

**UPGRADING OF THE MAIN ROAD MR450 (R335)
FROM MOTHERWELL TO ADDO, NELSON MANDELA
BAY MUNICIPALITY AND SUNDAYS RIVER VALLEY
LOCAL MUNICIPALITY, EASTERN CAPE**

FOR TERRATEST

DATE: 28 OCTOBER 2018

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Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment

INTRODUCTION

“Terratest have been appointed as independent EAP by the consulting engineer, Gibb, on behalf of the project proponent, the DRPW, to apply for EA, including a BAR and EMPr(s) to the Eastern Cape DEDEAT and the Eastern Cape DMR for the proposed *Upgrading of the Main Road MR450 (R335) from Motherwell to Addo*, NMBM and SRVLM, Eastern Cape. The proposed development comprises 2 components:

- **Upgrade of the MR450 (R335) from Motherwell to Addo –**

- The MR450 (R335) road upgrade proposal comprises an approximate 30km road upgrade from Motherwell [km5.75] (S33°47'45.0"; E25°36'31.7") to Addo [km38.2] (S33°34'51.9"; E25°40'29.7"). The current road width is 6m, with a single lane of traffic in each direction.

- Road width will be increased to 12m, aiming to widen each lane by 3m to create a shoulder with a yellow line; a single lane of traffic will be maintained, but the current speed limit of 80km/h will be increased to 120km/h. The MR450 (R335) crosses 2 rivers, including the Sundays and Coega Rivers.

- The proposed upgrading works will include stormwater drainage upgrades, widenings / replacements of bridges and culverts and all associated road furniture.

- **Utilization of borrow pits and quarries –**

- Construction material for the proposed road upgrade will be sourced from 3 previously authorized borrow pits and quarries, listed as:
 - PPC Quarry - S33°38'30.0"; E25°34'18.4";
 - BP-01 (Sandstone) - S33°37'13.2"; E25°34'59.3"; and
 - BP-02 (Calcrete) - S33°34'30.4"; E25°37'08.6" (van Ryneveldt 2017).

The initial heritage survey located 12 sites (fig. 3). These are as shown on Table 1.

TABLE 1: LOCATION OF RECORDED SITES FROM ORIGINAL SURVEY

Map Code	Site	Co-ordinates	Recommendations
Site MR450-S1	Colonial Period: Sundays River Bridge	S33°34'53.7"; E25°40'26.3"	Bridge alteration to be done under EC PHRA – BE Unit Permit – NHRA 1999 Section 34 [Previous EC PHRA – BE Unit Permit have expired (2008- 2009)]
Site MR450-S2	Colonial Period: Farmstead	S33°35'09.8"; E25°39'46.6"	N/A (Permanent heritage conservation measures in place)
Site MR450-S3	Colonial Period: Farmstead (with Cemetery)	S33°35'19.8"; E25°39'36.5"	N/A (Permanent heritage conservation measures in place)
Site MR450-S4	Colonial Period: Homestead	S33°43'54.9"; E25°35'28.9"	N/A (Recorded for heritage database purposes only)
Site MR450-S5	Colonial Period: Outbuildings	S33°44'01.4"; E25°35'23.8"	N/A (Recorded for heritage database purposes only)
Site MR450-S6	Colonial Period: Homestead (Clarence Lodge – 1881)	S33°44'03.9"; E25°35'24.2"	N/A (Recorded for heritage database purposes only)
Site MR450-S7	Colonial Period: Coega River Bridge	S33°44'43.8"; E25°35'37.7"	Bridge destruction to be done under EC PHRA – BE Unit Permit – NHRA 1999 Section 34
Site MR450-S8	Colonial Period: Homestead	S33°44'48.7"; E25°35'37.6"	N/A (Permanent heritage conservation measures in place)
Site MR450-S9	Colonial Period: Homestead	S33°45'00.2"; E25°35'41.6"	N/A (Permanent heritage conservation measures in place)
Site MR450-S10	Colonial Period: Homestead	S33°45'13.0"; E25°35'46.4"	N/A (Permanent heritage conservation measures in place)
Site MR450-S11	Colonial Period: Silo	S33°46'28.1"; E25°35'32.9"	N/A (Recorded for heritage database purposes only)
Site MR450-S12	Contemporary Period: Municipal Managed Motherwell Cemetery	S33°47'13.3"; E25°35'43.7"	Cognisance to cultural / religious sensitivity during the course of construction
PPC Quarry	PPC quarry	S33°38'30.0"; E25°34'18.4"	Destruction of Stone Age occurrence without developer having to apply for - Low density MSA occurrence - EC PHRA – APM Unit Permit
BP-01	Borrow Pit 1	S33°37'13.2"; E25°34'59.3"	Destruction of Stone Age occurrence without developer Low density MSA occurrence - having to apply for EC PHRA – APM Unit Permit
BP-02	Borrow Pit 2	S33°34'30.4"; E25°37'08.6"	Assessment upon landowner approval of site use Not assessed -

Umlando was requested to review the report undertaken for the proposed MR450 road upgrade, after the alignment and road width had been changed. The purpose of the review was to determine, at a desktop level, if further assessment was required and/or if mitigation from the original mitigation was still valid.

Fig.'s 1 – 2 show the location of the development. Fig 3 shows the location of the recorded heritage sites. Fig.'s 4 – 5 show the original and deviated routes, respectively.

The new road alignment effectively widens the road and this increases the impact area. The Phase 1 Heritage Survey appears to have covered all of the sites along the route and no further survey will be required for the road alignment.

The two bridges require a permit from the Built Environment section, if they are to be damaged, altered or removed.

Site 8 is a protected Colonial Period Farmstead. This will include the tree boundaries that form part of the farmstead and cultural landscape. A permit will be required if the trees are to be affected in any manner. I suggest the alignment is moved away from the trees.

Site 12 is an existing cemetery. The road alignment does not directly affect the cemetery.

Borrow Pit 2 was not assessed during the survey. The last location occurs near a presumed Colonial period Farmstead. The farmstead will need to be assessed if it will be effected by the proposed borrow pit. This includes a 50m buffer around the building.

FIG. 1 GENERAL LOCATION OF THE STUDY AREA

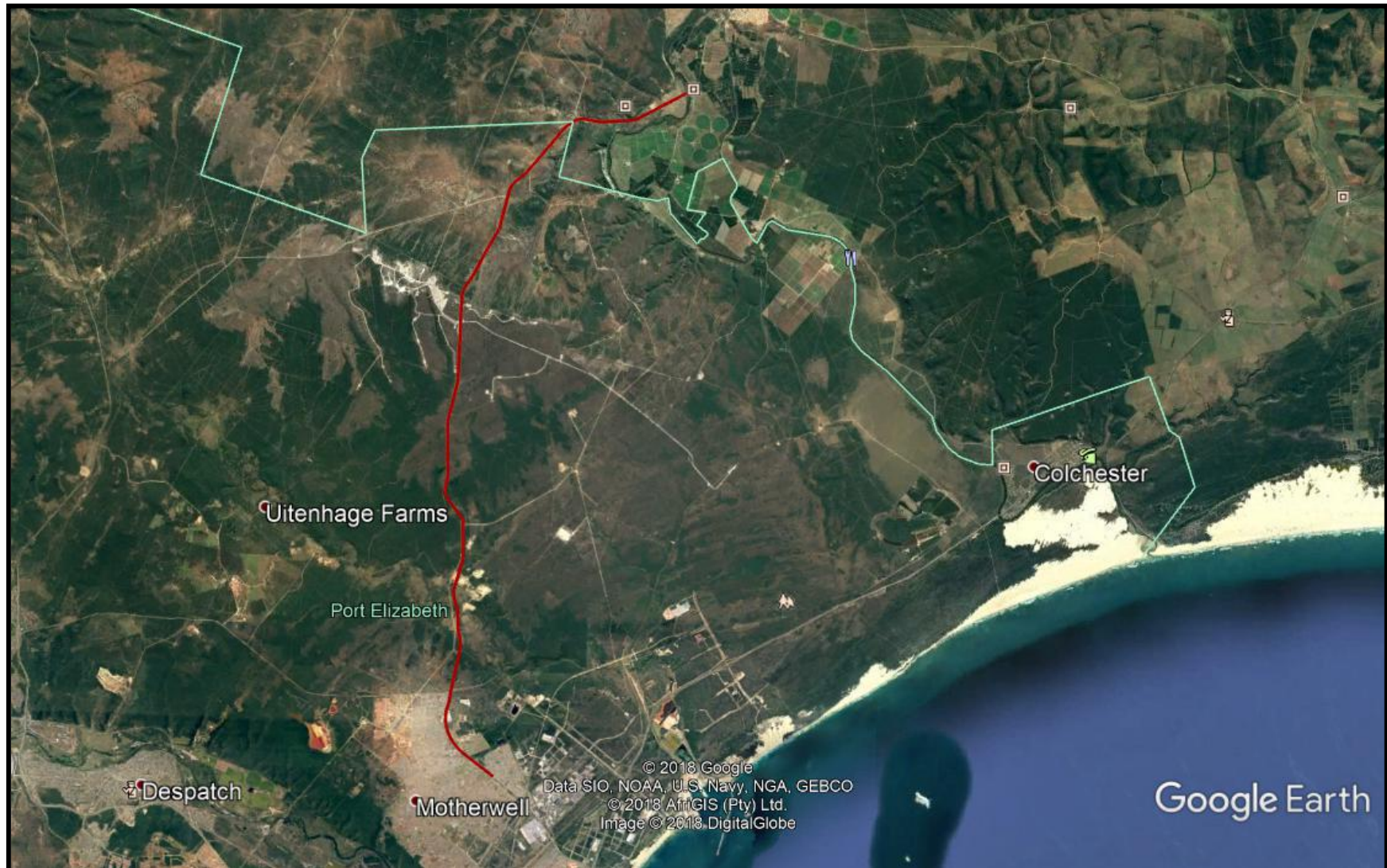


FIG. 2: TOPOGRAPHICAL OVERVIEW OF THE STUDY AREA

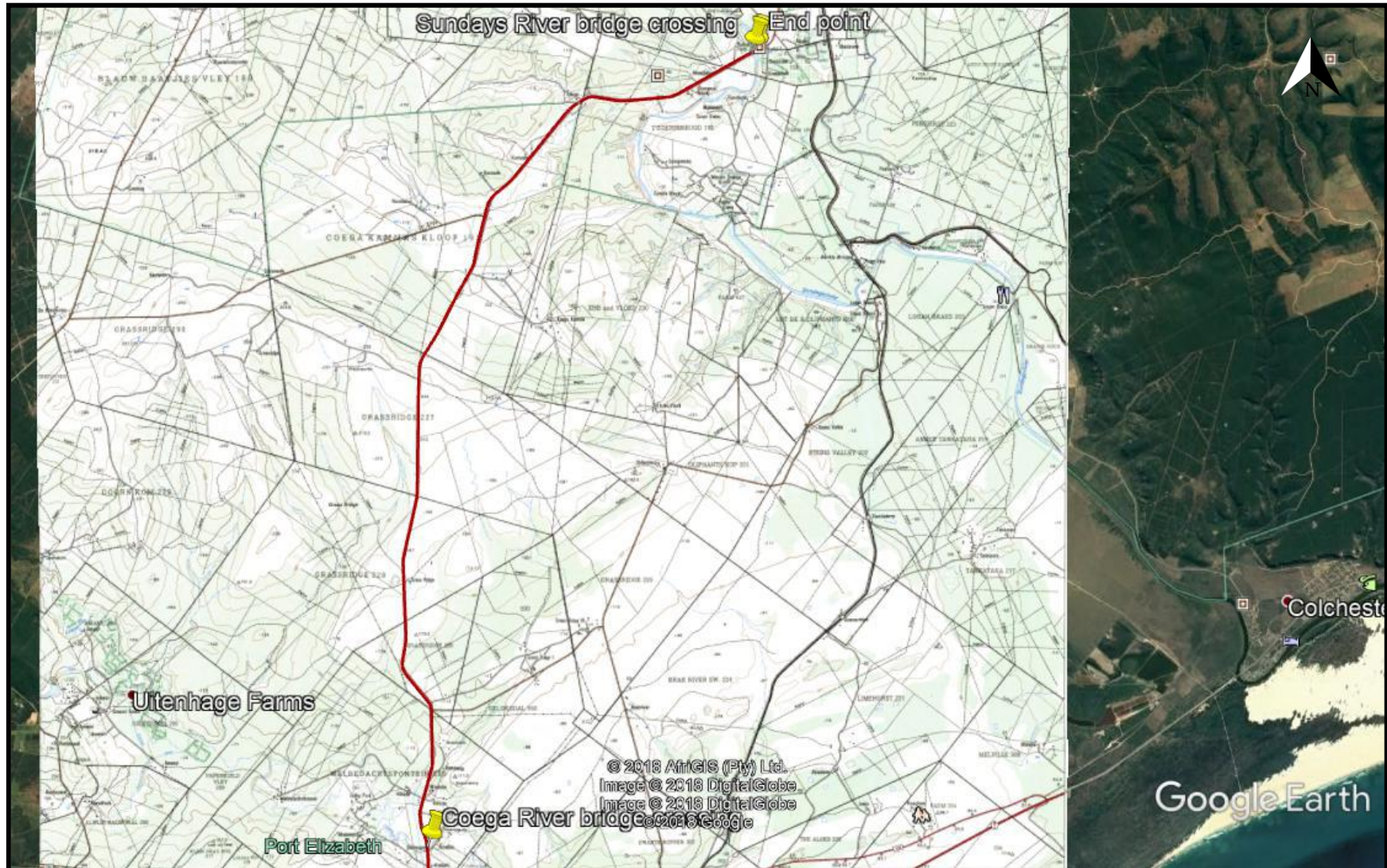


FIG. 3: LOCATION OF RECORDED HERITAGE SITES NEAR THE STUDY AREA



FIG. 4: ORIGINAL ROAD ALIGNMENT

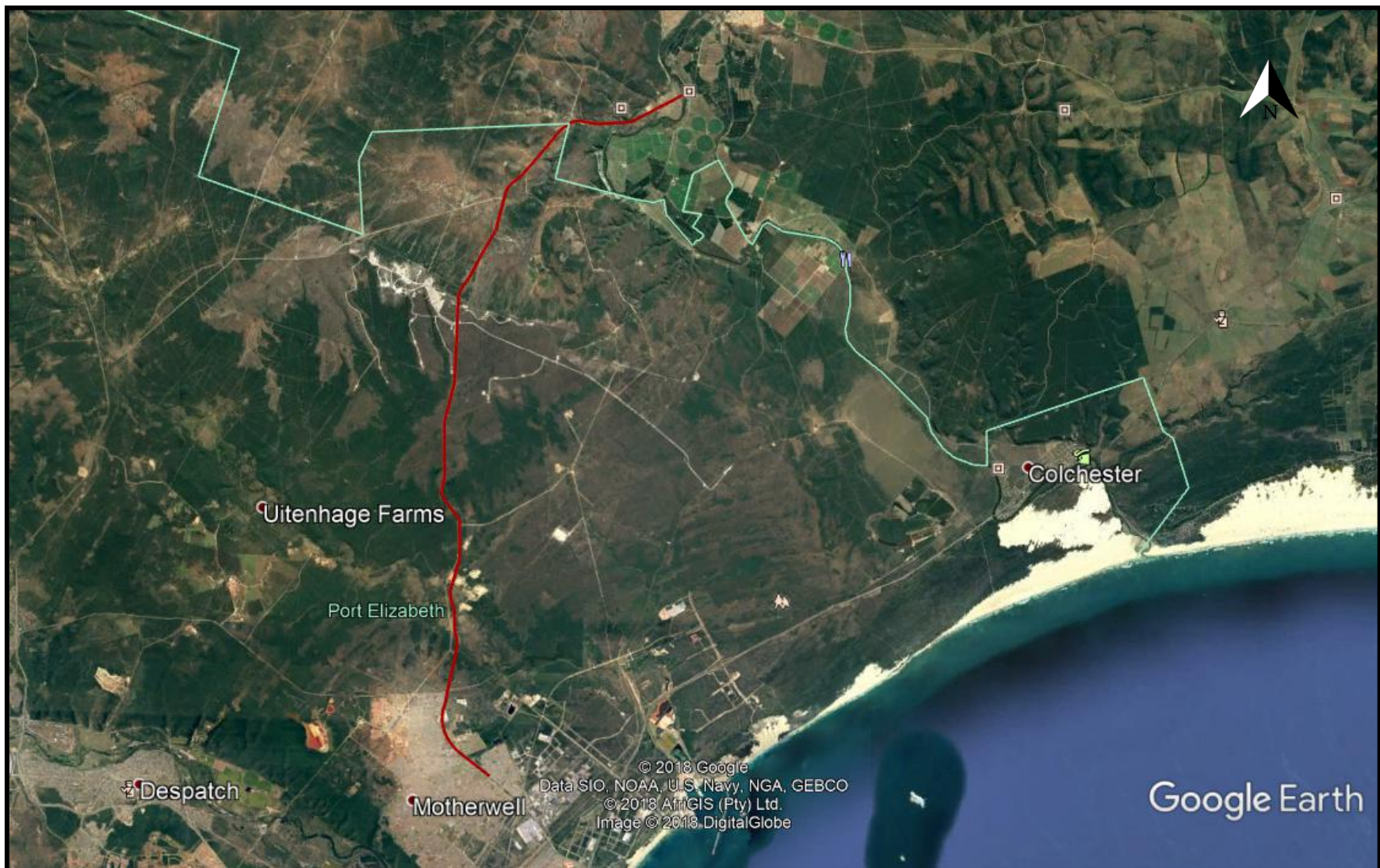


FIG. 5: NEW ROAD ALIGNMENT



FIG. 6: AFFECTED SITES ALONG THE ROUTE

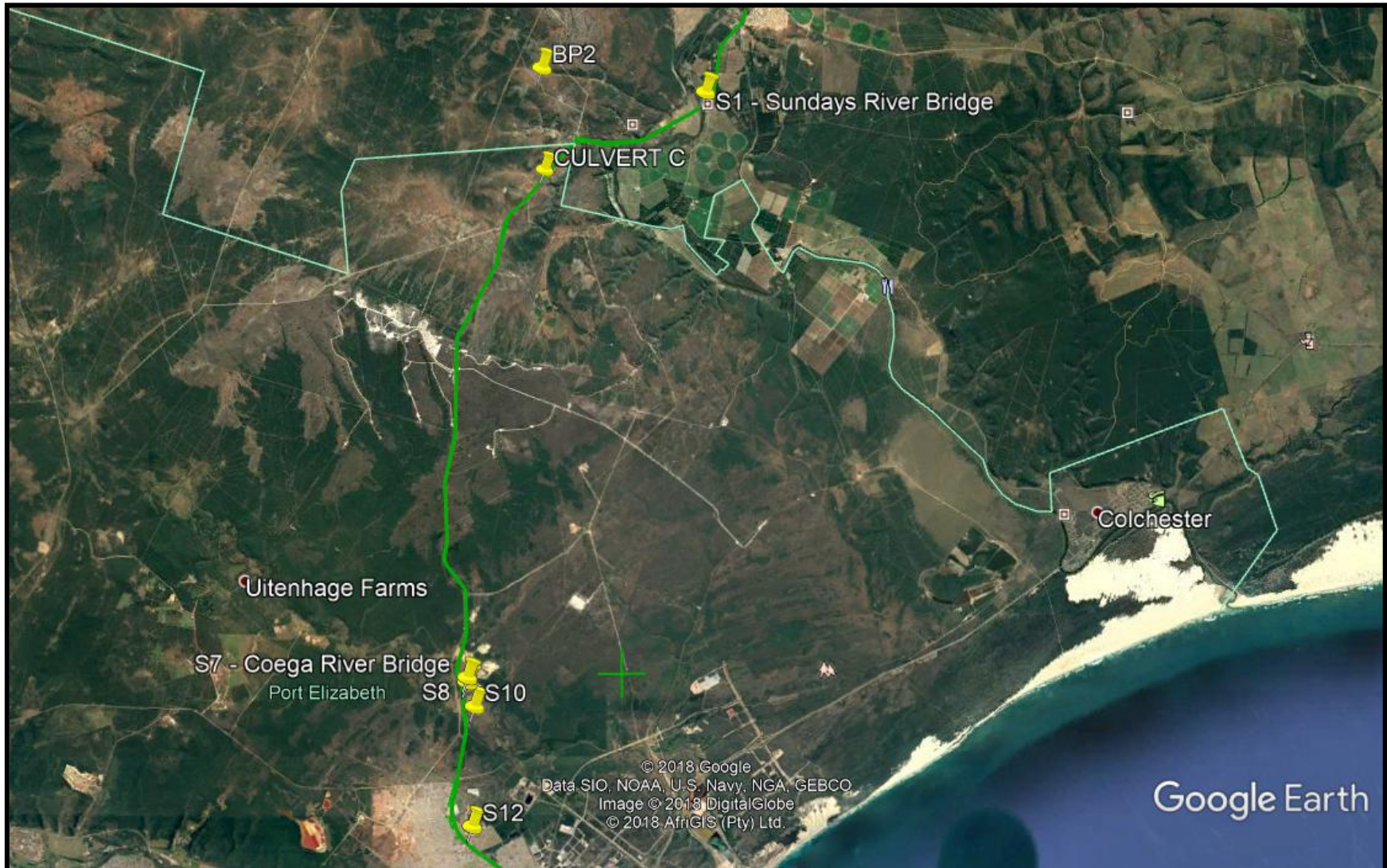


TABLE 2 AFFECTED SITES AND THE MITIGATION REQUIRED

Map Code	Site	Co-ordinates	Recommendations
Site MR450-S1	Colonial Period: Sundays River Bridge	S33°34'53.7"; E25°40'26.3"	Bridge alteration to be done under EC PHRA – BE Unit Permit – NHRA 1999 Section 34 [Previous EC PHRA – BE Unit Permit have expired (2008-2009)]
Site MR450-S7	Colonial Period: Coega River Bridge	S33°44'43.8"; E25°35'37.7"	Bridge destruction to be done under EC PHRA – BE Unit Permit – NHRA 1999 Section 34
Site MR450-S8	Colonial Period: Homestead	S33°44'48.7"; E25°35'37.6"	Area needs to be assessed if the trees are to be removed. Will require a permit from the BE
Site MR450-S12	Contemporary Period: Municipal Managed Motherwell Cemetery	S33°47'13.3"; E25°35'43.7"	Cognisance to cultural / religious sensitivity during the course of construction
BP-02	Borrow Pit 2	S33°34'30.4"; E25°37'08.6"	Site needs to be assessed if building or a 50m buffer around the building is affected.

CONCLUSION

The Phase 1 heritage survey for the proposed MR450 upgrade between Addo and Motherwell was re-assessed since the route alignment had changed as did the width of the road. The re-assessment was at a desktop level to determine if further work was required.

The desktop noted that both the Sundays River and Cougar River bridges would be affected by the road upgrade. These will require a permit from ECHPRA Built Environment. They need to be applied for timeously.

The site S8 is a Colonial Period Farmstead. The new alignment will probably remove the boundary trees and entrance structures. Both of these are protected and a permit from the ECHPRA Built Environment will be required.


Borrow Pit has the potential to affect a Colonial period built structure. This Borrow Pit will need to be assessed.

EXPERIENCE OF THE HERITAGE CONSULTANT

Gavin Anderson has a M. Phil (in archaeology and social psychology) degree from the University of Cape Town. Gavin has been working as a professional archaeologist and heritage impact assessor since 1995. He joined the Association of Professional Archaeologists of Southern Africa in 1998 when it was formed. Gavin is rated as a Principle Investigator with expertise status in Rock Art, Stone Age and Iron Age studies. In addition to this, he was worked on both West and East Coast shell middens, Anglo-Boer War sites, and Historical Period sites.

DECLARATION OF INDEPENDENCE

I, Gavin Anderson, declare that I am an independent specialist consultant and have no financial, personal or other interest in the proposed development, nor the developers or any of their subsidiaries, apart from fair remuneration for work performed in the delivery of heritage assessment services. There are no circumstances that compromise the objectivity of my performing such work.

A handwritten signature in black ink, appearing to read 'G. Anderson', with a large, stylized initial 'A'.

Gavin Anderson
Archaeologist/Heritage Impact Assessor