

**SANRAL: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86],
Nkonkobe Local Municipality, Eastern Cape**

- 31 August 2016 -

Report to:

Sello Mkhanya (Eastern Cape Provincial Heritage Resources Agency – EC PHRA-APM Unit)
E-mail: smokhanya@ecphra.org.za; Tel: 043 745 0888; Postal Address: N/A

Roy de Kock (EOH-Coastal & Environmental Services – EOH-CES)
E-mail: roy.dekock@eoh.co.za; Tel: 043 726 7809; Postal Address: P.O. Box 8145, Nahoon, East London, 5210



Prepared by:

Karen van Ryneveld (ArchaeoMaps)
E-mail: karen@archaeomaps.co.za; Tel: 084 871 1064; Postal Address: Postnet Suite 239, Private Bag X3, Beacon Bay, 5205

Specialist Declaration of Interest

I, Karen van Ryneveld (Company – ArchaeoMaps; Qualification – MSc Archaeology), declare that:

- I am suitably qualified and accredited to act as independent specialist in this application;
- I do not have any financial or personal interest in the application, its' proponent or subsidiaries, aside from fair remuneration for specialist services rendered; and
- That work conducted have been done in an objective manner – and that any circumstances that may have compromised objectivity have been reported on transparently.



Signature –

- 31 August 2016 -

SANRAL: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86], Nkonkobe Local Municipality, Eastern Cape

Executive Summary

Project Description –

EOH-Coastal & Environmental Services (EOH-CES) have been appointed as independent Environmental Assessment Practitioner (EAP) by the project proponent, the South African National Roads Agency SOC Limited (SANRAL), to apply for Environmental Authorization (EA), including a Scoping Report (SR), Environmental Impact Report (EIR) and Environmental Management Plan (EMPr) to the National Department of Environmental Affairs (DEA) and the Department of Mineral Resources (DMR) respectively for the proposed *Upgrade of the R63-Section 13, Fort Beaufort-Alice*, and including the utilization of borrow pits and a quarry, Nkonkobe Local Municipality, Eastern Cape. The proposed development is situated between general development co-ordinates S32°46'35.6"; E26°37'10.1" (Fort Beaufort) and S32°47'24.4"; E26°49'58.2" (Alice), and comprises an approximate 23km road upgrade, including realignments, of the R63-Section 13 from Fort Beaufort [km35.77] to Alice [km 58.86]. One (1) hard rock quarry [BP-01] and six (6) borrow pits [BP-03, BP-04, BP-05, BP-06, BP-07 and BP-08] will be utilized for building material during the construction phase.

The Phase 1 Archaeological & Cultural Heritage Impact Assessment –

Project Name & Locality: *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [58.86]*, Nkonkobe Local Municipality, Eastern Cape [1:50,000 Map Ref – 3226DC and 3226DD].

Summary of Findings:

- The development proposal poses no 'fatal flaws' with reference to archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, as well as resources of heritage significance, but not formally protected by the NHRA 1999. No amendments or alterations to the proposed development layout is recommended.
- Consideration of a 'No-Go' development option is not recommended from an archaeological and cultural heritage perspective: Development will impact on heritage resources (primarily proximity related), but will in turn (indirectly) advance conservation thereof, with specific reference to the number of Colonial Period structures still in use, as a result of infrastructural / economic input.
- A total of 58 heritage resources was identified, testimony primarily to the notably rich Colonial Period cultural landscape within which the development is to be situated.
- The high number of identified heritage resources, with their localities already being defined by existing development, including infrastructural development, do not allow standard heritage conservation measures (formal heritage conservation fencing and associated conservation buffer zones) to be implemented for purposes of development. Recommendations contained in this report focus on substitute 'lighter-weight' heritage conservation recommendations for purposes of project specific implementation, with specific reference to the principle of IEM.
- [In the event of any incidental archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, being identified during the course of development the process described in 'Appendix B: Heritage Protocol for Incidental Finds during the Construction Phase' should be followed.]

| Heritage Compliance Summary – Upgrade of the R63-Section 13, Fort Beaufort to Alice, Nkonkobe Local Municipality, Eastern Cape | | | |
|---|---|----------------------------|--|
| Map Code | Site | Co-ordinates | Recommendations |
| Borrow Pits and Quarries [from Fort Beaufort to Alice] | | | |
| BP-06 | Borrow Pit 6 | S32°46'58.8"; E26°39'34.7" | Temporary heritage signage (Records of heritage compliance to be kept by ECO and submitted to EC PHRA) |
| Site FBA-S1 | Colonial Period: Bridge and structure remains | S32°46'54.9"; E26°39'31.4" | |
| BP-07 | Borrow Pit 7 | S32°47'59.9"; E26°42'00.9" | Temporary heritage signage (Records of heritage compliance to be kept by ECO and submitted to EC PHRA) |
| Site FBA-S2 | Colonial Period: Railway structure and line | S32°48'00.5"; E26°42'05.6" | |
| BP-05 | Borrow Pit 5 | S32°48'28.2"; E26°43'57.7" | N/A |
| BP-04 | Borrow Pit 4 | S32°48'15.7"; E26°46'15.7" | Developer – Kwezana Village Community agreement |
| Site FBA-S3 | LIA / Cont. Period: Cemetery | S32°48'09.9"; E26°46'00.9" | |
| BP-03 | Borrow Pit 3 | S32°48'01.8"; E26°48'23.4" | N/A |
| BP-01 | Hard Rock Quarry 1 | S32°47'14.9"; E26°48'05.8" | N/A |
| BP-08 | Borrow Pit 8 | S32°46'05.0"; E26°48'59.8" | N/A |
| Road Alignment [from Fort Beaufort to Alice] | | | |
| Site FBA-S4 | Colonial Period: Bridge | S32°46'45.4"; E26°37'15.3" | Conservation without additional conservation measures (Records of heritage compliance to be kept by ECO and submitted to EC PHRA) (Alteration to contemporary bridge B4301 not subject to EC PHRA-BE Unit permitting process) |

| | | | |
|--------------|---|----------------------------|---|
| Site FBA-S5 | Colonial Period: Cultural landscape – lane of trees | S32°46'56.2"; E26°37'20.9" | Destruction of lane of trees without developer having to apply for an EC PHRA-APM / BE Unit permit |
| Site FBA-S6 | Colonial Period: Residence | S32°46'55.3"; E26°37'21.8" | N/A (Permanent conservation measures in place) |
| Site FBA-S7 | Colonial Period: Structure (TRN lodge) | S32°46'54.4"; E26°37'23.9" | Temporary heritage signage |
| Site FBA-S8 | Colonial Period: Residence | S32°46'55.4"; E26°37'25.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S9 | Colonial Period: Residence | S32°46'53.9"; E26°37'25.0" | Temporary heritage signage |
| Site FBA-S10 | Colonial Period: Residence | S32°46'53.8"; E26°37'25.6" | Temporary heritage signage |
| Site FBA-S11 | Colonial Period: Residence | S32°46'53.1"; E26°37'26.7" | N/A (Permanent conservation measures in place) |
| Site FBA-S12 | Colonial Period: Residence | S32°46'52.6"; E26°37'27.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S13 | Colonial Period: Residence | S32°46'52.0"; E26°37'28.8" | Temporary heritage signage |
| Site FBA-S14 | Colonial Period: Residence | S32°46'52.6"; E26°37'30.2" | Temporary heritage signage |
| Site FBA-S15 | Colonial Period: Residence | S32°46'51.5"; E26°37'30.5" | Temporary heritage signage |
| Site FBA-S16 | Colonial Period: Residence | S32°46'51.8"; E26°37'32.0" | Temporary heritage signage |
| Site FBA-S17 | Colonial Period: Residence | S32°46'51.2"; E26°37'33.4" | Temporary heritage signage |
| Site FBA-S18 | Colonial Period: Residence (Store) | S32°46'50.5"; E26°37'32.8" | Temporary heritage signage |
| Site FBA-S19 | Colonial Period: Residence | S32°46'50.3"; E26°37'33.2" | Temporary heritage signage |
| Site FBA-S20 | Colonial Period: Residence (Symington Lodge B&B) | S32°46'50.7"; E26°37'34.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S21 | Colonial Period: Residence (Business) | S32°46'50.2"; E26°37'35.7" | N/A (Permanent conservation measures in place) |
| Site FBA-S22 | Colonial Period: Structure (Trading store) | S32°46'48.2"; E26°37'37.7" | Temporary heritage signage |
| Site FBA-S23 | Colonial Period: Residence | S32°46'47.8"; E26°37'39.0" | N/A (Permanent conservation measures in place) |
| Site FBA-S24 | Colonial Period: Structure (Trading store) | S32°46'47.4"; E26°37'39.9" | Temporary heritage signage |
| Site FBA-S25 | Colonial Period: Anglican Church | S32°46'46.9"; E26°37'40.8" | N/A (Permanent conservation measures in place) |
| Site FBA-S26 | Colonial Period: Structure (Trading store) | S32°46'46.1"; E26°37'42.6" | Temporary heritage signage |
| Site FBA-S27 | Colonial Period: Structure (Trading store) | S32°46'45.6"; E26°37'43.7" | Temporary heritage signage |
| Site FBA-S28 | Colonial Period: Structure (Trading store) | S32°46'45.4"; E26°37'44.4" | Temporary heritage signage |
| Site FBA-S29 | Colonial Period: Structure (Trading store) | S32°46'44.7"; E26°37'46.0" | Temporary heritage signage |
| Site FBA-S30 | Colonial Period: Structure (Trading store) | S32°46'43.6"; E26°37'48.6" | Temporary heritage signage |
| Site FBA-S31 | Colonial Period: Mosque | S32°46'44.3"; E26°37'49.5" | N/A (Permanent conservation measures in place) |
| Site FBA-S32 | Colonial Period: Municipal administrative building | S32°46'41.5"; E26°37'52.1" | Temporary heritage conservation fence and signage |
| Site FBA-S33 | Colonial Period: Magistrates court | S32°46'39.9"; E26°37'50.9" | N/A (Recorded for heritage database purposes) |
| Site FBA-S34 | Colonial Period: Sakhululeka school | S32°46'39.9"; E26°38'01.3" | N/A (Permanent conservation measures in place) |
| Site FBA-S35 | Colonial Period: Structure (Trading store) | S32°46'36.9"; E26°38'03.1" | Temporary heritage signage |
| Site FBA-S36 | Colonial Period: Structure(s) | S32°46'38.0"; E26°38'03.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S37 | Colonial Period: Residence (Business) | S32°46'36.2"; E26°38'05.0" | Temporary heritage signage |
| Site FBA-S38 | Colonial Period: Residence | S32°46'35.5"; E26°38'06.6" | Temporary heritage signage |
| Site FBA-S39 | Colonial Period: Residence | S32°46'33.0"; E26°38'12.3" | Temporary heritage signage |
| Site FBA-S40 | Colonial Period: Residence (Business) | S32°46'34.1"; E26°38'12.1" | N/A (Permanent conservation measures in place) |
| Site FBA-S41 | Colonial Period: Residence | S32°46'34.1"; E26°38'12.1" | N/A (Permanent conservation measures in place) |
| Site FBA-S42 | Colonial Period: Residence | S32°46'31.4"; E26°38'15.6" | Temporary heritage signage |
| Site FBA-S43 | Colonial Period: Residence (Business) | S32°46'30.3"; E26°38'18.6" | Temporary heritage signage |
| Site FBA-S44 | Colonial Period: Residence | S32°46'29.9"; E26°38'19.5" | N/A (Permanent conservation measures in place) |
| Site FBA-S45 | Colonial Period: Residence | S32°46'30.4"; E26°38'20.9" | N/A (Permanent conservation measures in place) |
| Site FBA-S46 | Colonial Period: Bridge | S32°46'27.7"; E26°38'25.7" | Destruction of bridge under EC PHRA-APM Unit (BE Unit) Site Destruction Permit; OR Records of heritage conservation to be kept by ECO and submitted to EC PHRA (Alteration to contemporary bridge B2846 not subject to EC PHRA-BE Unit permitting process) |
| Site FBA-S47 | Later Iron Age (LIA): Cemetery | S32°46'25.6"; E26°38'27.3" | Formal conservation (permanent fence with access gate / way) along southern boundary of site Records of heritage conservation to be kept by ECO / heritage practitioner and submitted to EC PHRA |
| Site FBA-S48 | Contemporary Period: Rail bridge | S32°46'34.4"; E26°38'49.6" | N/A (Alteration / destruction of Site FBA-S48 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S49 | Contemporary Period: Bridge | S32°46'36.0"; E26°38'54.1" | N/A (Alteration / destruction of Site FBA-S49 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S50 | Later Iron Age (LIA) / Cont Period: Cemetery | S32°46'41.3"; E26°39'16.1" | N/A (Permanent conservation measures in place) |
| Site FBA-S51 | Contemporary Period: Bridge (Mxelo bridge) | S32°48'08.7"; E26°43'16.1" | N/A (Alteration / destruction of Site FBA-S51 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S52 | Colonial Period: Railway structure and line | S32°47'57.3"; E26°47'04.0" | N/A (Recorded for heritage database purposes) |
| Site FBA-S53 | Contemporary Period: Rail bridge | S32°48'06.3"; E26°48'20.2" | N/A (Alteration / destruction of Site FBA-S48 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S54 | Colonial Period: Rail bridge | S32°47'19.1"; E26°49'32.3" | N/A (Recorded for heritage database purposes) |
| Site FBA-S55 | Later Iron Age (LIA) / Colonial / Cont Period: Cemetery | S32°47'18.7"; E26°49'39.7" | N/A (Permanent conservation measures in place) |

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|--------------|---------------------------------------|----------------------------|--|
| Site FBA-S56 | Colonial Period: Residence (Business) | S32°47'15.5"; E26°49'43.8" | Temporary heritage signage |
| Site FBA-S57 | Colonial Period: Residence | S32°47'26.3"; E26°49'57.7" | N/A (Permanent conservation measures in place) |
| Site FBA-S58 | Colonial Period: Residence (Business) | S32°47'27.1"; E26°49'56.1" | N/A (Permanent conservation measures in place) |

Recommendations –

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the proposed *Upgrade of the R63-Section 13, Fort Beaufort-Alice*, and including the utilization of borrow pits and a quarry, Nkonkobe Local Municipality, Eastern Cape, proceed as applied for, provided the developer comply with the listed heritage compliance requirements.

The EC PHRA-APM Unit HIA Comment will state legal requirements for development to proceed, or reasons why, from a heritage perspective, development may not be further considered.

CONTENTS

| | |
|---|-----------|
| 1 – Project Description & Terms of Reference | 1 |
| 2 – The Phase 1 Archaeological & Cultural Heritage Impact Assessment | 5 |
| 2.1.1) Archaeological & Cultural Heritage Legislative Compliance | 5 |
| 2.1.2) Methodology & Gap Analysis | 5 |
| 2.1 – Pre-feasibility Assessment | 7 |
| 2.2.1) Pre-feasibility Summary | 7 |
| 2.2.2) The SAHRA 2009 MPD & SAHRIS | 7 |
| 2.2.3) SAHRA Provincial Heritage Site Database – Eastern Cape | 7 |
| 2.2.4) General Discussion | 10 |
| 2.2 – Field Assessment | 11 |
| 2.2.1) Borrow Pits and Quarries [from Fort Beaufort to Alice] | 11 |
| 2.2.1.1) Borrow Pit 6 (BP-06): S32°46'58.8"; E26°39'34.7" | 11 |
| 2.2.1.1.1) Site FBA-S1 – Colonial Period: Bridge and Structure Remains: S32°46'54.9"; E26°39'31.4" | 12 |
| 2.2.1.2) Borrow Pit 7 (BP-07): S32°47'59.9"; E26°42'00.9" | 12 |
| 2.2.1.2.1) Site FBA-S2 – Colonial Period: Railway Structure and Line: S32°48'00.5"; E26°42'05.6" | 12 |
| 2.2.1.3) Borrow Pit 5 (BP-05): S32°48'28.2"; E26°43'57.7" | 13 |
| 2.2.1.4) Borrow Pit 4 (BP-04): S32°48'15.7"; E26°46'15.7" | 13 |
| 2.2.1.4.1) Site FBA-S3 – LIA / Colonial Period: Cemetery: S32°48'09.9"; E26°46'00.9" | 13 |
| 2.2.1.5) Borrow Pit 3 (BP-03): S32°48'01.8"; E26°48'23.4" | 14 |
| 2.2.1.6) Hard Rock Quarry 1 (BP-01): S32°47'14.9"; E26°48'05.8" | 14 |
| 2.2.1.7) Borrow Pit 8 (BP-08): S32°46'05.0"; E26°48'59.8" | 14 |
| 2.2.2) Road Alignment [from Fort Beaufort to Alice] | 25 |
| 2.2.2.1.1) Site FBA-S4 – Colonial Period: Bridge: S32°46'54.4"; E26°37'15.4" | 25 |
| 2.2.2.1.2) Site FBA-S5 – Colonial Period: Cultural Landscape (lane of trees): S32°46'56.2"; E26°37'20.9" | 25 |
| 2.2.2.1.3) Site FBA-S6 – Colonial Period: Residence: S32°46'55.3"; E26°37'21.8" | 25 |
| 2.2.2.1.4) Site FBA-S7 – Colonial Period: Structure (TRN Lodge): S32°46'54.4"; E26°37'23.9" | 26 |
| 2.2.2.1.5) Site FBA-S8 – Colonial Period: Residence: S32°46'55.4"; E26°37'25.4" | 26 |
| 2.2.2.1.6) Site FBA-S9 – Colonial Period: Residence: S32°46'53.9"; E26°37'25.0" | 26 |
| 2.2.2.1.7) Site FBA-S10 – Colonial Period: Residence: S32°46'53.8"; E26°37'25.6" | 26 |
| 2.2.2.1.8) Site FBA-S11 – Colonial Period: Residence: S32°46'53.1"; E26°37'26.7" | 26 |
| 2.2.2.1.9) Site FBA-S12 – Colonial Period: Residence: S32°46'52.6"; E26°37'27.4" | 27 |
| 2.2.2.1.10) Site FBA-S13 – Colonial Period: Residence: S32°46'52.0"; E26°37'28.8" | 27 |
| 2.2.2.1.11) Site FBA-S14 – Colonial Period: Residence: S32°46'52.6"; E26°37'30.2" | 27 |
| 2.2.2.1.12) Site FBA-S15 – Colonial Period: Residence: S32°46'51.5"; E26°37'30.5" | 27 |
| 2.2.2.1.13) Site FBA-S16 – Colonial Period: Residence: S32°46'51.8"; E26°37'32.0" | 27 |
| 2.2.2.1.14) Site FBA-S17 – Colonial Period: Residence: S32°46'51.2"; E26°37'33.4" | 27 |
| 2.2.2.1.15) Site FBA-S18 – Colonial Period: Residence (Store): S32°46'50.5"; E26°37'32.8" | 27 |
| 2.2.2.1.16) Site FBA-S19 – Colonial Period: Residence: S32°46'50.3"; E26°37'33.2" | 27 |
| 2.2.2.1.17) Site FBA-S20 – Colonial Period: Residence (Symington Lodge B&B): S32°46'50.1"; E26°37'34.4" | 27 |
| 2.2.2.1.18) Site FBA-S21 – Colonial Period: Residence: S32°46'50.2"; E26°37'35.7" | 27 |
| 2.2.2.1.19) Site FBA-S22 – Colonial Period: Structure (Trading Store): S32°46'48.2"; E26°37'37.7" | 28 |
| 2.2.2.1.20) Site FBA-S23 – Colonial Period: Residence: S32°46'47.8"; E26°37'39.0" | 28 |
| 2.2.2.1.21) Site FBA-S24 – Colonial Period: Structure (Trading Store): S32°46'47.4"; E26°37'39.9" | 28 |
| 2.2.2.1.22) Site FBA-S25 – Colonial Period: Anglican Church: S32°46'46.9"; E26°37'40.8" | 28 |
| 2.2.2.1.23) Site FBA-S26 – Colonial Period: Structure (Trading Store): S32°46'46.1"; E26°37'42.6" | 29 |
| 2.2.2.1.24) Site FBA-S27 – Colonial Period: Structure (Trading Store): S32°46'45.6"; E26°37'43.7" | 29 |
| 2.2.2.1.25) Site FBA-S28 – Colonial Period: Structure (Trading Store): S32°46'45.4"; E26°37'44.4" | 29 |
| 2.2.2.1.26) Site FBA-S29 – Colonial Period: Structure (Trading Store): S32°46'44.7"; E26°37'48.6" | 29 |
| 2.2.2.1.27) Site FBA-S30 – Colonial Period: Structure (Trading Store): S32°46'43.6"; E26°37'48.6" | 29 |
| 2.2.2.1.28) Site FBA-S31 – Colonial Period: Mosque: S32°46'44.3"; E26°37'49.5" | 29 |
| 2.2.2.1.29) Site FBA-S32 – Colonial Period: Municipal Administrative Building: S32°46'41.5"; E26°37'52.1" | 29 |
| 2.2.2.1.30) Site FBA-S33 – Colonial Period: Magistrates Court: S32°46'39.9"; E26°37'50.9" | 30 |
| 2.2.2.1.31) Site FBA-S34 – Colonial Period: Sakululeka School: S32°46'39.9"; E26°38'01.3" | 30 |
| 2.2.2.1.32) Site FBA-S35 – Colonial Period: Structure (Trading Store): S32°46'36.9"; E26°38'03.1" | 30 |
| 2.2.2.1.33) Site FBA-S36 – Colonial Period: Structure(s): S32°46'38.0"; E26°38'03.4" | 30 |

| | |
|--|-----------|
| 2.2.2.1.34) Site FBA-S37 – Colonial Period: Residence: S32°46'36.2"; E26°38'05.0" | 31 |
| 2.2.2.1.35) Site FBA-S38 – Colonial Period: Residence: S32°46'35.5"; E26°38'06.0" | 31 |
| 2.2.2.1.36) Site FBA-S39 – Colonial Period: Residence: S32°46'33.0"; E26°38'12.3" | 31 |
| 2.2.2.1.37) Site FBA-S40 – Colonial Period: Residence: S32°46'34.1"; E26°38'12.1" | 31 |
| 2.2.2.1.38) Site FBA-S41 – Colonial Period: Residence: S32°46'32.3"; E26°38'16.0" | 31 |
| 2.2.2.1.39) Site FBA-S42 – Colonial Period: Residence: S32°46'31.4"; E26°38'15.6" | 31 |
| 2.2.2.1.40) Site FBA-S43 – Colonial Period: Residence: S32°46'30.3"; E26°38'18.6" | 31 |
| 2.2.2.1.41) Site FBA-S44 – Colonial Period: Residence: S32°46'29.9"; E26°38'19.5" | 32 |
| 2.2.2.1.42) Site FBA-S45 – Colonial Period: Residence: S32°46'30.4"; E26°38'20.9" | 32 |
| 2.2.2.1.43) Site FBA-S46 – Colonial Period: Bridge: S32°46'27.7"; E26°38'25.7" | 32 |
| 2.2.2.1.44) Site FBA-S47 – Later Iron Age (LIA): Cemetery: S32°46'25.6"; E26°38'27.3" | 32 |
| 2.2.2.1.45) Site FBA-S48 – Contemporary Period: Rail Bridge: S32°46'34.4"; E26°38'49.6" | 33 |
| 2.2.2.1.46) Site FBA-S49 – Contemporary Period: Bridge: S32°46'36.0"; E26°38'54.1" | 33 |
| 2.2.2.1.47) Site FBA-S50 – Later Iron Age (LIA) / Contemporary Period: Cemetery: S32°46'41.3"; E26°39'16.1" | 33 |
| 2.2.2.1.48) Site FBA-S51 – Contemporary Period: Bridge: S32°48'08.7"; E26°43'16.1" | 34 |
| 2.2.2.1.49) Site FBA-S52 – Colonial Period: Railway Structure and Line: S32°47'57.3"; E26°47'04.0" | 34 |
| 2.2.2.1.50) Site FBA-S53 – Contemporary Period: Rail Bridge: S32°48'06.3"; E26°48'20.2" | 34 |
| 2.2.1.1.51) Site FBA-S54 – Colonial Period: Rail Bridge: S32°47'19.1"; E26°49'32.3" | 34 |
| 2.2.1.1.52) Site FBA-S55 – Later Iron Age (LIA) / Colonial / Contemporary Period: Cemetery: S32°47'18.7"; E26°49'39.7" | 35 |
| 2.2.2.1.53) Site FBA-S56 – Colonial Period: Residence: S32°47'15.5"; E26°49'57.7" | 35 |
| 2.2.2.1.54) Site FBA-S57 – Colonial Period: Residence: S32°47'26.3"; E26°49'57.7" | 35 |
| 2.2.2.1.55) Site FBA-S58 – Colonial Period: Residence: S32°47'27.1"; E26°49'56.1" | 35 |
| 3 – Environmental Impact Assessment Rating | 55 |
| 4 – Recommendations | 57 |
| 5 – Acronyms & Abbreviations | 60 |
| 6 – References | 61 |

Appendix A:

Schematic Outline of the Pre-colonial and Colonial Periods in South Arica

Appendix B:

Heritage Protocol for Incidental Finds during the Construction Phase

Appendix C:

Resumé: Karen van Ryneveld

List of Maps

| | |
|--|----|
| Map 1: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [58.86], Nkonkobe Local Municipality, Eastern Cape study site (EOH-CES 2016)..... | 2 |
| Map 2: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [58.86], Nkonkobe Local Municipality, Eastern Cape study site | 3 |
| Map 3: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86], Nkonkobe Local Municipality, Eastern Cape study site [1:50,000 Map Ref – 3226DC & 3226DD]..... | 4 |
| Map 4: Spatial distribution of geo-referenced PHSs in the SAHRA – Eastern Cape database in relation to the Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86] study site (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape) | 8 |
| Map 5: Locality of the Fort Beaufort Museum, a declared PHS, with the Sundial, an independently declared PHS situated on the property, in relation to the proposed study site..... | 8 |
| Map 6: Layout and Phase 1 AIA results of borrow pit BP-06 | 15 |
| Map 7: Layout and Phase 1 AIA results of borrow pit BP-07..... | 15 |
| Map 8: Layout and Phase 1 AIA results of borrow pit BP-05..... | 16 |
| Map 9: Layout and Phase 1 AIA results of borrow pit BP-04 | 16 |
| Map 10: Layout and Phase 1 AIA results of borrow pit BP-03 | 17 |
| Map 11: Layout and Phase 1 AIA results of the BP-01 hard rock quarry site..... | 17 |
| Map 12: Layout and Phase 1 AIA results of borrow pit BP-08 | 18 |
| Map 13: The line route – Phase 1 AIA results: High concentration of heritage sites in Fort Beaufort, along the Campbell Street development corridor..... | 36 |
| Map 14: The line route – Phase 1 AIA results: Notable decrease in heritage sites towards the outskirts of Fort Beaufort..... | 36 |
| Map 15: The line route – Phase 1 AIA results: Permanent heritage recommendations pertaining to Site FBA-S47..... | 37 |
| Map 16: The line route – Phase 1 AIA results: Low density heritage sites along the Fort Beaufort-Alice line route | 37 |
| Map 17: The line route – Phase 1 AIA results: Heritage sites in Alice | 38 |

List of Plates

| | |
|--|----|
| Plate 1: The Victoria Bridge, Bridge Street, Fort Beaufort, constructed in 1843 / 1844 (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)..... | 9 |
| Plate 2: The Military Museum, 20 Bell Street, Fort Beaufort, constructed in 1849 (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)..... | 9 |
| Plate 3: The Martello Tower, 20 Bell Street, Fort Beaufort, constructed in 1822 (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)..... | 9 |
| Plate 4: General view of study site BP-06 [1]..... | 19 |
| Plate 5: General view of study site BP-06 [2]..... | 19 |
| Plate 6: General view over Site FBA-S1, with the BP-06 study site in the background | 19 |
| Plate 7: View of the Site FBA-S1 Colonial Period bridge [1] | 19 |
| Plate 8: View of the Site FBA-S1 Colonial Period bridge [2] | 20 |
| Plate 9: View of the Site FBA-S1 Colonial Period structure remains | 20 |
| Plate 10: General view of the BP-07 study site from the railway line..... | 20 |
| Plate 11: General view of study site BP-07 [1]..... | 20 |
| Plate 12: General view of study site BP-07 [2]..... | 21 |
| Plate 13: View of the Site FBA-S2 Colonial Period railway structure and line | 21 |
| Plate 14: General view of study site BP-05 [1]..... | 21 |
| Plate 15: General view of study site BP-05 [2]..... | 21 |
| Plate 16: General view of study site BP-04 [1]..... | 22 |
| Plate 17: General view of study site BP-04 [2] | 22 |
| Plate 18: View of the Site FBA-S3 LIA / Contemporary Period cemetery [1] | 22 |
| Plate 19: View of the Site FBA-S3 LIA / Contemporary Period cemetery [2]..... | 22 |
| Plate 20: View of the Site FBA-S3 LIA / Contemporary Period cemetery [3] | 23 |
| Plate 21: General view of study site BP-03 [1]..... | 23 |
| Plate 22: General view of study site BP-03 [2]..... | 23 |
| Plate 23: General view of study site BP-01 [1]..... | 23 |
| Plate 24: General view of study site BP-01 [2] | 24 |
| Plate 25: General view of study site BP-01 [3] | 24 |
| Plate 26: General view of study site BP-08 [1]..... | 24 |
| Plate 27: General view of study site BP-08 [2]..... | 24 |
| Plate 28: Bridge B4301 across the Kat River (near Site FBA-S4)..... | 39 |
| Plate 29: View of the Colonial Period Site FBA-S4 bridge from the B4301 across the Kat River [1]..... | 39 |
| Plate 30: View of the Colonial Period Site FBA-S4 bridge from the B4301 across the Kat River [2]..... | 39 |
| Plate 31: Site FBA-S5, Colonial Period cultural landscape of Campbell Street, Fort Beaufort [1]..... | 39 |
| Plate 32: Site FBA-S5, Colonial Period cultural landscape of Campbell Street, Fort Beaufort [2]..... | 40 |
| Plate 33: General view of Site FBA-S6..... | 40 |
| Plate 34: The Colonial Period Site FBA-S7 TRN lodge..... | 40 |
| Plate 35: General view of Site FBA-S8..... | 40 |

| | |
|--|----|
| Plate 36: View of Sites FBA-S9 and FBA-S10 | 41 |
| Plate 37: View of the Site FBA-S11 Colonial Period residence..... | 41 |
| Plate 38: General view of Site FBA-S12 | 41 |
| Plate 39: View of Site FBA-S13..... | 41 |
| Plate 40: General view of the Site FBA-S14 Colonial Period residence | 42 |
| Plate 41: General view of Site FBA-S15..... | 42 |
| Plate 42: View of Site FBA-S16 | 42 |
| Plate 43: View of Site FBA-S17..... | 42 |
| Plate 44: View of Site FBA-S18 and neighbouring Site FBA-S19..... | 43 |
| Plate 45: General view of the Colonial Period Site FBA-S20 Symington House B&B | 43 |
| Plate 46: General view of Site FBA-S21 | 43 |
| Plate 47: General view of Site FBA-S22 | 43 |
| Plate 48: View of Site FBA-S23..... | 44 |
| Plate 49: View of the Colonial Period Site FBA-S24 trading store | 44 |
| Plate 50: Site FBA-S25, the Colonial Period St. John’s Anglican church | 44 |
| Plate 51: Colonial Period trading stores (from left to right): Sites FBA-S26, FBA-S27 and FBA-S28..... | 44 |
| Plate 52: General view of Site FBA-S29..... | 45 |
| Plate 53: General view of Site FBA-S30..... | 45 |
| Plate 54: View of the Site FBA-S31 Colonial Period mosque [1] | 45 |
| Plate 55: View of the Site FBA-S31 Colonial Period mosque [2]..... | 45 |
| Plate 56: Site FBA-S32, the Colonial Period building used for municipal purposes [1]..... | 46 |
| Plate 57: Site FBA-S32, the Colonial Period building used for municipal purposes [2]..... | 46 |
| Plate 58: Site FBA-S33, the Colonial Period magistrates court | 46 |
| Plate 59: General view of Site FBA-S34..... | 46 |
| Plate 60: View of Campbell street with Site FBA-S35 on the left corner..... | 47 |
| Plate 61: View of a Site FBA-S36 structure..... | 47 |
| Plate 62: General view from Campbell Street over the Site FBA-S36 property | 47 |
| Plate 63: View of Sites FBA-S37 and FBA-S38 | 47 |
| Plate 64: General view of Site FBA-S39 | 48 |
| Plate 65: View of the Colonial Period Site FBA-S40 residence, currently used as a pre-school facility | 48 |
| Plate 66: General view of Site FBA-S41..... | 48 |
| Plate 67: General view of Site FBA-S42..... | 48 |
| Plate 68: View of the Colonial Period Site FBA-S43..... | 49 |
| Plate 69: General view of Site FBA-S44 | 49 |
| Plate 70: View of Site FBA-S45 | 49 |
| Plate 71: Site FBA-S46 – Contemporary bridge across the Kat River | 49 |
| Plate 72: Site FBA-S46 – Colonial Period bridge across the Kat River [1]..... | 50 |
| Plate 73: Site FBA-S46 – Colonial Period bridge across the Kat River [2] | 50 |
| Plate 74: Site FBA-S47: Selected modern style graves..... | 50 |
| Plate 75: Site FBA-S47: General view of the cemetery [1] | 50 |
| Plate 76: Site FBA-S47: General view of the cemetery [2] | 51 |
| Plate 77: View of the Site FBA-S48 rail bridge | 51 |
| Plate 78: General view of Site FBA-S49 | 51 |
| Plate 79: Site FBA-S50: General view of the cemetery [1]..... | 51 |
| Plate 80: Site FBA-S50: General view of the cemetery [2]..... | 52 |
| Plate 81: Site FBA-S51: View of the bridge across the Mxelo River..... | 52 |
| Plate 82: Site FBA-S51: General view of the Mxelo River bridge..... | 52 |
| Plate 83: General view of Site FBA-S52..... | 52 |
| Plate 84: General view of the Site FBA-S53 rail bridge [1]..... | 53 |
| Plate 85: General view of the Site FBA-S53 rail bridge [1]..... | 53 |
| Plate 86: Site FBA-S54: View of the Colonial Period rail bridge across the Kat River..... | 53 |
| Plate 87: View of the Site FBA-S55 cemetery [1] | 53 |
| Plate 88: View of the Site FBA-S55 cemetery [2]..... | 54 |
| Plate 89: General view of Site FBA-S56 | 54 |
| Plate 90: General view of Site FBA-S57..... | 54 |
| Plate 91: View of Site FBA-S58..... | 54 |

List of Tables

| | |
|---|----|
| Table 1: Extract from the NHRA 1999, Section 38 | 5 |
| Table 2: SAHRA archaeological and cultural heritage site significance assessment ratings and associated mitigation recommendations | 6 |
| Table 3: Archaeological and basic cultural heritage probability assessment..... | 7 |
| Table 4: Environmental Impact Assessment Rating | 56 |
| Table 5: Heritage compliance summary | 58 |

1 – Project Description & Terms of Reference

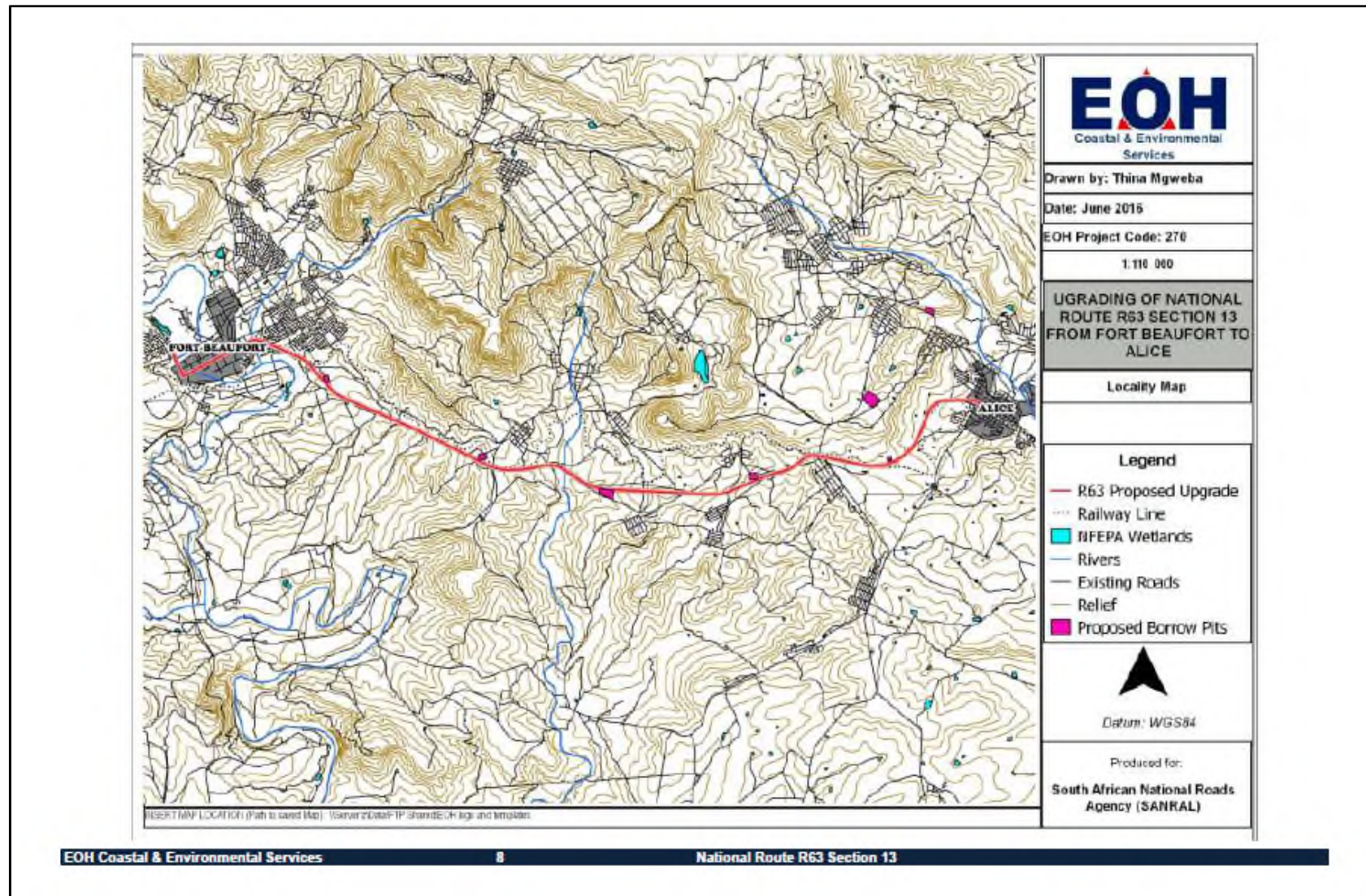
EOH-Coastal & Environmental Services (EOH-CES) have been appointed as independent Environmental Assessment Practitioner (EAP) by the project proponent, the South African National Roads Agency SOC Limited (SANRAL), to apply for Environmental Authorization (EA), including a Scoping Report (SR), Environmental Impact Report (EIR) and Environmental Management Plan (EMPr) to the National Department of Environmental Affairs (DEA) and the Department of Mineral Resources (DMR) respectively for the proposed *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86]*, Nkonkobe Local Municipality, Eastern Cape. The proposed development is situated between general development co-ordinates S32°46'35.6"; E26°37'10.1" (Fort Beaufort) and S32°47'24.4"; E26°49'58.2" (Alice), and comprises an approximate 23km road upgrade, including realignments, of the R63-Section 13 from Fort Beaufort to Alice. One (1) hard rock quarry [BP-01] and six (6) borrow pits [BP-03, BP-04, BP-05, BP-06, BP-07 and BP-08] will be utilized for building material during the construction phase (EOH-CES 2016a).

Major development aspects of the proposed development include (EOH-CES 2016b):

- o Increase of the road reserve width from 30m to a minimum of 50m in width;
- o General widening of the existing road cross section for climbing lanes and 2.5m surfaced shoulders. The main carriageway is 6.4m and will be increased to a minimum of 12.4m. The total width, with the addition of passing lanes, will equal a minimum of 14.6m;
- o Substantial vertical and horizontal geometric improvements from a generally 80km/h to a 100-120km/h design speed.
- o Rehabilitation of pavement structure on the existing alignment and construction of a new pavement on the new alignment;
- o Stabilization of cut faces (existing and new);
- o Widening / construction of new bridges, agricultural underpasses and drainage structures; and
- o Utilization of 1 hard rock quarry (owned by a Community Trust) and borrow pits.

ArchaeoMaps have been appointed by EOH-CES to compile the Phase 1 Archaeological & Cultural Heritage Impact Assessment (AIA) for the development, as specialist component to the application's Heritage Impact Assessment (HIA), and with findings and recommendations thereof to be included in the respective EIRs and EMPr's. Terms of Reference (ToR) for the Phase 1 AIA are summarized as:

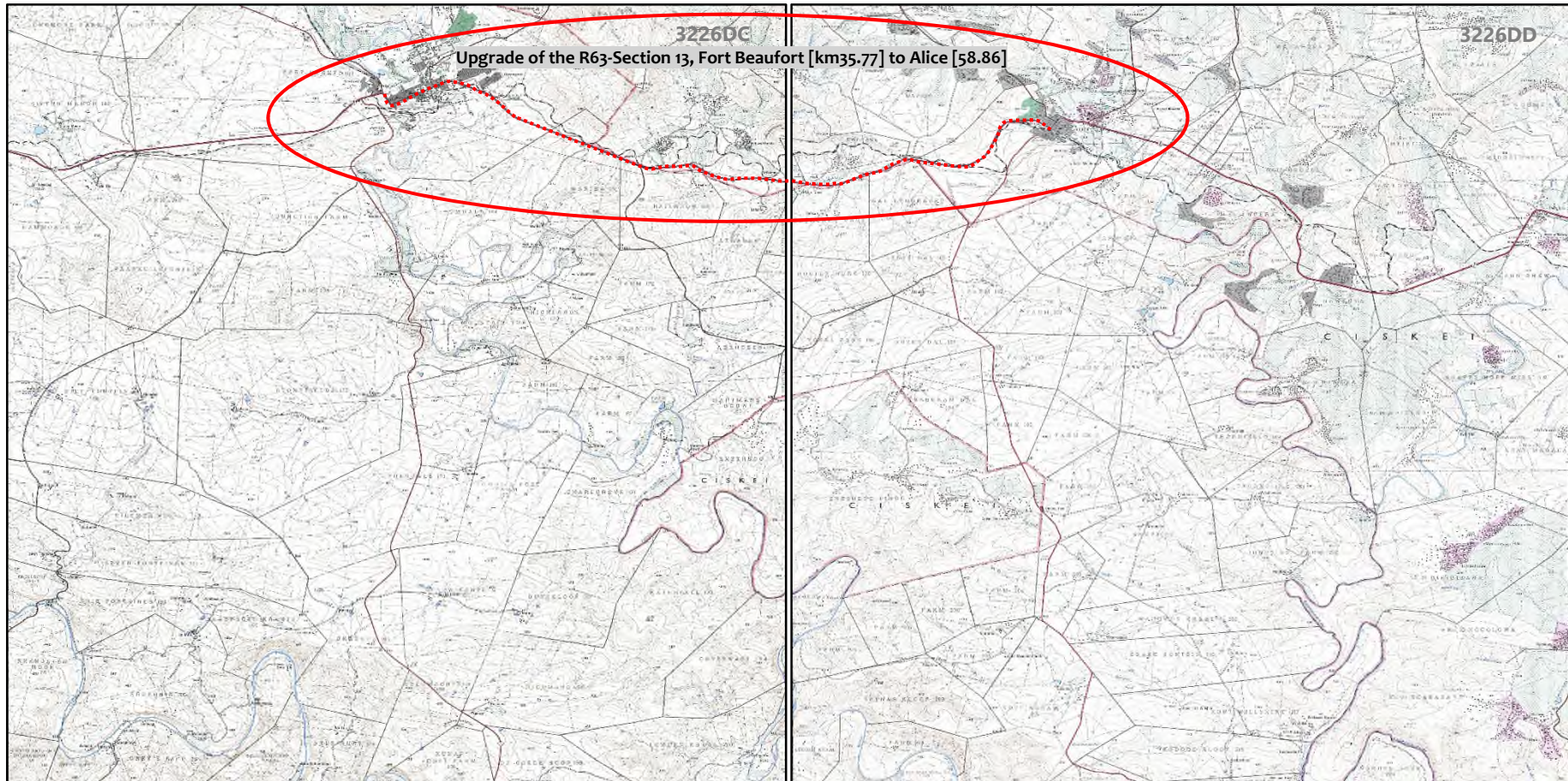
- o Describe the existing area to be directly affected by the proposal in terms of its archaeological and cultural heritage characteristics as formally protected by the National Heritage Resources Act, No 25 of 1999 (NHRA 1999) and the general sensitivity of these components to change;
- o Describe the likely scope, scale and significance of impacts (positive and negative) on the archaeological and cultural heritage resources of the area associated with the 1) construction and 2) operation or use phases of the proposal;
- o Make recommendations on the scope of any mitigation measures that may be applied during the 1) construction and 2) operation or use phases to reduce / avoid the significance of identified related impacts. Mitigation measures could be design recommendations as well as operational controls, monitoring programmes, Phase 2 mitigation, management procedures and the like;
- o Broadly describe the implication of a 'No-Go' option;
- o Broadly comment on the cumulative impact (positive or negative) on archaeological or cultural heritage resources associated with the 1) construction and 2) operation or use phases of the proposal; and
- o Confirm if there are any outright 'fatal flaws' to the proposal at its current location from an archaeological and cultural heritage perspective.



Map 1: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [58.86], Nkonkobe Local Municipality, Eastern Cape study site (EOH-CES 2016)



Map 2: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [58.86], Nkonkobe Local Municipality, Eastern Cape study site



Map 3: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86], Nkonkobe Local Municipality, Eastern Cape study site [1:50,000 Map Ref – 3226DC & 3226DD]

2 – The Phase 1 Archaeological & Cultural Heritage Impact Assessment

2.1.1) Archaeological & Cultural Heritage Legislative Compliance

The Phase 1 Archaeological & Cultural Heritage Impact Assessment (AIA) for the proposed *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86]*, Nkonkobe Local Municipality, Eastern Cape, was requested to meet the Eastern Cape Provincial Heritage Resources Authority's (EC PHRA) requirements with reference to archaeological and basic cultural heritage resources in terms of the National Heritage Resources Act, No 25 of 1999 (NHRA 1999), with specific reference to Section 38(1)(a), Section 38(1)(b) and Section 38(1)(c)(i). This report is submitted in (partial) fulfilment of the NHRA 1999, Section 38(3) requirements, for purposes of a NHRA 1999, Section 38(4) / Section 38(8) Heritage Impact Assessment (HIA) Comment by the EC PHRA.

| NHRA 1999, Section 38 | |
|------------------------------|---|
| 1) | Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorized as – |
| a) | The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; |
| b) | The construction of a bridge or similar structure exceeding 50m in length; |
| c) | Any development or other activity which will change the character of a site – |
| i. | Exceeding 5,000m ² 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 10,000m ² in extent; |
| 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. |

Table 1: Extract from the NHRA 1999, Section 38

The Phase 1 AIA aimed to locate, identify and assess the significance of archaeological and cultural heritage resources, inclusive of archaeological deposits / sites (Stone Age, Iron Age and Colonial Period), rock art and shipwreck sites, built structures older than 60 years, sites of military history older than 75 years, certain categories of burial grounds and graves, graves of victims of conflict, basic living heritage and cultural landscapes and views as defined and protected by the NHRA 1999, Section 2, that may be affected by the development.

This report comprises a Phase 1 AIA, including a basic pre-feasibility study and field assessment only. The report was prepared in accordance with the 'Minimum Standards' specifications for Phase 1 AIA reports, as stipulated by SAHRA (2007).

Additional relevant legislation pertaining to the Phase 1 AIA is listed as:

- o National Environmental Management Act, No 107 of 1998 (NEMA 1998) and associated Regulations (2014); and
- o Mineral and Petroleum Resources Development Act, No 28 of 2002 (MPRDA 2002).

2.1.2) Methodology & Gap Analysis

The Phase 1 AIA includes a basic pre-feasibility study and field assessment:

- o The pre-feasibility assessment is based on the Appendix A schematic outline of South Africa's pre-colonial and colonial past, associated with introductory archaeological as well as general and scientific literature available and relevant to the study site. Databases consulted include the SAHRA 2009 Mapping Project Database (MPD), the South African Heritage Resources Information System (SAHRIS) and SAHRA database(s) on declared provincial heritage sites (PHS) pertaining to the study site. The study excludes consultation of museum and university databases.
- o The field assessment was done over a two (3) day period [2016-08-23 to 08-25] with fieldwork conducted by the author. The assessment was done by vehicle and foot and limited to a Phase 1 surface survey. GPS co-

ordinates were taken with Garmin Montana 650 (Datum: WGS84) Photographic documentation was done with a Canon EOS 1300D camera. A combination of Garmap (Base Camp) and Google Earth software was used in the display of spatial information.

The Phase 1 AIA was done according to the system and ‘Minimum Standards’ prescribed for the 3-tiered Phase 1-3 Heritage Impact Assessment (HIA) process (SAHRA 2007):

- Phase 1 HIA – A Phase 1 HIA is compulsory for development types as stipulated in the NHRA 1999, Section 38(1) and Section 38(8), including any other development type or study site as required by the South African Heritage Resources Agency (SAHRA) or relevant Provincial Heritage Resources Authority (PHRA). A Phase 1 HIA comprises at minimum of an archaeological (AIA) and palaeontological (PIA) study, but aims to address all heritage types protected by the NHRA 1999 and to alert developers to additional heritage specialist study requirements, if and where relevant to a development. Phase 1 HIA studies focusses on pre-feasibility and desktop studies, routinely coined with field assessments in order to locate, describe and assign heritage site significance ratings to identified resources that may be impacted by development. The aim of a Phase 1 AIA is to make site specific and general development recommendations regarding identified heritage resources for development planning and implementation purposes and may include recommendations for conservation, heritage site declaration, monitoring, Phase 2 mitigation (excavation), or destruction.
- Phase 2 HIA – Phase 2 HIAs are as a norm required where heritage resources of such significance has been identified during the Phase 1 HIA that mitigation (excavation) thereof is necessary for development purposes. Aside from large scale Phase 2 mitigation (routinely to precede development impact), lower keyed Phase 2 requirements may well include sampling, testing and monitoring during the construction or implementation phase of a development. Phase 2 HIA work is as a norm done under a compulsory heritage permit.
- Phase 3 HIA – As an extension to Phase 2 HIA work or cases where recommendations for heritage declaration formed part of a development’s heritage compliance requirements, heritage resources of such scientific or heritage tourism significance, that their long term conservation and continued research would be necessary within a development framework is proposed as a Phase 3 HIA.

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations are done according to the combined NHRA 1999, Section 7(1) and SAHRA (2007) system.

| SAHRA Archaeological & Cultural Heritage Site Significance System | | | |
|--|-------------------------|--------------|--|
| Site Significance | Field Rating | Grade | Recommended Mitigation |
| High Significance | National Significance | Grade I | Heritage site conservation / Heritage site development |
| High Significance | Provincial Significance | Grade II | Heritage site conservation / Heritage site development |
| High Significance | Local Significance | Grade III-A | Heritage site conservation or extensive mitigation prior to development / destruction |
| High Significance | Local Significance | Grade III-B | Heritage site conservation or extensive mitigation prior to development / destruction |
| High / Medium Significance | Generally Protected A | Grade IV-A | Heritage site conservation or mitigation prior to development / destruction |
| Medium Significance | Generally Protected B | Grade IV-B | Heritage site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction |
| Low Significance | Generally Protected C | Grade IV-C | On-site sapling, monitoring or no heritage mitigation required prior to or during development / destruction |

Table 2: SAHRA archaeological and cultural heritage site significance assessment ratings and associated mitigation recommendations

2.2.1) Pre-feasibility Summary

Based on the Appendix A schematic outline of the Pre-colonial and Colonial Periods in South Africa and background literature and database information, the probability of archaeological and cultural heritage resources situated on, or in proximity to the proposed *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86]*, Nkonkobe Local Municipality, Eastern Cape, can briefly be described as:

| Archaeological and Basic Cultural Heritage Probability Assessment – Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km 58.86], Nkonkobe Local Municipality, EC | | | |
|--|---|-------------------------------|-------------|
| Primary Type / Period | Sub-period | Sub-period type site | Probability |
| EARLY HOMININ / HOMINID | - | - | None |
| | Graves / human remains: High scientific significance | | |
| STONE AGE | Earlier Stone Age (ESA) | | None-Low |
| | Middle Stone Age (MSA) | | None-Low |
| | Later Stone Age (LSA) | | Low-Medium |
| | | Rock Art | None |
| | | Shel Middens | None |
| | Graves / human remains: ESA & MSA - High scientific significance; LSA – High scientific & social significance | | |
| IRON AGE | Early Iron Age (EIA) | | None |
| | Middle Iron Age (MIA) | | None |
| | Later Iron Age (LIA) | | Low-Medium |
| | Graves / human remains: EIA – High scientific significance; MIA & LIA – High scientific & social significance | | |
| COLONIAL PERIOD | Colonial Period | | Medium-High |
| | | LSA – Colonial Period Contact | Low-Medium |
| | | LIA – Colonial Period Contact | Medium-High |
| | | Industrial Revolution | Low |
| | | Apartheid & Struggle | Low |
| | Graves / human remains: Medium-high scientific & high social significance | | |

Table 3: Archaeological and basic cultural heritage probability assessment

2.2.2) The SAHRA 2009 MPD & SAHRIS

Only one (1) archaeological Cultural Resources Management (CRM) report is recorded in the SAHRA 2009 Mapping Project Database (MPD) with the relevant study site situated within an approximate 20km radius from the proposed *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86]*, Nkonkobe Local Municipality, Eastern Cape, referenced as:

- Webley, L.E. 2008. (Albany Museum). *Phase 1 Archaeological Impact Assessment: Dairy Development at Ann Shaw, Middledrift, Eastern Cape.*

Post compilation of the SAHRA 2009 MPD four (4) SAHRIS cases have been recorded, with study sites situated within the rough 20km radius from the proposed *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86]* study site. Of the 4 recorded cases SAHRIS CaseIDs 2417 and 2435 are mining permit applications, recorded on SAHRIS as for ‘noting’ only, and not associated with archaeological CRM reports. Archaeological CRM reports pertaining to the remainder of the recorded SAHRIS cases are referenced as:

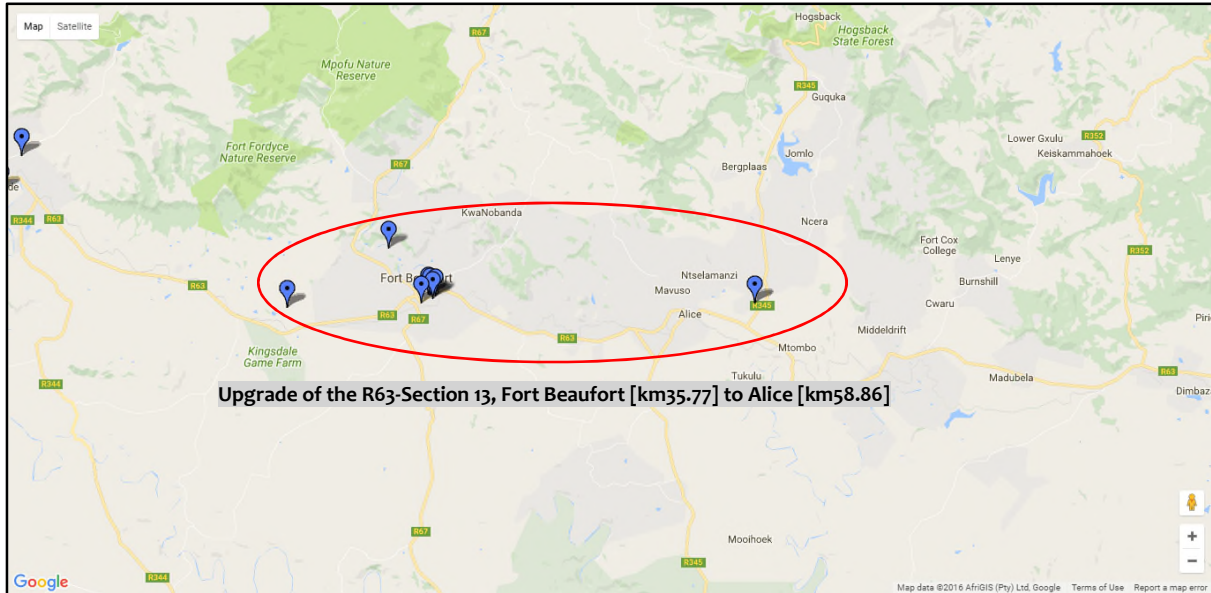
- Muller, L. & Cultmatrix. (2009). *Healdtown School Camus, Fort Beaufort, Eastern Cape: Heritage Analysis and Assessment of the Cultural Landscape.* [SAHRIS CaseID 252].
- Van Ryneveld, K. 2012. (ArchaeoMaps). *Phase 1 Archaeological Impact Assessment – Ripplemead Packshed, Portion of Groot Plaats 4, (near Peddie), Ngusha Municipality, Eastern Cape, South Africa.* [SAHRIS CaseID 1109].

2.2.3) SAHRA Provincial Heritage Site Database – Eastern Cape

Nine (9) geo-referenced declared Provincial Heritage Site (PHS) are recorded in the SAHRA – Eastern Cape database (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape) and situated within the approximate 20km radius from the proposed *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86]* study site, listed as:

- SAHRA Identifier 9/2/029/0019 - Sipton Manor, Fort Beaufort District;
- SAHRA Identifier 9/2/028/0007 - Old Watermill, Mill Bank, Fort Beaufort District;

- SAHRA Identifier 9/2/028/0011 - Military Museum, 20 Bell Street, Fort Beaufort;
- SAHRA Identifier 9/2/028/0012 - Martello Tower, 20 Bell Street, Fort Beaufort;
- SAHRA Identifier 9/2/028/0016 - Sundial, Fort Beaufort Museum, 44 Durban Street, Fort Beaufort;
- SAHRA Identifier 9/2/028/0006 - Fort Beaufort Museum, 44 Durban Street, Fort Beaufort;
- SAHRA Identifier 9/2/028/0010 - Old Military Hospital, Bell Street, Fort Beaufort;
- SAHRA Identifier 9/2/028/0009 - Victoria Bridge, Bridge Street, Fort Beaufort; and
- SAHRA Identifier 9/2/502/0007 - University of Fort Hare Collections, University of Fort Hare, Alice.



Map 4: Spatial distribution of geo-referenced PHSs in the SAHRA – Eastern Cape database in relation to the Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86] study site (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)

In Fort Beaufort a few declared PHS are situated in proximity to the line route, between 150-250m from the proposed development corridor. No PHS is situated within 50m from the proposed development corridor.



Map 5: Locality of the Fort Beaufort Museum, a declared PHS, with the Sundial, an independently declared PHS situated on the property, in relation to the proposed study site



Plate 1: The Victoria Bridge, Bridge Street, Fort Beaufort, constructed in 1843 / 1844
(https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)



Plate 2: The Military Museum, 20 Bell Street, Fort Beaufort, constructed in 1849
(https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)



Plate 3: The Martello Tower, 20 Bell Street, Fort Beaufort, constructed in 1822
(https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)

2.2.4) General Discussion

Webley (2008) commented on the presence of Earlier (ESA), Middle (MSA) and Later Stone Age (LSA) lithic scatters identified by amateur and professional archaeologists across the greater Ann Shaw, Middledrift terrain. In addition, LSA pastoralist presence on the landscape is well represented by 1970s excavation, confirming a Gonaqua-Khoekhoen settlement dating to before the 18th Century in the vicinity of the study site.

Iron Age remains are scant and limited to the Later Iron Age (LIA), with LIA and Colonial Period histories intertwined as evidenced by the direct relationship between the establishment of Colonial Period mission stations in the vicinity and the role the presence of the Fingo (Xhosa) played therein, inherent in the Healdtown School Campus assessment (Muller & Cultmatrix 2009), with the school established, in 1855, on the property of the first mission station. From the Ripplemead Packshed study site Van Ryneveld (2012) reported on a LIA / Contemporary Period traditional cemetery, a historical farmstead, closely associated with early economic activity as evidenced by the presence of the old packshed and related infrastructure, including an old petrol station (pump) on-site.

* * *

Fort Beaufort was founded in 1816 as a mission station by the Reverend Joseph Williams of the London Missionary Society. Continued hostilities after the Fifth Frontier War (1818-1819) resulted in Colonel Maurice Scott, of the Royal Warwickshire Regiment, constructing a blockhouse in 1822 about 3 miles from the mission station, primarily as stronghold against Chief Maqoma of the Rharhabe (Xhosa). The British named the blockhouse Fort Beaufort in honour of the Duke of Beaufort, father of Lord Charles Henry Somerset, British Governor of the Cape Colony from 1814-1826. After the Sixth Frontier War (1834-1835) Governor Sir Benjamin d'Urban authorized construction of a fort at the original blockhouse site, including a military hospital, guard houses, barracks and officer's quarters. In 1839 the British started construction on the Martello Tower, completed in 1846, the only of its kind worldwide situated inland. In 1840 Fort Beaufort was declared a town. The Eighth Frontier War (1850-1851) was witness to repeated attack on the town, notably from the Khoekhoe-Xhosa born Hermanus Matroos, known as Ngxukumeshe, who served as a British soldier in the Seventh Frontier War (1846-1847). British troops continued to occupy the town until the 1870s (<https://en.wikipedia.org/wiki/Fort-Beaufort>).

Alice, originally named Lovedale, after Dr. John Love of the Glasgow Missionary Society, started when European missionaries settled there in 1824. Due to hostilities of the Frontier Wars the missionary moved to the south bank of the Tyume River, and on the east bank a fort, Fort Hare, was constructed, named after Major-General John Hare, then acting Lieutenant-General of the Eastern Cape (https://en.wikipedia.org/wiki/Alice,_Eastern_Cape). Alice was formally established in 1852, as administrative centre to the surrounding district. The town's growth and development is typified by its institutions for training and education of Africans since the early 1800s: The Lovedale Missionary School relocated to Alice in 1835; the Lovedale Press, key in advancing African education and literature was founded in 1861; and in 1916 the University of Fort Hare (UFH) was founded. Many African intellectuals and leaders in the African liberation movement studied at UFH, including amongst others late President Nelson Mandela. During the Apartheid years Alice and surrounds was incorporated into the former Ciskei homeland, but with limited State funds negatively affecting economic development of the area (National Treasury & Aspire 2011).

Field assessment for the proposed *Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86]* study site yielded a vast array of heritage resources, by far the majority of which are formally protected by the NHRA 1999, but including also sites of heritage sensitivity not formally protected by the NHRA 1999: A total of fifty-eight (58) heritage resources were recorded, situated within or in fairly direct proximity to the proposed study site.

The development is to be situated within an area of notable Colonial Period sensitivity, with reference not only to actual resources recorded but including the cultural landscape(s) within which they are set. Two (2) cultural landscapes are of importance:

- Firstly, the general association of the study site (line route between Fort Beaufort and Alice) with reference to the Colonial Period railway line that basically runs alongside the development corridor, periodically intersecting it and at other times running in notably close proximity, and within tens of metres therefrom. Development will largely not directly impact on the railway line (and associated structures); where it will directly impact (rail bridges), site specific recommendations have been made. Because of the type development, an upgrading to the R63, with associated little visual impact once development has been completed, no recommendations pertaining to this cultural landscape have been made for purposes of development. The Colonial Period cultural landscape of the railway line environs will largely be unaffected by development.
- Secondly, the Colonial Period cultural landscape associated with the development corridor as it passes through the Fort Beaufort, Campbell Street section. The Colonial Period cultural landscape of this section of the line route comprise both the vast number of Colonial Period buildings recorded, as well as the lane of trees associated therewith. Development will necessitate destruction of a portion of the cultural landscape, the lane of trees. It is argued that this portion of the cultural landscape be compromised for purposes of development: With reference to the rich Colonial Period past of Fort Beaufort, consideration of an alternative route through the town will not necessarily serve to either avoid or minimise impact. It is further argued that despite impact on the lane of trees, as component part to the cultural landscape, the vast number of Colonial Period structures (residences, trade stores and municipal services buildings), will still be conserved.

[Colonial Period heritage resources along the Fort Beaufort portion of the study site does not necessarily constitute an all-inclusive list of resources. Identification was based on visibility and authenticity of the structures – structures that have not been altered too radically].

Typical heritage resource conservation recommendations have been substituted for ‘lighter-weight’ conservation recommendations: Recorded heritage resource locales, with reference to standard heritage site conservation requirements, including formal conservation, or fencing of heritage sites associated with conservation buffer zones are not practically implementable considering current development, including infrastructural development, on which the proposed upgrading development is largely based.

Recorded heritage resources include primarily Colonial Period sites, testimony to the rich Colonial Period past of the Fort Beaufort-Alice area, but including Later Iron Age (LIA) resources, in the case of the specific study site, most closely associated with contemporary living heritage practices (funerary practices). The absence of Stone Age resources is noteworthy, inferred to be directly related to local raw material type, not necessarily suitable to knapping technology.

For purposes of this report identified heritage site descriptions are divided in two (2) sections: Firstly, addressing sites identified and associated with the borrow pits and quarries component, and secondly the road alignment section of the study site.

2.2.1) Borrow Pits and Quarries [from Fort Beaufort to Alice]

2.2.1.1) Borrow Pit 6 (BP-06): S32°46'58.8"; E26°39'34.7"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface, or within exposed sub-surface sections (in excess of 3+m bgl) at the BP-06 study site. Site FBA-S1 is situated approximately 50m from the proposed BP-06 study site.

2.2.1.1.1) Site FBA-S1 – Colonial Period: Bridge and Structure Remains: S32°46'54.9"; E26°39'31.4"

Site FBA-S1 comprise a Colonial Period bridge (site co-ordinate: S32°46'54.9"; E26°39'31.4") across a stream, a tributary to the Kat River. The bridge constitutes a structure older than 60 years, and most probably older than 100 years, implying archaeological age; the site is by implication formally protected by the NHRA 1999. Whilst a designatory signage structure is present next to the bridge, the signage plaque has been removed. Approximately 20m to the east of the bridge is a cement structure platform (S32°46'54.9"; E26°39'30.5"), averaging more or less 12x6m in size, indicative of a former associated structure. It is uncertain what structure the platform represents; inferred to have been a residential structure. No associated artefacts, including middens were found in the vicinity of the site. (More recent rubble scatters characterize the general site area, as well as the eastern portion of the BP-06 study site. These are not of heritage significance).

The site FBA-S1 bridge and structure remains, with the bridge still in use and well maintained, are situated roughly 50m from the proposed BP-06 study site. The site will not be negatively impacted by development, but the site (bridge) will be used during the course of construction for access purposes. Partial use of the site (bridge), necessary for access, not limited to the proposed development, hampers standard heritage site conservation measures (permanent fence with access gate). With cognisance to standard heritage site conservation measures, but taking into account the presence of the site and its unique partial use in contemporary times, it is proposed that standard heritage site conservation measures be substituted for more light weight cautionary heritage signage for purposes of development. Partial heritage site conservation (structure remains only) is not recommended, as this may well negatively impact on sub-surface aspects of the site.

- **Site Significance and Recommendations:** Site FBA-S1, a Colonial Period bridge and structure remains, pre-dating 60 years of age and most probably more than 100 years old, is formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *Medium Significance* and a *Generally Protected IV-B Field Rating*. The site, situated approximately 50m from the proposed BP-06 study site, will not be negatively impacted by development, but the site (bridge) will be used for purposes of access during the construction phase. Light-weight heritage conservation measures in the form of temporary signage indicating the site as '*Caution – Heritage Site*' should be erected at both ends of the bridge for the duration of utilization by the developer. Records of heritage compliance should be kept by the ECO and submitted to the EC PHRA. All temporary conservation measures should be removed once utilization ceased.

2.2.1.2) Borrow Pit 7 (BP-07): S32°47'59.9"; E26°42'00.9"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface, or within shallow exposed sub-surface sections at the BP-07 study site. Site FBA-S2 is situated in direct proximity and within approximately 20-30m from the BP-07 study site.

2.2.1.2.1) Site FBA-S2 – Colonial Period: Railway Structure and Line: S32°48'00.5"; E26°42'05.6"

Site FBA-S2 comprises a small railway structure, situated approximately 30m from the proposed study site as well as the railway line characterising the immediate west, but general cultural landscape of the study site, north of the R63.

It is uncertain when the King Williams Town-Alice-Fort Beaufort railway line was constructed: Documentation indicate that the East London-King Williams Town line was completed in 1876, while the Fort Beaufort-Belfour line was completed in 1926, and extended to Seymour in 1940 (https://en.wikipedia.org/wiki/2_ft_gauge_railways_in_South_Africa; https://en.wikipedia.org/wiki/South_African_locomotive_history). It can thus reasonably be inferred that the railway line and associated railway structure in the vicinity of the BP-07 study site is at least 90 years old, and may well pre-date 100 years of age, implying that they are of archaeological temporal age. The site FBA-S2 railway structure and line is formally protected by the NHRA 1999. (Upgrades to the original railway line have been done). Use of the railway line was abandoned in 1984 (https://en.wikipedia.org/wiki/List_of_abandoned_railway_lines_in_South_Africa).

Again standard heritage site conservation measures (permanent fence with access gate) will be problematic, with specific reference to the railway line itself. It is not recommended that the structure only be subjected to conservation measures – close proximity between the railway structure and the line ensure their unity; unnecessary conservation fence impact around the structure only will negatively impact on the site (structure, line route and associated cultural

landscape). It is recommended that standard heritage site conservation measures be substituted for light weight cautionary heritage signage for purposes of development.

- **Site Significance and Recommendations:** Site FBA-S2, a Colonial Period railway structure and the railway line, comprise a site at least 90 years of age, and most probably pre-dating 100 years; the site is by implication formally protected by the NHRA 1999. Site FBA-S2 is ascribed a SAHRA / EC PHRA *Medium Significance* and a *Generally Protected IV-B Field Rating*. The site is situated roughly 30m from the BP-07 study site and will not be directly, negatively impacted by development. It is recommended that standard heritage site conservation measures be substituted for light-weight conservation measures, comprising temporary signage indicating the site as 'Caution – Heritage Site' to be erected in the immediate vicinity of the railway structure for the duration of use of the BP-07 site. Records of heritage compliance should be kept by the ECO and submitted to the EC PHRA. All temporary conservation measures should be removed once utilization ceased.

2.2.1.3) Borrow Pit 5 (BP-05): S32°48'28.2"; E26°43'57.7"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface, or within shallow exposed sub-surface sections at the BP-05 study site.

- **Site Significance and Recommendations:** It is recommended that development at the BP-05 study site proceed as applied for without the developer having to comply with additional heritage compliance requirements.

2.2.1.4) Borrow Pit 4 (BP-04): S32°48'15.7"; E26°46'15.7"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface, or within shallow exposed sub-surface sections at the BP-04 study site. The Site FBA-S3 Later Iron Age (LIA) / Contemporary Period cemetery is situated approximately 250m north-west of BP-04.

2.2.1.4.1) Site FBA-S3 – LIA / Colonial Period: Cemetery: S32°48'09.9"; E26°46'00.9"

Site FBA-S3 comprise a large Later Iron Age (LIA) / Contemporary Period cemetery, situated approximately 250m downslope and north-west of the BP-04 study site. Formal conservation measures are in place at the cemetery, comprising a permanent fence with access gate, with these measures complying with SAHRA / EC PHRA minimum standards for heritage site conservation. Graves at the site are dominated by recent burials, including many a stone cairn and earth mound and stone outlined type grave, as well as modern style graves, some of which are individually fenced or fenced in small family cemetery style units. Many, specifically traditional style graves, may well pre-date 60 years of age. The cemetery is formally protected by the NHRA 1999, as both informal cemetery and as living heritage site. Development will not impact directly on the cemetery. However, development may impact on living heritage practices (funerary / religious / spiritual).

- **Site Significance and Recommendations:** The Site FBA-S3 LIA / Contemporary Period cemetery is formally protected by the NHRA 1999, as both informal cemetery and as living heritage site. The site is assigned a SAHRA / EC PHRA *High / Medium Significance* and a *Generally Protected IV-A Field Rating*. The site is situated approximately 250m from the BP-04 study site and will not be directly impacted by development. Formal conservation measures, including a permanent fence with access gate, are already in place; with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation. No additional conservation measures are recommended with reference to development at the BP-04 study site. Development may however impact on living heritage practices and it is recommended that a Developer – Kwezana Village Community agreement be reached regarding BP-04 operation times and acceptable 'still' times for funerary / religious / spiritual practice at the site. It is advised that the agreement also stipulates communication channels to be followed with respect thereto.

2.2.1.5) Borrow Pit 3 (BP-03): S32°48'01.8"; E26°48'23.4"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface, or within exposed sub-surface sections (in excess of 1.5+m bgl) at the BP-03 study site.

- **Site Significance and Recommendations:** It is recommended that development at the BP-03 study site proceed as applied for without the developer having to comply with additional heritage compliance requirements.

2.2.1.6) Hard Rock Quarry 1 (BP-01): S32°47'14.9"; E26°48'05.8"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface, or within shallow exposed sub-surface sections at the BP-01 study site.

- **Site Significance and Recommendations:** It is recommended that development at the BP-01 study site proceed as applied for without the developer having to comply with additional heritage compliance requirements.

2.2.1.7) Borrow Pit 8 (BP-08): S32°46'05.0"; E26°48'59.8"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface, or within exposed sub-surface sections (in excess of 3+m bgl) at the BP-08 study site.

- **Site Significance and Recommendations:** It is recommended that development at the BP-08 study site proceed as applied for without the developer having to comply with additional heritage compliance requirements.



Map 6: Layout and Phase 1 AIA results of borrow pit BP-06



Map 7: Layout and Phase 1 AIA results of borrow pit BP-07



Map 8: Layout and Phase 1 AIA results of borrow pit BP-05



Map 9: Layout and Phase 1 AIA results of borrow pit BP-04



Map 10: Layout and Phase 1 AIA results of borrow pit BP-03



Map 11: Layout and Phase 1 AIA results of the BP-01 hard rock quarry site



Map 12: Layout and Phase 1 AIA results of borrow pit BP-08



Plate 4: General view of study site BP-06 [1]



Plate 6: General view over Site FBA-S1, with the BP-06 study site in the background



Plate 5: General view of study site BP-06 [2]



Plate 7: View of the Site FBA-S1 Colonial Period bridge [1]



Plate 8: View of the Site FBA-S1 Colonial Period bridge [2]



Plate 10: General view of the BP-07 study site from the railway line



Plate 9: View of the Site FBA-S1 Colonial Period structure remains



Plate 11: General view of study site BP-07 [1]



Plate 12: General view of study site BP-07 [2]



Plate 14: General view of study site BP-05 [1]



Plate 13: View of the Site FBA-S2 Colonial Period railway structure and line



Plate 15: General view of study site BP-05 [2]



Plate 16: General view of study site BP-04 [1]



Plate 18: View of the Site FBA-S3 LIA / Contemporary Period cemetery [1]



Plate 17: General view of study site BP-04 [2]



Plate 19: View of the Site FBA-S3 LIA / Contemporary Period cemetery [2]



Plate 20: View of the Site FBA-S3 LIA / Contemporary Period cemetery [3]



Plate 22: General view of study site BP-03 [2]



Plate 21: General view of study site BP-03 [1]



Plate 23: General view of study site BP-01 [1]



Plate 24: General view of study site BP-01 [2]



Plate 26: General view of study site BP-08 [1]



Plate 25: General view of study site BP-01 [3]



Plate 27: General view of study site BP-08 [2]

2.2.2) Road Alignment [from Fort Beaufort to Alice]

2.2.2.1.1) Site FBA-S4 – Colonial Period: Bridge: S32°46'54.4"; E26°37'15.4"

Site FBA-S4 is situated approximately 15m east of the proposed development corridor, east of bridge B4301 across the Kat River. Bridge B4301 comprise the contemporary bridge across the Kat River (younger than 60 years of age and not formally protected by the NHRA 1999), subject to the development proposal, with construction of the bridge having evidently been done with cognisance to the conservation of Colonial Period bridge, Site FBA-S4. The Site FBA-S4 bridge pre-dates 60 years of age, and most probably 100 years, implying archaeological temporal significance. The bridge, despite proximity, but with specific reference to landscape topography, will not be impacted by development. Based on landscape topography, additional conservation measures during the course of construction will not be possible.

- **Site Significance and Recommendations:** The Site FBA-S4 Colonial Period bridge across the Kat River comprise a structure older than 60 years of age and most probably older than 100 years, implying archaeological temporal age: The site is formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *Medium Significance* and a *Generally Protected IV-B Field Rating*. The site is situated approximately 15m from the proposed development alignment. Despite proximity, landscape topography does not allow reasonable conservation measures to be instated during the course of development. The developer should ensure conservation of the site by guaranteeing construction activities and associated impact away from the site area. Records of conservation at the Site FBA-S4 area should be kept by the ECO and reported on to the EC PHRA.

Alteration of bridge B4301, post-dating 60 years of age, is not subject to the EC PHRA-BE Unit permitting process.

2.2.2.1.2) Site FBA-S5 – Colonial Period: Cultural Landscape (lane of trees): S32°46'56.2"; E26°37'20.9"

Site FBA-S5 comprises a portion of the Colonial Period landscape along the main road (Campbell Street) of Fort Beaufort, further supplemented by the rich array of Colonial Period structures. Site FBA-S5, the lane of trees characterizing Campbell Street comprises a Colonial Period landscape formally protected by the NHRA 1999. The lane of trees, from S32°46'56.2"; E26°37'20.9" (south-west) to S32°46'27.3"; E26°38'25.4 (north-east) adorns Campbell Street for approximately 1.9km and includes Jacaranda, Karee, Pine and Coral trees, decreasing radically throughout the Central Business District (CBD). The proposed development will necessitate destruction of the lane of trees: Based on economic associated needs and desirability of the development proposal it is recommended that the lane of trees be destroyed *in lieu* of development. Consideration of an alternative study site is not recommended; similar cultural landscapes (lanes of trees) are characteristic of many a street in Fort Beaufort, routinely associated with Colonial Period structures alongside thereto.

- **Site Significance and Recommendations:** The Site FBA-S5 Colonial Period cultural landscape, the lane of trees adorning Campbell Street, Fort Beaufort, is formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *Low Significance* and a *Generally Protected IV-C Field Rating*. The development proposal necessitates destruction of the lane of trees. It is recommended that development proceeds without the developer having to apply for an EC PHRA-APM / EC PHRA-BE Unit permit prior to impact on the cultural landscape, based on the premise that similar cultural landscapes typify many a street in Fort Beaufort, weighed specifically against the economic needs and desirability of the development proposal.

2.2.2.1.3) Site FBA-S6 – Colonial Period: Residence: S32°46'55.3"; E26°37'21.8"

Site FBA-S6 comprise a Colonial Period residence, pre-dating 60 years of age, and is formally protected by the NHRA 1999. The property on which the site is situated immediately adjoins Campbell Street, but the private property will not be directly impacted by development. The site, still in use, is at present permanently fenced with an access gate, with these measures complying with SAHRA / EC PHRA minimum standards for heritage site conservation.

- **Site Significance and Recommendations:** Site FBA-S6 comprise a Colonial Period residence, pre-dating 60 years of age. The site is formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. Current conservation measures

include a permanent fence with access gate, with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation. The property on which Site FBA-S6 is situated immediately adjoins Campbell Street. Despite proximity to the development corridor, but with reference to existing conservation measures being already in place, it is recommended that development proceed without the developer having to comply with additional heritage compliance requirements.

[This site description (varyingly), heritage site significance rating and recommendations apply invariably also to Sites FBA-S8, FBA-S11, FBA-S12, FBA-S21, FBA-S23, FBA-S40, FBA-S41, FBA-S44, FBA-S45, FBA-S57, FBA-S58].

2.2.2.1.4) Site FBA-S7 – Colonial Period: Structure (TRN Lodge): S32°46'54.4"; E26°37'23.9"

Site FBA-S7 comprise a Colonial Period structure, older than 60 years and formally protected by the NHRA 1999, currently operated as the TRN Lodge; the site is still in use and well conserved. The property on which the site is situated immediately adjoins Campbell Street, with the lodge situated directly on the street front. No conservation measures are in place, but site layout and property boundaries does not allow formal conservation measures to be instated, not during the course of development (or thereafter), being a site aspect directly related to Colonial Period custom. Development will not impact directly on the site, but additional conservation measures cautioning the importance of site conservation is recommended.

- **Site Significance and Recommendations:** Site FBA-S7 comprise a Colonial Period structure, older than 60 years of age and formally protected by the NHRA 1999. Site FBA-S7 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site is still in use and well maintained, but no formal conservation measures are in place: Colonial Period cultural custom does not allow formal conservation measures to be instated for purposes of the development. The site immediately adjoins the Campbell Street development corridor. It is recommended that temporary signage, indicating the site as 'Caution – Heritage Site', be erected in direct proximity to the site cautioning the significance of the site during the course of construction. Temporary conservation measures should be removed once construction in the vicinity of the site has been completed.

[This site description (varyingly), heritage site significance rating and recommendations apply invariably also to Sites FBA-S9, FBA-S10, FBA-S13, FBA-S14, FBA-S15, FBA-S16, FBA-S17, FBA-S18, FBA-S19, FBA-S20, FBA-S37, FBA-S38, FBA-S39, FBA-S42, FBA-S43, FBA-S56].

2.2.2.1.5) Site FBA-S8 – Colonial Period: Residence: S32°46'55.4"; E26°37'25.4"

Colonial Period private residence with formal conservation measures in place.
[For site significance and recommendations see Site FBA-S6].

2.2.2.1.6) Site FBA-S9 – Colonial Period: Residence: S32°46'53.9"; E26°37'25.0"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.7) Site FBA-S10 – Colonial Period: Residence: S32°46'53.8"; E26°37'25.6"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.8) Site FBA-S11 – Colonial Period: Residence: S32°46'53.1"; E26°37'26.7"

Colonial Period private residence with formal conservation measures in place.
[For site significance and recommendations see Site FBA-S6].

2.2.2.1.9) Site FBA-S12 – Colonial Period: Residence: S32°46'52.6"; E26°37'27.4"

Colonial Period private residence with formal conservation measures in place.
[For site significance and recommendations see Site FBA-S6].

2.2.2.1.10) Site FBA-S13 – Colonial Period: Residence: S32°46'52.0"; E26°37'28.8"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.11) Site FBA-S14 – Colonial Period: Residence: S32°46'52.6"; E26°37'30.2"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.12) Site FBA-S15 – Colonial Period: Residence: S32°46'51.5"; E26°37'30.5"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.13) Site FBA-S16 – Colonial Period: Residence: S32°46'51.8"; E26°37'32.0"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.14) Site FBA-S17 – Colonial Period: Residence: S32°46'51.2"; E26°37'33.4"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.15) Site FBA-S18 – Colonial Period: Residence (Store): S32°46'50.5"; E26°37'32.8"

Portion of Colonial Period private residence converted into a small trading store, without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.16) Site FBA-S19 – Colonial Period: Residence: S32°46'50.3"; E26°37'33.2"

Colonial Period private residence without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.17) Site FBA-S20 – Colonial Period: Residence (Symington Lodge B&B): S32°46'50.1"; E26°37'34.4"

Colonial Period private residence (used for business purposes) without formal conservation measures in place.
[For site significance and recommendations see Site FBA-S7].

2.2.2.1.18) Site FBA-S21 – Colonial Period: Residence: S32°46'50.2"; E26°37'35.7"

Colonial Period private residence (used for business purposes) with formal conservation measures in place.

[For site significance and recommendations see Site FBA-S6].

2.2.2.1.19) Site FBA-S22 – Colonial Period: Structure (Trading Store): S32°46'48.2"; E26°37'37.7"

Site FBA-S22 comprises a Colonial Period trading store pre-dating 60 years of age and formally protected by the NHRA 1999. The store, and property on which it is situated immediately adjoins Campbell Street, by implication the development corridor. No formal conservation measures are in place. Based on Colonial Period cultural custom, with the store situated directly on the property front, neither temporary nor permanent conservation measures are an option; these will directly impact on the site and the economic operations thereof, directly associated with general site conservation, maintenance and continued use. Based on proximity of the site to the development corridor additional conservation measures cautioning the importance of site conservation is recommended.

- **Site Significance and Recommendations:** Site FBA-S22, a Colonial Period trading store, pre-dates 60 years of age and is formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site is still in use, but no conservation measures are in place: Colonial Period cultural custom does not allow formal conservation measures to be instated for purposes of the development, pertaining also to current site use. The site immediately adjoins the Campbell Street development corridor. It is recommended that temporary signage, indicating the site as 'Caution – Heritage Site', be erected in direct proximity to the site cautioning the significance of the site during the course of construction. Temporary conservation measures should be removed upon completion of construction activities in the vicinity of the site.

[This site description (varyingly), heritage site significance rating and recommendations apply invariably also to Sites FBA-S24, FBA-S26, FBA-S27, FBA-S28, FBA-S29, FBA-S30, FBA-S35,

2.2.2.1.20) Site FBA-S23 – Colonial Period: Residence: S32°46'47.8"; E26°37'39.0"

Colonial Period private residence with formal conservation measures in place.

[For site significance and recommendations see Site FBA-S6].

2.2.2.1.21) Site FBA-S24 – Colonial Period: Structure (Trading Store): S32°46'47.4"; E26°37'39.9"

Colonial Period trading store without formal conservation measures in place.

[For site significance and recommendations see Site FBA-S22].

2.2.2.1.22) Site FBA-S25 – Colonial Period: Anglican Church: S32°46'46.9"; E26°37'40.8"

Site FBA-S25, the Colonial Period Anglican church, comprises a structure older than 60 years, and most probably older than 100 years, implying that the site may well be of archaeological temporal significance and is formally protected by the NHRA 1999. The site, and property on which it is situated, immediately adjoins the Campbell Street development corridor. The site is still in use and well conserved and maintained, with current conservation measures including a permanent fence with access gate, complying with SAHRA / EC PHRA minimum standards for heritage site conservation. Despite proximity of the Anglican church to the development corridor, but with specific reference to existing formal conservation measures, no additional heritage compliance conservation is recommended for purposes of development.

- **Site Significance and Recommendations:** Site FBA-S25, the Colonial Period Anglican church, pre-dates 60 years of age and most probably 100 years of age; the site is by implication formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *High Significance* and a *Local Grade III-A Field Rating*. The Anglican church, and the property on which it is situated, immediately adjoins the proposed Campbell Street development corridor. Current conservation measures include a permanent fence with access gate, with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation – Development will not directly impact on the site. With formal conservation measures already in place it is recommended that development proceeds as applied for, without the developer having to comply with additional heritage compliance requirements, despite proximity of the site to the development corridor.

2.2.2.1.23) Site FBA-S26 – Colonial Period: Structure (Trading Store): S32°46'46.1"; E26°37'42.6"

Colonial Period trading store without formal conservation measures in place.

[For site significance and recommendations see Site FBA-S22].

2.2.2.1.24) Site FBA-S27 – Colonial Period: Structure (Trading Store): S32°46'45.6"; E26°37'43.7"

Colonial Period trading store without formal conservation measures in place.

[For site significance and recommendations see Site FBA-S22].

2.2.2.1.25) Site FBA-S28 – Colonial Period: Structure (Trading Store): S32°46'45.4"; E26°37'44.4"

Colonial Period trading store without formal conservation measures in place.

[For site significance and recommendations see Site FBA-S22].

2.2.2.1.26) Site FBA-S29 – Colonial Period: Structure (Trading Store): S32°46'44.7"; E26°37'48.6"

Colonial Period trading store without formal conservation measures in place.

[For site significance and recommendations see Site FBA-S22].

2.2.2.1.27) Site FBA-S30 – Colonial Period: Structure (Trading Store): S32°46'43.6"; E26°37'48.6"

Colonial Period trading store without formal conservation measures in place.

[For site significance and recommendations see Site FBA-S22].

2.2.2.1.28) Site FBA-S31 – Colonial Period: Mosque: S32°46'44.3"; E26°37'49.5"

Site FBA-S31 comprises the Colonial Period Mosque, situated on the corner of Campbell and Henrietta Streets. Date of construction of the Mosque is unknown, but the site can reasonably be inferred to be older than 60 years, and may well approach 100 years of age: The site is by implication formally protected by the NHRA 1999. The Mosque's property directly borders the proposed Campbell Street study site. Formal conservation measures, including permanent fencing with an access gate is in place, with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation. Despite proximity of the Mosque to the development corridor, the site will not be directly impacted by development.

- **Site Significance and Recommendations:** Site FBA-S31, the Colonial Period Mosque, pre-dates 60 years of age and may approach 100 years of age; the site is formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The Mosque property immediately adjoins the proposed Campbell Street development corridor. Current conservation measures include a permanent fence with access gate, with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation. Development will not directly impact on the site. With formal conservation measures already in place, it is recommended that development proceeds as applied for, without the developer having to comply with additional heritage compliance requirements, despite proximity of the site to the development corridor.

2.2.2.1.29) Site FBA-S32 – Colonial Period: Municipal Administrative Building: S32°46'41.5"; E26°37'52.1"

The Site FBA-S32 locality demarcates the position of a large Colonial Period building, the original use of which is unknown, but inferred to have been the town hall, today used for municipal administrative purposes. Date of construction is unknown, but architectural style indicates the structure to be securely older than 60 years of age. The Site FBA-S32 property immediately adjoins the Campbell Street development corridor, with the Campbell Street boundary being more or less 65m long. At present no conservation measures are in place. Although development will not directly impact on

the structure itself, it is recommended that additional conservation measures be instated for the tenure of construction in the vicinity of the site, including a temporary fence (construction netting or similar visually clear demarcation) and temporary signage, indicating the site as 'Caution – Heritage Site'.

- **Site Significance and Recommendations:** Site FBA-S32 comprises a Colonial Period building, older than 60 years and formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The property boundary runs for approximately 65m along the Campbell Street development corridor. No formal conservation measures are in place. It is recommended that the developer ensures that temporary conservation measures, including a temporary fence and heritage signage be instated along the property boundary adjoining Campbell Street for the tenure of construction activities in the vicinity of the site, to avoid accidental impact on Site FBA-S32. All temporary conservation measures should be removed upon completion of construction in the vicinity of the site.

2.2.2.1.30) Site FBA-S33 – Colonial Period: Magistrates Court: S32°46'39.9"; E26°37'50.9"

Site FBA-S33 is situated immediately adjacent to Site FBA-S32, but not adjoining Campbell Street the site is reported on for heritage database purposes only. The site will not be impacted by development. Site FBA-S33 comprises the Colonial Period Magistrate's court. The exact date of construction is unknown, but based on architectural style the site can be securely placed within the 'older than 60-year' category, formally protected by the NHRA 1999. No formal conservation measures are in place.

- **Site Significance and Recommendations:** Site FBA-S33, the Colonial Period Magistrates court, pre-dates 60 years of age and is formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site will not be impacted by development; Site FBA-S33 was recorded for heritage database purposes only. The developer need not comply with any heritage compliance requirements with reference to Site FBA-S33.

2.2.2.1.31) Site FBA-S34 – Colonial Period: Sakululeka School: S32°46'39.9"; E26°38'01.3"

The Site FBA-S34 Colonial Period Sakululeka secondary school building pre-dates 60 years of age and is formally protected by the NHRA 1999. The school property immediately adjoins the Campbell Street study site. The site will not be directly impacted by development. Formal conservation measures, including a permanent fence with access gate, with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation are already in place.

- **Site Significance and Recommendations:** The Site FBA-S34 Colonial Period Sakululeka school building pre-dates 60 years of age and is formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site will not be directly impacted by development, with the school property already permanently fenced with an access gate, and with these conservation measures complying with SAHRA / EC PHRA minimum standards for heritage site conservation. Despite proximity to the Campbell Street development corridor, and with reference to permanent conservation measures already being in place, it is recommended that development in the vicinity of the site proceed without the developer having to comply with additional heritage compliance requirements for purposes of development.

2.2.2.1.32) Site FBA-S35 – Colonial Period: Structure (Trading Store): S32°46'36.9"; E26°38'03.1"

Colonial Period trading store without formal conservation measures in place.

[For site significance and recommendations see Site FBA-S22].

2.2.2.1.33) Site FBA-S36 – Colonial Period: Structure(s): S32°46'38.0"; E26°38'03.4"

Site FBA-S36 is characterized by a Colonial Period structure situated on the street front. The structure itself pre-dates 60 years of age, and may well be older than 100 years, implying archaeological temporal significance. The structure is situated within the boundary alignment, also forming the formal fence around the property. High white walls may well

obscure the presence of further Colonial Period structures situated within the property boundary. The Site FBA-S36 structure(s) will not be negatively impacted by development. As mentioned, formal conservation measures, including permanent fencing and an access gate is in place, with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation.

- **Site Significance and Recommendations:** The Site FBA-S36 Colonial Period structure(s) are older than 60 years and may well be within the 100-year range, implying archaeological temporal significance. The site is formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *Medium Significance* and a *Generally Protected IV-B Field Rating*. The site will not be directly impacted by development. With formal conservation measures already in place, it is recommended that development in the vicinity of the site proceed without the developer having to comply with additional heritage compliance requirements.

2.2.2.1.34) Site FBA-S37 – Colonial Period: Residence: S32°46'36.2"; E26°38'05.0"

Colonial Period private residence (used for business purposes) without formal conservation measures in place. [For site significance and recommendations see Site FBA-S7].

2.2.2.1.35) Site FBA-S38 – Colonial Period: Residence: S32°46'35.5"; E26°38'06.0"

Colonial Period private residence without formal conservation measures in place. [For site significance and recommendations see Site FBA-S7].

2.2.2.1.36) Site FBA-S39 – Colonial Period: Residence: S32°46'33.0"; E26°38'12.3"

Colonial Period private residence without formal conservation measures in place. [For site significance and recommendations see Site FBA-S7].

2.2.2.1.37) Site FBA-S40 – Colonial Period: Residence: S32°46'34.1"; E26°38'12.1"

Colonial Period private residence (used for business purposes / pre-school facility) with formal conservation measures in place. [For site significance and recommendations see Site FBA-S6].

2.2.2.1.38) Site FBA-S41 – Colonial Period: Residence: S32°46'32.3"; E26°38'16.0"

Colonial Period private residence with formal conservation measures in place. [For site significance and recommendations see Site FBA-S6].

2.2.2.1.39) Site FBA-S42 – Colonial Period: Residence: S32°46'31.4"; E26°38'15.6"

Colonial Period private residence without formal conservation measures in place. [For site significance and recommendations see Site FBA-S7].

2.2.2.1.40) Site FBA-S43 – Colonial Period: Residence: S32°46'30.3"; E26°38'18.6"

Colonial Period private residence (used for business purposes) without formal conservation measures in place. [For site significance and recommendations see Site FBA-S7].

2.2.2.1.41) Site FBA-S44 – Colonial Period: Residence: S32°46'29.9"; E26°38'19.5"

Colonial Period private residence with formal conservation measures in place.
[For site significance and recommendations see Site FBA-S6].

2.2.2.1.42) Site FBA-S45 – Colonial Period: Residence: S32°46'30.4"; E26°38'20.9"

Colonial Period private residence with formal conservation measures in place.
[For site significance and recommendations see Site FBA-S6].

2.2.2.1.43) Site FBA-S46 – Colonial Period: Bridge: S32°46'27.7"; E26°38'25.7"

The Site FBA-S46 Colonial Period bridge remains is situated within approximately 5m north of contemporary bridge B2846 across the Kat River. The old bridge across the Kat River well pre-dates 60 years of age and may well be older than 100 years, implying archaeological temporal significance. Bridge B2846 comprise a contemporary bridge, younger than 60 years and not formally protected by the NHRA 1999. Colonial Period bridge remains comprise a portion of the former bridge across the Kat River, but with the R63 alignment impacting on the old road way. With reference to existing infrastructure, there is little scope for conservation of the old bridge remains, and little scope for realignment associated with the upgrading proposal. It is advised that upgrading activities be focussed to the south of bridge B2846 (see also Site FBA-S47), but development may well necessitate impact on the Site FBA-S46 old bridge remains. In the event that development will impact on the Site FBA-S47 remains the developer will have to ensure that it be done under an EC PHRA-APM Unit / BE Unit site destruction permit.

- **Site Significance and Recommendations:** Site FBA-S46, remains of the Colonial Period bridge across the Kat River pre-dates 60 years of age and may well be older than 100 years, implying that the site is classed as an archaeological site. Site FBA-S46 is ascribed a SAHRA / EC PHRA *Medium Significance* and a *Generally Protected IV-B Field Rating*. The site is situated approximately 5m north of contemporary bridge B2846 across the Kat River. It is recommended that upgrading activities be focussed to the south of the contemporary bridge. Conservation of the bridge remains may be possible within the development framework, however, conservation measures would not be practical: Records of conservation should be kept by the ECO and submitted to the EC PHRA. In the event that development will necessitate impact on the Colonial Period bridge, the developer should ensure that work be done under an EC PHRA-APM Unit (BE Unit) site destruction permit.

Alteration of bridge B2846, post-dating 60 years of age, is not subject to the EC PHRA-BE Unit permitting process.

2.2.2.1.44) Site FBA-S47 – Later Iron Age (LIA): Cemetery: S32°46'25.6"; E26°38'27.3"

Site FBA-S47 comprises a large, primarily Later Iron Age (LIA) cemetery, situated just north-east of Site FBA-S46, containing probably thousands of graves. The cemetery boundary as indicated may well not be the actual site boundary: Grave demarcations are mostly difficult to discern, traditional stone and earth demarcations may have disappeared, time definitely took its toll on many others, with vegetation obscuring some, while selected graves are still fairly well discernible. A few of the graves comprise modern style graves, some marked with inscribed headstones, but the majority of the graves are old traditionally demarcated stone cairn and stone outlines graves, weathered by time. Formal conservation, implying a permanent fence with access gate would be preferable, specifically considering proximity of the southern boundary to the R63, but the reality of formal conservation with respect to the western boundary of the site, very close to the Kat River remains to be investigated. Towards the south of the cemetery, the most sensitive area of the site with reference to possible impact on the site, graves primarily comprise of smallish stone circles or cairns, fairly weathered by time, in cases obscured by vegetation and spaced infrequently in scattered arrangement. Because of concerns regarding the practicality of formal conservation around the site boundary and including also standard heritage site conservation buffers for cemetery sites, varying from roughly 25-50m, it would be necessary to substitute these for site specific recommendations that would suit Site FBA-S47 within its current setting, with consideration to proximity of the Kat River (most possibly within flood line environmental and human remains / cemetery / health restrictions) to the west, and the R63 to the south. It is recommended that formal conservation measures be limited to

the south of the site, including a permanent fence with access gate / way between the southern boundary of the site and the R63.

- **Site Significance and Recommendations:** Site FBA-S47, comprises a large LIA cemetery formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *High / Medium Significance* and a *Generally Protected IV-A Field Rating*. Proximity of the site, with reference to the proposed development corridor necessitates formal conservation, but standard formal conservation measures, including site boundary fencing and conservation buffer zones will not be practically implementable. It is thus recommended that formal conservation be restricted to the southern boundary of the site along the R63. A permanent boundary fence with access gate / way should be erected as close as possible to the R63. Construction of the fence line should be monitored by the ECO / heritage practitioner to ensure no accidental impact on the southern, tryingly discernible graves. Monitoring should be reported on to the EC PHRA.

2.2.2.1.45) Site FBA-S48 – Contemporary Period: Rail Bridge: S32°46'34.4"; E26°38'49.6"

Site FBA-S48 comprise a Contemporary Period rail bridge. Date of construction of the bridge is unknown, but can reasonably be inferred to date to 1960 / 1963 when the recorded upgrade to the R63 between Fort Beaufort and Alice was done, implying a 56 / 53-year-old date. The Site FBA-S48 rail bridge is by implication not formally protected by the NHRA 1999. The developer need not comply with additional heritage compliance requirements with reference to alteration / destruction of the bridge pertaining to the proposed development.

Site Significance and Recommendations: Site FBA-S48, a Contemporary Period rail bridge post-dates 60 years of age and is not formally protected by the NHRA 1999; a SAHRA / EC PHRA site significance assignation rating is irrelevant. Alteration / destruction of the rail bridge is not subject to the EC PHRA-BE Unit permitting process.

2.2.2.1.46) Site FBA-S49 – Contemporary Period: Bridge: S32°46'36.0"; E26°38'54.1"

Site FBA-S48 comprise a Contemporary Period bridge across a tributary to the Kat River. Date of construction of the bridge is unknown, but again reasonable inference would point to a 1960 / 1963 date, coinciding with the known upgrade of the R63 between Fort Beaufort and Alice, implying that the bridge is 56 / 53 years old and not formally protected by the NHRA 1999. The developer need not comply with additional heritage compliance requirements with reference to alteration / destruction of the bridge pertaining to the proposed development.

Site Significance and Recommendations: Site FBA-S49, a Contemporary Period bridge post-dates 60 years of age and is not formally protected by the NHRA 1999; a SAHRA / EC PHRA site significance assignation rating is irrelevant. Alteration / destruction of the bridge is not subject to the EC PHRA-BE Unit permitting process.

2.2.2.1.47) Site FBA-S50 – Later Iron Age (LIA) / Contemporary Period: Cemetery: S32°46'41.3"; E26°39'16.1"

The Site FBA-S50 co-ordinate indicates the locality of a large Later Iron Age (LIA) / Contemporary Period cemetery. The cemetery contains thousands of graves, with typical grave demarcations including both modern and traditional style graves. It is at present uncertain if the cemetery represents a municipal managed or informal cemetery, which by implication will affect associated legislative mandates. With reference to possible protection under the NHRA 1999, the site is at present formally fenced with an access gate, with these measures complying with SAHRA / EC PHRA minimum standards for heritage site conservation. No additional conservation measures for purposes of development, with reference to possible NHRA 1999 requirements pertains.

Site Significance and Recommendations: The Site FBA-S50 LIA / Contemporary Period cemetery comprises a large cemetery, containing thousands of graves. It is uncertain if the cemetery represents a municipal managed or informal cemetery, which affects associated legislative mandates. With reference to possible protection under the NHRA 1999, the site would be ascribed a preliminary SAHRA / EC PHRA *High / Medium Significance* and a *Generally Protected IV-A Field Rating*. The site is situated within approximately 30m from the proposed development corridor, but will not be impacted by development. Current conservation measures, comprising a permanent fence with access gate, comply with SAHRA / EC PHRA minimum standards for heritage site

conservation. It is recommended that development in the vicinity of Site FBA-S50 proceed as applied for, without the developer having to comply with additional heritage compliance requirements.

2.2.2.1.48) Site FBA-S51 – Contemporary Period: Bridge: S32°48'08.7"; E26°43'16.1"

The Site FBA-S51 Contemporary Period bridge across the Mxelo River, a tributary of the Kat River, was constructed in 1960; the site thus post-dates 60 years of age and is not formally protected by the NHRA 1999. The developer need not comply with additional heritage compliance requirements with reference to alteration / destruction of the bridge for purposes of development.

- **Site Significance and Recommendations:** Site FBA-S51 comprise a Contemporary period bridge, younger than 60 years of age. The site is not formally protected by the NHRA 1999; a SAHRA / EC PHRA site significance assignment rating is irrelevant. Alteration / destruction of the bridge is not subject to the EC PHRA-BE Unit permitting process.

2.2.2.1.49) Site FBA-S52 – Colonial Period: Railway Structure and Line: S32°47'57.3"; E26°47'04.0"

The Site FBA-S52 Colonial Period railway structure and line, pre-dating 60 years of age and most probably 100 years (see Site FBA-S2) is testimony to the rich, continuing Colonial Period landscape through which the proposed development will pass. The railway structure is similar to that described for Site FBA-S2, and structures of sort are present all along the railway line. The railway structure, in the case of Site FBA-S52, is situated approximately 85m from the proposed development corridor and will not be impacted by development; the site was recorded with reference to the general cultural landscape and with specific reference to the heritage database.

- **Site Significance and Recommendations:** Site FBA-S52 comprise a Colonial Period railway structure, associated with the railway line characterising the cultural landscape of the proposed development. The site is ascribed a SAHRA / EC PHRA *Low Significance* and a *Generally Protected IV-C Field Rating*. The site is situated approximately 85m from the proposed development corridor. Site FBA-S52 will not be impacted by development. No formal conservation measures are in place. Despite proximity, but with reference to existing property (and servitude) fences and landscape topography, no conservation measures are recommended. The site was primarily recorded for heritage database purposes. The developer need not comply with additional heritage compliance requirements pertaining to Site FBA-S52 for purposes of development.

2.2.2.1.50) Site FBA-S53 – Contemporary Period: Rail Bridge: S32°48'06.3"; E26°48'20.2"

Site FBA-S53 comprise a Contemporary Period rail bridge, constructed in 1963; the bridge itself is thus 53 years of age and not formally protected by the NHRA 1999. The developer need not comply with additional heritage compliance requirements with reference to alteration / destruction of the bridge pertaining to the proposed development.

Site Significance and Recommendations: The Site FBA-S53 Contemporary Period rail bridge post-dates 60 years of age and is not formally protected by the NHRA 1999; a SAHRA / EC PHRA site significance assignment rating is irrelevant. Alteration / destruction of the rail bridge is not subject to the EC PHRA-BE Unit permitting process.

2.2.1.1.51) Site FBA-S54 – Colonial Period: Rail Bridge: S32°47'19.1"; E26°49'32.3"

Site FBA-S54 comprises an old, Colonial Period stone built rail bridge across the Kat River, reasonably inferred to be an original bridge which may well pre-date 100 years of age and by implication formally protected by the NHRA 1999 as a site / structure of archaeological temporal significance. The Site FBA-S54 rail bridge is situated approximately 130m south of the development corridor and will not be impacted by development. The site was recorded primarily for purposes of heritage database recording and to further describe the general rich Colonial Period cultural landscape of the study site.

- **Site Significance and Recommendations:** Site FBA-S54 comprises a Colonial Period rail bridge across the Kat River, probably pre-dating 100 years of age and by implication formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *High / Medium Significance* and a *Generally Protected IV-A Field Rating*. Site FBA-

S54 is situated approximately 130m from the development corridor. The site will not be impacted by development. No formal conservation measures are in place. Based on proximity from the study site it is recommended that development proceed as applied for without the developer having to comply with additional heritage compliance requirements pertaining to Site FBA-S54. The site was primarily recorded for heritage database purposes.

2.2.1.1.52) Site FBA-S55 – Later Iron Age (LIA) / Colonial / Contemporary Period: Cemetery: S32°47'18.7"; E26°49'39.7"

Site FBA-S55 comprises a combined Later Iron Age (LIA) / Colonial / Contemporary Period cemetery, containing thousands of graves. The cemetery includes a defined Colonial Period portion, characterized complete by traditional formal entrance way and boundary wall with many old, western Colonial Period graves contained therein. Subsequent to establishment of the Colonial Period cemetery the site has been expanded, including many a LIA tradition grave, including both modern and traditional style graves. The site is still in use, emphasizing its continued use as a contemporary cemetery. The site is reasonably inferred to comprise a municipal managed cemetery, implying that it is not subject to the NHRA 1999 mandate. With reference to general heritage sensitivity, specifically pertaining to development, it is important to note that the cemetery is formally fenced with an access gate. The cemetery is not threatened by the proposed development application.

- **Site Significance and Recommendations:** Site FBA-S55 comprises a LIA / Colonial / Contemporary Period cemetery. The site is reasonably inferred to comprise a municipal managed cemetery; by definition not subject to the NHRA 1999 mandate. A SAHRA / EC PHRA heritage site significance assignment is irrelevant. The site is at present formally fenced with an access gate. Development will not negatively impact thereon. The developer need not comply with additional heritage compliance requirements for purposes of development in the vicinity of Site FBA-S55.

2.2.2.1.53) Site FBA-S56 – Colonial Period: Residence: S32°47'15.5"; E26°49'57.7"

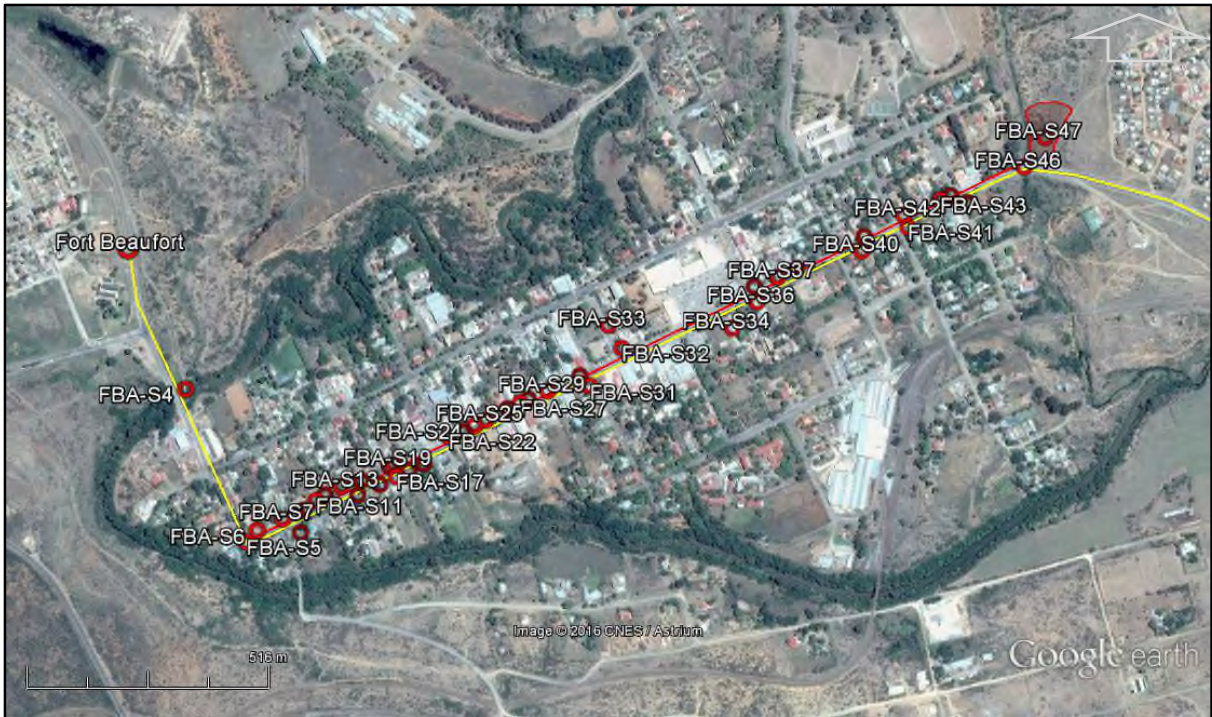
Colonial Period private residence (used for business purposes) without formal conservation measures in place. [For site significance and recommendations see Site FBA-S7].

2.2.2.1.54) Site FBA-S57 – Colonial Period: Residence: S32°47'26.3"; E26°49'57.7"

Colonial Period private residence with formal conservation measures in place. [For site significance and recommendations see Site FBA-S6].

2.2.2.1.55) Site FBA-S58 – Colonial Period: Residence: S32°47'27.1"; E26°49'56.1"

Colonial Period private residence (used for business purposes) with formal conservation measures in place. [For site significance and recommendations see Site FBA-S6].



Map 13: The line route – Phase 1 AIA results: High concentration of heritage sites in Fort Beaufort, along the Campbell Street development corridor



Map 14: The line route – Phase 1 AIA results: Notable decrease in heritage sites towards the outskirts of Fort Beaufort



Map 15: The line route – Phase 1 AIA results: Permanent heritage recommendations pertaining to Site FBA-S47



Map 16: The line route – Phase 1 AIA results: Low density heritage sites along the Fort Beaufort-Alice line route



Map 17: The line route – Phase 1 AIA results: Heritage sites in Alice



Plate 28: Bridge B4301 across the Kat River (near Site FBA-S4)



Plate 30: View of the Colonial Period Site FBA-S4 bridge from the B4301 across the Kat River [2]



Plate 29: View of the Colonial Period Site FBA-S4 bridge from the B4301 across the Kat River [1]



Plate 31: Site FBA-S5, Colonial Period cultural landscape of Campbell Street, Fort Beaufort [1]



Plate 32: Site FBA-S5, Colonial Period cultural landscape of Campbell Street, Fort Beaufort [2]



Plate 34: The Colonial Period Site FBA-S7 TRN lodge



Plate 33: General view of Site FBA-S6



Plate 35: General view of Site FBA-S8



Plate 36: View of Sites FBA-S9 and FBA-S10



Plate 38: General view of Site FBA-S12



Plate 37: View of the Site FBA-S11 Colonial Period residence



Plate 39: View of Site FBA-S13



Plate 40: General view of the Site FBA-S14 Colonial Period residence



Plate 42: View of Site FBA-S16



Plate 41: General view of Site FBA-S15



Plate 43: View of Site FBA-S17



Plate 44: View of Site FBA-S18 and neighbouring Site FBA-S19



Plate 46: General view of Site FBA-S21



Plate 45: General view of the Colonial Period Site FBA-S20 Symington House B&B



Plate 47: General view of Site FBA-S22



Plate 48: View of Site FBA-S23



Plate 50: Site FBA-S25, the Colonial Period St. John's Anglican church



Plate 49: View of the Colonial Period Site FBA-S24 trading store



Plate 51: Colonial Period trading stores (from left to right): Sites FBA-S26, FBA-S27 and FBA-S28



Plate 52: General view of Site FBA-S29



Plate 54: View of the Site FBA-S31 Colonial Period mosque [1]



Plate 53: General view of Site FBA-S30



Plate 55: View of the Site FBA-S31 Colonial Period mosque [2]



Plate 56: Site FBA-S32, the Colonial Period building used for municipal purposes [1]



Plate 58: Site FBA-S33, the Colonial Period magistrates court



Plate 57: Site FBA-S32, the Colonial Period building used for municipal purposes [2]



Plate 59: General view of Site FBA-S34



Plate 60: View of Campbell street with Site FBA-S35 on the left corner



Plate 62: General view from Campbell Street over the Site FBA-S36 property



Plate 61: View of a Site FBA-S36 structure



Plate 63: View of Sites FBA-S37 and FBA-S38



Plate 64: General view of Site FBA-S39



Plate 66: General view of Site FBA-S41



Plate 65: View of the Colonial Period Site FBA-S40 residence, currently used as a pre-school facility



Plate 67: General view of Site FBA-S42



Plate 68: View of the Colonial Period Site FBA-S43



Plate 70: View of Site FBA-S45



Plate 69: General view of Site FBA-S44



Plate 71: Site FBA-S46 – Contemporary bridge across the Kat River



Plate 72: Site FBA-S46 – Colonial Period bridge across the Kat River [1]



Plate 74: Site FBA-S47: Selected modern style graves



Plate 73: Site FBA-S46 – Colonial Period bridge across the Kat River [2]



Plate 75: Site FBA-S47: General view of the cemetery [1]



Plate 76: Site FBA-S47: General view of the cemetery [2]



Plate 78: General view of Site FBA-S49



Plate 77: View of the Site FBA-S48 rail bridge



Plate 79: Site FBA-S50: General view of the cemetery [1]



Plate 80: Site FBA-S50: General view of the cemetery [2]



Plate 82: Site FBA-S51: General view of the Mxelo River bridge



Plate 81: Site FBA-S51: View of the bridge across the Mxelo River



Plate 83: General view of Site FBA-S52



Plate 84: General view of the Site FBA-S53 rail bridge [1]



Plate 86: Site FBA-S54: View of the Colonial Period rail bridge across the Kat River



Plate 85: General view of the Site FBA-S53 rail bridge [1]



Plate 87: View of the Site FBA-S55 cemetery [1]



Plate 88: View of the Site FBA-S55 cemetery [2]



Plate 90: General view of Site FBA-S57



Plate 89: General view of Site FBA-S56



Plate 91: View of Site FBA-S58

3 – Environmental Impact Assessment Rating

Identified archaeological and cultural heritage resources are ascribed an Environmental Impact Assessment (EIA) rating, based on the outline presented below to provide a significance rating of development impact on resources, both during the 1) construction and 2) operation and use phases of development (in accordance with NEMA 1998, Regulations 2014):

| | |
|------------------------------|---|
| Overall Nature: | 1) Negative (negative impact on affected biophysical or human environment), or 2) Positive (benefit to the affected biophysical or human environment). |
| Type: | 1) Direct (caused by the action and occur at the same time and place), 2) Indirect or secondary (caused by the action and are later in time or further removed in distance but reasonably foreseeable), or 3) Cumulative (impact which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions; can result from individually minor, but collectively significant actions taking place over a period of time). |
| Spatial Extent: | 1) Site (immediate area of activity, incorporating a 5m zone from the edge of the affected area), 2) Local (area up to and/or within 10km from the 'site' as defined above), 3) Regional (entire community, basin or landscape), or 4) National (South Africa). |
| Duration: | 1) Short-term (impact would last for the duration of activities; quickly reversible), 2) Medium-term (impact would affect project activity; reversible over time), 3) Long-term (impact would continue beyond project activity), or 4) Permanent (impact would continue beyond decommissioning). |
| Severity: | 1) Low , 2) Medium , or 3) High , being +) Positive , or -) Negative (based on separately described categories examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functionality or slightly alters the environment itself). |
| Reversibility: | 1) Completely reversible (completely reversible impact with implementation of correct mitigation measures), 2) Partly reversible (partly reversible impact with implementation of correct mitigation measures), or 3) Irreversible (impact cannot be reversed, regardless of mitigation or rehabilitation measures). |
| Irreplaceable loss: | 1) Resource will not be lost (resource will not be lost provided mitigation measures are implemented), 2) Resource will be partly lost (partial loss or destruction of the resource will occur even though management and mitigation measures are implemented), or 3) Resource cannot be replaced (resource is irreplaceable no matter which management or mitigation measures are implemented). |
| Probability: | 1) Unlikely (<40% probability), 2) Possible (40% probability), 3) Probable (>70% probability), or 4) Definite (>90% probability). |
| Mitigation potential: | 1) High or completely mitigatable (relatively easy and cost effective to manage. Specialist expertise and equipment generally not required. Nature of impact easily understood and may be mitigated through implementation of a management plan or 'good housekeeping', including regular monitoring and reporting regimes. Significance of the impact after mitigation is likely to be low or negligible), 2) Moderate or partially mitigatable (management requires higher level of expertise and resources to maintain impacts with acceptable levels. Mitigation can be tied up in the design of the project. Significance of the impacts after mitigation is likely to be low to moderate. It may not be possible to mitigate the impact entirely, with residual impacts resulting), or 3) Low or un-mitigatable (will not be possible to mitigate the impact entirely, regardless of expertise and resources. Potential to manage the impacts may be beyond the scope of the project. Management of the impact is not likely to result in a measurable change in the level of significance). |
| Impact significance: | 1) Negligible , 2) Low (largely of HIGH mitigation potential, after consideration of other criteria), 3) Moderate (largely of MODERATE or partial mitigation potential, after consideration of other criteria), or 4) Substantial (largely of LOW mitigation potential, after consideration of other criteria). |

| Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km 58.86], Nkonkobe Local Municipality, EC | | | | | | | | | | | | |
|---|----------------|------|----------------|----------|----------|---------------|--------------------|-------------|----------------------|---------------------|-----------------|---------------------------|
| Potential Impacts | Overall nature | Type | Spatial extent | Duration | Severity | Reversibility | Irreplaceable loss | Probability | MITIGATION POTENTIAL | IMPACT SIGNIFICANCE | | MITIGATION MEASURES |
| | | | | | | | | | | Without mitigation | With mitigation | |
| SITES: FBA-S3, FBA-S4, FBA-S6, FBA-S8, FBA-S11, FBA-S12, FBA-S20, FBA-S21, FBA-S23, FBA-S25, FBA-S31, FBA-S33, FBA-S34, FBA-S36, FBA-S40, FBA-S41, FBA-S44, FBA-S45, FBA-S48, FBA-S49, FBA-S50, FBA-S51, FBA-S52, FBA-S53, FBA-S54, FBA-S55, FBA-S57, FBA-S58 | | | | | | | | | | | | |
| Construction phase | 2 | 3 | 2 | 4 | 3(+) | N/A | N/A | N/A | N/A | N/A | N/A | Conservation |
| Operational phase | 2 | 3 | 2 | 4 | 3(+) | N/A | N/A | N/A | N/A | N/A | N/A | Conservation |
| Mitigation details: Heritage site conservation by virtue of proximity from the development corridor, with permanent heritage conservation measures already in place or with no conservation recommendations required for development (based on landscape topography). The category include impact on recorded sites not subject to the EC PHRA-BE Unit permitting process | | | | | | | | | | | | |
| SITES: FBA-S1, FBA-S2, FBA-S7, FBA-S9, FBA-S10, FBA-S13, FBA-S14, FBA-S15, FBA-S16, FBA-S17, FBA-S18, FBA-S19, FBA-S22, FBA-S24, FBA-S26, FBA-S27, FBA-S28, FBA-S29, FBA-S30, FBA-S32, FBA-S35, FBA-S37, FBA-S38, FBA-S39, FBA-S42, FBA-S43, *FBA-S47, FBA-S56 | | | | | | | | | | | | |
| Construction phase | 2 | 3 | 2 | 4 | 3(+) | N/A | 1 | 1 | 1 | 3 | 1 | Conservation |
| Operational phase | 2 | 3 | 2 | 4 | 3(+) | N/A | 1 | 1 | 1 | 3 | 1 | Conservation |
| Mitigation details: Recommendation for temporary and *permanent heritage conservation measures | | | | | | | | | | | | |
| SITES: FBA-S5, FBA-S46 | | | | | | | | | | | | |
| Construction phase | 1 | 1 | 1 | 1 | 2(-) | 3 | 2/3 | ¼ | 2/3 | 4 | 2/3 | Heritage site destruction |
| Operational phase | 2 | 2 | 1 | 2 | 1(-) | 1 | 2/3 | ¼ | 2/3 | 4 | 2/3 | N/A |
| Mitigation details: Recommendation for destruction and alteration to heritage resources to be done under EC PHRA-APM Unit approval, EC PHRA-APM Unit / BE-Unit Permits, in accordance with the NHRA (1999), Regulations (2000) and SAHRA Guidelines (2007) | | | | | | | | | | | | |

Table 4: Environmental Impact Assessment Rating

4 – Recommendations

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the proposed *Upgrade of the R63-Section 13, Fort Beaufort-Alice*, and including the utilization of borrow pits and a quarry, Nkonkobe Local Municipality, Eastern Cape, proceed as applied for, provided the developer comply with the listed heritage compliance requirements.

- The development proposal poses no ‘fatal flaws’ with reference to archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, as well as resources of heritage significance, but not formally protected by the NHRA 1999. No amendments or alterations to the proposed development layout is recommended.
- Consideration of a ‘No-Go’ development option is not recommended from an archaeological and cultural heritage perspective: Development will impact on heritage resources (primarily proximity related), but will in turn (indirectly) advance conservation thereof, with specific reference to the number of Colonial Period structures still in use, as a result of infrastructural / economic input.
- A total of 58 heritage resources was identified, testimony primarily to the notably rich Colonial Period cultural landscape within which the development is to be situated.
- The high number of identified heritage resources, with their localities already being defined by existing development, including infrastructural development, do not allow standard heritage conservation measures (formal heritage conservation fencing and associated conservation buffer zones) to be implemented for purposes of development. Recommendations contained in this report focus on substitute ‘lighter-weight’ heritage conservation recommendations for purposes of project specific implementation, with specific reference to the principle of IEM.
- [In the event of any incidental archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, being identified during the course of development the process described in ‘Appendix B: Heritage Protocol for Incidental Finds during the Construction Phase’ should be followed.]

| Heritage Compliance Summary – Upgrade of the R63-Section 13, Fort Beaufort to Alice, Nkonkobe Local Municipality, Eastern Cape | | | |
|---|---|----------------------------|--|
| Map Code | Site | Co-ordinates | Recommendations |
| Borrow Pits and Quarries [from Fort Beaufort to Alice] | | | |
| BP-06 | Borrow Pit 6 | S32°46'58.8"; E26°39'34.7" | Temporary heritage signage |
| Site FBA-S1 | Colonial Period: Bridge and structure remains | S32°46'54.9"; E26°39'31.4" | (Records of heritage compliance to be kept by ECO and submitted to EC PHRA) |
| BP-07 | Borrow Pit 7 | S32°47'59.9"; E26°42'00.9" | Temporary heritage signage |
| Site FBA-S2 | Colonial Period: Railway structure and line | S32°48'00.5"; E26°42'05.6" | (Records of heritage compliance to be kept by ECO and submitted to EC PHRA) |
| BP-05 | Borrow Pit 5 | S32°48'28.2"; E26°43'57.7" | N/A |
| BP-04 | Borrow Pit 4 | S32°48'15.7"; E26°46'15.7" | Developer – Kwezana Village Community agreement |
| Site FBA-S3 | LIA / Cont. Period: Cemetery | S32°48'09.9"; E26°46'00.9" | |
| BP-03 | Borrow Pit 3 | S32°48'01.8"; E26°48'23.4" | N/A |
| BP-01 | Hard Rock Quarry 1 | S32°47'14.9"; E26°48'05.8" | N/A |
| BP-08 | Borrow Pit 8 | S32°46'05.0"; E26°48'59.8" | N/A |
| Road Alignment [from Fort Beaufort to Alice] | | | |
| Site FBA-S4 | Colonial Period: Bridge | S32°46'45.4"; E26°37'15.3" | Conservation without additional conservation measures (Records of heritage compliance to be kept by ECO and submitted to EC PHRA) (Alteration to contemporary bridge B4301 not subject to EC PHRA-BE Unit permitting process) |
| Site FBA-S5 | Colonial Period: Cultural landscape – lane of trees | S32°46'56.2"; E26°37'20.9" | Destruction of lane of trees without developer having to apply for an EC PHRA-APM / BE Unit permit |
| Site FBA-S6 | Colonial Period: Residence | S32°46'55.3"; E26°37'21.8" | N/A (Permanent conservation measures in place) |
| Site FBA-S7 | Colonial Period: Structure (TRN lodge) | S32°46'54.4"; E26°37'23.9" | Temporary heritage signage |
| Site FBA-S8 | Colonial Period: Residence | S32°46'55.4"; E26°37'25.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S9 | Colonial Period: Residence | S32°46'53.9"; E26°37'25.0" | Temporary heritage signage |
| Site FBA-S10 | Colonial Period: Residence | S32°46'53.8"; E26°37'25.6" | Temporary heritage signage |
| Site FBA-S11 | Colonial Period: Residence | S32°46'53.1"; E26°37'26.7" | N/A (Permanent conservation measures in place) |
| Site FBA-S12 | Colonial Period: Residence | S32°46'52.6"; E26°37'27.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S13 | Colonial Period: Residence | S32°46'52.0"; E26°37'28.8" | Temporary heritage signage |
| Site FBA-S14 | Colonial Period: Residence | S32°46'52.6"; E26°37'30.2" | Temporary heritage signage |
| Site FBA-S15 | Colonial Period: Residence | S32°46'51.5"; E26°37'30.5" | Temporary heritage signage |
| Site FBA-S16 | Colonial Period: Residence | S32°46'51.8"; E26°37'32.0" | Temporary heritage signage |
| Site FBA-S17 | Colonial Period: Residence | S32°46'51.2"; E26°37'33.4" | Temporary heritage signage |
| Site FBA-S18 | Colonial Period: Residence (Store) | S32°46'50.5"; E26°37'32.8" | Temporary heritage signage |
| Site FBA-S19 | Colonial Period: Residence | S32°46'50.3"; E26°37'33.2" | Temporary heritage signage |

| | | | |
|--------------|---|----------------------------|--|
| Site FBA-S20 | Colonial Period: Residence (Symington Lodge B&B) | S32°46'50.7"; E26°37'34.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S21 | Colonial Period: Residence (Business) | S32°46'50.2"; E26°37'35.7" | N/A (Permanent conservation measures in place) |
| Site FBA-S22 | Colonial Period: Structure (Trading store) | S32°46'48.2"; E26°37'37.7" | Temporary heritage signage |
| Site FBA-S23 | Colonial Period: Residence | S32°46'47.8"; E26°37'39.0" | N/A (Permanent conservation measures in place) |
| Site FBA-S24 | Colonial Period: Structure (Trading store) | S32°46'47.4"; E26°37'39.9" | Temporary heritage signage |
| Site FBA-S25 | Colonial Period: Anglican Church | S32°46'46.9"; E26°37'40.8" | N/A (Permanent conservation measures in place) |
| Site FBA-S26 | Colonial Period: Structure (Trading store) | S32°46'46.1"; E26°37'42.6" | Temporary heritage signage |
| Site FBA-S27 | Colonial Period: Structure (Trading store) | S32°46'45.6"; E26°37'43.7" | Temporary heritage signage |
| Site FBA-S28 | Colonial Period: Structure (Trading store) | S32°46'45.4"; E26°37'44.4" | Temporary heritage signage |
| Site FBA-S29 | Colonial Period: Structure (Trading store) | S32°46'44.7"; E26°37'46.0" | Temporary heritage signage |
| Site FBA-S30 | Colonial Period: Structure (Trading store) | S32°46'43.6"; E26°37'48.6" | Temporary heritage signage |
| Site FBA-S31 | Colonial Period: Mosque | S32°46'44.3"; E26°37'49.5" | N/A (Permanent conservation measures in place) |
| Site FBA-S32 | Colonial Period: Municipal administrative building | S32°46'41.5"; E26°37'52.1" | Temporary heritage conservation fence and signage |
| Site FBA-S33 | Colonial Period: Magistrates court | S32°46'39.9"; E26°37'50.9" | N/A (Recorded for heritage database purposes) |
| Site FBA-S34 | Colonial Period: Sakhululeka school | S32°46'39.9"; E26°38'01.3" | N/A (Permanent conservation measures in place) |
| Site FBA-S35 | Colonial Period: Structure (Trading store) | S32°46'36.9"; E26°38'03.1" | Temporary heritage signage |
| Site FBA-S36 | Colonial Period: Structure(s) | S32°46'38.0"; E26°38'03.4" | N/A (Permanent conservation measures in place) |
| Site FBA-S37 | Colonial Period: Residence (Business) | S32°46'36.2"; E26°38'05.0" | Temporary heritage signage |
| Site FBA-S38 | Colonial Period: Residence | S32°46'35.5"; E26°38'06.6" | Temporary heritage signage |
| Site FBA-S39 | Colonial Period: Residence | S32°46'33.0"; E26°38'12.3" | Temporary heritage signage |
| Site FBA-S40 | Colonial Period: Residence (Business) | S32°46'34.1"; E26°38'12.1" | N/A (Permanent conservation measures in place) |
| Site FBA-S41 | Colonial Period: Residence | S32°46'34.1"; E26°38'12.1" | N/A (Permanent conservation measures in place) |
| Site FBA-S42 | Colonial Period: Residence | S32°46'31.4"; E26°38'15.6" | Temporary heritage signage |
| Site FBA-S43 | Colonial Period: Residence (Business) | S32°46'30.3"; E26°38'18.6" | Temporary heritage signage |
| Site FBA-S44 | Colonial Period: Residence | S32°46'29.9"; E26°38'19.5" | N/A (Permanent conservation measures in place) |
| Site FBA-S45 | Colonial Period: Residence | S32°46'30.4"; E26°38'20.9" | N/A (Permanent conservation measures in place) |
| Site FBA-S46 | Colonial Period: Bridge | S32°46'27.7"; E26°38'25.7" | Destruction of bridge under EC PHRA-APM Unit (BE Unit) Site Destruction Permit; OR Records of heritage conservation to be kept by ECO and submitted to EC PHRA (Alteration to contemporary bridge B2846 not subject to EC PHRA-BE Unit permitting process) |
| Site FBA-S47 | Later Iron Age (LIA): Cemetery | S32°46'25.6"; E26°38'27.3" | Formal conservation (permanent fence with access gate / way) along southern boundary of site Records of heritage conservation to be kept by ECO / heritage practitioner and submitted to EC PHRA |
| Site FBA-S48 | Contemporary Period: Rail bridge | S32°46'34.4"; E26°38'49.6" | N/A (Alteration / destruction of Site FBA-S48 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S49 | Contemporary Period: Bridge | S32°46'36.0"; E26°38'54.1" | N/A (Alteration / destruction of Site FBA-S49 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S50 | Later Iron Age (LIA) / Cont Period: Cemetery | S32°46'41.3"; E26°39'16.1" | N/A (Permanent conservation measures in place) |
| Site FBA-S51 | Contemporary Period: Bridge (Mxelo bridge) | S32°48'08.7"; E26°43'16.1" | N/A (Alteration / destruction of Site FBA-S51 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S52 | Colonial Period: Railway structure and line | S32°47'57.3"; E26°47'04.0" | N/A (Recorded for heritage database purposes) |
| Site FBA-S53 | Contemporary Period: Rail bridge | S32°48'06.3"; E26°48'20.2" | N/A (Alteration / destruction of Site FBA-S48 is not subject to the EC PHRA-BE Unit permitting process) |
| Site FBA-S54 | Colonial Period: Rail bridge | S32°47'19.1"; E26°49'32.3" | N/A (Recorded for heritage database purposes) |
| Site FBA-S55 | Later Iron Age (LIA) / Colonial / Cont Period: Cemetery | S32°47'18.7"; E26°49'39.7" | N/A (Permanent conservation measures in place) |
| Site FBA-S56 | Colonial Period: Residence (Business) | S32°47'15.5"; E26°49'43.8" | Temporary heritage signage |
| Site FBA-S57 | Colonial Period: Residence | S32°47'26.3"; E26°49'57.7" | N/A (Permanent conservation measures in place) |
| Site FBA-S58 | Colonial Period: Residence (Business) | S32°47'27.1"; E26°49'56.1" | N/A (Permanent conservation measures in place) |

Table 5: Heritage compliance summary

The EC PHRA-APM Unit HIA Comment will state legal requirements for development to proceed, or reasons why, from a heritage perspective, development may not be further considered.

Notes:

Should any registered Interested & Affected Party (I&AP) wish to be consulted in terms of Section 38(3)(e) of the NHRA 1999 (socio-cultural consultation / SAHRA SIA) it is recommended that the developer / EAP ensures that the consultation be prioritized within the timeframe of the environmental assessment process.

Simplified Guide to the Identification of Archaeological Sites:

- ❖ **Stone Age** – Knapped stone display flakes and flake scars that appear unnatural and may result in similar type ‘shaped’ stones often concentrated in clusters or forming a distinct layer in the geological stratigraphy. ESA shapes may represent ‘pear’ or oval shaped stones, often in the region of 10cm or larger. Typical MSA types include blade-like or rough triangular shaped artefacts, often associated with randomly shaped lithics or flakes that display use- or edge-wear around the rim of the artefact. LSA types are similar to MSA types, but generally smaller (≤ 3 cm in size), often informally shaped, and are frequently found in association with bone, pieces of charcoal, ceramic shards and food remains.
 - **Rock Art** – Includes both painted and engraved images.
 - **Shell Middens** – Include compact shell lenses that may be quite extensive in size or small ephemeral scatters of shell food remains, often associated with LSA artefact remains, but may also be of MSA and Iron Age cultural association.
- ❖ **Iron Age** – Iron Age sites are often characterized by stone features, i.e. the remains of former livestock enclosures or typical household remains; huts are identified by either mound or depression hollows. Typical artefacts include ceramic remains, farming equipment, beads and trade goods, metal artefacts (including jewellery) etc. Remains of the ‘Struggle’ – events, histories and landmarks associated therewith are often, based on cultural association, classed as part of the Iron Age heritage of South Africa.
- ❖ **Colonial Period** – Built environment remains, either urban or rural, are of a Western cultural affiliation with typical artefacts representing early Western culture, including typical household remains, trade and manufactured goods, such as old bottle, porcelain and metal artefacts. War memorial remains, including the vast array of associated graves and the history of the Industrial Revolution form important parts of South Africa’s Colonial Period heritage.

5 – Acronyms & Abbreviations

| | |
|------------------|--|
| AD | : Anno Domini (the year 0) |
| AIA | : Archaeological Impact Assessment |
| AMAFA | : Amafa aKwaZulu-Natali (Natal PHRA) |
| ASAPA | : Association of Southern African Professional Archaeologists |
| BAR | : Basic Assessment Report |
| BC | : Before the Birth of Christ (the year 0) |
| BCE | : Before the Common Era (the year 0) |
| BID | : Background Information Document |
| BP | : Before the Present (the year 0) |
| cm | : Centimetre |
| CMP | : Conservation Management Plan |
| CRM | : Cultural Resources Management |
| DAC | : Department of Arts and Culture |
| DEAT | : Department of Environmental Affairs and Tourism |
| DME | : Department of Minerals and Energy |
| EAP | : Environmental Assessment Practitioner |
| ECO | : Environmental Control Officer |
| ELO | : Environmental Liaison Officer |
| EC PHRA | : Eastern Cape Provincial Heritage Resources Authority |
| EIA ₁ | : Environmental Impact Assessment |
| EIA ₂ | : Early Iron Age |
| EMPr | : Environmental Management Plan / Programme Report |
| ESA | : Earlier Stone Age |
| ha | : Hectare |
| HIA | : Heritage Impact Assessment |
| HWC | : heritage Western Cape |
| ICOMOS | : International Council on Monuments and Sites |
| IEM | : Integrated Environmental Management |
| km | : kilometre |
| Kya | : Thousands of years ago |
| LIA | : Later Iron Age |
| LSA | : Later Stone Age |
| m | : metre |
| m ² | : Square meter |
| MIA | : Middle Iron Age |
| Mm | : millimetre |
| MPRDA 2002 | : Mineral and Petroleum Resources Development Act, No 28 of 2002 |
| MSA | : Middle Stone Age |
| Mya | : Millions of years ago |
| NEMA 1998 | : National Environmental Management Act, No 107 of 1998 |
| NHRA 1999 | : National Heritage Resources Act, No 25 of 1999 |
| PIA | : Palaeontological Impact Assessment |
| PHRA | : Provincial Heritage Resources Authority |
| PSSA | : Palaeontological Society of South Africa |
| PPP | : Public Participation Process |
| SAHRA | : South African Heritage Resources Agency |
| SAHRIS | : South African Heritage Resources Information System |
| SIA | : Social Impact Assessment |

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Appendix A:



Heritage Impact Assessment (HIA) – SANRAL: Upgrade of the R63-Section 13, Fort Beaufort [km35.77] to Alice [km58.86], Nkonkobe Local Municipality, Eastern Cape

Heritage Protocol for Incidental Finds during the Construction Phase

Should any palaeontological, archaeological or cultural heritage resources, including human remains / graves, as defined and protected by the NHRA 1999, be identified during the construction phase of development (including as a norm during vegetation clearing, surface scraping, trenching and excavation phases), it is recommended that the process described below be followed.

➤ **On-site Reporting Process:**

1. The identifier should immediately notify his / her supervisor of the find.
2. The identifier's supervisor should immediately (and within 24 hours after reporting by the identifier) report the incident to the on-site SHE / SHEQ officer.
3. The on-site SHE / SHEQ officer should immediately (and within 24 hours after reporting by the relevant supervisor) report the incident to the appointed ECO / ELO officer. [Should the find relate to human remains the SHE / SHEQ officer should immediately notify the nearest SAPS station informing them of the find].
4. The ECO / ELO officer should ensure that the find is within 72 hours after the SHE / SHEQ officers report reported on SAHRIS and that a relevant heritage specialist is contacted to make arrangements for a heritage site inspection. [Should the find relate to human remains the ECO / ELO officer should ensure that the archaeological site inspection coincides with a SAPS site inspection, to verify if the find is of forensic, authentic (informal / older than 60 years), or archaeological (older than 100 years) origin].
5. The appointed heritage specialist should compile a 'heritage site inspection' report based on the site specific findings. The site inspection report should make recommendations for the destruction, conservation or mitigation of the find and prescribe a recommended way forward for development. The 'heritage site inspection' report should be submitted to the ECO / ELO, who should ensure submission thereof on SAHRIS.
6. SAHRA / the relevant PHRA will state legal requirements for development to proceed in the SAHRA / PHRA Comment on the 'heritage site inspection' report.
7. The developer should proceed with implementation of the SAHRA / PHRA Comment requirements. SAHRA / PHRA Comment requirements may well stipulate permit specifications for development to proceed.
 - Should permit specifications stipulate further Phase 2 archaeological investigation (including grave mitigation) a suitably accredited heritage specialist should be appointed to conduct the work according to the applicable SAHRA / PHRA process. The heritage specialist should apply for the permit. Upon issue of the SAHRA / PHRA permit the Phase 2 heritage mitigation program may commence.
 - Should permit specifications stipulate destruction of the find under a SAHRA / PHRA permit the developer should immediately proceed with the permit application. Upon the issue of the SAHRA / PHRA permit the developer may legally proceed with destruction of the palaeontological, archaeological or cultural heritage resource.
 - Upon completion of the Phase 2 heritage mitigation program the heritage specialist will submit a Phase 2 report to the ECO / ELO, who should in turn ensure submission thereof on SAHRIS. Report recommendations may include that the remainder of a heritage site be destroyed under a SAHRA / PHRA permit.
 - Should the find relate to human remains of forensic origin the matter will be directly addressed by the SAPS: A SAHRA / PHRA permit will not be applicable.

NOTE: Note that SAHRA / PHRA permit and process requirements relating to the mitigation of human remains requires suitable advertising of the find, a consultation, mitigation and re-interment / deposition process.

➤ **Duties of the Supervisor:**

1. The supervisor should immediately upon reporting by the identifier ensure that all work in the vicinity of the find is ceased.
2. The supervisor should ensure that the location of the find is immediately secured (and within 12 hours of reporting by the identifier), by means of a temporary conservation fence (construction netting) allowing for a 5-10m heritage conservation buffer zone around the find. The temporary conserved area should be sign-posted as a 'No Entry – Heritage Site' zone.
3. Where development has impacted on the resource, no attempt should be made to remove artefacts / objects / remains further from their context, and artefacts / objects / remains that have been removed should be collected and placed within the conservation area or kept for safekeeping with the SHE / SHEQ officer. It is imperative that where development has impacted on palaeontological, archaeological and cultural heritage resources the context of the find be preserved as good as possible for interpretive and sample testing purposes.
4. The supervisor should record the name, company and capacity of the identifier and compile a brief report describing the events surrounding the find. The report should be submitted to the SHE / SHEQ officer at the time of the incident report.

➤ **Duties of the SHE / SHEQ Officer:**

1. The SHE / SHEQ officer should ensure that the location of the find is recorded with a GPS. A photographic record of the find (including implementation of temporary conservation measures) should be compiled. Where relevant a scale bar or object that can indicate scale should be inserted in photographs for interpretive purposes.
2. The SHE / SHEQ officer should ensure that the supervisors report, GPS co-ordinate and photographic record of the find be submitted to the ECO / ELO officer. [Should the find relate to human remains the SHE / SHEQ officer should ensure that the mentioned reporting be made available to the SAPS at the time of the incident report].
3. Any retrieved artefacts / objects / remains should, in consultation with the ECO / ELO officer, be deposited in a safe place (preferably on-site) for safekeeping.

➤ **Duties of the ECO / ELO officer:**

1. The ECO / ELO officer should ensure that the incident is reported on SAHRIS. (The ECO / ELO officer should ensure that he / she is registered on the relevant SAHRIS case with SAHRIS authorship to the case at the time of appointment to enable heritage reporting].
2. The ECO / ELO officer should ensure that the incident report is forwarded to the heritage specialist for interpretive purposes at his / her soonest opportunity and prior to the heritage site inspection.
3. The ECO / ELO officer should facilitate appointment of the heritage specialist by the developer / construction consultant for the heritage site inspection.
4. The ECO / ELO officer should facilitate access by the heritage specialist to any retrieved artefacts / objects / remains that have been kept in safekeeping.
5. The ECO / ELO officer should facilitate coordination of the heritage site inspection and the SAPS site inspection in the event of a human remains incident report.
6. The ECO / ELO officer should facilitate heritage reporting and heritage compliance requirements by SAHRA / the relevant PHRA, between the developer / construction consultant, the heritage specialist, the SHE / SHEQ officer (where relevant) and the SAPS (where relevant).

➤ **Duties of the Developer / Construction Consultant:**

The developer / construction consultant should ensure that an adequate heritage contingency budget is accommodated within the project budget to facilitate and streamline the heritage compliance process in the event of identification of incidental palaeontological, archaeological and cultural heritage resources during the course of development, including as a norm during vegetation clearing, surface scraping, trenching and excavation phases, when resources not visible at the time of the surface assessment may well be exposed.

Resumé
Karen van Ryneveld
2016

Name: Karen van Ryneveld

Contact Details:

- 1) Mobile – 084 871 1064
- 2) E-mail – karen@archaeomaps.co.za
- 3) Website – www.archaeomaps.co.za
- 4) Postal address – Postnet Suite 239, Private Bag X3, Beacon Bay, 5205

Company: ArchaeoMaps cc

Occupation: Archaeologist

Qualification: MSc Archaeology (WITS University – 2003)

Accreditation:

- 1) Association of Southern African Professional Archaeologists (ASAPA) accredited Cultural Resources Management gCRM practitioner [member nr – 163]
 - o 2010 – ASAPA CRM Section: Principle Investigator – Stone Age
 - o 2005 – ASAPA CRM Section: Field Director – Iron Age & Colonial Period
- 2) SAHRA, AMAFA, EC PHRA and HWC listed ASAPA accredited CRM archaeologist

Tertiary Education

| | |
|----------------|--|
| 2015 – Present | University of Fort Hare (UFH), East London (MPhil Environmental Studies) |
| 2010 | University of South Africa (UNISA), Pretoria (Project Management 501) |
| 2006 – 2007 | Nelson Mandela Metropolitan University (NMMU), Port Elizabeth (Undergraduate Certificate in Geographical Information Systems – GIS) |
| 2001 – 2003 | University of the Witwatersrand (WITS), Johannesburg (MSc Archaeology) |
| 1999 – 2000 | University of Pretoria (UP), Pretoria (BA Hons. Archaeology) |
| 1991 – 1993 | University of Pretoria (UP), Pretoria (BA Archaeology & History of Art) |

Courses

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|---------|--|
| 2016/01 | SPA (Safety Passport Alliance) – Petrol Retail [SA Safety Management Training Services – SMST] |
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Employment – Professional Archaeology

| | |
|-------------------|--|
| 2007/04 – Present | ArchaeoMaps [Self-employed] (Archaeologist – CRM) |
| 2006/06 – 2007/03 | National Museum, Bloemfontein (Archaeologist – CRM, Dept. of Archaeology) |
| 2005/04 – 2006/05 | McGregor Museum, Kimberley (Archaeologist – CRM / Research, Dept. of Archaeology) |
| 2004/04 – 2005/01 | Amafa aKwaZulu-Natali (HoD: Archaeology, Palaeontology & Meteorites Unit – APM Unit) |
| 2002/09 – 2004/03 | McGregor Museum, Kimberley (Archaeologist – CRM / Research, Dept. of Archaeology) |

Employment – Freelance: Ground Penetrating Radar

| | |
|-------------------|---|
| 2015/10 – Present | Terra Scan assistant (BCM area, EC) – GPR & underground utilities focussing on petrol retail (oil & gas) industry |
|-------------------|---|

Archaeology – Summary

Karen has been involved in CRM archaeology since 2003 and has been the author (including selected co-authored reports) of approximately 450 Phase 1 AIA studies. Phase 1 AIA work is centred in South Africa, focussing on the Northern and Eastern Cape provinces and the Free State. She has also conducted Phase 1 work in Botswana (2006 / 2007). In 2007 she started ArchaeoMaps, an independent archaeological and heritage consultancy. In 2010 she was awarded ASAPA CRM Principle Investigator (PI) status based on large scale Phase 2 Stone Age mitigation work (De Beers Consolidated Mines – Rooipoort, Northern Cape, 2008 / 2009) and has also been involved in a number of other Phase 2 projects including Stone Age, Shell Middens, Grave / Cemetery projects and Iron Age sites.

In addition to CRM archaeology she has been involved in research, including the international collaborations at Maloney's Kloof and Grootkloof, Ghaap Plateau, Northern Cape (2005 / 2006). Archaeological compliance experience includes her position as Head of the Archaeology, palaeontology and Meteorites (APM) Unit at AMAFA aKwaZulu-Natali (2004).

Company Profile

| | |
|------------------------|-----------------------------------|
| Company Name | : ArchaeoMaps cc |
| Registration Number | : 2005/180719/23 |
| VAT Number | : Not VAT Registered |
| Accountant | : AZIMA Financial Services |
| Members / Shareholders | : Karen van Ryneveld (100%) |
| BBBEE Status | : Exempted Micro Enterprise (EME) |