

**Heritage Impact Assessment
Upgrade of R310 (MR168 and TR2/1) and
Quarterlink on TR2/1**



4 February 2011

Prepared for

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Executive Summary

This report forms part of an Environmental Impact Assessment for the upgrade of the section of the R310 between the N2 and the Polkadraai intersection (MR168 and TR2/1) and the construction of a new Quarterlink from the R310 to the R102 to the south of the village of Faure. This report was commissioned by SRK Consulting (SA) (Pty) Ltd on behalf of the Western Cape Department of Transport and Public Works – Road Infrastructure Branch.

The R310 traverses the Eerste River valley cultural landscape which forms part of the greater Cape Winelands cultural landscape, but is not included in the Cape Winelands Cultural Landscape identified by SAHRA as a Grade 1 National heritage site (Dwarsrivier valley, Idas valley, Groot Drakenstein/Simondium and Simonsberg forest reserve). A number of historical farmsteads are situated along the R310, of which a number are Provincial heritage sites. These farmsteads are not directly impacted by the widening of the R310 as they are mostly situated some distance from the road. The Eerste River cultural landscape is the heritage resource which will be affected by the proposed upgrade and the nature of the impact will be visual.

Recommendations

- It is recommended that the engineers consult with a landscape architect and/or urban designer prior to commissioning the detail drawings. Options need to be considered re road edge treatments to maintain and even improve on the present scenic qualities of the route and to ensure that the upgraded R310 adds value to the cultural landscape, as a heritage resource and to the R310 as a scenic route.
- Traffic signage should be appropriate with a rural road and visual clutter should be avoided. Input from a landscape architect and/or urban designer would be beneficial.
- Public transport stops and signage should be low-key and appropriate in scale and style.
- The planting of avenues of trees is a historical tradition which can be used in order to improve the scenic qualities of the R310. Care should be taken to use historically appropriate species e.g. oaks and poplars rather than palms.
- Some archaeological artefacts were observed in the vicinity of the rail service road. Road works along the road in particular should be monitored by a professional archaeologist specializing in Stone Age archaeology.
- The opportunity exists as the result of the upgrade to re-address entrances to private property where the entrance gates are of an inappropriate scale or style and advertisement signage clutters the roadside.

Preferred alternatives

- There are no objections to the upgrade of the R310. It would be preferable, as far as possible from a heritage perspective, to aim for narrowest road reserve i.e. 30m when upgrading to a dual carriageway, as this would have the least visual impact on the cultural landscape.
- Alternative 6B is preferred as the new access road to Faure in terms of the present Project Description.
- With regards to the closure of the railway crossings at Vlaeberg and Lyndoch stations and the construction of the pedestrian bridge at Lynedoch station, there is no objection from a heritage perspective as long as the scale and style of the bridges are visually congruent with similar bridges in the area and the character of the road.
- Alternative 3A would be the preferred option for the realignment of the Vlaeberg intersection.
- The reuse of the existing rail service road as a minor access road to properties cut off from the R310 as a result of the rail closures is the preferred alternative.
- There are no objections to the rationalisation of the side roads.

Conclusions

The upgrade of the R310 and associated proposed roads will predominantly have a visual impact on the Eerste River valley cultural landscape. It is acknowledged that owing to present and future traffic pressures this upgrade is unavoidable. The opportunity exists to improve the scenic qualities of the road.

The visual impact on the landscape must be mitigated by keeping visual clutter to a minimum and retaining the overall style and scale of a rural road e.g. no raised kerbs nor raised medians.

The upgrade of the R310 allows for the opportunity to re-address the entrances and signage of private properties facing onto the R310. Entrances should be of a historically appropriate scale and not cluttered by obtrusive signage e.g. Vredenheim.

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1. Introduction

The Western Cape Department of Transport and Public Works – Roads Infrastructure Branch plans to upgrade the section of the R310 between the N2 and the Polkadraai intersection (MR168 and TR2/1) (Figure 1) in response to increased (and increasing) traffic demands and associated safety concerns. The construction of a new Quarterlink between the R310 and the R102 is also included in this upgrade. It is envisioned that the project will be implemented over a period of 20 years. This report was commissioned by SRK Consulting SA (Pty) Ltd on behalf of the Western Cape Department of Transport and Public Works and forms part of the Environmental Impact Assessment (EIA) process.

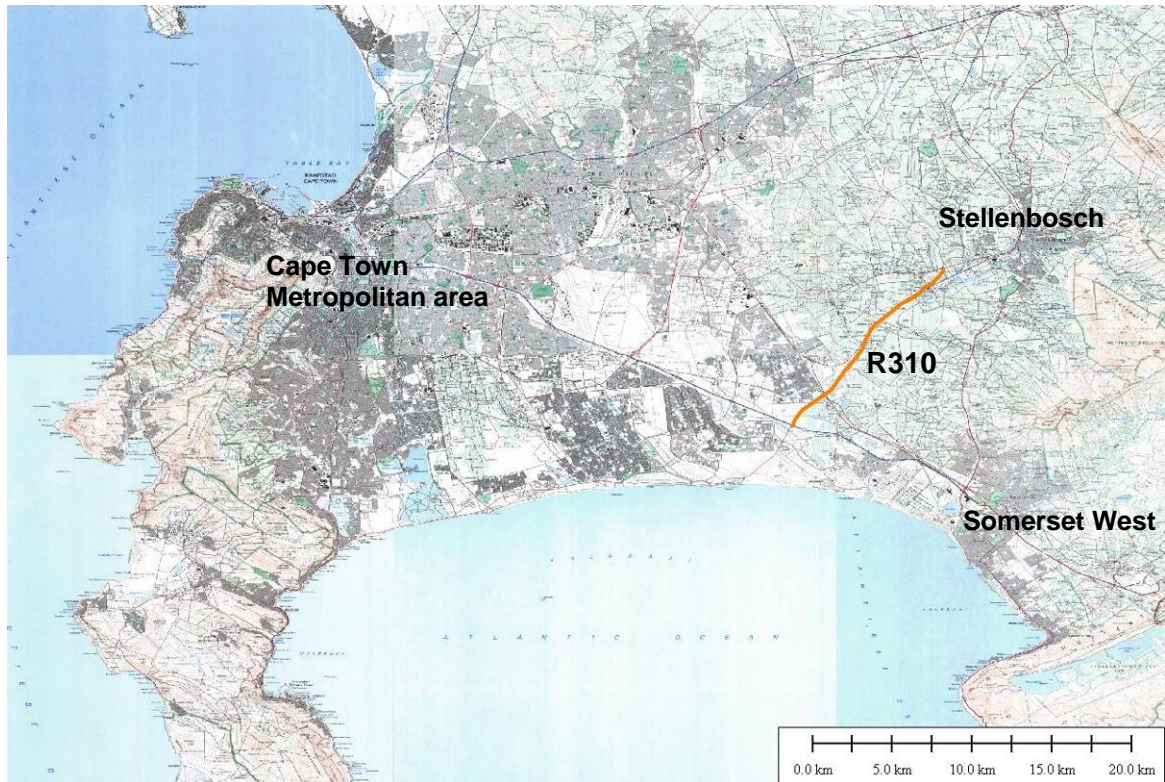


Figure 1: Location map. The relevant portion of the R310 is shaded orange (1:50 000 topographical maps: 3318 CD, DC, DD and 3418 BA).

In terms of the National Heritage Resources Act (NHRA), Act 25 of 1999, Section 38, a heritage impact assessment was requested by Heritage Western Cape (HWC). The RoD, dated 8 November 2010 called for the following to be included in the assessment:

- Visual impact assessment (VIA) focusing on the cultural landscape, urban design (i.e. landscape architecture) and scenic route qualities
- Details of the treatment of the historic farm entrances²
- Relocation of labourers affected by the road widening (inhabiting historic labourers cottages)³
- Detailed drawings of the proposed road including road edge treatment, road width and the proposed road reserve.

² This refers to the road edge treatments at these entrances. The relocation of gate posts and entrances are the responsibility of the landowner and do not form part of the road widening brief. The entrances/gate posts themselves are not authentic.

³ One cottage would be demolished. The cottage in question is not occupied by a family or on a full time basis.

1.1. Project description (See EIA report for detailed project description)

During the initial phase of the proposed upgrade, the R310 will be resurfaced and widened where necessary. During this phase, the road will remain a single carriageway, with the exception of the section between Lynedoch and Spier, which will be reconstructed as a dual carriageway within a 30m road reserve. The improvements will take place within the proposed 40 – 50m road reserve with the aim of retaining the improved road as one of the lanes of the subsequent dual carriageway (Appendix 1). Subsequent phases of the project include the closure of the railway crossings, rationalisation of side roads and the construction of a new Quarterlink. The project alternatives are summarized in Table 1.

Table 1: Summary of alternatives being assessed in the EIA process (SRK 2010).

Project Aspect	Description / Alternatives		ID
Widening of R310	Widen MR168-TR2/1 as described in detail in the EIR		1
Rationalisation of side roads	Rationalise side roads as described in detail in the EIR		2
Elimination of level railway crossings	Re-align Vlaeberg Road to the south, build a road-over-rail bridge, close crossings at Vlaeberg and Lynedoch		3A
	Build road-over-rail bridge at (or very close to) the existing Vlaeberg Road crossing, raise MR168 by approximately 4 m to meet the bridge, close crossing at Lynedoch		3B
	Build road-over-rail bridge at (or very close to) existing Vlaeberg Road crossing and road-over-road bridge over MR168, close crossing at Lynedoch		3C
New minor access road	Southern end	Align road between properties and the railway line before joining Vlaeberg Road	4A
		Align road behind properties and the railway line before joining Vlaeberg Road	4B
	Middle section	Construct continuous road connecting Vlaeberg Road and Vlottenburg Road	4C
		Discontinue road (maintain as rail service road) between Lynedoch and Fransmanskloof	4D
	Northern end	Connect road to Vlottenburg Road	4E
		Connect road to MR168 on top of rail bridge	4F
Quarterlink realignment	Realign Quarterlink approximately 200 m to the south		5
New access to Faure	Access from Quarterlink via Erf 653/12 and north of the church		6A
	Access from Quarterlink, but aligning road within Quarterlink road reserve, and south of the church		6B
	Access from R102, approximately 200 m south of existing access		6C
	Access from R102, approximately 250 m south of existing access		6D

1.2. Site description and context

The R310 is situated to the west of the Eerste River and forms part of the Stellenbosch Wine Route. The section of the R310 covered in this project is situated partly in the Cape Town Municipality and partly in the Stellenbosch Municipality. Eersterivier, de Wijnlanden and the Dreamworld Film Studio to the west of the R310, and Faure and Croydon to the east of the R310,

fall within the recommended urban edge as described in the 2010 draft Spatial development framework (SDF) for the Cape Town Municipality (Fourie 2010). Along the remainder of the R310, which is situated in the Stellenbosch Municipality, three rural settlement nodes have been identified in the 2010 Stellenbosch SDF: Lynedoch, Vlotenburg and the Spier/de Zalze precinct (CNdV 2010). Increased urban densification can be expected in these areas (Figure 2).

The remainder of the landscape through which the R310 traverses is predominantly agricultural, although Topshell Park (Secoment Park) and the bottling facility near Kompanjiesdrift road do not conform (Plates 1 and 2). Proposals have also been submitted for the subdivision and rezoning of a portion of the farm Vergenoegd (Farm 653/15) for the construction of a business park as well as for a low density residential development of the section of farm to the south of the present Quarterlink (Erf 5541⁴). Another development proposal is being considered at Vredenheim adjacent to the Vlotenburg Road (Reuther pers comm. 2010).

2. Methodology

Heritage sites along the R310 were identified and attributed significance, in terms of definitions prescribed by the National Heritage Resources Act (NHRA), Act 25 of 1999. Two field visits were undertaken in November and December 2010. The following reports have informed this assessment:

- Two desktop baseline studies (Atwell 2009 (MR168); Clift 2010 (TR2/1 and Quarterlink) that were undertaken during the Scoping phase of the EIA process. These reports identified potential built environment and cultural landscape heritage concerns. They were submitted with the Notification of Intent to Develop (NID) to Heritage Western Cape (HWC) as accompanying documentation.
- A preliminary Archaeological Impact Assessment (AIA) of the potentially affected area, which took place in October 2010 and is included in this report as Appendix 2.
- A visual impact assessment (VIA), which was commissioned as a separate report and undertaken by Belinda Gebhardt (2011). (See Appendix x in the EIA report)

The impact assessment rating is based on impact rating methodology provided by SRK in the Terms of Reference.

2.1. Assumptions and limitations

- Heritage resources and their significance are defined by the NHRA, Act 25 of 1999.
- The NHRA, Act 25 of 1999 makes provision for the rating of the significance of heritage sites using a 3 tier grading system. Until gradings have been proposed to and ratified by the relevant heritage authority, significance is indicated by 'proposed grading'. While previous National Monuments are designated as Provincial Heritage Sites (Grade 2), they are subject to reassessment in terms of the NHRA's definitions of significance.
- Palaeontological resources have not been included in this report.
- 'R310' refers to the section of the R310 between the N2 and the Polkadraai intersection. It is comprised of the TR2/1 (between the N2 and R102) and MR168 (between R102 and Polkadraai Road).

⁴ This application was approved on 18 November 2010).

- The area adjacent to the R310 is very changeable and this report is limited by the observations as recorded in October/November 2010. Heritage resources are described in terms of their present state and context.
- The impact of the upgrade of the R310 on the cultural landscape is assessed in terms of the present state of the cultural landscape.
- The approval for the upgrade and dualling of the R310 will potentially have a knock-on effect with regards to facilitating the future development of the areas adjacent to the R310. The impact of proposals for subdivision of agricultural land and development proposals mentioned earlier in the text, have not been included in the heritage impact assessment as they are subject to their own impact assessments.

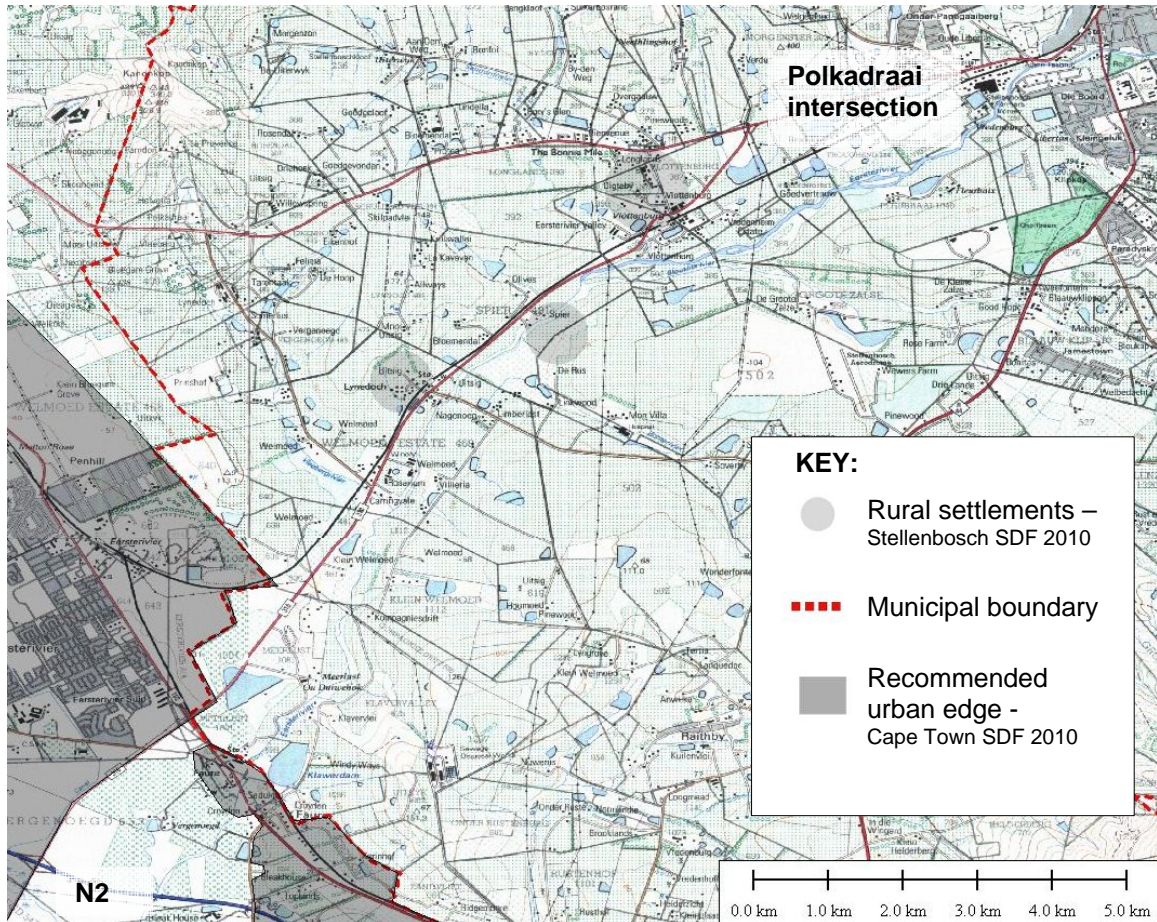


Figure 2: The R310 from the N2 to the Polkadraai intersection. Areas shaded grey indicate where increased urban densification can be expected in the future (1:50 000 topographical maps: 3318 CD, DC, DD and 3418 BA).



Plate 1: Topshell Park (Secomet Park) and container yard situated to the southwest of Welmoed Winery.



Plate 2: Bottling facility near Kompanjiesdrift road.

2.2. Public participation process

As part of the EIA process, the Final Scoping Report was circulated amongst Interested and Affected Parties (IAP). Comments regarding heritage issues were extracted from the Comments and Responses report (SRK Report No 390573/6 August 2010) (Table 2).

Table 2: Responses from the Interested and Affected Parties with regard to heritage concerns identified in the Draft Scoping Report.

#	Comment/Issue	Date	IAP	SRK Response
93.	The proposed development requires comment (RoD) from Heritage Western Cape (HWC). The process is currently running its course and the RoD from HWC is awaited	19 Jul 10	Natalie Newman City of Cape Town	Your comment has been noted.
94	A proper impact assessment is necessary to determine the direct and indirect impact of the proposed Quarterlink on Faure and Vergenoegd Farm, a Provincial Heritage Site that is already under threat due to the proposed office park on a section of the farm.	10 Aug 10	Patricia Botha Stellenbosch Interest group (SIG)	Such an assessment will be undertaken during the impact assessment phase, which also includes the compilation of a heritage impact assessment.

This report aims to address both responses/comments from the IAPs as well as the comment from HWC as described in Section 1.

Once the Draft EIA has been completed, it will be made available for public comment for a period of 40 days. If substantial changes to the document are required, the amended document will be circulated for an additional 21 days for public comment.

3. Heritage resources

The Eerste River valley has a long history of human occupation, spanning the earlier Stone Age into the present. The heritage resources along the R310 are the physical manifestations of the history of human occupation and use of the valley over time. Heritage resources of the portion of the Eerste River valley directly associated with the R310 are shown in Figure 3.

3.1. Cultural Landscape

Description

The Cape Winelands Cultural landscape, as described in the UNESCO nomination to the tentative list of World Heritage sites, is very general and the Eerste River valley is included in this general description. The Eerste River valley, however is not one of the four areas that the South African

Heritage Resources Agency (SAHRA) has identified as the Cape Winelands Cultural Landscapes Grade 1 National heritage sites, viz. Idas Valley, Dwarsrivier valley, Groot Drakenstein/Simondium and the Simonsberg Forest Reserve.

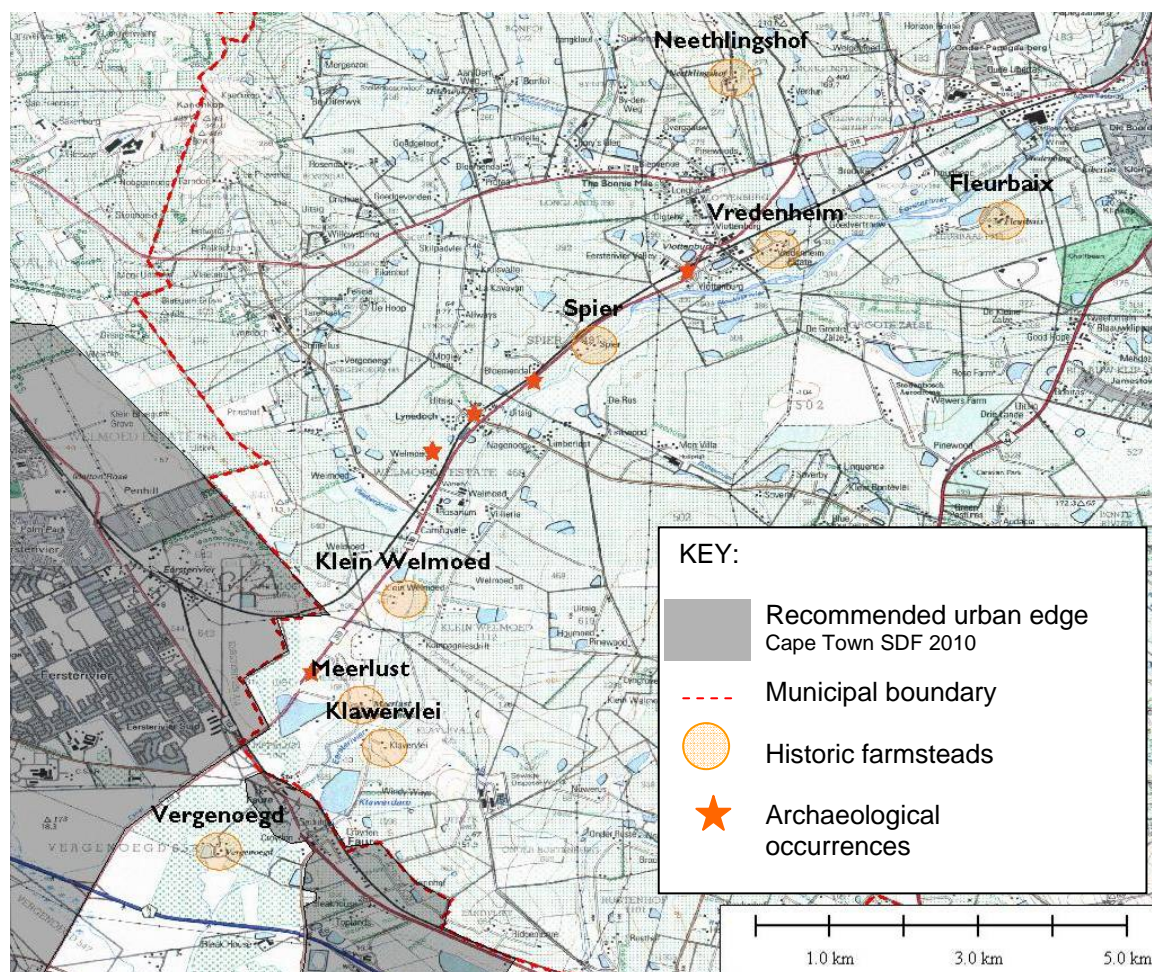


Figure 3: Heritage resources located along the R310 corridor⁵ (1:50 000 topographical maps: 3318 CD, DC, DD and 3418 BA).

The Eerste River valley cultural landscape is a continuing and evolving cultural landscape: multilayered and reflecting millennia of human occupation and centuries of endeavour. The Eerste River forms a transport corridor: initially for the earlier wagon route to Stellenbosch⁶ and later the R310. A portion of the railway line is also situated along this corridor. The historic farmsteads⁷ were originally situated along the earlier wagon route, closer to the river. The river remains an important natural resource.

The Helderberg mountain backdrop and the river contribute to the scenic qualities of this landscape and also to the sense of place of the historic farmsteads situated along the R310. It is these qualities which signal the R310's potential as a scenic route, as well as its significance as a tourism resource. The Eerste River valley is part of the Stellenbosch Wine Route and most of the historic farmsteads along the R310 are involved in the hospitality industry, including wine tourism.

⁵ Klawervlei, Neethlingshof and Fleurbaix are not included in the HIA as they are well removed from the R310.

⁶ This route branched off the main wagon route from Cape Town, across the Cape Flats and the Hottentots Holland mountains into the Overberg. This earlier route roughly follows the alignment of the old Faure Main Road, linking up with the R102.

⁷ Refers in this context to the 'werf': the main dwelling house, the outbuildings (barns, cellar buildings, slave lodges, wagon houses etc)

Extending from its evolution through time, a number of landscape themes can be identified in this section of the Eerste River valley cultural landscape. These landscape themes are listed below:

- Early human occupation (relic, archaeological landscape)
- 18th century Cape agricultural traditions reflected in Cape Dutch architecture (represented by werf complexes such as Vergenoegd, Meerlust and Vredenheim⁸)
- Old wagon routes (Kompanjiesdrift, historic gateway to Klein Welmoed)
- Mid 19th century village development (Faure)
- Mid 19th century railway and stations with associated settlements (Lynedoch, Vlottenburg, Faure station)
- Late 19th/early 20th century agri-industry (van Ryn brandy distillery, Vlottenburg (now Stellenbosch Hills Winery))
- 20th century wine (and) tourism (Spier, Vergenoegd, Meerlust, Vredenheim)
- 20th/21st century agri-industry (Topshell Park, Aspidistra, bottling facility at Kompanjiesdrift road)
- 20th/21st century urbanisation (Eersterivier, De Wijnlanden)

Significance – Proposed Grade 3A or 3B

The Eerste River valley cultural landscape has significance in terms of its aesthetic, historical and architectural values:

- Aesthetic qualities in terms of the Helderberg mountains forming a backdrop to characteristic (whitewash and thatch) Cape Dutch farmsteads and the patchwork of cultivated land.
- Illustrates a settlement pattern dating from the late 17th century/early 18th century, of farmsteads and farms situated near permanent sources of water and linked to each other by a network of wagon routes (many of which are echoed by today's existing secondary road network).
- Potential of the historic farms as an archaeological resource to contribute to a better understanding of ways of life on 18th century farms, including slavery. Many of the historic farms in this area relied heavily on slave labour, which is reflected in subsequent attitudes towards labour and labour housing.
- Good examples of Cape Dutch architecture with intact outbuildings in addition to well preserved manor houses.
- Evidence of historic layering: historic subdivisions with later dwellings and development of wine industry (distillery).

Vulnerability

The cultural landscape along the R310 is not uniform. The R310 crosses a landscape which represents the entire continuum from urban to rural. Threshold conditions exist at the crossover of the R310 and the R102. The R102 roughly marks the divide between the established urban area

⁸ Considered to be the 'high point' in the Cape history, this period was celebrated in Afrikaans nationalism, which accounts for the disproportionate number of Cape Dutch homes which were declared National Monuments in the 1970s and 180s, as well as the trend, then, to 'restore' historic houses and farm complexes 'back' to this period.

i.e. Eersterivier with De Wijnlanden currently forming what could be described as a buffer zone between the urban and agricultural landscape.

The Eerste River valley cultural landscape is vulnerable to unmanaged commercial developments and urban sprawl, particularly along the R310. Topshell Park is an example of an unsympathetic development which detracts from the significance of the cultural landscape. The potential of the road widening to fundamentally change the character of cultural landscape and contribute to an acceleration in the change in land use is a concern.

3.2. Archaeology

Description

The Stellenbosch area was once well known for its occurrences of Early and Middle Stone Age tools and the so-called 'Stellenbosch Industry' was commemorated by a plaque (which has subsequently been stolen) on a boulder near the Adam Tas bridge, just outside Stellenbosch. Archaeological material in the immediate vicinity of the R310 is restricted to widely dispersed occurrences of low density of Early and Middle Stone Age artefacts and occasionally 19th century ceramics. Artefacts were mostly found in disturbed contexts.

Significance – Proposed Grade 3C

- Scientific value in terms of research of early human occupation and recording distribution of artefacts over the landscape

Vulnerability

The 'invisibility' of archaeology to the untrained eye often causes the dismissal of archaeological resources as irrelevant.

3.3. Built environment

A number of historically significant farmsteads along the R310 were identified in Attwell (2009) and Clift (2010). The majority of these farms rely on wine, wine tourism and to varying degrees the hospitality industry. Many of the farmsteads have been restored, and, in the case of Vergenoegd, Meerlust dovecot and Vredenheim (originally Vredenburg) are protected as provincial heritage sites⁹ (PHS). With the exception of Spier all the historic farmsteads are screened from the R310 either by the topography or actual distance from the road. Stellenbosch Hills Winery at Vlotenburg and the Van Ryn Complex and Brandy Museum date to the late 19th/early 20th century and are representative of the industrialization of the wine industry. These sites are described below in geographical sequence from the N2 to the Polkadraai intersection.

3.3.1. Vergenoegd (PHS):

Vergenoegd was granted in 1699 to Pieter Vos. It forms part of a group of farms granted in the late 17th century in the Moddergat area. It was acquired by the Faure family in 1820. Vergenoegd farmstead was declared a National Monument in 1974. It was restored by restoration architect John Rennie.

⁹ Previously declared National Monuments, these sites are now protected under the NHRA as provincial heritage sites and have automatically been allocated Grade 2 status. This status still needs to be ratified in terms of the criteria of the NHRA.

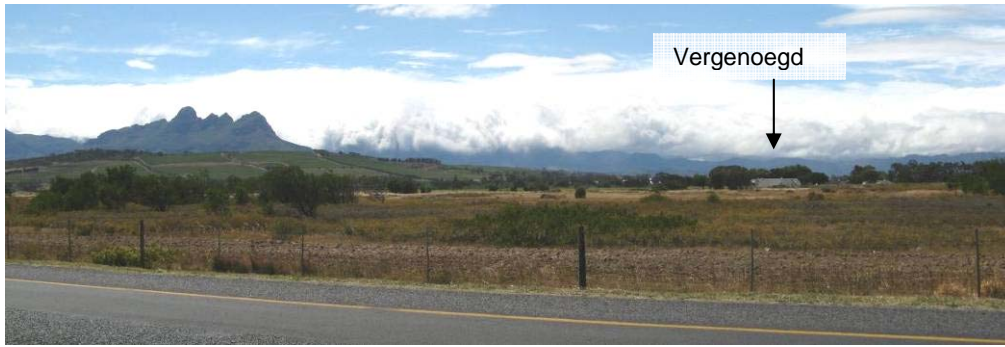


Plate 3: Vergenoegd farmstead viewed from the R310. The Helderberg is visible in the background (left).

Significance – Proposed Grade 3A

- Architectural significance in terms of being representative of Cape Dutch style, as well as the restoration work by a well-known contemporary architect
- Historical layering, from the 17th century to the present
- High potential for finding intact archaeological deposits of the earlier periods which could contribute to a better understanding of ways of life of land owners as well as their slaves
- Aesthetic significance in terms of its setting and with the Helderberg as backdrop
- Strong sense of place

Vulnerability

The proximity of the farm to the City of Cape Town and its situation in relation to the latter's recommended urban edge makes the farm vulnerable to subdivision and urban development. It is essentially the last rural/agricultural node between the metropolitan area and Somerset West. The upgrade of the R310 and the new Quarterlink will allow for increased traffic volumes and may increase development pressure on this farm.

3.3.2. Faure Village

Faure is a small rural village/hamlet situated near the crossing of the Eerste River. The land on which it is situated was originally part of the farm Gedult, granted to Ferdinand Appel in 1699. Appel also owned the warm springs at Caledon and it is speculated that Gedult was used as a resting point for people en route to the springs before tackling the trek over the Hottentots Holland Mountains. An Anglican Church attributed to Mrs Sophy Grey is situated at the western end of the village, which was surveyed and laid out in 1856. The village was one situated at the junction of the road between Cape Town and the Overberg and the road to Stellenbosch.



Plate 4: View of Faure, facing north-east, from the local access route to Vergenoegd farmstead.



Plate 5: Views of the Anglican Church at Faure. The image on the left is taken from Faure Main Road. The image on the right shows part of the cemetery which surrounds the church. The graves are largely unmarked, suggesting they belonged to people from a lower economic status e.g. farm labourers.

Significance – Proposed Grade 3B

- Illustrative of an evolving historical landscape: from farm and overnight stop to Inn to rural village centred around the Church and the General Dealer
- Anglican church attributed to Mr Sophy Grey, the wife of Archbishop of Cape Town, Robert Grey, and its associated cemetery
- Possible association with settlement of freed slaves in the mid 19th century
- Aesthetic significance in terms of its setting and with the Helderberg as backdrop
- Strong sense of place

Vulnerability

The proposed Quarterlink passes very close to the Church and cemetery. Increased road traffic may negatively impact on the rural village qualities of Faure as well as increase development pressures on surrounding farmland as well as in the village itself.

3.3.3. Meerlust (Dovecot, PHS)

Meerlust was granted to Henning Husing in 1693. During this time, Husing held the contract as the main meat supplier to the VOC. The farmstead is considered to be a fine example of Cape Dutch architecture. The dovecot is considered to be one of the best preserved examples in the Western Cape and is a provincial heritage site (Oberholster 1972). The main dwelling house was restored by Revel Fox in the 1950s (Fransen 2004).



Plate 6: View of Meerlust from the R310.

Significance– Proposed Grade 3A

- Architectural significance in terms of being representative of Cape Dutch style, as well as the restoration work by a well-known contemporary architect
- Historical layering, from the 17th century to the present
- High potential for finding intact archaeological deposits of the earlier periods which could contribute to a better understanding of ways of life of land owners as well as their slaves
- Aesthetic significance in terms of its setting and with the Helderberg as backdrop
- Strong sense of place

Vulnerability

No immediate vulnerability in terms of the upgrade of the R310.

3.3.4. Klein Welmoed

Originally granted to Henning Husing, Welmoed farm was transferred to Jacob van der Heyden in 1696. It was acquired in 1797 by Pieter van der Byl and after his death the farm was divided between his sons into Welmoed and Klein Welmoed (Fransen 2004). The Klein Welmoed farmstead consists of a dwelling house (dated 1825) with two flanking and aligned outbuildings. Only one of the outbuildings and the entry gates are visible from the R310 (Fransen 2004). The dwelling and the northern outbuilding is shielded from the road by trees.



Plate 7: View of Klein Welmoed barn and entrance. The remainder of the homestead is screened from the R310 by tree growth.

Significance– Proposed Grade 3A

- Historical layering, from the 19th century to the present, although the degree of architectural authenticity is unknown
- Aesthetic significance in terms of its setting and with the Helderberg as backdrop
- Strong sense of place
- Remains of a furrow¹⁰ perpendicular to the R310.
- Evidence of alignment of earlier wagon route and what appears to be authentic gate posts.

Vulnerability

No immediate vulnerability in terms of the upgrade of the R310.

¹⁰ Irrigation or drainage furrows were once a common agricultural feature in the landscape. These are becoming increasingly rare as they have been rendered redundant by modern irrigation methods. Many furrows were simple clay lined trenches which fill up with soil fairly easily without regular maintenance.

3.3.5. Welmoed

Originally granted to Henning Husing it was transferred to Jacob van der Heyden in 1696. It was acquired in 1797 by Pieter van der Byl and after his death the farm was divided between his sons into Welmoed and Klein Welmoed (Fransen 2004). The context of the farmstead has been eroded by modern additions and the architectural significance is not obvious.



Plate 8: Entrance to Welmoed winery

Significance – Proposed Grade 3C

- Some historical and architectural significance as part of the late 17th century cluster of farms granted along the Eerste River
- Aesthetic value and sense of place greatly eroded by the adjacent Topshell Park

Vulnerability

Erosion of the cultural landscape through unsympathetic agri-industrial developments.

3.3.6. Spier

Granted in 1692 to Arnoud Janssen. The historic farmstead has evidence of much historical layering and a variety of gable styles are preserved within the farmstead. Fransen (2004) rates Spier as a major monument (equivalent proposed Grade 2 or 3A), although the subsequent additions to the complex detracts from the sense of place and overall significance of the complex.



Plate 9: View of Spier (portion of historic homestead visible in the centre) from the R310.

Significance – Proposed Grade 3B

- Architectural significance in terms of representing a collection of Cape Dutch gables
- Historical layering, from the 17th century to the present.

- High potential for finding intact archaeological deposits of the earlier periods which could contribute to a better understanding of ways of life of land owners as well as their slaves.
- Aesthetic significance in terms of its setting and with the Helderberg as backdrop.
- Remains of a furrow alongside the R310, shown on a survey diagram dating to 1919, illustrates a long standing agricultural tradition.

Vulnerability

Erosion of the historic sense of place by additions associated with the tourism industry. This farmstead should potentially be the most impacted by the upgrade of the R310, but the multitude of (inappropriate) additions to the complex, in fact, act as a mitigating factor.

3.3.7. Vredenheim (PHS)

Originally Vredenburg and granted to Hendrick Elbertz in 1691. The main dwelling dates to the 1780s and was restored in the 1930s (Fransen 2004). It is well set back and barely visible from the road. The entrance gates are modern.



Plate 10: View of Vredenheim from the R310.

Significance— Proposed Grade 3A

- Architectural significance in terms of being representative of Cape Dutch style
- Aesthetic significance in terms of its setting and with the Helderberg as backdrop
- Historical layering, from the 17th century to the present
- High potential for finding intact archaeological deposits of the earlier periods which could contribute to a better understanding of ways of life of land owners as well as their slaves
- Strong sense of place

Vulnerability

No immediate vulnerability in terms of the upgrade of the R310.

3.3.8. Vlottenburg/Van Ryn Distillery

The Van Ryn Distillery was established at the end of the 19th century. It is also the site of the Brandy Museum.



Plate 11: Vlotenburg/van Ryn Distillery

Significance – Proposed Grade 3A or 3B

- Architectural significance in terms of being representative of turn of the century industrial buildings
- Aesthetic significance in terms of its setting and with the Helderberg as backdrop
- Historic and social significance in terms of the establishment of the Van Ryn Distillery, and a continuation of traditional crafts associated with the wine industry e.g. cooperage (barrel making)

Vulnerability

No immediate vulnerability in terms of the upgrade of the R310. A new access road is proposed, but the industrial nature of the complex would mitigate the potential visual impact this would have.

3.3.9. Stellenbosch Hills Winery

Stellenbosch Hills Winery was established in the mid 20th century and was originally part of the Vlotenburg Co-Operative.



Plate 12: Stellenbosch Hills Winery

Significance– Proposed Grade 3C

- Some architectural significance in terms of being representative of early 20th century industrial buildings as well as contextual significance in terms of its context as winery
- Some landmark qualities

Vulnerability

Proximity of the proposed dual carriageway R310. Urban sprawl associated with the proposal for subdivision and development of housing.

3.3.10. Annandale cottages

Two cottages situated alongside the R310 on either side of the Annandale intersection. Historically, these would have been labourers' cottages, but they are currently not occupied on a full time basis. Seasonal labourers, from as far a field as Ceres, are accommodated in these cottages during the week and return to their families on weekends (Reuther 2010).



Plate 13: Annandale cottages. Image on the left shows the cottage on the northern side of the intersection. This cottage will be retained, the road reserve extending to the tree just beyond the fence. The image on the right shows the cottage on the southern side of the intersection which will need to be demolished during the course of the road widening.

Significance – Not conservation worthy

- Association with the labouring classes
- Some scenic qualities remain, despite loss of agricultural setting

Vulnerability

Demolition and loss of agricultural setting/context. (The context is already compromised by the Annandale intersection.) Demolition of the cottage on the southern side of the intersection.

3.3.11. Welmoed cottages along railway line

A series of cottages situated alongside the railway line, roughly opposite Welmoed Winery.



Plate 14: Welmoed cottages

Significance – Not conservation worthy

- Association with the labouring classes

Vulnerability

No immediate vulnerability in terms of the R310 upgrade.

In terms of the NHRA Act 25 of 1999, the significance of the heritage resource is reflected in its grading. A guide to grading has been drawn up by Deacon et al and is summarised in Appendix 3. The cultural heritage resources along the R310 are summarized in Table 3.

Table 3: Summary of heritage resources along the R310.

Heritage resource	Proposed Grading	Description/Comment
<i>Cultural landscape:</i>		
Eerste River/R310 corridor	Grade 3A/3B	For the most part a rural agricultural landscape; extremely vulnerable to unmanaged urban sprawl
Faure	Grade 3B	A small rural settlement associated with an Anglican Church (design attributed to Sophia Grey) and adjoining cemetery; historic association with the farm Gedult, later the Fox and Hounds Inn
<i>Archaeology:</i>		
Stone Age	Grade 3C	Occurrences are low and sparse; mostly in disturbed contexts
<i>Built environment:</i>		
Vergenoegd	Grade 3A	Well preserved (renovated) farmstead with intact surrounding farmlands; PHS, Set back from the R310
Spier	Grade 3B	Renovated historical core obscured by multitude of additions and add-ons; original werf set back from the R310. Historic furrow (late 19 th /early 20 th century) parallel to the road.
Meerlust	Grade 3A	Well preserved (renovated) farmstead with intact surrounding farmlands; werf complex includes a cemetery and the dovecot (PHS); present avenue of palms and oaks are modern; De Wijnlanden are visually intrusive
Klein Welmoed	Grade 3A	Well preserved, but uncelebrated historic farmstead; well setback from R310; gateposts suggest the alignment of earlier wagon route to the east of the present R310
Vredenheim	Grade 3A	Well preserved (renovated) farmstead; PHS; modern entry gates, set back from the R310
Vlottenburg/Van Ryn Distillery/	Grade 3B	Well preserved turn of the 20 th century distillery; associated Brandy Museum; railway line separates complex from R310
Stellenbosch Hills Winery	Grade 3C	Representative of 20 th century industrialisation of the wine industry; nature of the complex mitigates the impact of the road widening
Annandale cottages	Ungraded	Older than 60 years; cottages associated with single oak tree; both cottages occupied on a temporary basis by seasonal workers; Southern cottage to be demolished; northern cottage remains
Welmoed cottages	Ungraded	Older than 60 years; set back from R310 situated close to railway line

3.4. Visual resources of the Eerste River valley cultural landscape¹¹

The major heritage resource potentially affected by the upgrade of the R310 and construction of the new Quarterlink is the Eerste River cultural landscape. Gebhardt (2011) contextualizes the Eerste River cultural landscape traversed by the R310 in terms of interlinking and contributing

¹¹ For full VIA report, see Appendix x in the EIA Report.

factors consisting of geology and topography, vegetation, land use, visual quality and sense of place. The sensitive visual resources of the Eerste River cultural landscape are identified as *Views* and *Sense of Place*.

The R310 is one of the main entrance routes into Stellenbosch and is considered to be a scenic route. The main views from the R310 are in the direction towards Stellenbosch and are composed of the undulating agricultural lands in the middle ground with the Helderberg and Stellenbosch mountains (the Hottentotsholland mountains in the far distance) forming the backdrop in the northeast and the Bottelary mountain in the west.



Plate 15: The variable topography and vegetation of the Eerste River valley cultural landscape contributes to its high visual quality (Gebhardt 2011).

The historic wine farms are situated to the east of the R310 and are set against this backdrop of rugged mountains and undulating agricultural lands. The vegetation along the R310 is varied and consists of cultivated lands (predominantly vineyards), wetland areas associated with the Eerste River (including man-made dams), avenues of trees and grazing fields. The variation in topography and vegetation contributes to the visual quality of the landscape. Some alien vegetation has invaded vacant stands closer to the N2. The variation in vegetation contributes greatly to the scenic qualities of the route as well as the visual quality of the landscape (Gebhardt 2011).

“Sense of place” refers the characteristics and identity of a place, which renders it special and/or unique. It is a combination of visual impression and quality, architectural/historical authenticity and coherence.

Vulnerability

The upgrade of the R310 to a dual carriageway, inappropriate signage, bus and taxi stops and road edge treatments can have a major negative impact on the scenic qualities of the R310. Seasonal wetlands associated with the Eerste River are at risk with the widening of the R310. The conservation of the ‘sense of place’ associated with the historic farmsteads along the R310 and the village of Faure should be a priority.

Potential visual impacts

- “Deterioration of the visual quality of the rural and semi-rural landscape caused by increased road surface, new roads and bridges;
- Deterioration of the visual quality and specific views for affected properties caused by raising the road;

- Deterioration of visual quality of landscape and obstruction of views caused by additional lighting, signage and traffic signals;
- Deterioration of the sense of place caused by increased traffic, noise, dust, lighting and signage;
- Deterioration of the sense of place caused by additional minor access routes; and
- Deterioration visual quality and obstruction of views during construction caused by dust, material stock piles and machinery. (Gebhardt 2011)”

4. Assessment of potential impacts

The proposed upgrade of the R310 comprises various components¹². To facilitate the presentation of the potential impacts, the proposed upgrade has been separated into the following components and are arranged in order of importance with regards to potential impact on heritage resources:

- 4.1. Upgrade and (ultimate) widening of the R310 to a dual carriageway.
- 4.2. Construction of a new Quarterlink 200m to the south of the current Quarterlink.
- 4.3. New access road to Faure village (Alternatives 6A, 6B, 6C, 6D¹³)
- 4.4. Closure of the railway crossings at Vlaeberg and Lyndoch station, the construction of a pedestrian bridge at Lynedoch station and realignment of the Vlaeberg intersection (Alternatives 3A, 3B, 3C).
- 4.5. New minor access road apropos point 4.4.
- 4.6. Rationalisation of side roads.

4.1. Upgrade and (ultimate) widening of the R310 to a dual carriageway

The dual carriageway will require a proposed 40m wide road reserve, which will contain two 3.7m wide lanes in both directions, 5m wide kerbed medians at intersections, two 1.2m wide shoulders on the inner lane in both directions, two 2m wide shoulders on the outer lane in both directions; 3.8m wide verges on both sides and a 2m wide walkway within the verge where deemed appropriate (SRK Report No 390573). Preliminary diagrams from the engineers (Appendix 1) propose that the section of the R310 between the N2 and the R102 (TR2/1) dual carriageway is to be situated within a 50m wide road reserve, while the remainder of the R310 (MR168) dual carriageway is to be situated within a 40m wide road reserve (with the exception of the section between Lynedoch and Spier).

The road widening between Lynedoch and Spier was originally to take place to the west of the road to avoid impacting the furrow. The possibility exists that the road may in fact be widened to the east.

While the detailed drawings of the road have not yet been undertaken, the proposal is to retain the rural character of the road, i.e. no kerb stones on outer edges of the road, except at intersections. Medians will be kerbed only at intersections (La Grange pers comm. 2010). The section of the TR2/1 near Macassar is given as an example of the proposed approach to be taken to the road edge treatments (Plate 16).

¹² As mentioned earlier, the upgrade of the R310 is to be completed over a period of 20 years, and the implementation of various parts of the proposed upgrade will depend on future traffic volumes, changes in lands use and financial constraints.

¹³ The numbering of the alternatives are based on the Project description June 2010 and may have changed.



Plate 16: TR2/1 near Macassar, given as an example of the proposed road edge treatment for the proposed dual carriageway R310. The lack of vegetation along this section of the TR2/1 makes the road appear stark and harsh. This impression is emphasised by the powerlines running adjacent to this section of the TR2/1.

Potential impacts

- **Cultural landscape**

The proposed dual carriageway R310 will be comparable in size to the N1¹⁴ (Plate 17). Despite its size, the N1 does not necessarily have a negative visual impact on the sections of rural/agricultural landscape it passes through: the topography and vegetation of the landscape, as well as the simple and uncluttered nature of the road and the lack of elaborate road edge treatments act as mitigating factors. The topography and vegetation of the Eerste River valley is similarly varied and contributes to the ability of the landscape to absorb the potential visual impact of the road widening.



Plate 17: View of the N1 (northwards) traversing a section of the Kuilsrivier/Joostenberg Vlakte (Google Earth 2009). The width of the tarried span of the road is just over 30 metres.

The R310 falls within a transport corridor created by the river and the railway line. In the area between Lynedoch and Spier, the corridor is narrow, and the project proposal has responded to this by restricting the road reserve of the dual carriageway to 30m. This width restriction is also in response to the existence of the late 19th/early 20th century furrow associated with the Spier homestead. Should the road be widened to the east, the furrow will need to be re-routed or piped under the new road and a permit from HWC would be required under Section 34 of the NHRA Act 25 of 1999.

The Eerste River Valley cultural landscape, including Faure, has a high local heritage significance (Grade 3A/B). The proposed upgrade will have a local impact of 'medium' intensity i.e. the impact is site specific and the wider context and characteristics of the cultural landscape continues. The significance of the impact on the heritage resource is 'medium' and with mitigation, this impact can be reduced to a rating of 'low'. The rating of the potential impact on the cultural landscape is summarised in Table 4.

¹⁴ The R310 will measure 29m in comparison to the N1's measurement of 31m, shoulder to shoulder.

Table 4: Rating of impact assessment: Upgrade and dualling of the R310: Cultural landscape

	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long-term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> • Low-key road edge treatments in keeping with rural road character. • Avoid visual clutter in the form of additional lighting, signage. • Stops for non-motorised/public transport need to be appropriate in style and scale with the rural road character. • Treatment of the junction of the R102 and the R310 as a threshold/gateway into the Winelands needs specialist consultation (urban designer/landscape architect). • Implement tradition of tree avenues to screen problem areas e.g. incongruent developments • Permit required from HWC to modify/alter the course of the irrigation furrow, should it be piped or rerouted. 								
With mitigation	Local 1	Low 1	Long-term 3	Low 5	Probable	Low	- ve	Medium/ High

• **Built environment**

No built environment heritage resources will be affected by the upgrade and dualling of the R310. The historic homesteads are situated on the western side of the road and will not be directly affected by the road upgrade as they are for the most part shielded from the road by topography and/or vegetation. Views of the surrounding landscape from these homesteads are unlikely to be affected by the upgrade and dualling of the R310 (Gebhardt 2011).

The labourers' cottage situated to the south of the Annandale intersection will be demolished during the course of the dualling of the R310. As the cottage is of low heritage significance, no mitigation is proposed. A demolition permit from HWC is still required, as the structure is older than 60 years. The rating of the potential impact on the cottage is summarised in Table 5.

Table 5: Rating of impact assessment: Upgrade and dualling of the R310: Annandale cottage.

Annandale cottage								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Low 1	Long term 3	Low 5	Probable	Low	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> • Cottage is older than 60 years, but is not considered to be conservation worthy • Demolition permit required from HWC for the cottage 								
With mitigation	Local 1	Low 1	Long term 3	Low 5	Probable	Low	- ve	Medium/ High

Potential indirect impacts may include:

- May lead to increased development pressure on surrounding agricultural land, as need for housing within accessible distance from the City and Stellenbosch increases.
- Increased urban developments will further deteriorate the cultural landscape and/or may impact on other heritage resources in the future.

4.2. Construction of a new Quarterlink 200m to the south of the current Quarterlink.

The relocation of the Quarterlink was a condition of the approval of the Dreamworld Film Studio, and aims to improve traffic flow and road safety. The proposed Quarterlink is initially planned as a single carriageway with the option in the future of converting to a dual carriageway (40m road reserve), is to be situated on the boundary of Erf 5541 and parallel to the existing water pipeline servitude.

Potential impacts

The proposed Quarterlink will have a profound effect on the character and sense of place of the village of Faure. At present, the village is fairly isolated, despite the proximity of the R102. It has a strong sense of 'the rural village', a characteristic emphasized by the single main road with flanking properties and the church and cemetery at its apex.

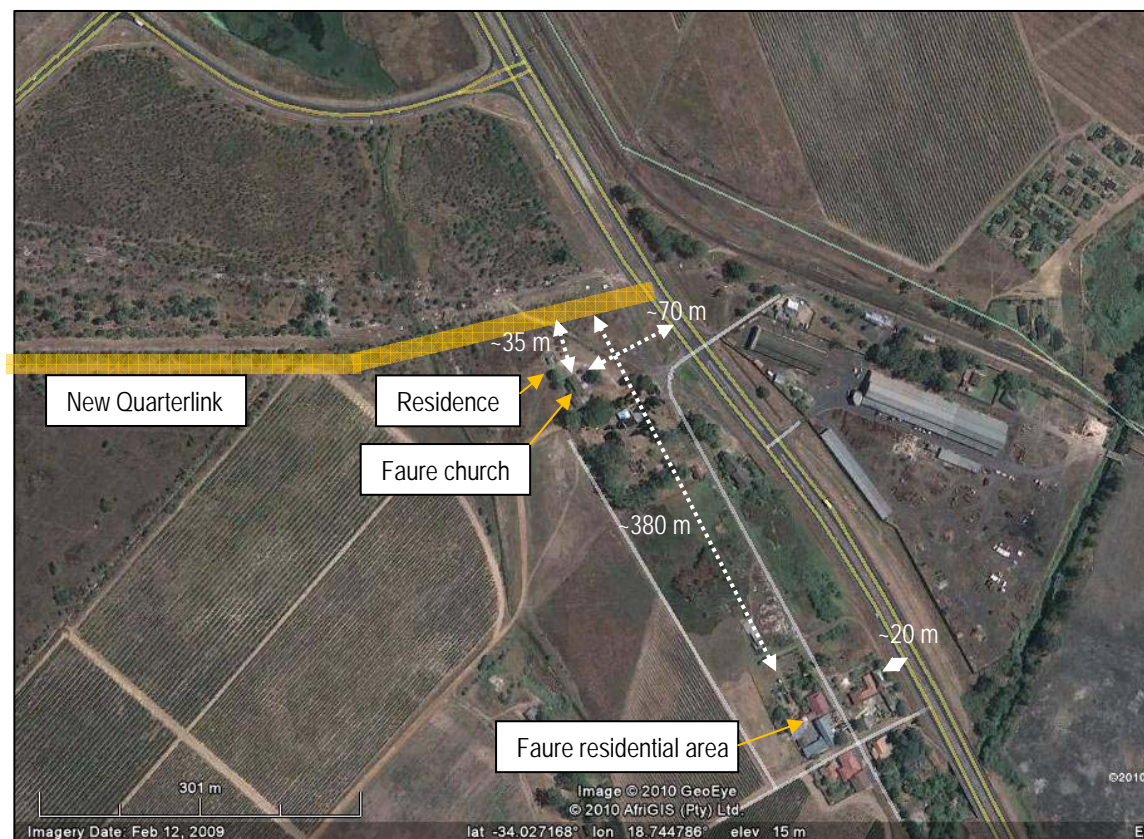


Figure 4: Location of proposed Quarterlink (Reuther pers comm. 2011).

The impacts expected for Faure village are:

- Visual impact on the cultural landscape.
- Significant changes to the character and sense of place of Faure.
- Potential negative impact on the Anglican church precinct, owing to the proximity of the proposed new Quarterlink, e.g. loss of quietness and sense of relative isolation.

The proposed Quarterlink will have a negative impact on the cultural landscape and sense of place of the village of Faure in general and the Anglican Church precinct in particular. Faure village and its setting has a high local heritage significance. The impact of the new Quarterlink, will however be local. The Quarterlink will be situated at least 35m from the Anglican Church. The intensity of the impact has been rated medium, owing to the distance of the proposed Quarterlink

from the village. The surrounding landscape which the proposed Quarterlink traverses is relatively flat, minimising the visual impact from the village. The rating of the potential impact on the cultural landscape and sense of place of the village of Faure is summarised in Table 6. The recommended mitigation measures are expected to soften the impact of the Quarterlink on the sense of place in the village and thereby reducing the impact significance to low.

Table 6: Rating of impact assessment: New Quarterlink: Cultural landscape and Sense of Place

Faure village								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> • Low-key road edge treatments in keeping with rural road character. • Avoid visual clutter in the form of additional lighting, signage. • Stops for non-motorised/public transport need to be appropriate in style and scale with the rural road character. • Use of historical tradition of avenues of trees alongside road to minimise visibility of road. 								
With mitigation	Local 1	Low 1	Long term 3	Low 5	Probable	Low	- ve	Medium/ High

Potential indirect impacts may include:

- Accelerated urbanisation and loss of agricultural land with regards to the farm Vergenoegd, which could in turn lead to the loss of the rural setting of the homestead (PHS).
- Increased potential negative impact on the sense of place of Faure as a distinct rural settlement with a strong sense of place as a result of increased urbanisation.
- Facilitates accelerated urban sprawl into the remaining agricultural node along the TR2/1.

Approval of development proposals for the areas on either side of the new Quarterlink would result in a change in the character of this node and hence make the change in the sense of place as a result of the Quarterlink alone, less significant. The development on Erf 5541 has already been approved.

No historical structures will be impacted as a result of the construction of the Quarterlink.

4.3. Proposed new access road to Faure

With the construction of the new Quarterlink, a new access road to Faure is required, as the existing access off the R102 will be too close to the intersection with the new Quarterlink. A number of alternatives were proposed for the new access road to Faure:

- 6A: Access from the Quarterlink, new road cutting across Erf 653/12 and linking with existing road to the north of the Church
- 6B: Access from the Quarterlink, new road within the Quarterlink road reserve, turning southeast to link with the local road parallel to Faure Main Road and turning east to link with Faure Main Road to the south of the Church
- 6C: Access from the R102, approximately 200m south of the existing access
- 6D: Access from the R102, approximately 250m south of the existing access

Potential impacts

All these alternatives have an impact on the sense of place of the village of Faure to varying degrees.

Alternative 6A: The impact of this alternative is local and long term. The Anglican church precinct is of high local heritage significance and the division of the parsonage from the cemetery and church is a religious/cultural and social concern. The intensity of the proposed impact is therefore high and results in a high significance of impact, even after mitigation.

Alternative 6B was suggested after the completion of the Scoping Report. This alternative is preferable in that it preserves the church precinct (Parsonage, church and cemetery). The intensity of the impact is medium and can be reduced to low through mitigation.

Alternatives 6C and 6D routes are situated similarly to the existing entrance to Faure i.e. access the village from the R102. The impact on the sense of place on the Church precinct will therefore be negligible. However, these routes do cut across an open space (wetland) and the residents of Faure do not support these alternatives. While not problematic from a heritage perspective, these routes are problematic from other points of view.

No historical structures will be impacted due to the construction of a new access to Faure.

Table 7 : Rating of impact assessment: New access roads to Faure: Sense of Place

Alternative 6A								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	High 3	Long term 3	High 7	Possible	High	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> • Low-key road edge treatments in keeping with rural road character. • Avoid visual clutter in the form of additional lighting and signage 								
With mitigation	Local 1	Medium 2	Long term 3		Possible	High	- ve	Medium/ High
Alternative 6B								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long term 3	Medium 6	Probable	Medium		Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> • Use of tree avenues to visually separate the access road from Quarterlink. • Low-key road edge treatments in keeping with rural road character. • Avoid visual clutter in the form of additional lighting and signage 								
With mitigation	Local 1	Low 1	Long term 3	Low 5	Probable	Low		Medium/ High

Development pressures and urbanisation around Faure and Croyden area are a given and are unlikely to increase as a result of the construction of this access road.

4.4. Closure of the level railway crossings at Vlaeberg and Lyndoch station, the construction of a pedestrian bridge at Lyndoch station and realignment of the Vlaeberg intersection (Alternatives 3A, 3B, 3C).

In keeping with the objective to close the level railway crossings, it is proposed to close the Vlaeberg level crossing and to replace the level crossing at Lyndoch with a pedestrian bridge.

The construction of a bridge over the railway line at Vlaeberg is problematic owing to the proximity of the road and the railway at this point. Three alternatives are being considered to address this problem:

- 3A. The realignment of Vlaeberg Road to the south, creating enough distance between the railway line and the road and retaining a level intersection with the R310; Construction of an overpass over the railway; Retention of old Vlaeberg Road as an minor access road.
- 3B. Retain the existing alignment of Vlaeberg Road and construct a bridge over the railway line. Raise the R310 by 4m to meet the Vlaeberg road at an at grade intersection. New access routes will be required for properties on either side of the R310.
- 3C. Retain existing Vlaeberg Road alignment and construct a bridge over the railway line and a second bridge over the R310. This will require the construction of a loop to the south, creating a new intersection with the R310. New access routes for affected properties will be required.

Potential impacts

The area immediately surrounding the Vlaeberg intersection forms an agri-industrial node: The Welmoed winery, Topshell park and Aspidistra nursery are all situated at this junction. All three alternatives have a potential visual impact on the landscape, but this impact is mitigated by the topography. The viewshed analysis has shown that the visibility of especially the rail bridge is fairly limited and will be mostly visible when travelling in the direction from Stellenbosch to Cape Town (Gebhardt 2011).

Alternative 3A: The cultural landscape in the vicinity of the Vlaeberg Road is compromised in terms of its significance by a number of agri-industrial enterprises which detract from the scenic values of the landscape. The landscape at this particular junction has a medium/low heritage significance. The visual impact of the bridge of the railway line and the realignment of the Vlaeberg Road would have a medium intensity which mitigation would reduce to low.

Alternative 3B: The accumulated effect of the bridge over the railway line and the raised intersection will have a higher visual impact on the landscape, compared to Alternative 3A (Gebhardt 2011). The main visual impacts will be to the properties directly adjacent to the raised section of road. The significance of the visual impact will remain medium, even after mitigation.

Alternative 3C: The accumulated effect of a bridge over the railway line, a bridge over the R310 in addition to the proposed on/off ramp will have a significant local impact on the surrounding properties, and an increased visual impact, compared to Alternative 3A (Gebhardt 2011). Even though the visual impact will be visible to a greater extent in the landscape, it is still limited to local extent and medium intensity.

Table 8: Rating of impact assessment of the realignment of Vlaeberg intersection: Cultural landscape

Option 3A								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long-term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> Scale and style of bridge appropriate with rural setting and congruent with other rail bridges in the surrounds. Low-key road edge treatments in keeping with rural road character. Avoid visual clutter in the form of additional lighting, signage, although agri-industrial character of the immediate surrounds acts as a mitigating factor. Use grass or other planting (rather than concrete) on the bridge abutments Where possible, plant trees alongside abutments to soften the impact of the bridge(s) 								
With mitigation	Local 1	Low 1	Long term 3	Low 5	Probable	Low		Medium/ High
Option 3B								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long-term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> Scale and style of bridge appropriate with rural setting and congruent with other rail bridges in the surrounds. Low-key road edge treatments in keeping with rural road character. Agri-industrial nature of properties immediately affected by the intersection acts as a mitigating factor. Use grass or other planting (rather than concrete) on the bridge abutments Where possible, plant trees alongside abutments to soften the impact of the bridge(s) 								
With mitigation	Local 1	Medium 2	Long term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Option 3C								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long-term 3	Medium 6	Definite	Medium	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> Scale and style of bridge appropriate with rural setting and congruent with other rail bridges in the surrounds. Low-key road edge treatments in keeping with rural road character. Agri-industrial nature of properties immediately affected by the intersection acts as a mitigating factor. Use grass or other planting (rather than concrete) on the bridge abutments Where possible, plant trees alongside abutments to soften the impact of the bridge(s) 								
With mitigation	Local 1	Medium 2	Long term 3	Medium 6	Definite	Medium	- ve	Medium/ High

4.5. New minor access road apropos point 4.4.

The proposed closure of the level railway crossings at Helderrant, Welgelee, Fransmanskloof and The Olives necessitates the construction of a new minor access road to allow access to properties that, as a result of the closure of the level crossings, will be cut off from the R310. It must be emphasized that this minor access road is to remain a relatively narrow road, with a restricted speed limit of 60km/hr to avoid it being used as an alternative route to the R310 at peak traffic times.

Two alternatives for the new minor access road to the west of the railway between Vlaeberg road and Lynedoch station are being considered.

4A: Location of the access road next to the railway line, making use of existing the rail service road, and looping into Vlaeberg Road

4B: Location of the road to the west of the railway line, behind the properties situated adjacent to the railway line

For the section between Lynedoch station and Fransmanskloof two alternatives are being considered:

4C: A continuous road between Vlaeberg and Vlottenberg, utilizing the existing rail service road as per Alternative 4A

4D: Close the road between Lynedoch station and Fransmanskloof

For the section of the R310 from the MR168 railway bridge to Vlottenberg road two alternatives are being considered:

4E: Connection of minor access road to the Vlottenburg Road

4F: Connection the minor access road to the MR168 on the railway bridge

Potential impacts

This minor access road is not anticipated to have any significant visual impact. Even Alternative 4F which requires the raising of the minor access road to link into the section of the R310 where it crosses the railway line, will not have a significant impact on the cultural landscape. Alternatives 4D and E are not discussed in Table 9, as these will have potentially insignificant visual impacts on the cultural landscape.

Occurrences of stone artefacts were noted during the archaeological impact assessment along the railway service road near Lynedoch. The archaeological resources are of local heritage significance, but the sporadic nature of these occurrences result in a low intensity of impact. The impact can be minimised by the monitoring of the works along the service road by a professional archaeologist.

Alternative 4B will cut across viable agricultural and while not having a significant visual impact in itself, it will have an accumulative visual impact in terms of widening the transport corridor in this section of the R310.

Table 9: Rating of impact assessment of the minor access road on the visual quality of the area and archaeology.

Alternatives 4A & 4C								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Low 1	Long term 3	Very low 4	Probable	Very low	-ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> • Low-key road edge treatments in keeping with rural road character. • Strict maintenance of low speed limit 								
With mitigation	Local 1	Low 1	Long term 3	Very low 4	Possible	Insignificant		Medium/ High

Alternatives 4A & 4C: ARCHAEOLOGY								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Low 1	Long term 3	Low 5	Possible	Very low		Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> Monitoring of the road works by a professional archaeologist in order to record any occurrences of stone artefacts along the rail service road. 								
With mitigation	Local 1	Low 1	Long term 3	Very low 4	Improbable	Insignificant		Medium/ High
Alternative 4B								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> Low-key road edge treatments in keeping with rural road character Strict maintenance of low speed limit 								
With mitigation	Local 1	Medium 2	Long term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Alternative 4F								
	<i>Extent</i>	<i>Intensity</i>	<i>Duration</i>	<i>Consequence</i>	<i>Probability</i>	<i>Significance</i>	<i>Status</i>	<i>Confidence</i>
Without mitigation	Local 1	Medium 2	Long term 3	Medium 6	Probable	Medium	- ve	Medium/ High
Essential mitigation measures:								
<ul style="list-style-type: none"> Ensure that bridges are simple in design and low as possible Use grass or other planting (rather than concrete) on the bridge abutments Where possible, plant trees alongside abutments to soften the impact of the bridge(s) 								
With mitigation	Local 1	Low 1	Long term 3	Low 5	Probable	Low	- ve	Medium/ High

Potential indirect impacts may include:

- Potential to facilitate development in the portion of agricultural land between the new access road and the railway line (Alternative 4B).

4.6. Rationalisation of side roads.

The upgrade of the R310 also proposes a rationalisation of the number of side roads presently accessing the R310 in order to improve safety and traffic flow. These alternatives will have an insignificant visual impact on the cultural landscape and will not be discussed further.

5. Conclusions and recommendations

The upgrade of the R310 and associated road works will have a potential visual impact on the cultural landscape. The Eerste River Cultural Landscape, falls within the area described by the nomination for inclusion on the UNESCO Tentative List of World Heritage Sites. It is not, however included in the SAHRA Grade 1 heritage site nomination for the Cape Winelands Cultural Landscape. The Eerste River Cultural Landscape remains a heritage resource with high local significance. The R310 itself is considered as a tourism resource in terms of its scenic route qualities.

The R310 traverses an area with diverse characteristics: the section of the road closer to the N2 (TR2/1) has a greater degree of urbanization and situated within the Cape Town Municipal boundary. With the exception of Vergenoegd farm, the surrounding area to the southwest of the

R102 is situated within the urban edge and increased urban densification can be expected in the future. Urban nodes (rural settlements) identified along the remainder of the R310 (MR 168), and situated in the Stellenbosch municipality, are for the most part situated to the west of the railway line. (The Spier/De Zalze precinct is an exception, but it has been suggested in the SDF that the development proposal is to be reviewed (CNdV 2010). The potential visual impact of the dualling of the R310 will be considerably less in the southern part of the R310 than it would be in the northern part.

Threshold or gateway conditions exist at the junction of the R310 with the R102 and represent the transition from the urbanized Cape Town Metropolitan area to the agricultural Stellenbosch winelands. With the exception of pockets of agri-industrial activity (Topshell Park, Welmoed/Aspidistra, the bottling facility near Kompanjiesdrift road and Vlottenberg) the northern extent of the R310 retains a predominantly agricultural character with high visual quality and a relatively high visual absorption capacity (Gebhardt 2011).

5.1. Road edge treatments

Detailed drawings of the upgraded R310 have not yet been commissioned. The proposal intends to retain the rural character of the R310 by limiting kerbed medians to intersections only and keeping road edge treatments to a minimum.

Consultation with a landscape architect and/or urban designer with the engineers at the planning stage, to explore ways in which the road can be integrated with the surrounding landscape and different character zones, is strongly recommended.

Road edge treatments can be used to minimize the overall visual impact of the road, especially with regards to the proposed dual carriageway. The use of different colour tarmac, dirt/gravel/planted verges and tree lined pedestrian walkways have been successfully used on the Boschendal road to minimize the visual impact of the road.

Hard kerbs and intersections which would be acceptable in the more urbanized section and/or agri-industrial nodes of the R310 would not be appropriate in the scenic wine tourism area to the north of the R102. Care should also be taken not to exaggerate the industrial natural of the agri-industrial nodes through road edge treatments and signage. Plate 18 is an example of what should be avoided.



Plate 18: Views of the ongoing upgrade of the Helshoogte Road past Pniel and Boschendal. The visual bulk of the road is reduced through the use of tree lined pedestrian walkways. Cobbles as opposed to concrete are used to define kerbs and give a softer, less urban, feel to the road.



Plate 19: Views of kerbed intersection just outside Pniel. This is an example of inappropriate road treatment and is more suitable in an urban context than a rural settlement (Pniel). This route was once one of the most scenic routes linking Stellenbosch to Franschhoek.

5.2. Preferred alternatives

- There are no objections to the upgrade of the R310. It would be preferable, as far as possible from a heritage perspective, to aim for narrowest road reserve i.e. 30m when upgrading to a dual carriageway, as this would have the least visual impact on the cultural landscape.
- Alternative 6B is preferred as the new access road to Faure in terms of the present Project Description.
- With regards to the closure of the railway crossings at Vlaeberg and Lyndoch stations and the construction of the pedestrian bridge at Lynedoch station, there is no objection from a heritage perspective as long as the scale and style of the bridges are visually congruent with similar bridges in the area and the character of the road.
- Alternative 3A would be the preferred option for the realignment of the Vlaeberg intersection.
- The reuse of the existing rail service road as a minor access road to properties cut off from the R310 as a result of the rail closures is the preferred alternative.
- There are no objections to the rationalisation of the side roads.

5.3. Recommendations

The following recommendations are made with regards to the upgrade in general.

- It is recommended that the engineers consult with a landscape architect and/or urban designer prior to commissioning the detail drawings. Options need to be considered re road edge treatments to maintain and even improve on the present scenic qualities of the route and to ensure that the upgraded R310 adds value to the cultural landscape, as a heritage resource and to the R310 as a scenic route.
- Traffic signage should be appropriate with a rural road and visual clutter should be avoided. Input from a landscape architect and/or urban designer would be beneficial.
- Public transport stops and signage should be low-key and appropriate in scale and style.

- The planting of avenues of trees is a historical tradition which can be used in order to improve the scenic qualities of the R310. Care should be taken to use historically appropriate species e.g. oaks and poplars rather than palms.
- Some archaeological artefacts were observed in the vicinity of the rail service road. Road works for the minor access road in particular should be monitored by a professional archaeologist specializing in Stone Age archaeology.
- The opportunity exists as the result of the upgrade to re-address entrances to private property where the entrance gates are of an inappropriate scale or style and advertisement signage clutters the roadside.

5.4. Conclusions

The upgrade of the R310 and associated proposed roads will predominantly have a visual impact on the Eerste River valley cultural landscape. It is acknowledged that owing to present and future traffic pressures this upgrade is unavoidable. The opportunity exists to improve the scenic qualities of the road.

The visual impact on the landscape and the surrounding heritage resources must be mitigated by keeping visual clutter to a minimum and retaining the overall style and scale of a rural road e.g. no raised kerbs nor raised medians.

The upgrade of the R310 allows for the opportunity to re-address the entrances and signage of private properties facing onto the R310. Entrances should be of a historically appropriate scale and not cluttered by obtrusive signage e.g. Vredenheim.

6. Sources

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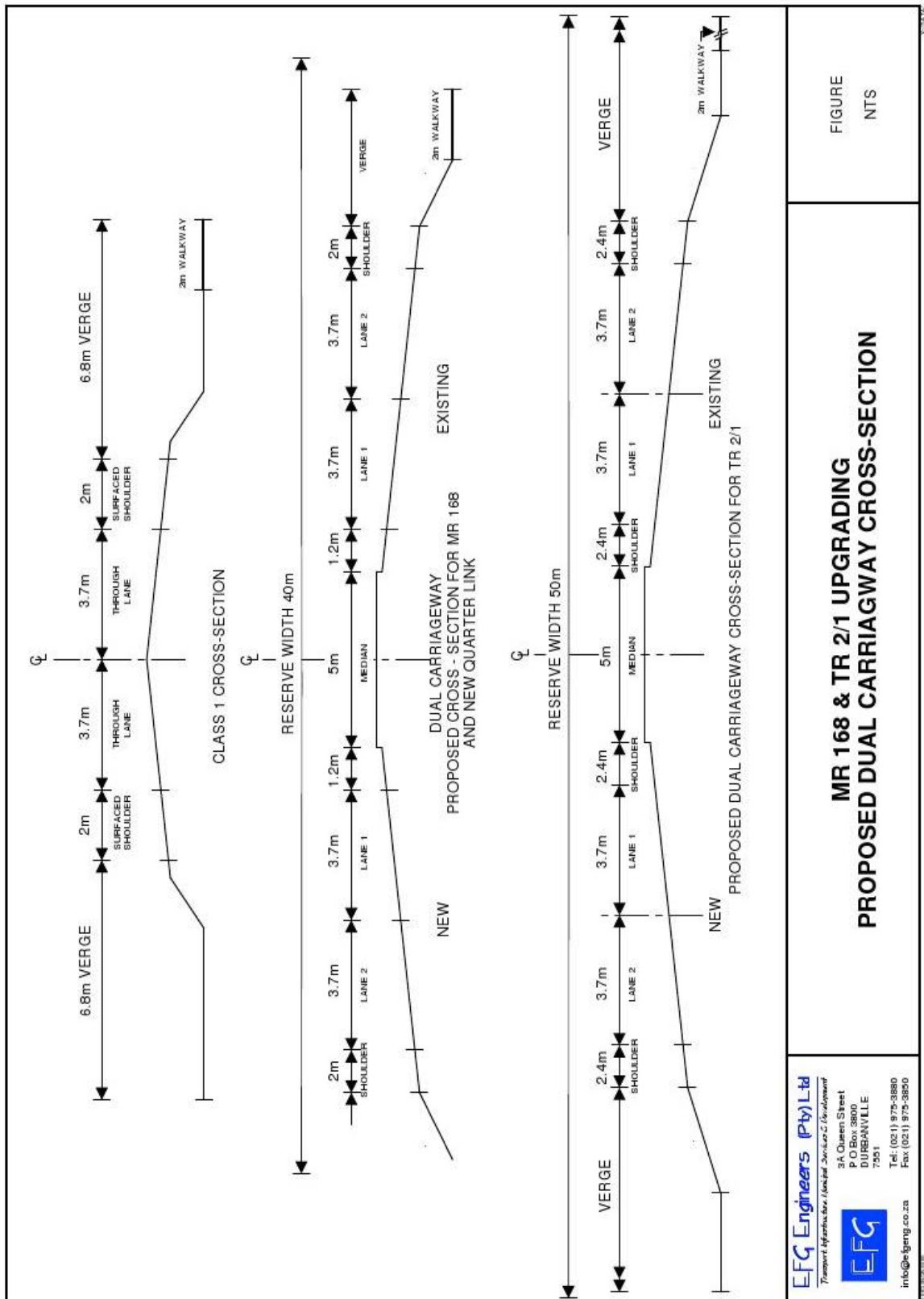
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7. Appendices:

Appendix 1: Cross section of the proposed dual carriageway R310



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**MR 168 & TR 2/1 UPGRADING
 PROPOSED DUAL CARRIAGEWAY CROSS-SECTION**

FIGURE
 NTS

Preliminary Archaeological Impact Assessment: Upgrade of the R310 between N2 and Polkadraai Road. Andrew Smith, 4 October 2010.

This report forms part of the heritage impact assessment requested by SRK Consulting as part of the Environmental Impact Assessment for the upgrading of the R310 between the N2 and the Polkadraai Road.

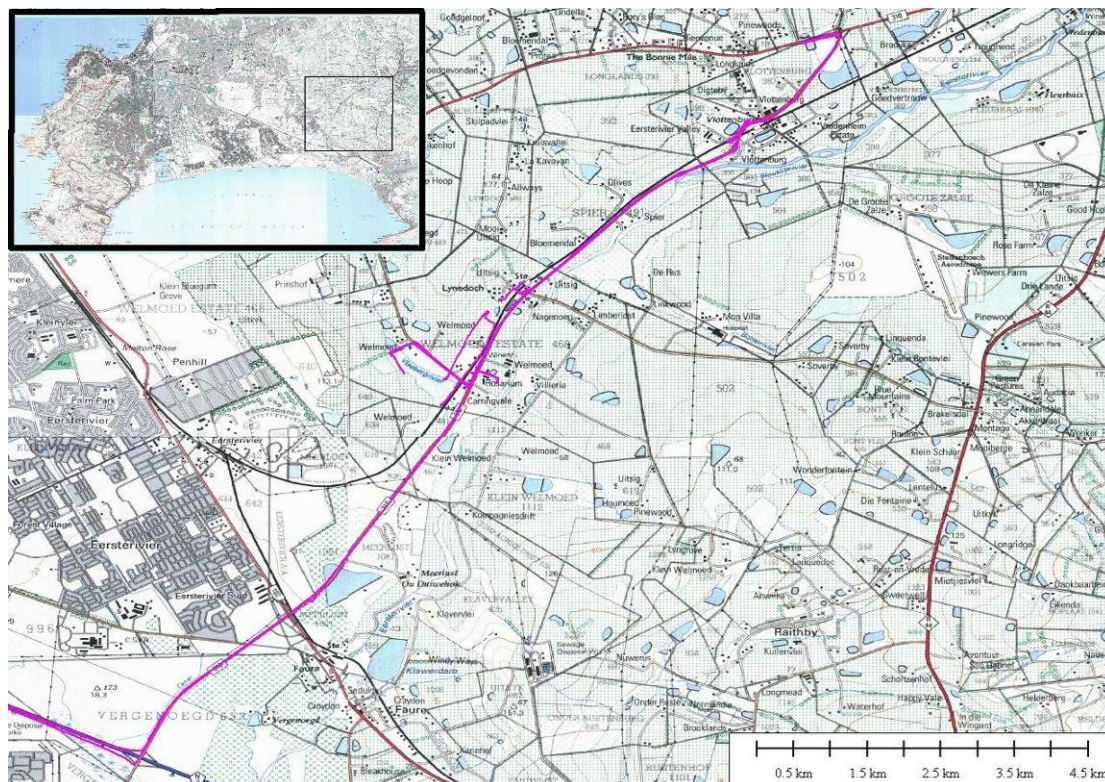


Figure 1: Location of the R310. Purple lines showing the survey tracks. (1:50 000 topographical maps (3318 CD, DC, DD and 3418 BA).

Background to the Prehistory of the Stellenbosch and Eersterivier Area

Large stone tools in the Stellenbosch area were first reported by Péringuey (1900). These handaxes were later labelled the ‘Stellenbosch type’ by Péringuey (1911). A detailed description of these tools from Bosman’s Crossing (near Stellenbosch Railway Station) and the talus of Papegaaiberg was given by Goodwin & van Riet Lowe (1929), and further excavation was done by Seddon (1966). In fact, there stands a large boulder at Adam Tas Brug which previously had a National Monuments badge and a commemoration plaque to the “Stellenbosch Culture” which unfortunately was stolen a few years ago, presumably for the bronze content. The name “Stellenbosch Industry” was in use until the immediate post-World War II years, when the name “Chelles-Acheul” was adopted. A final recognition that this industry was similar in form and age to the Acheulian Industries found throughout Africa and Europe led to the acceptance of this term, which is still used today. Clark (1959: 129) noted that “some of the best Middle Acheul sites are in the Eerste and Great Berg River Valleys, such as at Lyndock (Lynedoch), Stellenbosch, and Paarl”.

The widespread nature of Acheulian occurrences around the greater Stellenbosch area suggested that any work along the Eersterivier would show some signs of this early industry. Goodwin & van Riet Lowe (1929:129) also report isolated findings of Stillbay MSA tools in the Stellenbosch area.

Methodology

A field inspection of the entire length of the road was conducted on 28th September 2010. This entailed assessing the possibility of finding archaeological material in exposures along the road, which included dirt roads along vineyards, and sections exposed by excavation or road cutting.

Results

The first section of the road between the N2 Highway and De Wijnland turnoff has already been artificially modified during original construction of the R310. The west side is well landscaped and water control ditches in place. There were no exposures of in situ material on this section.

The next part of the road cuts through the Meerlust Dam, then past Companiesdriftpad. There are vineyards with a dirt access road paralleling the R310. On this dirt road were found Early Stone Age (ESA) handaxes and other Middle Stone Age (MSA) material in low densities (010) (Figure 2).

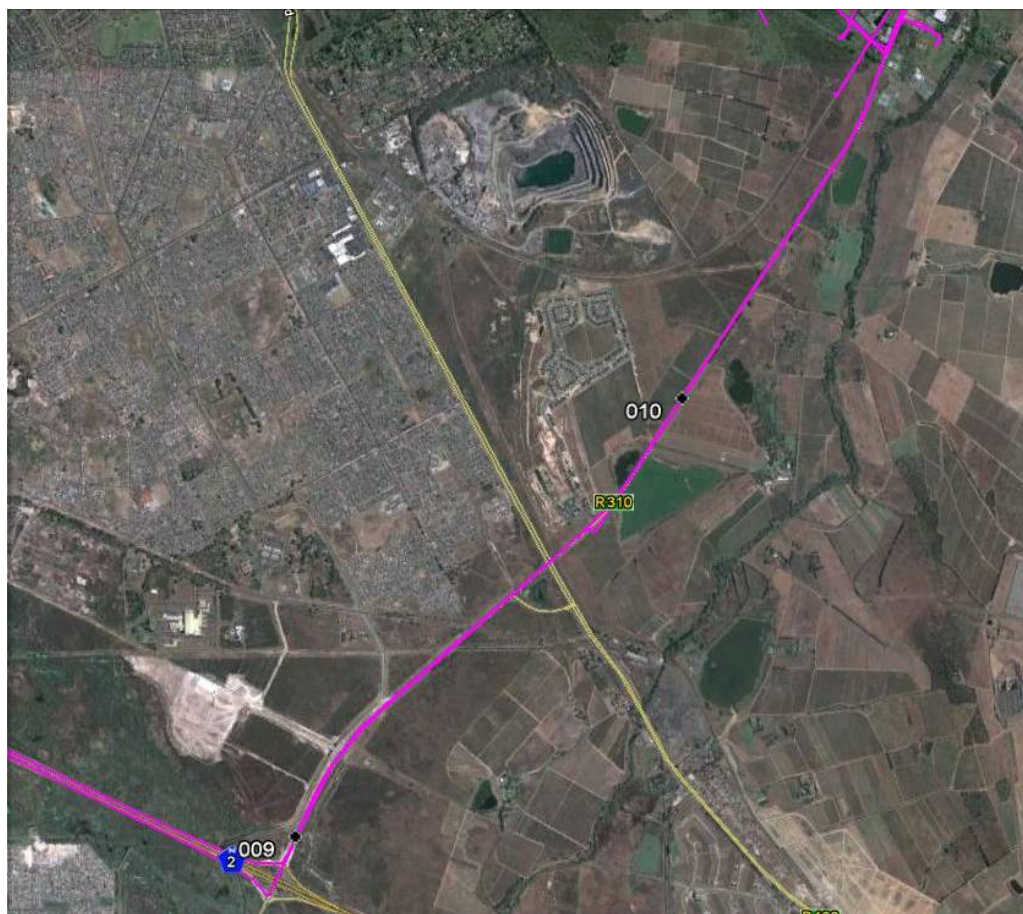


Figure 2: Aerial photograph (Google Earth 2010) showing R310, and location of finds.

The long section past Vlaeberg Road and Spier to where the R310 crosses the railway at Van Ryn Distillery are pasture lands with ditches along the road. The only exposure is a river gravel excavation between Lynedoch Station and Spier on the east side of the road. This was inspected very carefully and a couple of MSA flakes were found. There was no ESA material among the cobbles (012) (Figure 3).

Where the road crosses the railway, under the bridge on the service road were found an ESA core axe, some MSA flakes, as well as flaked cobbles (011) (Figure 3).

From the bridge to Polkadraai Road the R310 is artificially constructed with ditches, and no obvious exposed sections.



Figure 3: Aerial photograph (Google Earth 2010) showing location of finds 011-015)

The Road Alternatives:

Between Vlaeberg Road and Lynedoch Station are proposed several alternatives that will allow closing of the level crossings, yet still give access by land owners to the R310.

The alternate roads paralleling the R310 were walked. The inner road passes below vineyards and is a coarse sandy track. Walking away from Vlaeberg Road, over the hill, some ESA stone tools were found (014, 015) As these appear to come out of gravels below the coarse sands which had been washed away, this may indicate a sequence. It is not known whether this is just a local condition, or is widespread.

Also along this road were various historic pieces, such as pearlware (015), a Victorian jug handle (013) and some delftware mostly behind existing farmworkers' houses (Figure 3).

The section of the road immediately next to the railway line was littered with sleeper bedding from the railway. The only archaeological material seen was one MSA flake (016) and a piece of porcelain (Figure 3).

Around Vlaeberg Crossing are three alternative routes proposed:

Alternate 1A: A sandy track paralleled the proposed route. This passes through heavily grassed pasture land and no archaeological material was seen

Alternates 1B and 1C: these proposed routes pass through marshy lands, and again no archaeological material was visible.

Conclusions and Recommendations

The incidence of archaeological material is mostly restricted to widely dispersed ESA and MSA artefacts, with occasional 19th century ceramics.

The only place where there might be a problem would be on the downslope of the inner track between Vlaeberg Road and Lynedoch Station. Since the archaeological material was exposed by water run-off, it is possible more material could lie immediately beneath the surface. It is recommended that work in this area be monitored by a professional archaeologist to verify and record the presence of additional archaeological material.

It would appear that in the proposed road upgrade there will be very little damage to the prehistoric heritage of this area. It is recommended that should the inner track paralleling the R310 between Vlaeberg Road and Lynedoch be upgraded that an archaeologist monitor this section of the road once it is exposed.

From an archaeological perspective there are no objections to the proposed road widening and associated new access roads.

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Appendix 3: Guide to grading of heritage sites

(Proposed) Grading	Heritage resources with:
Grade 1	<p>exceptional qualities and that are of special national significance:</p> <ul style="list-style-type: none"> • outstanding significance in terms of one or more of the criteria set out in section 3(3) of the Act; • authentic in terms design, materials, workmanship or setting; and is of such universal value and symbolic importance that it can promote human understanding and contribute to nation building, and its loss would significantly diminish the national heritage.
Grade 2	<p>special qualities, significant in the context of a province or region:</p> <ul style="list-style-type: none"> • is of great significance in terms of one or more of the criteria set out in section 3(3) of the Act; and • enriches the understanding of cultural, historical, social and scientific development in the province or region in which it is situated, but that does not fulfill the criteria for Grade 1 status.
Grade 3A	<p>Sufficient intrinsic qualities significant in the local context</p> <ul style="list-style-type: none"> • fulfils one or more of the criteria set out in section 3(3) of the Act ; or • contributes to the environmental quality or cultural significance of a larger area which fulfils one of the above criteria, but that does not fulfill the criteria for Grade 2 status.
Grade 3B	<p>Some intrinsic qualities significant in the local context</p> <ul style="list-style-type: none"> • fulfils one or more of the criteria set out in section 3(3) of the Act ; or • contributes to the environmental quality or cultural significance of a larger area which fulfils one of the above criteria, but that does not fulfill the criteria for Grade 3A status. • Marginally less significant than Grade 3A
Grade 3C	<p>Some significance in the local context</p> <ul style="list-style-type: none"> • fulfils one or more of the criteria set out in section 3(3) of the Act ; or • contributes to the environmental quality or cultural significance of a larger area which fulfils one of the above criteria, but that does not fulfill the criteria for Grade 3B status. • significance is contained in its contribution to the character or significance of the context or environs of the resource.
Not conservation worthy	<p>Little or no significant historical interest.</p>

* Based on Deacon, J., du Preez, H. and Almond, J. 2007. A short guide to grading Version 5. Unpublished report. Heritage Western Cape.