

**ARCHAEOLOGICAL IMPACT ASSESSMENT
THE PROPOSED GEORGE WESTERN BYPASS ROAD
N2 TO OUTENIQUA PASS
GEORGE
WESTERN CAPE PROVINCE**

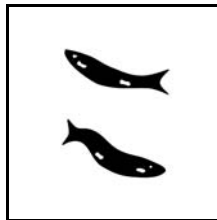
Prepared for

ARCUS GIBB (Pty) Ltd

On behalf of

**DEPARTMENT OF TRANSPORT AND PUBLIC WORKS, PROVINCIAL
ADMINISTRATION, WESTERN CAPE**

By



Jonathan Kaplan

Agency for Cultural Resource Management

P.O. Box 159

Riebeeck West

7306

Ph/Fax: 022 461 2755

Cellular: 082 321 0172

E-mail: acrm@waccess.co.za

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DECLARATION OF INDEPENDENCE

I, Jonathan Michael Kaplan, declare that I am an independent consultant, and that I am financially independent of the client and their consultants, and that all opinions expressed in this report are substantially my own.



Jonathan Kaplan

Abridged CV

Surname: Kaplan
First names: Jonathan Michael
Date of Birth: 23 September, 1961
University of Cape Town, South Africa. MA (Archaeology) 1989

Since 1991 I have been working as an independent archaeological consultant specialising in Archaeological Impact Assessment with a focus on pre-colonial Stone Age, Herder and Rock Art studies.

I trade under the name **Agency for Cultural Resource Management**.

Executive summary

A Phase 1 Archaeological Impact Assessment of the proposed George Western Bypass Road – N2 to Outeniqua Pass has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to road construction activities.

Six proposed alternative alignments (two in the southern sector and four in the northern sector) have been identified and each one was searched for archaeological remains.

Since at least the early 1700's, much of the affected area has been modified and severely altered through agricultural activities (mainly pasture farming) and is therefore in an already transformed state.

The following findings made were made:

Southern Sector: No archaeological remains were documented in this area

Northern Sector

- **Western Alignment:** A few Early Stone Age flake tools were documented in the Western Alignment, but these occur in a disturbed and degraded context.
- **Central Alignment:** A few Early and Middle Stone Age tools were documented in the Central Alignment, but these were found in a very disturbed context.
- **Gwaing-Blanco Alignment:** No archaeological remains were documented in the Gwaing-Blanco Alignment.
- **Blanco Town Alignment:** No archaeological remains were documented in the Blanco Town Alignment.

No evidence of any factory or workshop site, or the result of any human settlement was identified during the study.

The archaeological remains have been rated as having low local significance.

Several Archaeological Impact Assessments in the broader area of George indicate that generally, archaeological traces of Stone Age origin occur in low densities and are very thinly and randomly dispersed over the surrounding landscape.

Earthmoving operations may expose archaeological remains such as Early and Middle Stone Age tools, but the significance of these impacts is likely to be low.

Unmarked human remains (both historical and pre-colonial) may also be uncovered, or exposed, during road construction activities.

Historical water irrigation canals may be exposed or uncovered during road construction activities. Many of these features, which network over all the affected farm boundaries, are still in use today (see De Kock 2008).

With regard to the proposed George Western Bypass Road, the following recommendations are made:

- Bulk earthworks and excavations must be monitored by a professional archaeologist during road construction activities. Archaeological monitoring is an important component of conserving and managing (any) archaeological and historical resources that might be uncovered or exposed during road construction activities.
- Should any human remains be disturbed, exposed or uncovered during excavations and earthworks, these should immediately be reported to the archaeologist, or the South African Heritage Resources Agency (Mrs Mary Leslie (021) 462 4502). Burial remains should not be disturbed or removed until inspected by the archaeologist.
- Once identified, all proposed borrow pit for the bypass road must be investigated for archaeological remains.

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1. INTRODUCTION

Arcus Gibb (Pty) Ltd, on behalf of the Department of Transport and Public Works: Western Cape Administration requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment (AIA) for the proposed George Western Bypass Road - N2 to Outeniqua Pass, in George, in the Western Cape Province.

The archaeological assessment forms part of the wider Environmental Impact Assessment (EIA) process that is being conducted by independent environmental consultants Arcus Gibb.

A preliminary Heritage Survey (specialist study) of the proposed route alignments has been undertaken by Perception Environmental Planning (De Kock 2008).

Six proposed road alignments have been identified, namely:

Southern Sector:

- Quarry Alignment
- Alternate Link

Northern Sector:

- Western Alignment
- Central Alignment
- Gwaing-Blanco Alignment
- Blanco Town Alignment

The proposed routes vary from approximately 8 -14 km in length, with the Western Alignment being the longest.

The extent of the proposed development (a linear development exceeding more than 300 m in length) falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

The aim of the study is to locate and map archaeological sites and remains that may be negatively impacted by the planning and construction of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

2. TERMS OF REFERENCE

The terms of reference for the archaeological study were:

- to determine whether there are likely to be any archaeological sites of significance within each of the proposed road alignments;
- to identify and map any sites of archaeological significance within each of the proposed road alignments;
- to assess the sensitivity and conservation significance of archaeological sites within each of the proposed road alignments; and
- to identify measures to protect and maintain any valuable archaeological sites that may exist within each of the proposed road alignments

3. THE STUDY SITE

A locality map is illustrated in Figure 1.

An aerial photograph of the study site is illustrated in Figure 2.

The study area extends from the foothills of the Outeniqua Mountains, commencing at a U-bend in the Outeniqua Pass known as 'Die Rus'. From Die Rus, the route continues due west (following an Eskom servitude) before dividing into four separate routes and swerving south along the coastal plateau, till George Airport (refer to Figure 1).

The upper part of the Northern Sector (refer to Figure 2), on the steep slopes of the Outeniqua Mountains is characterised by quartzite's and sandstone. This is an area where bedrock is exposed, or occurs close to the surface. The middle part of the Northern Sector and most of the Southern Sector north of the R402 is covered by deeper, fertile alluvial soils, incised by smaller rivers and watercourses. More gentle, agricultural lands characterise the area between the R402 and the N2.

The area under investigation covers portions of seven farms, namely Tolberg, Bosrug, Houtbosch, Applegrove, Modderivier, Gwaing and Moerasrivier. All of the farms in the study area have been extensively subdivided creating literally hundreds of small holdings in the surrounding area.

Blanco Village itself is located between the Malgas and Malgate Rivers, west of George and is situated on land that was expropriated by Government in the 1820's when George was evolving as a town (De Kock 2008).

Documentary evidence indicates that the study area has been inhabited (by recent settlers) since at least the early 1700's (De Kock 2008). Most of the study area has been severely modified by agricultural activities (mainly grazing for cattle and sheep, vegetable farming and some wheat production). Thick, almost impenetrable, stands of Black Wattle occur on the steep slopes on the foothills of the Outeniqua Mountains. In recent years, a large commercial hops and strawberry industry has developed around the middle part of the Northern Sector. Most of the study area is therefore in an already highly transformed state.

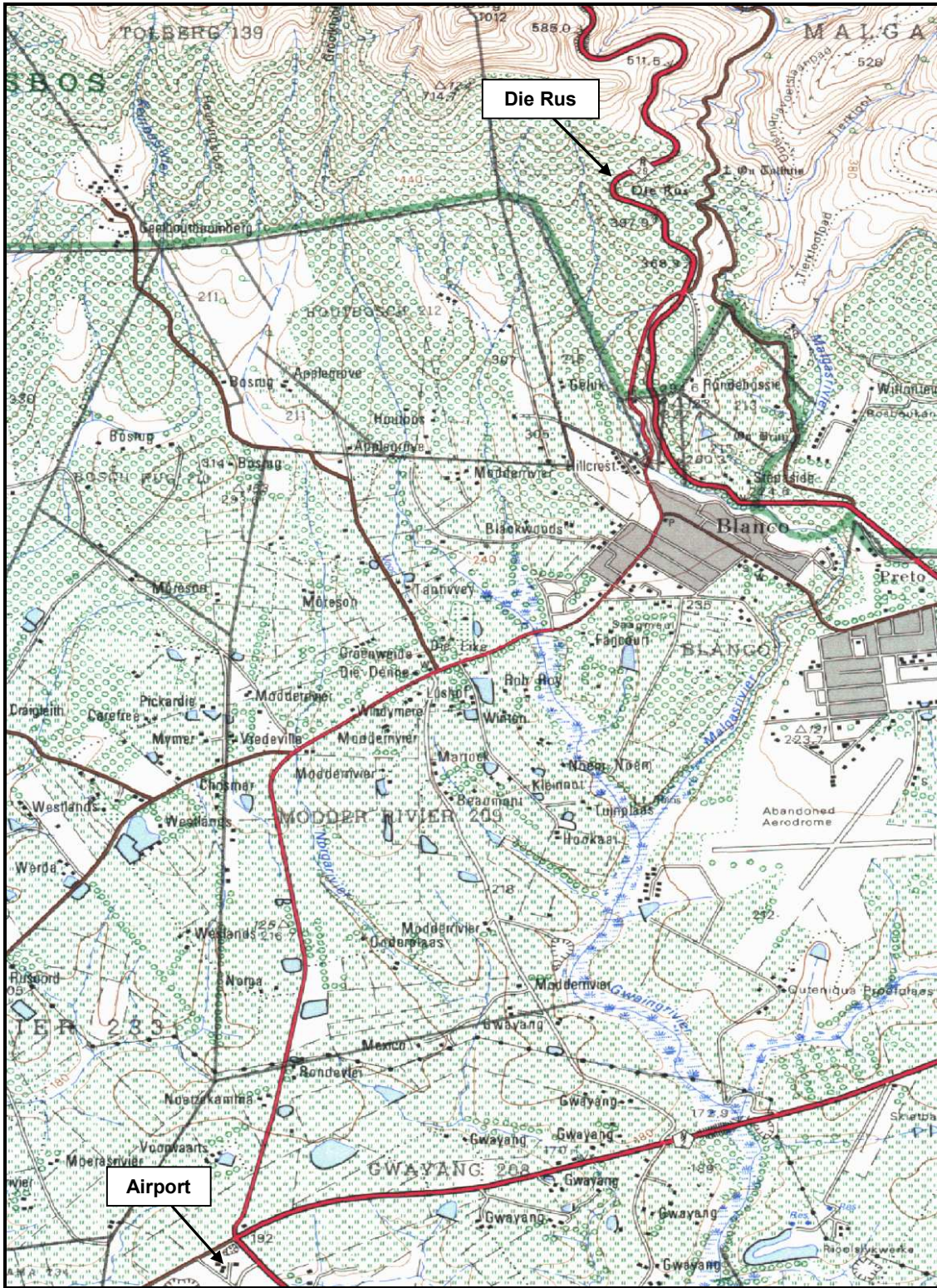


Figure 1. Site Locality (3322 CD George)

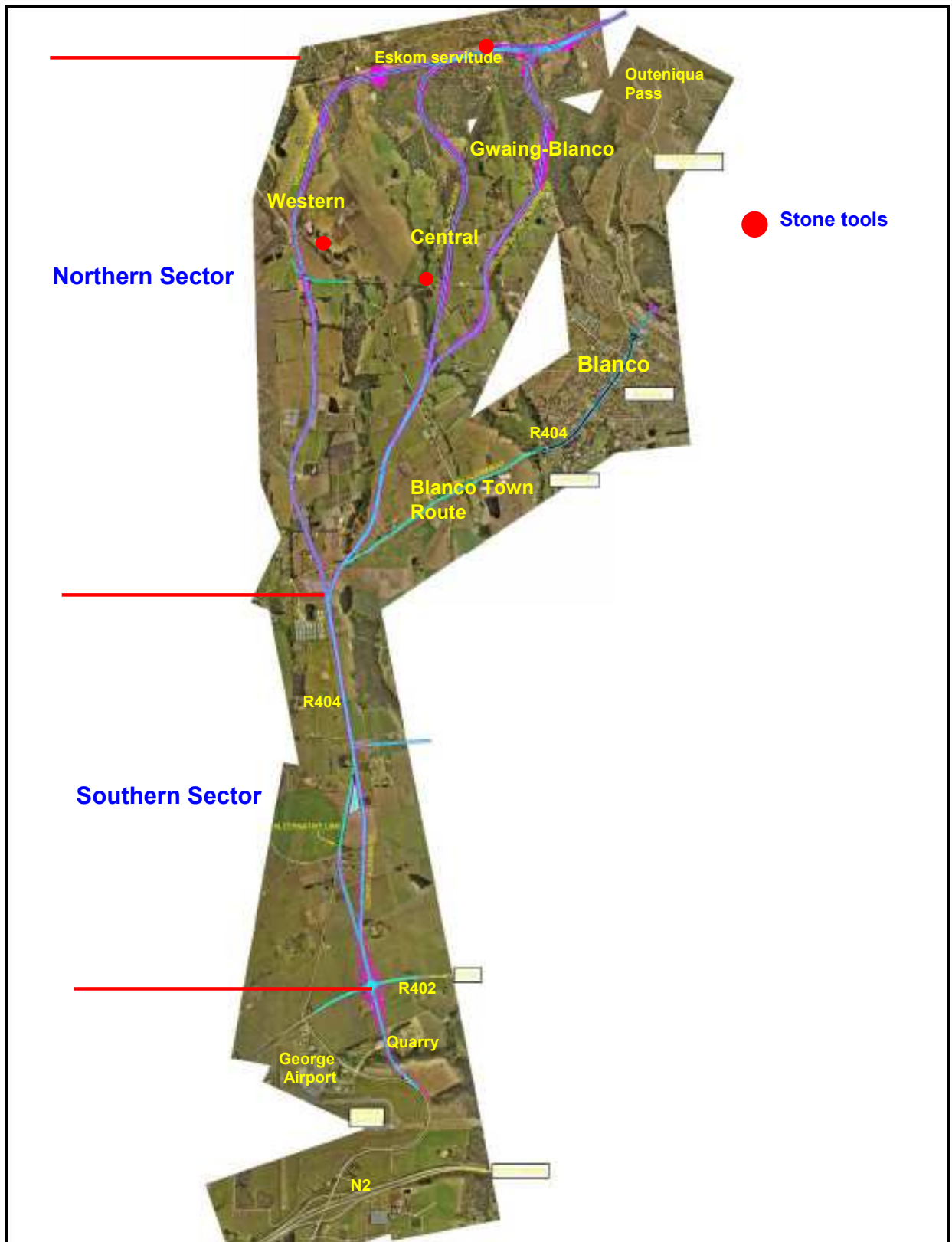


Figure 2. Aerial photograph indicating the various alternative route alignments

4. STUDY APPROACH

4.1 Method of survey

The various road alignments have been superimposed on a composite 1:10 000 colour orthophoto (refer to Figure 2). It is assumed that this information is correct. Each of the proposed alternative road alignments was searched on foot. The proposed alignment (Southern Sector) along the existing R404 was driven along. A series of digital photographs of each of the proposed road alignments was taken during the course of the study.

The site visit and assessment took place over five days, between the 16th and 19th December, 2008, and 8th January, 2009.

A desktop study was also undertaken.

4.2 Constraints and limitations

There were few constraints and/or limitations associated with the study. Most of the Southern and Northern Sector alternative alignments is characterised by highly modified agricultural lands (i.e. ploughed fields). Severe limitations were, however, experienced where the Central and Gwaing-Blanco Alignments crossed steep areas of thick Black Wattle, at contours level with the Outeniqua Pass, resulting in low archaeological visibility.

4.3 Identification of potential risks

- Earthmoving operations may expose archaeological remains such as Early and Middle Stone Age tools, but the significance of these impacts is considered to be low.
- Unmarked human remains (both historical and pre-colonial) may be uncovered, or exposed, during road construction activities.
- De Kock (1989:8) believes that (historical) water irrigation furrows, may possibly be exposed or uncovered during road construction activities. These features, which network over all the affected farm boundaries, are still in use today.

4.4 Results of the desk top study

The desktop study is confined to the pre-colonial history.

For an overview of the more recent, documented, heritage of the study area, refer to the preliminary Heritage Study by Perception Environmental Planning (De Kock 2008).

Two archaeological impact assessments of (previously) proposed road links between the Outeniqua Pass and the N2 were undertaken by archaeologists from the University of Cape Town (Halkett and Hart 1997; Halkett 1999). A small borrow pit on the old airfield southeast of Fancourt Golf Estate near Blanco revealed the presence of some Early and/or Middle Stone Age material on the spoil heaps, while some ESA/MSA artefacts and occasional flaked stones were located around the edge of a small dam and along

the route of a small pipeline, on the farm Modderivier (Halkett and Hart 1997). The archaeological material was found in a disturbed context and the significance of the impacts was rated as being very low. No archaeological remains were documented during the 1999 study of the proposed SAFCOL Corridor (Halkett 1999).

Archaeological Impact Assessments that have been undertaken in the broader area of George indicate that generally, archaeological traces of Stone Age origin occur in low densities and are very thinly and randomly dispersed over the surrounding landscape (Kaplan 2007a, b, 2006, 2003a; Nilssen 2007a, b, 2006) Bushman rock paintings, comprising human figures, animals and entoptic forms have, however, been documented at higher elevations (in sandstone shelters and overhangs) on the Outeniqua Pass (Kaplan 1990).

On, or nearer to the coast, archaeological sites are far more ubiquitous and the density of artefact scatters and sites is much higher (Kaplan 1993). For example, large numbers of Early Stone Age (ESA) and Middle Stone Age (MSA) tools have been documented at Oubaai (Kaplan 2001) and The Brink (Kaplan 2004) near Herolds Bay, and Lagoon Bay near Glentana (Kaplan 2005). Shell middens have also been documented on the steep coastal cliffs at Oubaai (Kaplan 2001), while Herolds Bay cave is a declared National Monument site. Coastal caves also occur near Glentana (Kaplan 1993).

This pattern is repeated in the Mossel Bay area as well, where away from the coast artefact densities appear to be relatively low (Kaplan 2007b, 2009 in prep.), but are much higher at, or nearer to the coast (Kaplan 2007c, 2003b, 1997).

5. LEGAL FRAMEWORK: The National Heritage Resources Act

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

Section 38 of the Act also indicates that any person **constructing a road or similar linear developments exceeding 300m in length** (my emphasis) is required to notify the responsible heritage resources authority, who will in turn advise whether an impact assessment report is needed before development can take place.

With regard to burial grounds and graves, Section 36 (3) of the Act stipulates that no person may, without a permit issued by the relevant heritage authority or SAHRA, (a) destroy, damage or exhume the grave of the victim of conflict; (b) destroy, damage or exhume any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority.

Subject to the provision of any other law, any person who in the course of development discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the relevant heritage authority which must, in co-operation with the South African Police Service and in accordance with the regulations of the responsible heritage authority, carry out an investigation to determine whether the grave is protected in terms of the Act or is of significance to any community

With regard to buildings and structures, Section 34 of the Act stipulates that no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

Living heritage (defined in the Act as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) is also given protection under the Act. Section 24 (of the Act) makes provision for provincial heritage resources authorities to maintain a register of heritage resources and to set up management plans for their preservation.

6. RESULTS

6.1 The proposed Southern Sector

The proposed southern sector (and its proposed alternative route alignments), extend over a distance of about 6 kms and covers mostly level agricultural lands – mainly pastures. The character of this landscape has been heavily altered, not only by agricultural and agricultural related activities but also by quarrying (refer to Figure 2). A 1.5 km section of the proposed route alignment follows the existing Blanco-Airport Road (R404).

No archaeological remains were documented in the Southern Sector.

6.2 The proposed Northern Sector

The proposed Northern Sector comprises four alternative alignments:

6.2.1 Western Alignment: Much of the character of this landscape has been significantly altered, mainly by agricultural activities (smallholdings, pastures, vegetable farming, large commercial strawberry production and hops farming).

Finds: Two Early Stone Age (ESA) quartzite flakes were found in a gravel road alongside a small stream, on the Farm Bosrug (refer to Figure 2). The finds occur about 200 m east of the proposed alignment, at about km 9.25.

One unmodified Middle Stone Age (MSA) quartzite flake was also found in the Eskom servitude that occurs west of 'Die Rus' (Figure 2). The above remains are clearly out of primary context.

6.2.2 Central Alignment: The Central alignment is characterised by a rural landscape dominated by agricultural activities (grazing pastures), large commercial strawberry enterprises, smallholdings and stands of Black Wattle at contour levels similar to the Outeniqua Pass.

Finds: Two ESA quartzite flakes and one large ESA flaked cobble were found in the road (MR6967), at a crossing on the upper reaches of the Gwaing River on the Farm Modderivier (refer to Figure 2). The remains occur in a disturbed context.

The archaeological remains have been rated as having low local significance.

6.2.3 Gwaing-Blanco Alignment: The receiving environment is dominated by agricultural lands (pastures), a large commercial strawberry enterprise, and smallholdings. The upper reaches of the alignment, at steep contour levels similar to the Outeniqua Pass is dominated by a heavily invaded Black Wattle.

No archaeological remains were documented in the Gwaing-Blanco Alignment.

6.3 The proposed Blanco Town Alignment: The proposed route follows the existing Airport-Blanco Town Road (R404) and pass through the historical township of Blanco.

No archaeological remains were documented in the Blanco Town Alignment.

7. IMPACT STATEMENT

The Archaeological Impact Assessment has identified no significant impacts to pre-colonial archaeological material that will need to mitigated prior to proposed development activities.

It is important to note that the archaeological assessment of the various proposed road links between the Outeniqua Pass and the N2 (Halkett and Hart 1987; Halkett 1989) also showed, that little in the way of surface archaeology exists along the proposed routes. The material that was located is sparse and is (in all likelihood) in secondary context and `utilising the proposed routes would not result in any significant impacts' (Halkett and Hart 1987:5). Studies in the broader area of George indicate that generally, archaeological traces of Stone Age origin occur in low densities. More than 300 years of intensive agricultural activity has probably also, more than likely destroyed all evidence of any factory or workshop sites, or the result of any human settlement.

The assessment of the potential impacts on archaeological resources, for each of the proposed alternative alignments, is summarised in Tables 1-4

Table 1. Archaeological impact assessment: Western Alignment

Impact on Archaeological remains		
Western Alignment	With Mitigation	Without Mitigation
Extent	Local	Local
Duration	Permanent	Permanent
Intensity	Low	Low
Probability	Improbable	Improbable
Significance	Low	Low
Status	Neutral	Neutral
Confidence	High	High

Table 2. Archaeological impact assessment: Central Alignment

Impact on Archaeological remains		
Central Alignment	With Mitigation	Without Mitigation
Extent	Local	Local
Duration	Permanent	Permanent
Intensity	Low	Low
Probability	Improbable	Improbable
Significance	Low	Low
Status	Neutral	Neutral
Confidence	High	High

Table 3. Archaeological impact assessment: Gwaing-Blanco Alignment

Impact on Archaeological remains		
Gwaing-Blanco Alignment	With Mitigation	Without Mitigation
Extent	Local	Local
Duration	Permanent	Permanent
Intensity	Low	Low
Probability	Improbable	Improbable
Significance	Low	Low
Status	Neutral	Neutral
Confidence	High	High

Table 4. Archaeological impact assessment: Blanco – Town Alignment

Impact on Archaeological remains		
Blanco -Town Alignment	With Mitigation	Without Mitigation
Extent	Local	Local
Duration	Permanent	Permanent
Intensity	Low	Low
Probability	Improbable	Improbable
Significance	Low	Low
Status	Neutral	Neutral
Confidence	High	High

De Kock (2008:8-9), however, makes a telling point where he asserts that it is 'impossible to say that footprints of early settlers will not be unearthed during any excavation work that may take place in the building of the new bypass road, whichever route is decided on'. One high risk heritage component is that of (historical) water irrigation furrows. These features are older than 60 years and network over all the affected farm boundaries. Many are still in use today.

Additional recommendations relating to the built environment and rural and urban cultural landscape of the study area have also been made by De Kock (2008:9).

8. CONCLUSION

With regard to the construction of the proposed George Western Bypass Road – N2 to Outeniqua Pass, the archaeological assessment has shown that no one route is preferred over the other. Each of the proposed alternative alignment would be suitable for construction of a bypass road.

9. RECOMMENDATIONS

With regard to the proposed George Western Bypass Road, the following recommendations are made:

- Bulk earthworks and excavations must be monitored by a professional archaeologist during road construction activities. Archaeological monitoring is an important component of conserving and managing (any) archaeological and historical resources that might be uncovered or exposed during road construction activities.
- Should any human remains be disturbed, exposed or uncovered during excavations and earthworks, these should immediately be reported to the archaeologist, or the South African Heritage Resources Agency (Mrs Mary Leslie (021) 462 4502). Burial remains should not be disturbed or removed until inspected by the archaeologist.
- Once identified, all borrow pit sites for the proposed bypass road, must be investigated for archaeological remains.

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