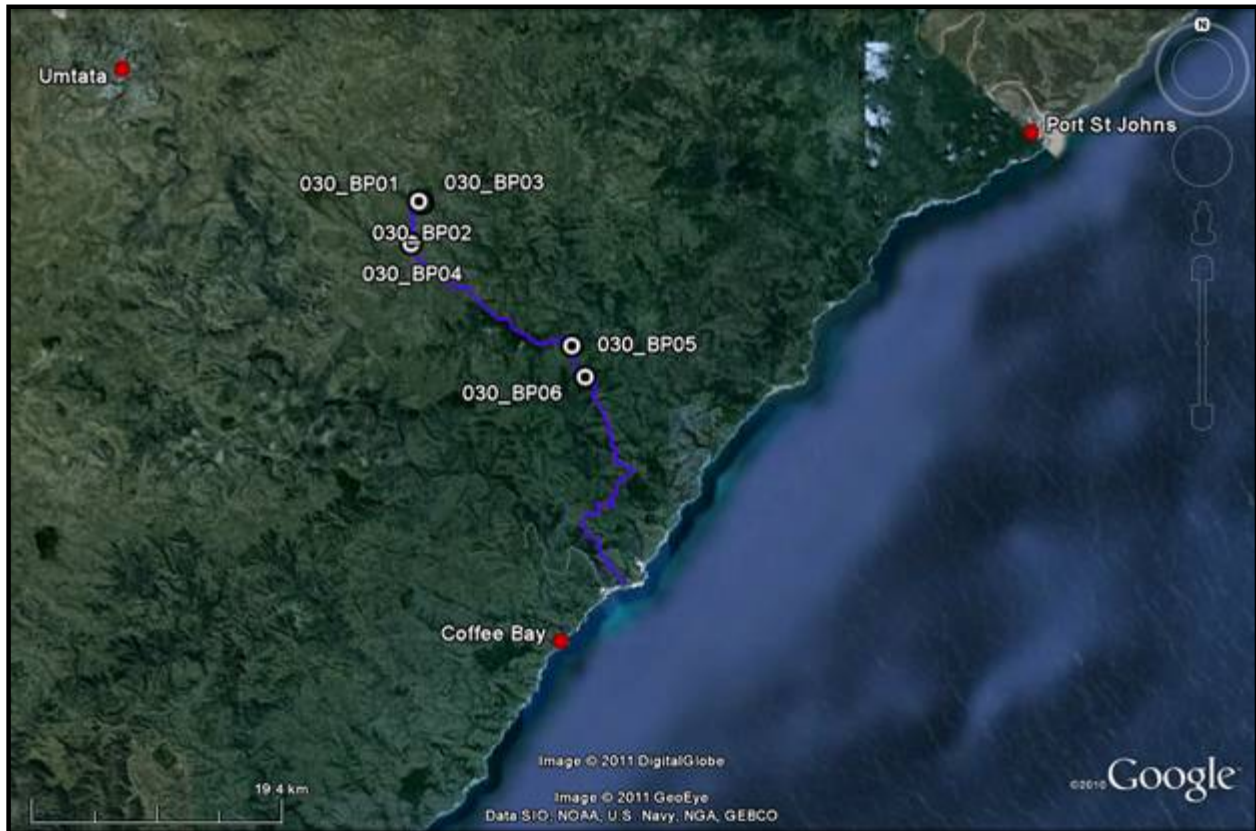


Figure 62: Proposed borrow pits in relation to Road 030

Road DR18030 (Road 030) measures approximately 52km in length with start and end co-ordinates being S31°40'32.0"; E29°02'18.0" and S31°56'44.0"; E29°11'57.0" respectively. Six borrow pits, namely 030_BP01, 030_BP02, 030_BP03, 030_BP04, 030_BP05 and 030_BP06, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 030:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the six borrow pits proposed for development along Road 030.

2.4.10.1) 030_BP01 – S31°40'46.2"; E29°02'13.3"



Figure 63: Borrow pit 030_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 030_BP01.

[A contemporary homestead is situated immediately south-west of the Phase 1 AIA assessment area. It is not the intention of the developer to impact on any contemporary homesteads / livelihoods of the local community. Should impact or relocation be necessary, particulars thereof will be addressed in the Social Impact Assessment (SIA)].

RECOMMENDATIONS: It is recommended that use of borrow pit 030_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 64: General view of the 030_BP01 study site

2.4.10.2) 030_BP02 – S31°40'46.8"; E29°02'10.8"



Figure 65: Borrow pit 030_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 030_BP02.

[A contemporary homestead is situated immediately south-east of the Phase 1 AIA assessment area. It is not the intention of the developer to impact on any contemporary homesteads / livelihoods of the local community. Should impact or relocation be necessary, particulars thereof will be addressed in the Social Impact Assessment (SIA)].

RECOMMENDATIONS: It is recommended that use of borrow pit 030_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 66: Current borrowing impact at the 030_BP02 study site

2.4.10.3) 030_BP03 – S31°40'42.8"; E29°02'03.1"



Figure 67: Borrow pit 030_BP03

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 030_BP03.

[Large scale quarrying was ongoing at the site at the time of the assessment (2011-08-20), with upgrading of parts of Road 030 in progress].

RECOMMENDATIONS: It is recommended that use of borrow pit 030_BP03 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 68: On-going quarrying at borrow pit 030_BP03 at the time of the Phase 1 AIA field assessment

2.4.10.4) 030_BP04 – S31°42'29.3"; E29°01'40.8"



Figure 69: Borrow pit 030_BP04

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 030_BP04.

RECOMMENDATIONS: It is recommended that use of borrow pit 030_BP04 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 70: General view of the 030_BP04 study site

2.4.10.5) 030_BP05 – S31°46'43.5"; E29°09'33.4"



Figure 71: Borrow pit 030_BP05

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 030_BP05.

RECOMMENDATIONS: It is recommended that use of borrow pit 030_BP05 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 72: Current borrowing impact at the 030_BP05 study site with a view over the surrounding area

2.4.10.6) 030_BP06 – S31°48'02.2"; E29°10'13.1"



Figure 73: Borrow pit 030_BP06

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 030_BP06.

[Large scale quarrying was ongoing at the site at the time of the assessment (2011-08-20), with upgrading of parts of Road 030 in progress].

RECOMMENDATIONS: It is recommended that use of borrow pit 030_BP06 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 74: General view of site 030_BP06, with quarrying on-going at the time of the assessment

2.4.11) Road DR08151 (Road 151)

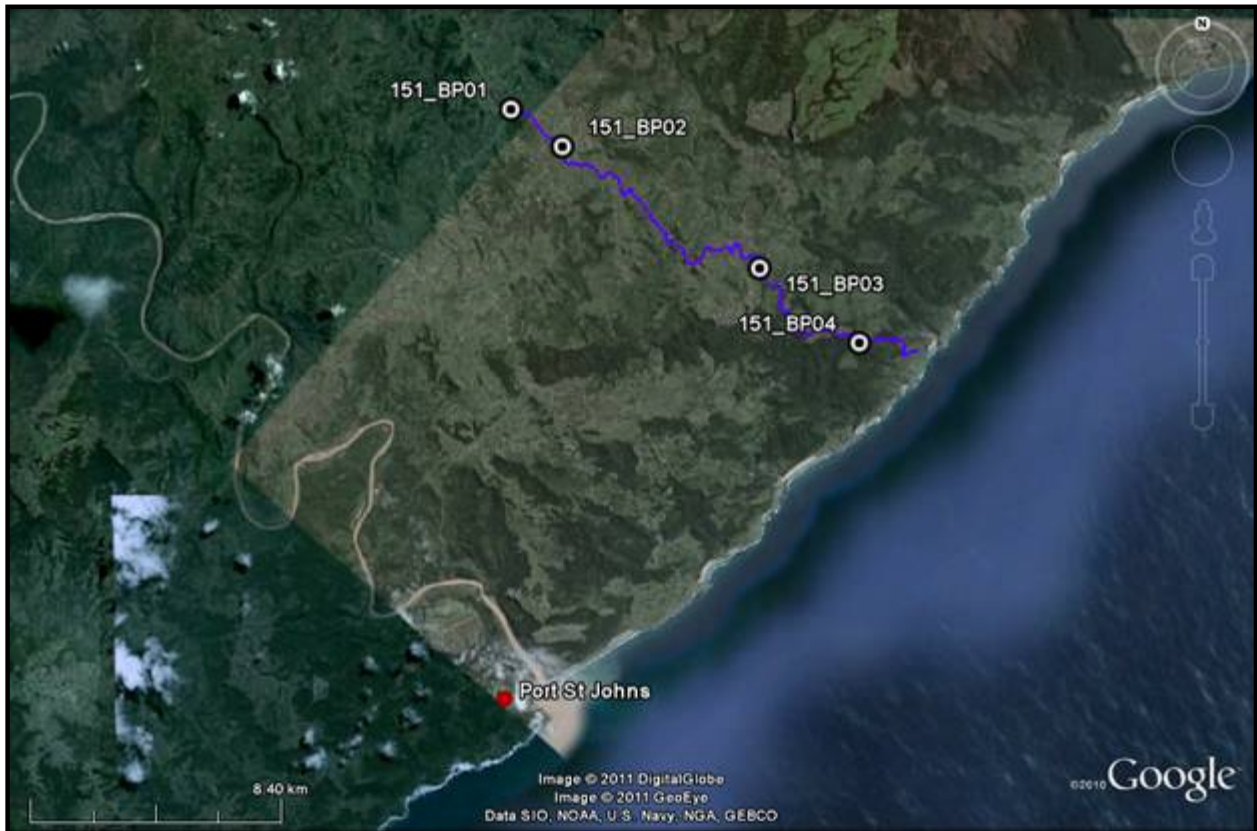


Figure 75: Proposed borrow pits in relation to Road 151

Road DR08151 (Road 151) measures approximately 24km in length with start and end co-ordinates being S31°27'10.0"; E29°32'12.0" and S31°31'26.0"; E29°41'00.0" respectively. Four borrow pits, namely 151_BP01, 151_Bp02, 151_BP03 and 151_BP04, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 151:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the four borrow pits proposed for development along Road 151.

2.4.11.1) 151_BP01 – S31°27'06.2"; E29°32'23.0"



Figure 76: Borrow pit 151_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 151_BP01.

RECOMMENDATIONS: It is recommended that use of borrow pit 151_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 77: Current impact at borrow pit 151_BP01

2.4.11.2) 151_BP02 – S31°27'46.2"; E29°33'28.7"



Figure 78: Borrow pit 151_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 151_BP02.

RECOMMENDATIONS: It is recommended that use of borrow pit 151_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 79: Current impact at borrow pit 151_BP02

2.4.11.3) 151_BP03 – S31°29'56.7"; E29°37'38.4"



Figure 80: Borrow pit 151_BP03

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 151_BP03.

RECOMMENDATIONS: It is recommended that use of borrow pit 151_BP03 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 81: General view of the 151_BP03 study site

2.4.11.4) 151_BP04 – S31°31'16.9"; E29°39'45.9"



Figure 82: Borrow pit 151_BP04

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 151_BP04.

RECOMMENDATIONS: It is recommended that use of borrow pit 151_BP04 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 83: Current impact at the proposed 151_BP04 study site

2.4.12) Road DR08025 (Road 025)

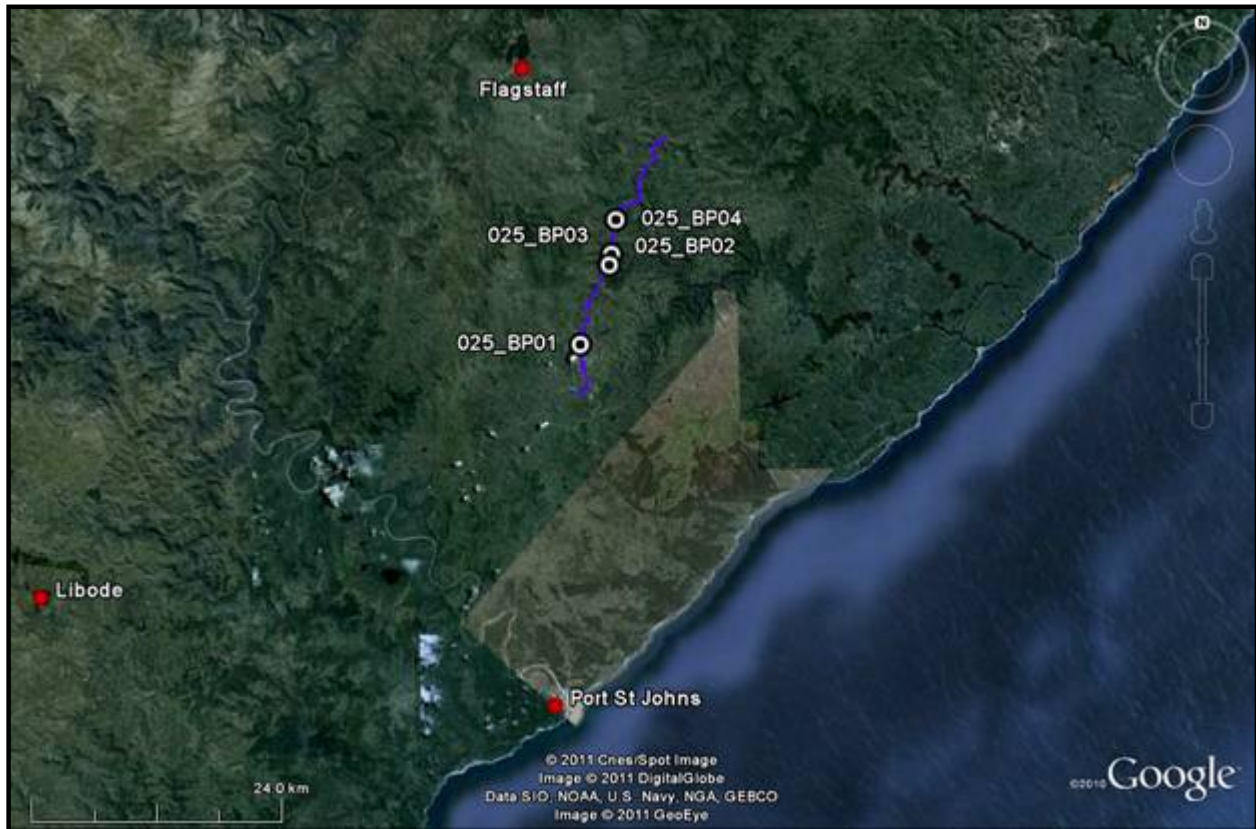


Figure 84: Proposed borrow pits in relation to Road 025

Road DR08025 (Road 025) measures approximately 34km in length with start and end co-ordinates being S31°21'31.0"; E29°34'00.0" and S31°08'28.0"; E29°38'59.0" respectively. Four borrow pits, namely 025_BP01, 025_BP02, 025_BP03 and 025_BP04, are proposed for development along the road portion.

Phase 1 AIA assessment focused on approximate 1-1.5ha areas immediately surrounding the borrow pits. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PITS ALONG ROAD 025:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the four borrow pits proposed for development along Road 025.

2.4.12.1) 025_BP01 – S31°18'157.4"; E29°33'49.9"



Figure 85: Borrow pit 025_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 025_BP01.

RECOMMENDATIONS: It is recommended that use of borrow pit 025_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 86: View of the 025_BP01 study site

2.4.12.2) 025_BP02 – S31°14'51.5"; E29°35'35.5"



Figure 87: Borrow pit 025_BP02

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 025_BP02.

RECOMMENDATIONS: It is recommended that use of borrow pit 025_BP02 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 88: View of a portion of current impact at site 025_BP02

2.4.12.3) 025_BP03 – S31°14'18.1"; E29°35'43.3"



Figure 89: Borrow pit 025_BP03

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 025_BP03.

RECOMMENDATIONS: It is recommended that use of borrow pit 025_BP03 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 90: View of a portion of the borrow pit 025_BP03 study site

2.4.12.4) 025_BP04 – S31°12'31.1"; E29°35'59.1"



Figure 91: Borrow pit 025_BP04

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 025_BP04.

RECOMMENDATIONS: It is recommended that use of borrow pit 025_BP04 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 92: General view of the 025_BP04 study site

2.4.13) Road DR08124 (Road 124)

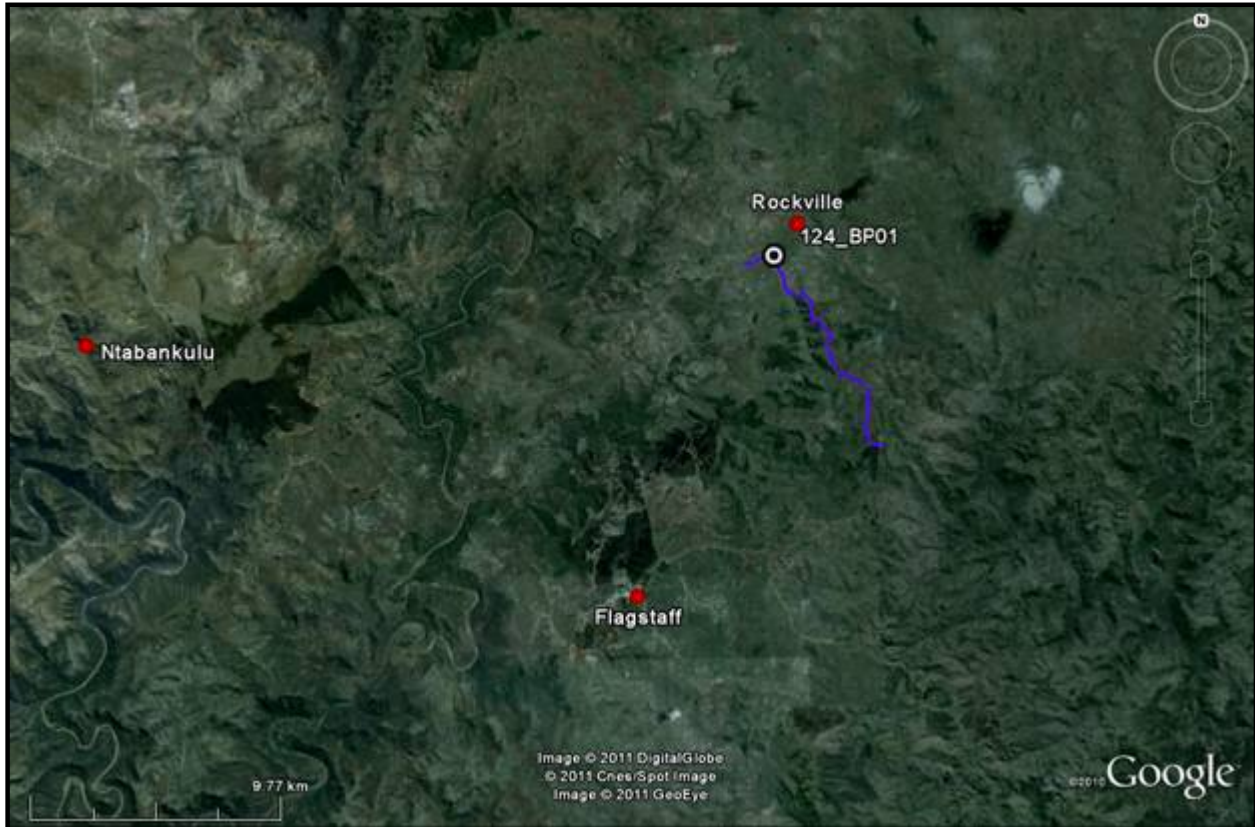


Figure 93: Proposed borrow pit in relation to Road 124

Road DR08124 (Road 124) measures approximately 12km in length with start and end co-ordinates being S30°57'48.0"; E29°32'53.0" and S31°01'39.0"; E29°36'20.0" respectively. One borrow pit, namely 124_BP01, is proposed for development along the road portion.

Phase 1 AIA assessment focused on an approximate 1-1.5ha area immediately surrounding the borrow pit. The study did not include assessment of the associated road portion, not subject to the scope of the development application.

SUMMARY OF PHASE 1 AIA FINDINGS – BORROW PIT ALONG ROAD 124:

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified during the Phase 1 AIA assessment of the borrow pit proposed for development along Road 124.

2.4.13.1) 124_BP01 – S30°57'36.5"; E29°33'39.7"



Figure 94: Borrow pit 124_BP01

No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified on the surface or within exposed sub-surface sections during the Phase 1 AIA assessment of borrow pit 124_BP01.

RECOMMENDATIONS: It is recommended that use of borrow pit 124_BP01 proceeds as applied for without the developer having to comply with additional heritage compliance requirements.



Figure 95: General view of current impact at the borrow pit 124_BP01 study site

3) CONCLUSION AND RECOMMENDATIONS

With reference to cultural heritage compliance as per the requirements of the NHRA 1999 it is recommended that the proposed project, *Part 1: Utilization of Borrow Pits – O. R. Tambo District Municipality, Eastern Cape, South Africa* proceeds as applied for. The project focuses on the utilization of 40 borrow pits along 13 roads and including roads DR08033, DR08212, DR08290, DR08019, DR08313, DR08174, DR08191, DR08308, DR08309, DR18030, DR08151, DR08025, and DR08124. No archaeological or cultural heritage resources, as defined and protected under the NHRA 1999, were identified in relation to any of the 40 borrow pit study sites.

PART 1: UTILIZATION OF BORROW PITS – O. R. TAMBO DISTRICT MUNICIPALITY					
EASTERN CAPE					
MAP CODE	SITE	TYPE / PERIOD	DESCRIPTION	CO-ORDINATES	PRELIMINARY RECOMMENDATIONS
Road DR08033					
033_BP02	-	-	-	S31°44'56.7"; E28°30'15.5"	N/A
033_BP03	-	-	-	S31°44'54.4"; E28°30'00.2"	N/A
033_BP04	-	-	-	S31°42'25.8"; E28°25'01.9"	N/A
Road DR08212					
212_BP01	-	-	-	S31°32'37.5"; E28°46'21.2"	N/A
212_BP02	-	-	-	S31°30'24.8"; E28°45'29.7"	N/A
212_BP03	-	-	-	S31°28'10.3"; E28°45'32.9"	N/A
Road DR08290					
290_BP01	-	-	-	S31°43'39.6"; E28°41'23.7"	N/A
290_BP03	-	-	-	S31°48'33.0"; E28°40'09.5"	N/A
Road DR08019					
019_BP02	-	-	-	S31°08'06.4"; E29°26'08.7"	N/A
019_BP03	-	-	-	S31°08'04.7"; E29°25'47.0"	N/A
019_BP04	-	-	-	S31°06'11.8"; E29°23'49.6"	N/A
019_BP05	-	-	-	S31°06'22.5"; E29°23'42.1"	N/A
019_BP07	-	-	-	S31°01'32.0"; E29°19'27.0"	N/A
Road DR08313					
313_BP01	-	-	-	S31°43'48.0"; E28°57'52.0"	N/A
313_BP02	-	-	-	S31°43'54.0"; E28°57'44.0"	N/A
313_BP04	-	-	-	S31°51'18.0"; E29°06'56.0"	N/A
Road DR08174					
174_BP01	-	-	-	S31°28'18.1"; E28°53'04.3"	N/A
174_BP02	-	-	-	S31°28'14.6"; E28°53'07.1"	N/A
Road DR08191					
191_BP01	-	-	-	S31°36'11.6"; E29°26'18.5"	N/A
191_BP04	-	-	-	S31°32'51.0"; E29°22'19.0"	N/A
191_BP06	-	-	-	S31°32'29.1"; E29°21'00.2"	N/A
Road DR08308					
308_BP01	-	-	-	S31°43'16.0"; E29°10'57.2"	N/A
308_BP02	-	-	-	S31°45'04.4"; E29°12'09.8"	N/A
308_BP05	-	-	-	S31°48'52.6"; E29°15'33.1"	N/A
Road DR08309					
309_BP01	-	-	-	S31°49'10.8"; E29°15'40.5"	N/A
Road DR18030					
030_BP01	-	-	-	S31°40'46.2"; E29°02'13.3"	N/A
030_BP02	-	-	-	S31°40'46.8"; E29°02'10.8"	N/A
030_BP03	-	-	-	S31°40'42.8"; E29°02'03.1"	N/A
030_BP04	-	-	-	S31°42'29.3"; E29°01'40.8"	N/A
030_BP05	-	-	-	S31°46'43.5"; E29°09'33.4"	N/A
030_BP06	-	-	-	S31°48'02.2"; E29°10'13.1"	N/A

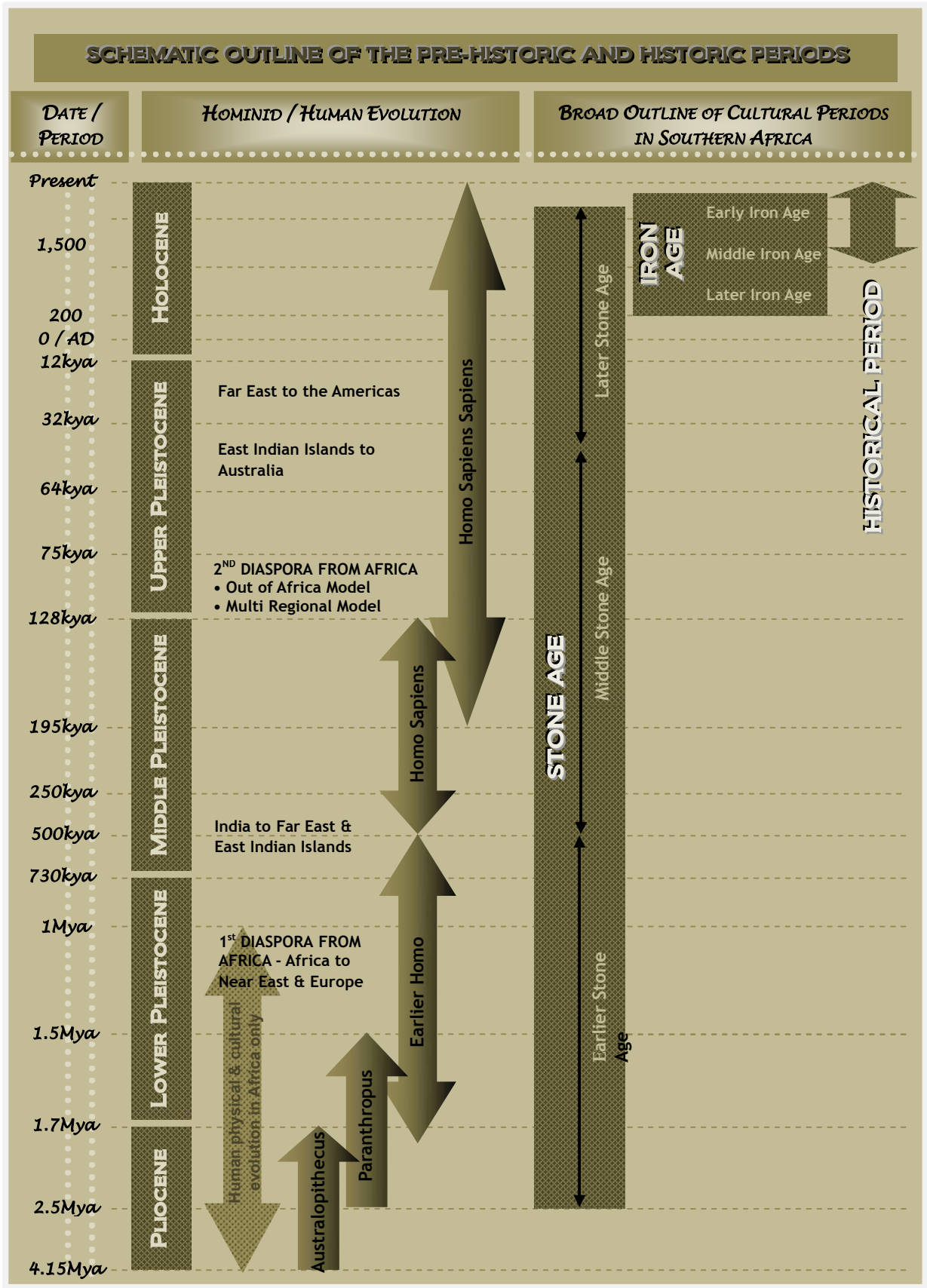
Road DR08151					
151_BP01	-	-	-	S31°27'06.2"; E29°32'23.0"	N/A
151_BP02	-	-	-	S31°27'46.2"; E29°33'28.7"	N/A
151_BP03	-	-	-	S31°29'56.7"; E29°37'38.4"	N/A
151_BP04	-	-	-	S31°31'16.9"; E29°39'45.9"	N/A
Road DR08025					
025_BP01	-	-	-	S31°18'57.4"; E29°33'49.9"	N/A
025_BP02	-	-	-	S31°14'51.5"; E29°35'35.5"	N/A
025_BP03	-	-	-	S31°14'18.1"; E29°35'43.3"	N/A
025_BP04	-	-	-	S31°12'31.1"; E29°35'59.1"	N/A
Road DR08124					
124_BP01	-	-	-	S30°57'36.5"; E29°33'39.7"	N/A

Table 2: Development and Phase 1 AIA assessment findings – co-ordinate details

NOTE: Should any archaeological or cultural heritage resources as defined and protected by the NHRA 1999 and not reported on in this report be identified during the course of development the developer should immediately cease operation in the vicinity of the find and report the site to SAHRA / an ASAPA accredited CRM archaeologist.

4) REFERENCES

1. South African Government. (No. 107) of 1998. *National Environmental Management Act*.
2. South African Government. (No. 28) of 2002. *Minerals and Petroleum Resources Development Act*.
3. South African Government. (No. 62) of 2008. *National Environmental Management Second Amendment Act*.
4. South African Government. (No. 25) of 1999. *National Heritage Resources Act*.
5. South African Heritage Resources Agency. 2007. *Minimum standards for the archaeological and heritage components of impact assessments*. Unpublished guidelines.
6. Van Ryneveld, K. 2010. *Phase 1 Archaeological Impact Assessment – Upgrade and Realignment of the N2, Sitebe Komkhulu to Viedgesville, near Mthatha, Eastern Cape, South Africa*. (Unpublished report to BESC).



EXTRACTS FROM THE
NATIONAL HERITAGE RESOURCES ACT (No 25 of 1999)

DEFINITIONS*Section 2*

In this Act, unless the context requires otherwise:

- ii. *"Archaeological"* means –
 - a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
 - b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10 m of such representation;
 - c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic,... and any cargo, debris, or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation.
- xiii. *"Development"* means any physical intervention, excavation or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including –
 - a) construction, alteration, demolition, removal or change of use of a place or structure at a place;
 - b) carrying out any works on or over or under a place;
 - c) subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
 - d) constructing or putting up for display signs or hoardings;
 - e) any change to the natural or existing condition or topography of land; and
 - f) any removal or destruction of trees, or removal of vegetation or topsoil;
- xiii. *"Grave"* means a place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;
- xxi. *"Living heritage"* means the intangible aspects of inherited culture, and may include –
 - a) cultural tradition;
 - b) oral history;
 - c) performance;
 - d) ritual;
 - e) popular memory;
 - f) skills and techniques;
 - g) indigenous knowledge systems; and
 - h) the holistic approach to nature, society and social relationships.
- xxxi. *"Palaeontological"* means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trances;
- xli. *"Site"* means any area of land, including land covered by water, and including any structures or objects thereon;
- xliv. *"Structure"* means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

NATIONAL ESTATE*Section 3*

- 1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
- 2) Without limiting the generality of subsection 1), the national estate may include –
 - a) places, buildings, structures and equipment of cultural significance;
 - b) places to which oral traditions are attached or which are associated with living heritage;
 - c) historical settlements and townscapes;
 - d) landscapes and natural features of cultural significance;
 - e) geological sites of scientific or cultural importance
 - f) archaeological and palaeontological sites;
 - g) graves and burial grounds, including –
 - i. ancestral graves;
 - ii. royal graves and graves of traditional leaders;
 - iii. graves of victims of conflict
 - iv. graves of individuals designated by the Minister by notice in the Gazette;
 - v. historical graves and cemeteries; and
 - vi. other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No 65 of 1983)
 - h) sites of significance relating to the history of slavery in South Africa;
 - i) movable objects, including –
 - i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - ii. objects to which oral traditions are attached or which are associated with living heritage;
 - iii. ethnographic art and objects;
 - iv. military objects;
 - v. objects of decorative or fine art;
 - vi. objects of scientific or technological interest; and
 - vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

STRUCTURES

Section 34

- 1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

ARCHAEOLOGY, PALAEOLOGY AND METEORITES

Section 35

- 3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
- 4) No person may, without a permit issued by the responsible heritage resources authority –
 - a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
 - b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
 - c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
 - d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- 5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedure in terms of section 38 has been followed, it may –
 - a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
 - b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph a) to apply for a permit as required in subsection 4); and
 - d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.
- 6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

BURIAL GROUNDS AND GRAVES

Section 36

- 3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority –
 - a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
 - b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
 - c) bring onto or use at a burial ground or grave referred to in paragraph a) or b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- 4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction of any burial ground or grave referred to in subsection 3a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- 5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection 3b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –
 - a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- 6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
 - a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

HERITAGE RESOURCES MANAGEMENT

Section 38

- 1) Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorised as –
 - a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
 - b) the construction of a bridge or similar structure exceeding 50 m in length;
 - c) any development or other activity which will change the character of a site –
 - i. exceeding 5 000 m² in extent; or
 - ii. involving three or more existing erven or subdivisions thereof; or
 - iii. involving three or more erven or subdivisions thereof which have been consolidated within the past five years; or
 - iv. the costs which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - d) the rezoning of a site exceeding 10 000 m² in extent; or
 - e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,
 must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.
- 2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection 1) –
 - a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
 - b) notify the person concerned that this section does not apply.
- 3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection 2a) ...
- 4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development decide –
 - a) whether or not the development may proceed;
 - b) any limitations or conditions to be applied to the development;
 - c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
 - e) whether the appointment of specialists is required as a condition of approval of the proposal.

APPOINTMENT AND POWERS OF HERITAGE INSPECTORS

Section 50

- 7) Subject to the provision of any other law, a heritage inspector or any other person authorised by a heritage resources authority in writing, may at all reasonable times enter upon any land or premises for the purpose of inspecting any heritage resource protected in terms of the provisions of this Act, or any other property in respect of which the heritage resources authority is exercising its functions and powers in terms of this Act, and may take photographs, make measurements and sketches and use any other means of recording information necessary for the purposes of this Act.
- 8) A heritage inspector may at any time inspect work being done under a permit issued in terms of this Act and may for that purpose at all reasonable times enter any place protected in terms of this Act.
- 9) Where a heritage inspector has reasonable grounds to suspect that an offence in terms of this Act has been, is being, or is about to be committed, the heritage inspector may with such assistance as he or she thinks necessary –
 - a) enter and search any place, premises, vehicle, vessel or craft, and for that purpose stop and detain any vehicle, vessel or craft, in or on which the heritage inspector believes, on reasonable grounds, there is evidence related to that offence;
 - b) confiscate and detain any heritage resource or evidence concerned with the commission of the offence pending any further order from the responsible heritage resources authority; and
 - c) take such action as is reasonably necessary to prevent the commission of an offence in terms of this Act.
- 10) A heritage inspector may, if there is reason to believe that any work is being done or any action is being taken in contravention of this Act or the conditions of a permit issued in terms of this Act, order the immediate cessation of such work or action pending any further order from the responsible heritage resources authority.