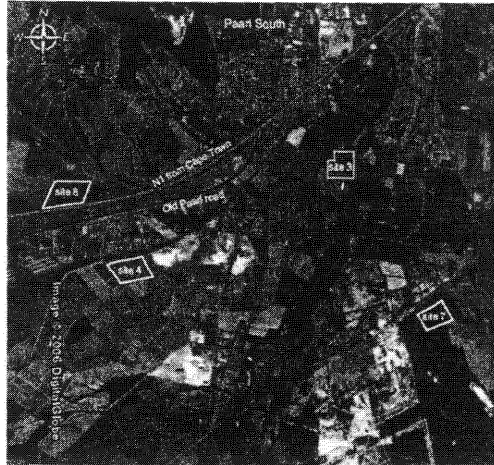


Sept 2007.



GRAVITY OUTFALL SEWER, SOUTH PAARL &
SITING FOR NEW SOUTH PAARL WASTEWATER TREATMENT
WORKS

Specialist Heritage Investigation

*Forming part of an Environmental Impact Assessment
For Ninham Shand Consulting Services*

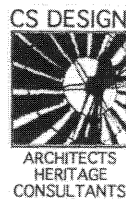
*On behalf of
Drakenstein Municipality*

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HERITAGE INVESTIGATION

Proposed New Drakenstein South Outfall Sewer & Site for a New Wastewater Treatment Works (Paarl South)

CONTENTS

1 *Executive Summary*

2 *Background & Brief*

2.1 Background

2.2 The Brief

3 *Site Development Proposals & Physical Context*

3.1 The Proposals

4 *Assumptions & Limitations*

4.1 Scope of the Study

4.2 Statement of Heritage Significance

4.3 Relevant Heritage Groups

4.4 Feedback from Interested and Affected Parties (IAP's)

4.5 Relevant Heritage Investigations by Others

4.6 Archaeological Significance

4.7 GPS References

4.8 Accuracy of Baseline Information

5 *The Study Area*

5.1 Historical Context in Brief

5.2 Physical Context

6 *The Outfall Sewer Route*

6.1 Heritage Statement

6.1.1 *Aesthetic/Architectural Significance*

6.1.2 *Historical Significance*

6.1.3 *Scientific/Technological Significance*

6.1.4 *Social/Spiritual/Linguistic Significance*

7 *The WWTW Candidate Sites*

7.1 Heritage Statement

7.1.1 *Candidate Site 1: 'Groot Parys'*

- 7.1.2 *Candidate Site 3: 'De Zoete Irvad'*
- 7.1.3 *Candidate Site 4: 'Vilafonte/Boland Brickfields'*
- 7.1.4 *Candidate Site 7: 'De Hoop'*
- 7.1.5 *Candidate Site 8: 'Van Wyks Rivier'*

8 *Design Informants: Proposed Outfall Sewer*

8.1 General Introduction

8.2 Design Informants

- 8.2.1 *General location*
- 8.2.2 *Scenic routes*
- 8.2.3 *Established avenues/tree belts*
- 8.2.4 *Other tree groups*
- 8.2.5 *Rivers and natural watercourses*
- 8.2.6 *Crossing rivers and watercourses*
- 8.2.7 *Established planting patterns*
- 8.2.8 *High potential agricultural land*
- 8.2.9 *Graded sites*
- 8.2.10 *Pipeline service structures*

9 *Assessment of Impacts & Conclusions*

9.1 Outfall Sewer Impacts

9.2 WWTW Candidate Sites Prioritized

10 *Recommendations*

11 *Sources*

12 *Lists of Diagrams & Figures*

- Diagram 1: *Location plan of the proposed new outfall sewer extending from North to South Paarl (preferred route).*
- Diagram 2: *Northern Sector from the existing Wastewater Treatment Works*
- Diagram 3: *Central Sector through the Paarl East Industrial Area*
- Diagram 4: *Southern Sector along the Paarl Arboretum*
- Diagram 5: *Southern Sector Rural Area along Firwoods Farm/Boschenmeer Golf Estate*
- Diagram 6: *Location of WWTW Candidate Site Alternatives 3, 4, 7 & 8*

- Figure set 1: *Viewpoints 1-6*
- Figure set 2: *Viewpoints 7-12*
- Figure set 3: *Viewpoints 13-18*
- Figure set 4: *Viewpoints 19-24*
- Figure set 5: *Viewpoints 25-30*

13 *Annexures*

- Annexure 1: *Preliminary (Pre-Scoping) Heritage Report: CS Design, 20 July 2006*
- Annexure 2: *Archaeology Report: Archaeology Contracts Office, UCT (Tim Hart), 10 August 2006*
- Annexure 3: *Statutory Terms of Reference*

HERITAGE INVESTIGATION
 into THE NATIONAL HERITAGE RESOURCES ACT (NHRA)
 No 25 (1999) SECTION 38(8)

*Proposed New Drakenstein South Outfall Sewer & Site for a New
 Wastewater Treatment Works (Paarl South)*

1 Executive Summary

This report forms part of an Environmental Impact Assessment (EIA) undertaken by Ninham Shand Consulting Services for Drakenstein Municipality. It addresses the proposed construction of a gravity outfall sewer from Paarl South to the Paarl Wastewater Treatment works (WWTW), and the siting of a new WWTW for Paarl South in the medium to long terms future.

The study concludes that impacts from the preferred gravity outfall sewer pipeline route are anticipated to be from Neutral to Very Low to Low in general. The most significant potential impacts relate to the possible loss of mature trees, particularly within the Paarl Arboretum but also along the banks of the Berg River. Prospects for effective mitigation are, however, considered to be high.

The study also prioritizes a number of site alternatives for a proposed new Wastewater Treatment Works (WWTW) in South Paarl as follows (most to least favoured):

- 1st. Site Candidate 7: 'De Hoop' (most favoured)
- 2nd. Site Candidate 3: 'De Zoete Inval';
- 3rd. Site Candidate 4: 'Vialfonte/Boland Brickfields';
- 4th. Site Candidate 8: 'Van Wyks Rivier'; and
- 5th. Site Candidate 1: 'Groot Parys' (least favoured).

The first three options are all regarded as feasible options, but with varying degrees of mitigation. The fourth and fifth options are regarded, respectively as being undesirable to highly undesirable in heritage terms, and should be avoided.

2 Background & Brief

2.1 Background

This investigation is a follow-up to a preliminary (pre-scoping) report undertaken by CS Design Architects & Heritage Consultants in July 2006 (refer **Annexure 1**) prepared for noting by both Heritage Western Cape (HWC) and the provincial Department of Environmental Affairs and Development Planning (DEA&DP). The key provisional findings of this report are:

- i. A full Heritage Impact Assessment (HIA) of the proposed pipeline route is not regarded as necessary subject to certain further investigations, (now covered in this report) relating to possible visual and physical (excavation) impacts on adjacent heritage resources;

- ii. Candidate Site 1 on the farm Groot Parys is regarded as fundamentally undesirable in heritage terms and should, therefore, be screened out from further consideration as a potential site for the new WWTW;
- iii. Candidate Site 5 on the farm De Hoop was provisionally identified as the most favoured site followed by Sites 4 (Vilafonte/Boland Brickfields) and Site 3 (De Zoete Inval). Site Candidate 8 was not yet identified and, therefore not included in the assessment.

2.2 The Brief

The terms of reference for this heritage investigation report are as follows:

- i. Review relevant previous heritage investigations undertaken in the area;
- ii. Liaise with HWC and relevant local heritage groups with regard to the heritage assessment;
- iii. Compile a report describing:
 - An overview of the local and regional heritage context of the study area;
 - The sites/aspects of heritage/cultural significance along the proposed sewer alignment;
 - Any unique or significant sites encountered;
 - A description and assessment of the significance of impacts of the proposed activities on the heritage resources (on a nominal scale of very low, low, medium, high, very high); and
 - Detailed guideline measures to manage and mitigate any impacts, particularly during the construction phase, and an assessment of their likely effectiveness.
- iv. Indicate any site/aspects of heritage/cultural significance on the maps provided, using GPS to fix locations.

3 Site Development Proposals & Physical Context

3.1 The Proposals

The proposed development includes:

- (a) A new ø600mm gravity outfall sewer of 12,5km roughly following the course of the Berg River from the rural area south of Paarl to the Paarl WWTW. The depth of the pipe below ground level will be from 2 to 5m, with a 'track' width of approximately 1,5m. A working space of approximately 12m will be required during the construction phase; and:
- (b) A WWTW covering an area of approximately 10Ha but required only in the medium-long term (possibly 10 years time). It is included in this study to preclude having to revisit the investigation of site alternatives later (i.e. as part of a future EIA process for the actual plant).

4 Assumptions & Limitations

4.1 Scope of the Study

This study is limited to examining the preferred route of the proposed sewer outfall pipeline as per the available information depicted on **Diagrams 1-5** of this report. It does not address impacts from pipelines running between the outfall pipeline and other pipelines connecting it to the various WWTW candidate site alternatives. It also does not assess the alternative routes indicated in this study, other than to agree that they be considered as lesser options, preferably to be avoided.

This study does include guideline measures to mitigate pipeline impacts that would also be applicable to connector pipelines between the proposed new sewer outfall and the various WWTW candidate site alternatives.

4.2 Statement of Heritage Significance

Given the multi-faceted and dynamic interpretation of cultural significance with the passing of time and constantly evolving interest groups, it is not possible to make a definitive statement of heritage significance. The establishment of cultural significance can, at times, depend heavily on input from interested and affected parties, particularly when identifying intangibles such as social significance and historical associations of social significance. The heritage statements contained in this study are, therefore, provisional, notwithstanding the NHRA requirements including Clause 38(3) that all heritage resources are to be mapped. This report nevertheless seeks to obtain as clear an idea of heritage resources of relevance within the study area as possible.

4.3 Relevant Heritage Groups

Pending public feedback forming part of the EIA public engagement process, HWC was identified as the only relevant heritage group with which to liaise at this stage. In fact, this report is partly the product of discussions between the author and members of HWC. Given the nature of the study area with its limited heritage resources, liaising with other heritage groups was considered best left until/if such groups identify themselves during the public engagement process.

4.4 Feedback from Interested and Affected Parties (IAP's)

Given paragraph 4.3 above, IAP feedback is not addressed, nor accommodated in this document. In any event, the nature of the impact receiving areas and significance of impacts resulting from the pipeline are such, that it is not deemed necessary to approach IAP's such as the Cape Institute of Architects (Heritage or Habitat Sub-Committees) for comment.

4.5 Relevant Heritage Investigations by Others

No known prior heritage investigations have been undertaken by others within the immediate (site-specific) proximity of the study area. Indeed, heritage research, where existing, concentrates predominantly on the Paarl Main Road precinct, recognized as being of regional if not national heritage significance. A heritage survey is, however, currently underway covering the entire Drakenstein municipal area and includes the study

area in question¹. This survey confirms a very low incidence of intrinsically significant elements within the area, but high contextual significance relating to the Paarl Urban Farm areas within the site-specific and local proximities of the study area.

4.6 Archaeological Significance

Archaeological significance is dealt with as a separate report by a suitably qualified specialist (refer **Annexure 2**) and is, therefore, not dealt with in this report other than in very general terms.

4.7 GPS References

GPS co-ordinates have not been used for locating heritage resources as per CS Design's work proposal for this project. In any event, using such co-ordinates in some instances is not feasible, given the broad spatial nature of these resources. Significant buildings are, however, identified on the diagrams attached to this report as colour-coded symbols.

4.8 Accuracy of Baseline Information

This assessment assumes a degree of inaccuracy in the plotting of the proposed sewer outfall pipeline route on the aerial survey provided by the commissioning party (Ninham Shand). For example, the preferred pipeline, where running through the Central Paarl industrial area in the vicinities of Distillery, G Geffer, Island and Textile Streets (refer **Diagram 3**), are assumed to run within road areas and not through developed blocks as indicated. Note that Google Earth baseline aerial images are used for the purposes of this report. These images are, in some cases, more recent than the aerial information provided by the commissioning party.

5 *The Study Area*

This refers to:

The approximately 12,5km long route of the proposed outfall sewer as indicated on **Diagram 1** of this report, and extending from the present North Paarl WWTW to De Zoete Inval south of the N1; and

The areas on and around the various Candidate Site alternatives for the proposed new South Paarl WWTW as indicated on **Diagram 4** (Site Candidate 1) and **Diagram 6** (Site Candidates 3, 4, 7 & 8).

5.1 Historical Context in Brief

The Paarl region has a long history of human occupation dating back hundreds of thousands of years to the early Stone Age. By about 2000 years ago, one of the principal kraals of the Cochoqua, was thought to have been situated to the west of the Paardeberg

¹ The work is being undertaken by the Drakenstein Heritage Survey Group, of which the author is a member. This report draws on findings contained in that study relating to Paarl, as well as the study area in question.

Closer to the study area, Paarl Mountain is known to be a significant archaeological site relating to at least periodic human occupation.

The first significant European settlement began in the second half of the 17th century with the arrival of the French Huguenots, some of whose farms fall within the vicinity of the study area (e.g. Picardie, La Concorde, Parys and De Zoete Inval). Most village development began concentrating itself along Paarl Main Road (the old wagon route) to the west of the Berg River with other areas, including the study area which was mainly devoted to agricultural land. By the 19th century, town development had spread to the area around the old railway station. It also consolidated itself along Main Road in the direction of the Paarl Mill, as well as along Lady Grey Street together with growing industrial development, over the Berg River and into the pipeline study area in the Distillery Road/Textile Street precincts. Buildings surviving from this period in the immediate proximity to the proposed pipeline route include the old Huguenot Brandy (Est 1884) Complex c/o Geffer and Distillery Streets (**Figure 2** viewpoints 9 & 10) and two late 19th Century buildings c/o Thesen and Textile Streets (**Figure 2** viewpoint 12).

One of the most significant catalysts of change in Paarl during the 20th century, was the implementation of the Group Areas Act. Amongst others, this led to the demolition of the 'Ou Tuin' area along the west banks of the Berg River close to Lady Grey Street and on the opposite side of the Berg River to the pipeline study area.

The mid-late 20th century saw the expansion of the industrial precincts within the pipeline study area along Textile, island and Distillery Streets, as well as the development of the Parys Sports Ground, also within the study area. It also saw the establishment of light commercial and agri-industrial development to the south of the N1 within the broad area considered for other WWTW site alternatives. This includes a brickfield within the site-specific proximity of WWTW Candidate Site 4.

A noteworthy precinct within the southern portion of the pipeline study area is the Paarl Arboretum. It was established in 1957 and contains approximately 4 500 trees representing 750 species from 6 continents. WWTW Candidate Site 1 (**Diagram 4**) is within close (site-specific) proximity to the Arboretum. Note that the Preliminary (pre-scoping) Heritage Report (**Annexure 1**) screens this WWTW site alternative out of contention.

5.2 Physical Context

The preferred route of the proposed outfall sewer runs north-south through a series of landscapes, many of which have been substantially altered over time through urbanisation, industrialisation and developing transport (rail and road) systems. The various site alternatives for the proposed new WWTW are located within the area to the south of the N1 with the exception of Site Candidate 8 and Site Candidate 1 which has been screened out of further contention in the Preliminary Heritage Report.

The northern sector, in particular, is characterized by urban landscapes that are visually non-descript to degraded with very few elements of architectural or aesthetic significance (refer **Figures 1&2**).

The southern sector north of the N1 is characterized by urban landscapes of considerably greater aesthetic merit, including urban agricultural open space systems that have

regionally unique spatial qualities, as well as high historical significance relating to Paarl's origins as an early Cape settlement. These urban farm spatial systems are identified as having regional significance.

This sector contains very few elements of architectural or aesthetic significance within close proximity to the pipeline route (refer **Figure 3**).

The southern sector south of the N1 is characterized by agricultural (mainly vineyard) open space systems interspersed with a mixture of light commercial development, brickfields (**Figure 5** viewpoint 25), agri-industrial installations as well as wine co-operatives and golf/polo estate development. Landscapes in this area are, as a whole, of lower aesthetic merit than the pipeline study area north of the N1, although scenic quality improves against the mountain slopes and to either side of the Berg River in the direction of Simondium.

6 *The Outfall Sewer Route*

6.1 Heritage Statement

Cultural significance is defined in the NHRA as "aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological significance" [Section 2(vi)]. A heritage resource is defined as "any place or object of cultural significance" [Section 26(xvi)]. In terms of these definitions, the pipeline study area is assessed as follows (with Section 4 of the Preliminary Heritage Report pp 2-3 Annexure 1):

6.1.1 *Aesthetic/Architectural Significance:*

The northern sector of the pipeline study area (as on **Diagrams 2&3**) has low to no architectural/aesthetic value with the exception of a few individual buildings: viz: the old Huguenot Brandy complex (Est 1884) c/o G Geffer and Distillery Streets (**Diagram 3/Figure 2**: viewpoints 9 & 10) provisionally identified as Grade IIIB²; and two late 19th Century buildings c/o Thesen and Textile Streets (**Figure 2** viewpoint 12) identified as Grade IIIC;

The southern sector of the pipeline study area has low-no architectural value, but high to very high aesthetic value relating to its urban farm settings and the Paarl Arboretum. The urban farm settings are a very special spatial characteristic of Paarl and are identified as of regional significance. An exception to the lack of architectural significance in the southern sector is the small group of labourers cottages on the farm Vendome adjacent to the Arboretum (**Diagram 4/Figure 3**: viewpoint 18) which are provisionally identified as Grade IIIC.

6.1.2 *Historical Significance*

The northern sector of the pipeline study area has low to no known historical associations or significance, with the exception of the industrial buildings identified in 6.1.1 above. (Note that the railway line running through this sector near to the pipeline route has some historical significance by being part of the original alignment of the first railway line in the Western Cape connecting Cape Town to Wellington. This association

² Recommended in terms of the three tier grading scale for heritage resources provided for in Section 7(1) of the NHRA. Note that the Grade III Category identifying local significance is divided into sub-categories viz: Grade IIIA being of great intrinsic local significance, Grade IIIB being of some intrinsic local significance, and Grade IIIC essentially being of contextual local significance.

would not influence mitigation of the proposed pipeline, but is included in the interest of being comprehensive).

The southern sector of the pipeline study area contains no buildings of known historical significance or associations.

6.1.3 *Scientific/Technological Significance*

The northern sector of the pipeline study area has scientific significance relating to the bird sanctuary at the North Paarl WWTW. It is home to the Malachite Kingfisher and 140 other bird species.

The southern sector of the pipeline study area has considerable local significance relating to the Paarl Arboretum with its 750 tree species from 6 continents. Although the Arboretum is not yet older than 60 years in terms of Section 34 of the NHRA, its special collection of exotic tree species is regarded as of local scientific (biophysical) and aesthetic heritage significance and worthy of conservation. In this regard, it should also be noted that mature trees within the City of Cape Town's heritage (urban conservation) areas enjoy protection even though not necessarily being older than 60 years.

Site inspections coupled with available documentary evidence has revealed no instances of historic irrigation watercourses in the path of the proposed pipeline route (refer Preliminary Scoping Report Section 4.1).

6.1.4 *Social/Spiritual/Linguistic Significance*

None established at this stage. Unlikely to influence the course of the preferred pipeline route, even if subsequently established in the course of engaging with IAP's.

7 *The WWTW Candidate Sites*

7.1 Heritage Statement

The heritage statement for the proposed WWTW candidate sites is only for purposes of prioritizing these alternatives from most to least preferred. This is because a full EIA will be conducted for the appropriate site(s) closer to the proposed construction date, i.e. in about 10 years time. Note that an additional candidate viz. Candidate Site 8 is considered as part of this report.

This section is to be read in conjunction with the Preliminary Heritage Report Section 5 in Annexure 1.

7.1.1 *Candidate Site 1: 'Groot Parys'*

Refer Diagrams 4, 6 and Annexure 1: Sections 5.1.1 & 5.1.2. Primarily of high contextual and intrinsic aesthetic significance relating to the Paarl Urban Farms cultural landscape.

The impact of a WWTW on this strategically sensitive site is regarded as fundamentally undesirable.

It is recommended that this site be screened out from further consideration, and should be regarded as a 'no-go' area for anything other than rural agricultural development.

7.1.2 *Candidate Site 3: 'De Zoete Irvval'*

Refer Diagrams 5, 6 and Annexure 1: Sections 5.2.1 & 5.2.2. This site was incorrectly identified in the Preliminary Heritage Report as being further west and closer to the Paarl suburb of De Zoete Inval. In fact, the site is located closer to the Berg River and is largely screened by trees. This makes it invisible from the historic Firwoods (formerly De Zoete Inval) werf as well from nearby residential areas. The site is also screened from the N1 approach to Paarl by the suburb of De Zoete Inval.

It falls beyond the area identified as of high conservation value in the Paarl Farms Land Use Management Policy. It also falls just within the proposed revised Paarl Urban Edge as recommended by MCA Planners.

It contains no structures. There are also no signs of pre-existing buildings on the site as per the earlier incorrectly identified site.

Given the low visibility of the site from surrounding areas including the scenic N1 approach to Paarl, its being beyond the identified Paarl Urban Farms management area, as well as the lack of elements of heritage significance on the property, the site has been re-assessed as the second most favoured site for the proposed new WWTW (after the De Hoop site).

7.1.3 *Candidate Site 4: 'Vilafonte/Boland Brickfields.'*

Refer Diagram 6 and Annexure 1: Sections 5.3.1 & 5.3.2. Primarily of some contextual significance as part of a broader agricultural open space system, albeit eroded by light industrial/commercial development, brickfields and quarries (e.g. **Figure 5** viewpoint 25). Note that the economic impacts resulting from the loss of the Vilafonte Vineyards is the subject of an expert study by others and, therefore, is not taken into account as part of this assessment.

Archaeological potential for the area is now confirmed as low (refer Annexure 2).

Visual impact from the N1 scenic approach to Paarl would be low and easily mitigated with landscaping, if necessary (re: viewpoint 25).

The site contains no structures of heritage significance.

Given the lack of significant elements on the site, and the mixed-use nature of the surrounding landscape into which visual integration with a proposed new WWTW could be achieved, the site is identified as the third most favoured alternative (marginally behind Site Candidate 3).

7.1.4 *Candidate Site 7: 'De Hoop'*

Refer Diagram 6 and Annexure 1: Sections 5.4.1 & 5.4.2. Primarily of some visual contextual significance as viewed from higher ground including from the historic De Hoop opstal (see **Figure 5** viewpoint 28). Visual impacts are, however, mitigated by distance and could easily be further mitigated by landscaping.

The site has a low visual profile within an extended plain occupying low ground.

It is densely populated with invasive tree species and contains no structures³.

The site has relatively low agricultural potential, which is why it is currently not farmed.

It falls outside the proposed revised Paarl Urban Edge as recommended by MCA Planners, but adjacent to the new Val de Vie Polo Estate currently under construction.

³ Pers. comm. with Mr Paul Roux, owner of De Hoop, 27 September 2006

Given its relative isolation and generally low scenic qualities in the local context, this site is regarded as the most favoured candidate for the WWTW.

7.1.5 Candidate Site 8: 'Van Wyks Rivier'

Refer Diagram 6. This is a new candidate site and, therefore, has not been addressed in the Preliminary Heritage Report.

Aesthetic: The site occupies a strategic and visually sensitive position alongside the scenic N1 approach to Paarl. It occupies land predominantly characterized by agricultural open space forming part of the Agter Paarl spatial system. The landscape characteristics of this (northern) side of the N1 are different to the spatial characteristics of the terrain to the south of the N1, which is characterized by mixed-use development (refer para. 7.1.3).

The site contains no structures and is currently not farmed, although trellised for vines.

Architectural: The site contains no structures and, therefore, has no architectural significance.

Archaeological: The site may have archaeological significance, although any archaeological deposits would, most likely, have been negatively affected by years of cultivation and ploughing. The site also reveals an absence of archaeological indicators such as natural water sources and rocky outcrops. It is dominated by the higher slopes of the Paarlberg further to the north and is, therefore, not likely to have been particularly favoured as a lookout point for prehistoric hunters. It must, however, be stressed that these observations represent an unqualified view and, therefore, may require further substantiation by a trained archaeologist.

Other aspects of significance: The site has no known social, spiritual, linguistic, scientific or technological significance, nor is this likely, given its undeveloped (unbuilt) state.

Provisional Conclusions & Recommendations: The site occupies an exposed position within an historic, predominantly rural open space system framing the landmark Paarlberg along the scenic N1 approach to Paarl. The site is, therefore, considered to have a low ability for absorbing visual impacts from a proposed new WWTW, even if mitigated with landscaping. In fact, such mitigation may even interrupt views of the landmark Paarlberg, negatively affecting the open space system that frames this landmark feature from the N1. It is also important to note that this site falls outside the proposed revised Paarl Urban Edge as recommended by MCA Planners.

Given the likely high visual impacts associated with substantial development on this site, Candidate Site 8 is regarded as the second least favoured site (after Candidate Site 1) for the proposed WWTW.

8 Design Informants: Proposed Outfall Sewer

8.1 General Introduction

The following are recommended general guidelines for assessing the impact of the pipeline route. These guidelines form the primary basis for assessing the preferred route of the pipeline in terms of heritage-related priorities, and as indicated on **Diagrams 1-5**. They may not all be of relevance to the preferred pipeline route identified in this study, but help to substantiate the choice of this route. These guidelines are also intended to be of use for establishing the as yet undetermined preferred pipeline route to the new WWTW site.

These design informants draw on the Heritage Statement in Section 6 of this report, as well as Kruger Roos's Development Guidelines for Rural Areas and Farms.

Excavation of the pipeline will require digging a trench of approximately 1,5m wide to a depth of between 2 and 5m for a pipe with a diameter of 600mm. However, the required working space will involve effectively clearing a path of 12m wide across the landscape during the construction phase. It may be possible for this width to be reduced for limited lengths in special cases e.g. crossing established tree belts, although this would involve increased costs.

Rehabilitation measures will make it possible to return the surface to its pre-existing state (where desired), the only visible signs being access manholes spaced at intervals along the course. The developer will be required to keep these as close to natural ground level as possible, particularly in visually sensitive areas such as along the edges of vineyards and the Paarl Arboretum. The rehabilitated path would, where necessary, be capable of supporting replanted vines and even small trees, i.e. up to 2m high. The pipeline will need to cross the Berg River at one strategic point. This is proposed to be at the N1 freeway bridges crossing the Berg River, and in accordance with the guidelines.

8.2 Design Informants

The following design informants are intended to minimize visible pipeline impacts on the landscape, even if such impacts promise to be fully mitigated over time. It is recognized, for example, that it can take approximately 5 years to fully reinstate vines and at least 5 years to reinstate trees unless replanted from elsewhere. It is also, for example, recognized that mounds of excavated earth can have a negative impact on scenic settings, albeit temporarily. Such circumstances, where unavoidable, should therefore be carefully handled by means of appropriate conservation management plans as outlined further in this section.

The pipeline course should, wherever possible and with regard to:

8.2.1 *General location*: Be confined to existing road/rail alignments and service routes (e.g. other pre-existing pipeline courses) wherever possible.

8.2.2 *Scenic routes*: Be separated from public scenic road edges by buffer planting including vines or other relevantly planted agricultural land in order to prevent 'sterilised' zones running alongside scenic drive edges. Such measures are primarily of relevance to the as yet undetermined pipeline routes falling beyond the scope of this study. (It is noted that vines and other crops including orchards, as well as pasturage could be reinstated on top of the buried pipeline without difficulty).

8.2.3 *Established avenues/tree belts*: Avoid crossing mature tree-lines or belts. Where this is not possible, the excavation and resulting pipe track are to be reduced to an absolute maximum (if possible to a width of less than 10m) to accommodate and conserve as many trees as possible. Note that such measures may be of relevance to tree groups within, or adjacent to the Paarl Arboretum, particularly in the vicinity of the N1 at its southern end.

8.2.4 *Other tree groups*: Be set back to a minimum 5m from tree canopy drip lines where running parallel with, and adjacent to belts of trees.

8.2.5 *Rivers and natural watercourses*: Be set back a minimum 10m from the edge of a river or watercourse, or such other distance deemed, by a conservation management plan, to render the water feature and adjacent trees safe from excavated material or activities associated with the laying of the pipeline. This would apply to portions of the pipeline running parallel with, and adjacent to such features.

8.2.6 *Crossing rivers and watercourses*: Be laid deep enough to enable pipe crossings to be made below watercourse and stream beds, or otherwise designed to be integrated with existing or proposed bridging structures. The purpose is to make the pipe crossing as visually unobtrusive as possible and work within archaeologically disturbed areas. Where river crossings are necessary, rehabilitation of the stream or watercourse will need to be made subject to a conservation management plan, including with regard to visual impact.

8.2.7 *Established planting patterns*: Follow existing vineyard and other agricultural boundaries wherever possible, particularly where farm service roads are already in existence. Where this is not possible, the pipeline should follow a rectilinear path across a vineyard, or run parallel with planted rows. The purpose is to disrupt, as little as possible, the characteristically rectilinear planted textures in the landscape. Diagonal paths should only be used where such patterns already exist in the adjacent landscape (e.g. farm roads), and preferably not adjacent to scenic drives.

8.2.8 *High potential agricultural land*: Avoid bisecting or encroaching on land with high agricultural potential including vineyards of prize-winning quality, i.e. where being a major producer of award-winning wine recognized at regional (provincial) and national level. This would also be applicable to other agricultural land where it can be shown that the chosen pipeline routes would seriously affect the agricultural and tourism economy of the area.

8.2.9 *Graded sites*: Bypass these sites without threatening their structural integrity. This applies particularly to the Grade III buildings identified on **Diagrams 3&4** (**Figure 2** viewpoints 9, 10 & 12 and **Figure 3** viewpoint 18). With regard to future pipeline route options, avoid any pipeline route crossing the main frontage of a building, complex or site within a rural setting graded I, II, IIIA or IIIB, where it is possible to run the pipeline along its 'rear' extremities. No pipeline track should pass within 50m of the front extremities of such a site, or within 25m of its 'rear' extremities. (Extremities would include outer werrf walls or animal pens, outbuildings or other structures associated with the main complex).

8.2.10 *Pipeline service structures*: Avoid the use of obtrusive service structures (pump stations, ventilator shafts, bulky and projecting IC cover structures) and, where/if unavoidable, ensure that they avoid being located in visually exposed areas, and are designed and finished to merge with surrounding characteristic landscape features.

9 Assessment of Impacts & Conclusions

9.1 Outfall Sewer Impacts

Impacts from the proposed sewer outfall pipeline are assessed in **Table A** using the assessment criteria contained in the EIA Plan of Study for the project produced by

Ninham Shand Consulting Services. From these assessments, the following can be concluded:

- 9.1.1 Impacts from the preferred pipeline route are anticipated to be Very Low to Low in general.
- 9.1.2 The most significant potential impacts relate to the possible loss of mature trees, particularly within the Arboretum but also along the banks of the Berg River. Vines are regarded as more readily replaceable, and therefore more 'expendable' than mature (including exotic but excluding invasive) trees, when considering the detailed route for the pipeline. Potential for effective mitigation: High.
- 9.1.3 A limited number of buildings of some local architectural/historical significance may be negatively impacted on by the pipeline, particularly (though not exclusively) during the construction phase. Such impacts are, however, anticipated to be Very Low. It is important to note, however, that should damage to these buildings occur e.g. settlement of foundations, the consequences may be irreversible. An Environmental Management Plan that ensures the structural and architectural integrity of the Huguenot Brandy complex, in particular, is therefore recommended. Potential for effective mitigation: High.
- 9.1.4 Although the alternative routes as indicated on **Diagrams 4&5** are not assessed in detail it is clear, when measured against the design informants in this report, that these alternative routes are less desirable. They fall short with particular reference to:
- DI 8.2.6: in that the proposed alternative Berg River crossing (**Diagram 4**) would result in considerably greater negative visual impacts, not to mention greater potential archaeological disturbance when compared to the preferred N1 bridge crossing alternative;
- DI 8.2.7: in that the alternatives would result in greater disruption to existing planting patterns, particularly across the highly significant historical farms of La Concordia, Goedmoed and Nancy (**Diagram 4**);
- DI 8.2.8: in that they would result in encroachments on land of high agricultural potential (**Diagrams 4&5**); and
- DI 8.2.9: in that the architectural, historical and archaeological integrity of heritage sites of regional (Grade II) significance could be threatened, with particular reference to the historic opstals of Goedmoed and Nancy (**Diagram 4**).

9.2 WWTW Candidate Sites Prioritized

As informed by Section 7.1 the WWTW site alternatives are prioritized as follows in terms of heritage impacts (most to least favoured):

- 6th. Site Candidate 7: 'De Hoop' (most favoured)
- 7th. Site Candidate 3: 'De Zoete Inval';
- 8th. Site Candidate 4: 'Vialfonte/Boland Brickfields';
- 9th. Site Candidate 8: 'Van Wyks Rivier'; and
- 10th. Site Candidate 1: 'Groot Parys' (least favoured).

The first three options are all regarded as feasible options, but with varying degrees of mitigation. The fourth and fifth options are regarded, respectively as being undesirable to highly undesirable, and are to be avoided.

10 Recommendations

Given the assessments in Section 7 (WWTW Candidate Sites), and Table A (Assessment of Preferred Sewer Route Option), informed by the Design Informants (Section 8), and the Preliminary Heritage Report (Annexure 1) it is, therefore recommended:

- 10.1 That the preferred sewer outfall route option as indicated on Diagrams 1-5 be accepted subject to the mitigation measures recommended; and
- 10.2 That Site Candidate 7 be regarded as the most favoured site for the WWTW with Candidate 1 being least favoured: all as recommended in Section 9.2.

Graham Jacobs
CS Design Architects & Heritage Consultants
30 September 2006

11 Sources

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12 Lists of Diagrams & Figures

Diagram 1: *Location plan of the proposed new outfall sewer extending from North to South Paarl (preferred route).*

Diagram 2: *Northern Sector from the existing Wastewater Treatment Works*

Diagram 3: *Central Sector through the Paarl East Industrial Area*

Diagram 4: *Southern Sector along the Paarl Arboretum*

Diagram 5: *Southern Sector Rural Area along Firwoods Farm/Boschenmeer Golf Estate*

Diagram 6: *Location of WWTW Candidate Site Alternatives 3, 4, 7 & 8*

Figure set 1: *Viewpoints 1-6*

Figure set 2: *Viewpoints 7-12*

Figure set 3: *Viewpoints 13-18*

Figure set 4: *Viewpoints 19-24*

Figure set 5: *Viewpoints 25-30*

13 Annexures

Annexure 1: *Preliminary (Pre-Scoping) Heritage Report: CS Design, 20 July 2006*

Annexure 2: *Archaeology Report: Archaeology Contracts Office, UCT (Tim Hart), 10 August 2006*

Annexure 3: *Statutory Terms of Reference*



Diagram 2

Northern Sector from the existing Wastewater Treatment Works

Key

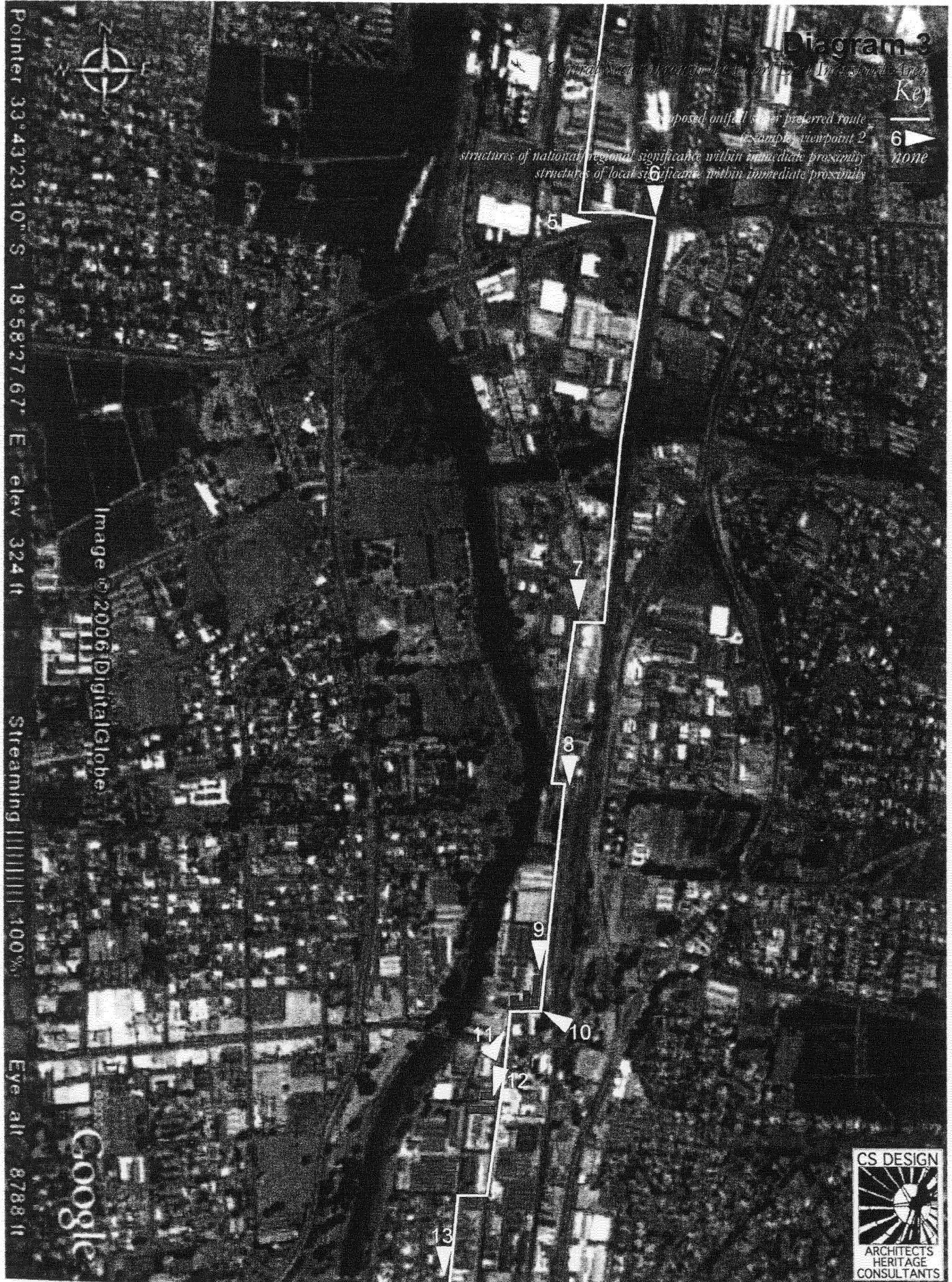
- proposed outfall sewer preferred route
- (example) viewpoint 2
- ▭ structures of national/regional significance within immediate proximity
- structures of local significance within immediate proximity
- 2 ▸ none
- none

Pointer 33°42'05.53" S 18°58'26.77" E elev 334 ft
 Image ©2006: DigitalGlobe
 Streaming | 27%
 Eye alt 8788 ft



DRAKENSTEIN WASTEWATER STRATEGY: PROPOSED GRAVITY OUTFALL SEWER ROUTE

Heritage Report September 2006. © CS Design Architects & Heritage Consultants



DRAKENSTEIN WASTEWATER STRATEGY: PROPOSED GRAVITY OUTFALL SEWER ROUTE
Heritage Report September 2006. © CS Design Architects & Heritage Consultants

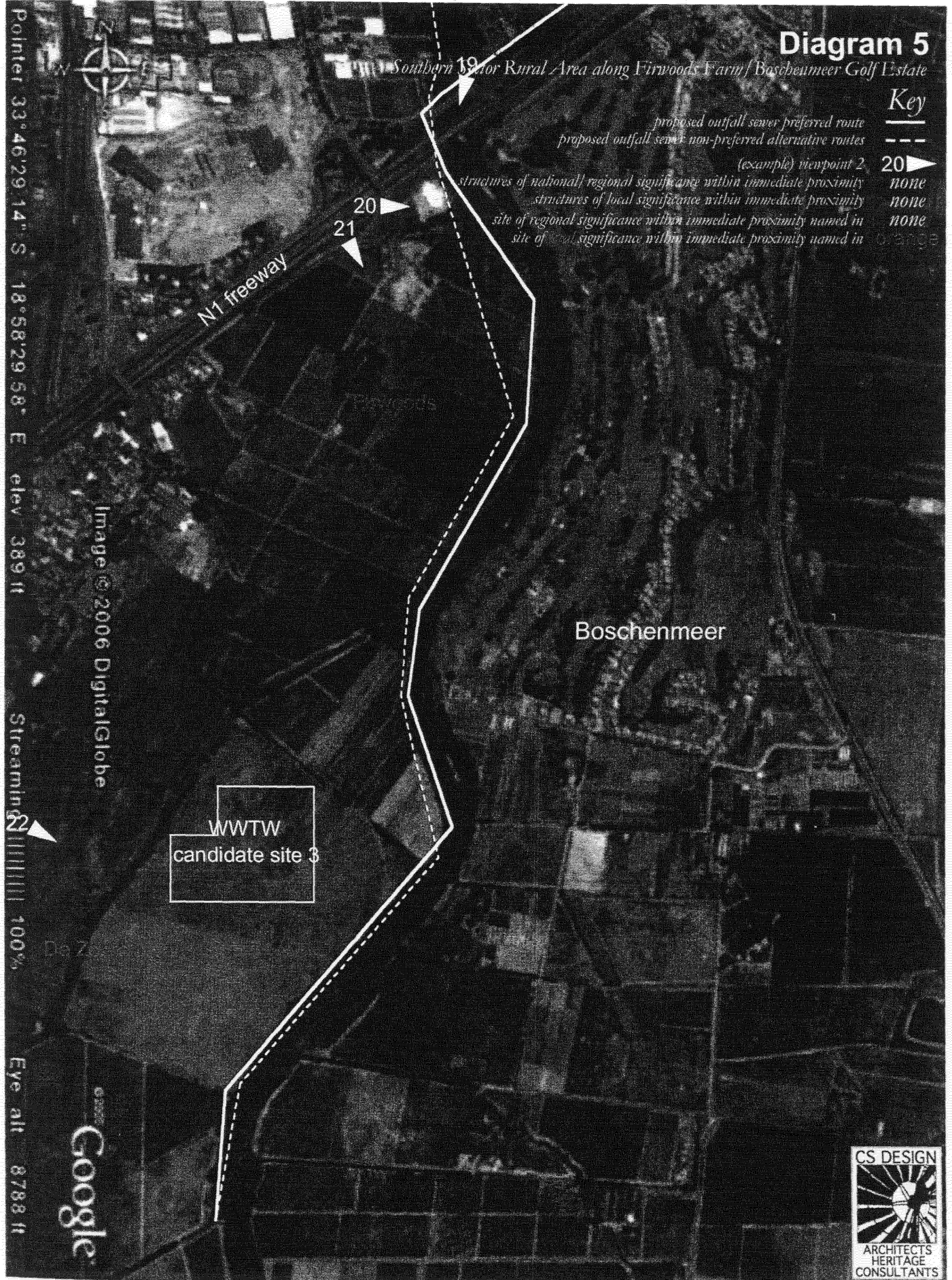


DRAKENSTEIN WASTEWATER STRATEGY: PROPOSED GRAVITY OUTFALL SEWER ROUTE
Heritage Report September 2006. © CS Design Architects & Heritage Consultants

Diagram 5

Southern Prior Rural Area along Firwoods Farm/ Boscheumeer Golf Estate

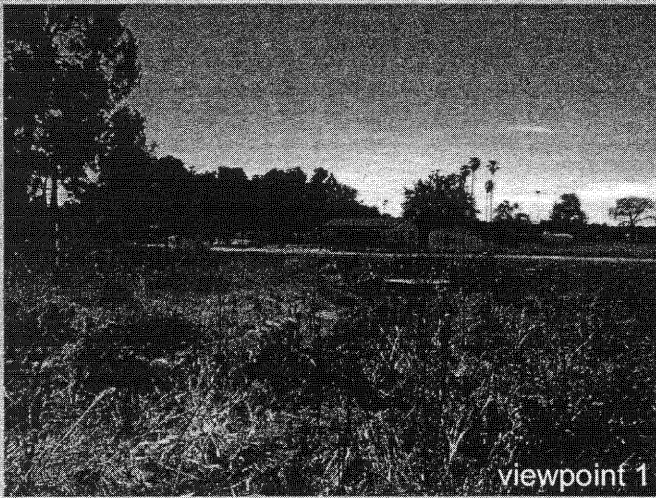
Key	
	proposed outfall sewer preferred route
	proposed outfall sewer non-preferred alternative routes
	(example) viewpoint 20
	structures of national/ regional significance within immediate proximity
	structures of local significance within immediate proximity
	site of regional significance within immediate proximity named in site of local significance within immediate proximity named in
	none
	none
	orange



DRAKENSTEIN WASTEWATER STRATEGY: PROPOSED GRAVITY OUTFALL SEWER ROUTE
 Heritage Report September 2006. © CS Design Architects & Heritage Consultants



DRAKENSTEIN WASTEWATER STRATEGY: CANDIDATE WWTW SITES AS SHORTLISTED
Heritage Report September 2006. © CS Design Architects & Heritage Consultants



viewpoint 1

View northwards over a semi-degraded landscape towards the Paarl North WWTW on the approximate axis of the pipeline route



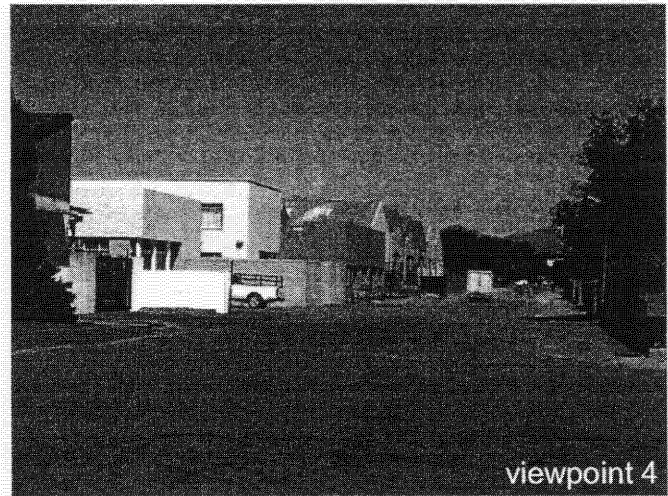
viewpoint 2

View southwards along the pipeline route through nondescript and invasive alien vegetation



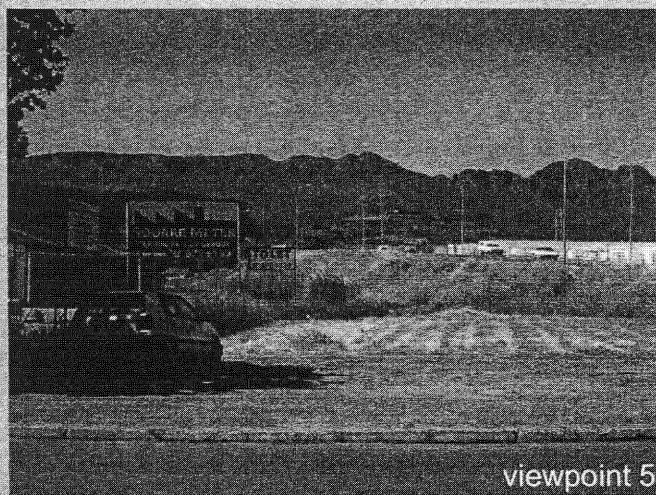
viewpoint 3

View northwards on the pipeline route over the Dajfosaphat Industrial Township railway marshalling yard. Degraded landscape.



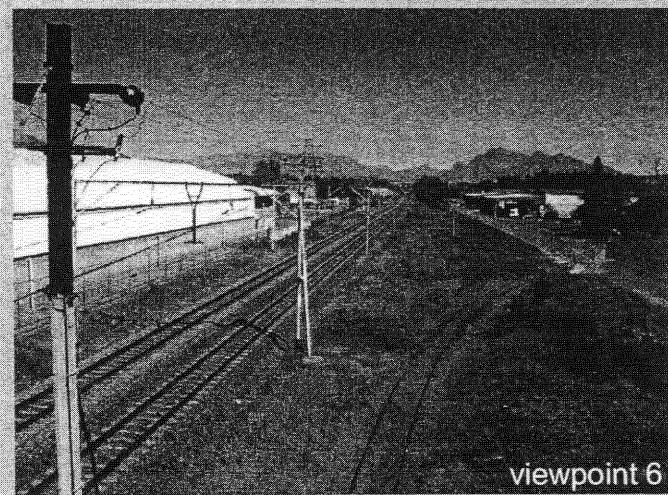
viewpoint 4

View southwards in the opposite direction to viewpoint 3 along the proposed pipeline axis down Alkmaar Street. Nondescript streetscape.



viewpoint 5

View looking eastwards along the proposed pipeline route towards the Oosbosch Street railway flyover bridge. Nondescript urban landscape.



viewpoint 6

View from the Oosboch railway flyover along the proposed pipeline axis on the western (right) side of the railway lines. Nondescript urban landscape.

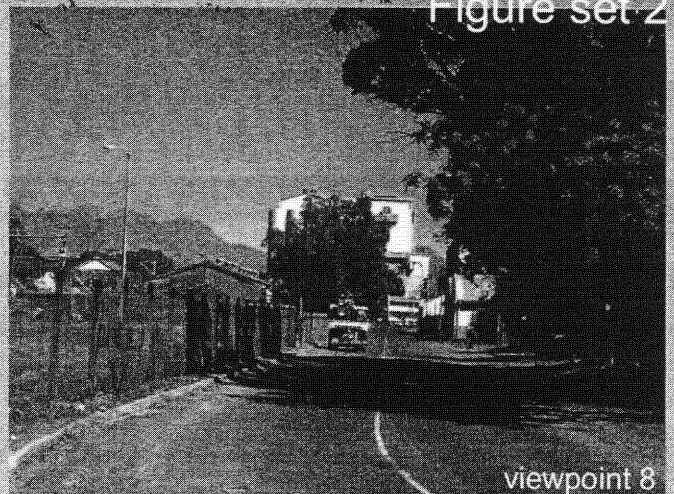
DRAKENSTEIN WASTEWATER STRATEGY: VIEWPOINTS: OUTFALL SEWER ROUTE

Heritage Report September 2006. © CS Design Architects & Heritage Consultants



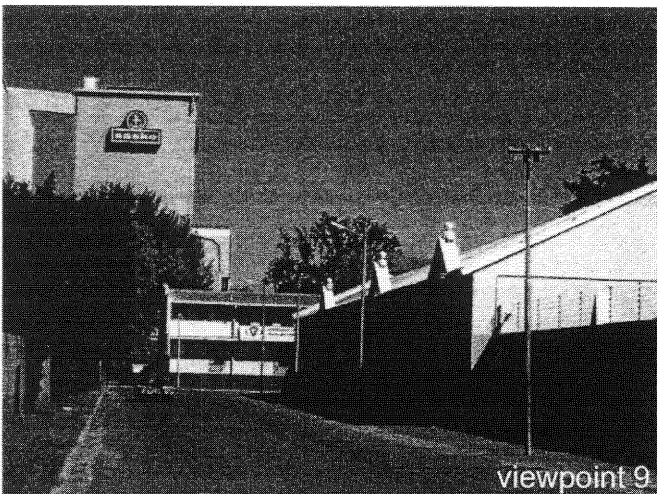
viewpoint 7

View southwards approximately along pipeline axis along Distillery Street. Nondescript industrial streetscape.



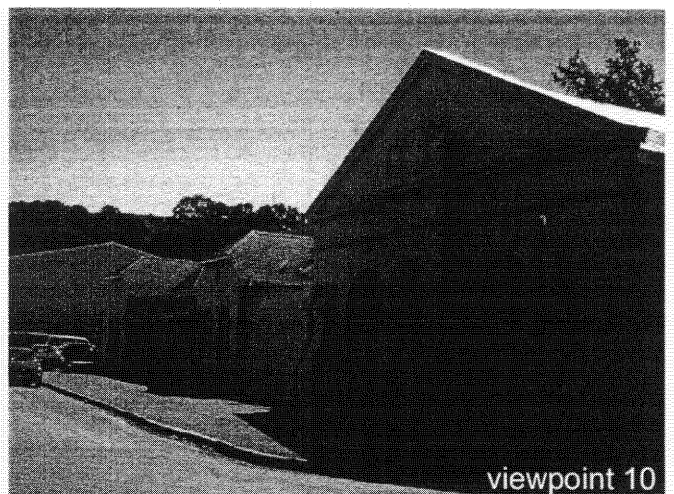
viewpoint 8

View further southwards along Distillery Street towards Huguenot Station. Good mature tree belt on right hand side. Otherwise nondescript streetscape.



viewpoint 9

View southwards along pipeline axis approaching intersection with G Geffer Street. Historic Huguenot Brandy warehouse on right hand side.



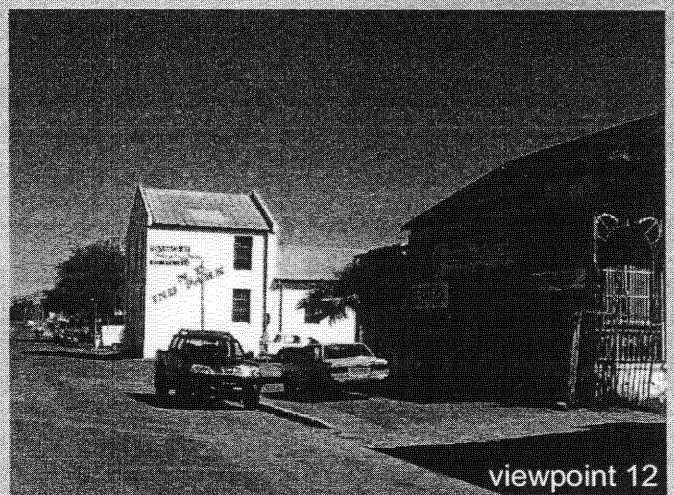
viewpoint 10

Historic Huguenot Brandy industrial complex from G Geffer Street. Warehouse in the foreground provisionally identified as Grade III B



viewpoint 11

View northwards towards Huguenot Brandy complex. Proposed pipeline axis runs approximately along street alignment.



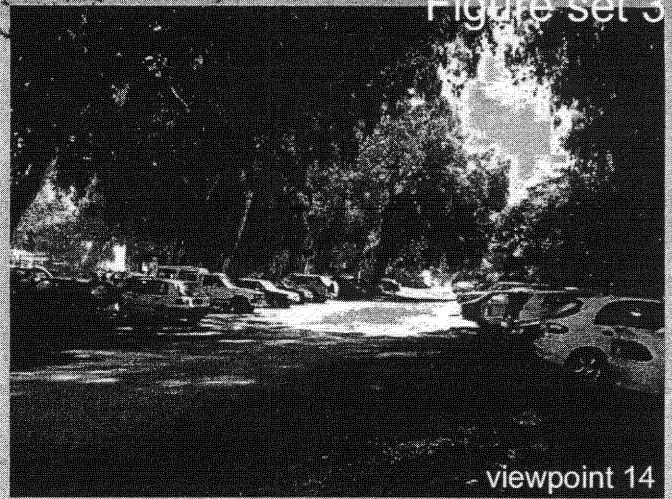
viewpoint 12

Historic buildings c/o Thesen & Island Street. These buildings are provisionally identified as Grade III C



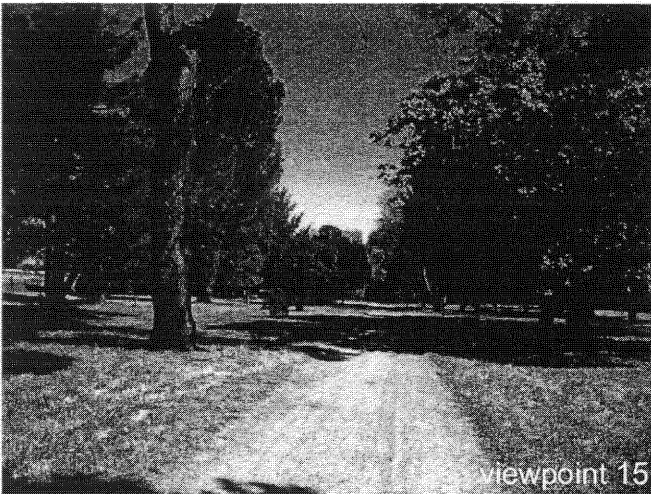
viewpoint 13

View southwards down Textile Street along pipeline axis towards Parys Sportsgrounds. Unremarkable suburban development on right hand side.



viewpoint 14

View westwards approximately along pipeline axis through Parys sportsground parking area. Landmark mature gums should be retained.



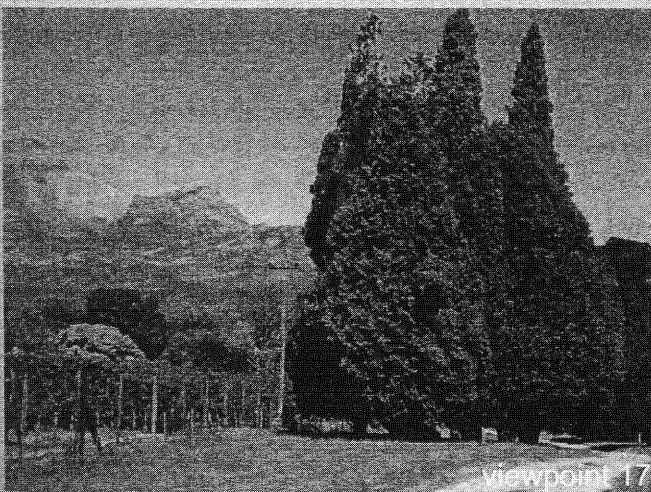
viewpoint 15

View southwards into the Paarl Arboretum showing variety of exotic tree species. Amenity space of high aesthetic quality and botanical significance.



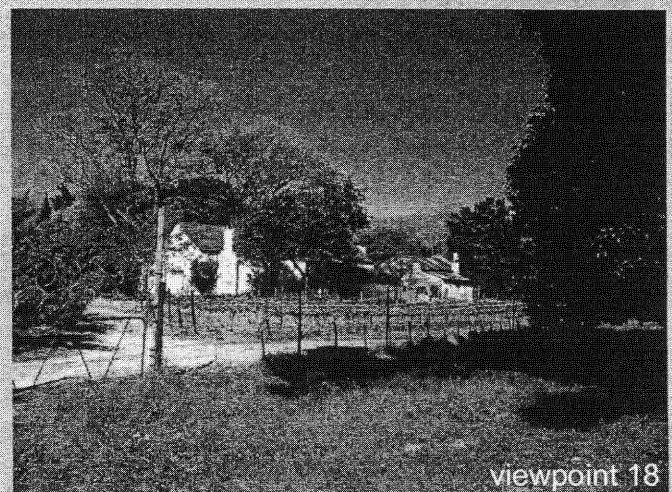
viewpoint 16

View northwards along pipeline axis on boundary between the Paarl Arboretum and Parys farm. Trees should be retained wherever possible.



viewpoint 17

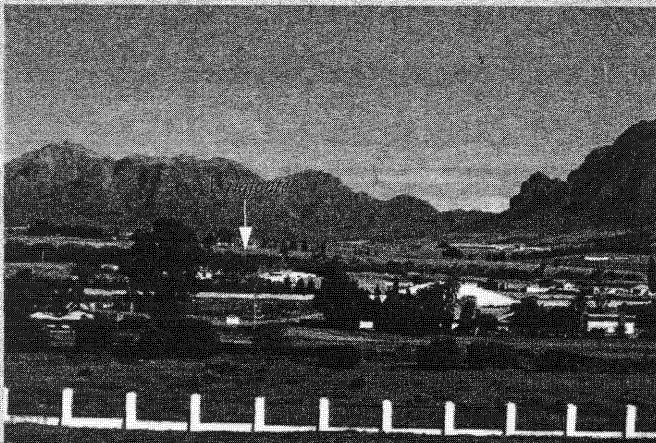
View southwards towards the common boundary between the Paarl Arboretum and Vendome Farm. Trees should be retained.



viewpoint 18

View southwards towards labourers cottages, Vendome. These buildings plus mature trees to be retained.

Figure set 5



viewpoint 25

View of the Vilafonte WWTW Candidate Site 4 (arrowed) from north of the N1 (across bottom of image) showing mixed use landscape context.



viewpoint 26

View westwards over Van Wyks River WWTW Candidate Site 8. Note close proximity of N1 (left center).



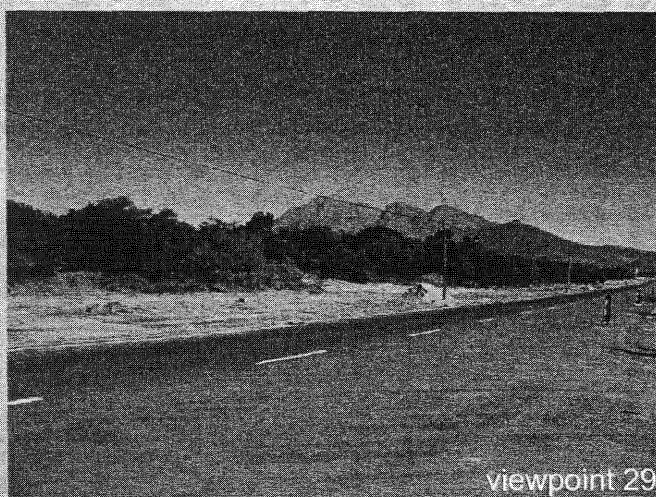
viewpoint 27

View southwards over Van Wyks River WWTW Candidate Site 8 from its northern boundary. The N1 is marked by the distant vehicles.



viewpoint 28

View of De Hoop WWTW Candidate Site 7 (arrowed) from the main farm. the Val de Vie Polo Estate is marked by construction dust beyond.



viewpoint 29

Close-up view of De Hoop Candidate Site 7 under invasive alien vegetation: from the road approach to Val de Vie looking north west.



viewpoint 30

Close-up view of De Hoop Candidate Site 7 from inside the boundary of Val de Vie looking north east.

Proposed New Drakenstein South Outfall Sewer & Site for a New Wastewater Treatment Works (Paarl South)

PRELIMINARY (PRE-SCOPING) HERITAGE REPORT

1 PURPOSE OF THIS DOCUMENT

The purpose of this document is to provide a preliminary indication of potential heritage impacts on the areas affected by the proposals. It is important to note that this is not a scoping report. Its intention is to identify and/or discount heritage issues in a pre-scoping equivalent of a Notice of Intent to Develop (NID) application to Heritage Western Cape (HWC). It provisionally identifies, in heritage terms, probable areas and aspects of sensitivity related to the proposed new outfall sewer, as well as most to least preferred site alternatives for a future Wastewater Treatment Works (WWTW). It is noted that this WWTW will form part of a future development phase to be implemented only in about 20 year's time to meet the needs of South Paarl. The consideration of a suitable site for the WWTW, at this stage, is in order to make advanced provision for the necessary future land acquisitions.

This report is, therefore, intended to inform the nature and scope of more focused heritage studies where deemed necessary.

2 THE PROPOSED DEVELOPMENT IN GENERAL

The proposed development includes:

- (a) A new ø600mm gravity outfall sewer of 12,5km roughly following the course of the Berg River from the rural area south of Paarl to the Paarl WWTW. The depth of the pipe below ground level will be from 2 to 5m, with a 'track' width of approximately 1,5m. A working space of approximately 12m will be required during the construction phase. And:
- (b) A WWTW covering an area of approximately 10Ha but required only in the medium-long term (possibly 10 years time). It is included in this study to preclude having to revisit the investigation of site alternatives later (i.e. as part of a future EIA process for the actual plant).

The developer is the Drakenstein Municipality, which has appointed Ninham Shand Consulting Services to undertake an EIA process for the project.

3 HERITAGE STATUTORY CONTEXT

This report is being undertaken as part of an overarching EIA by Ninham Shand Consulting Services, and in accordance with Section 38(8) of the National Heritage Resources Act (NHRA) of 1999. The proposed development triggers Section 38 of the Act given that it most probably comprises development that:

- (a) Would be linear in nature, and exceeding 300m [Subsection 38(1)(a)];
- (b) Would change the character of a site exceeding 5000 sq m [Subsection 38(1)(c)(i)];
- (c) Would involve three or more erven or subdivisions thereof [Subsection 38(1)(c)(ii)]; and
- (d) Would involve the re-zoning of a site (for the future WWTW) exceeding 10 000 sq m in extent [Subsection 38(1)(d)].

Potential impacts are identified in terms of the NHRA Section 2 definition of cultural (heritage) significance viz: aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes architectural elements

older than 60 years in terms of NHRA Section 34, and archaeological potential where this is suspected.

Note that observations relating to archaeological potential are not to be regarded as either comprehensive or authoritative, as the author is not qualified to comment as an archaeologist. For this reason, Tim Hart of the UCT Archaeological Contracts Office has also inspected the route of the proposed outfall sewer. His findings are that negative impacts resulting from activity associated with the proposed sewer would be very low-neutral.

4 THE PROPOSED SOUTHERN SEWER OUTFALL

The proposed new sewer outfall is a gravity pipeline that is, consequently, constrained by the natural contour lines of the terrain. It is therefore not surprising that the pipeline route is intended to roughly follow the course of the river. It is planned to extend from the Southern Paarl rural area along the west side of the Berg River, over the N1 freeway, from where it will cross underneath the river between the two N1 bridges, and skirt the Arboretum at some distance within its eastern boundary. (An alternative crossing for the pipeline over an island in the Berg River has been screened out). From north of the Arboretum, the pipeline is planned to continue along the eastern banks of the river, through the Paarl East industrial area to the current Paarl WWTW.

4.1 Nature of Potential Heritage Impacts

Aesthetic: A pipeline running adjacent to established linear geographic features such as roads, railways and tree belts is, in principle, favoured provided that impacts on trees and landmark features are minimized and/or appropriately mitigated (e.g. through the Arboretum). A proposed crossing of the pipeline between the two N1 bridges is, therefore supported for reasons relating to low visual impact and, most likely, low archaeological sensitivity. In general, there appears to be low potential for permanent negative visual impact along the pipeline route. The depth at which the pipeline is to be laid makes it possible for successful surface remediation including the planting of small trees directly on the pipeline route.

Architectural: A desktop survey indicates that no structures will be affected by the proposed pipeline route and branch alternatives although this has yet to be fully confirmed on site. Built-up areas on the route are generally of low architectural/aesthetic significance and mainly industrial in nature. The proposed pipeline route falls outside the historic core of the town. Backdrops to historic werf precincts may, in some limited cases, be affected during the construction phase (e.g. south of the N1) but this would be of a temporary nature, with no medium to long term negative effects.

Historical: The pipeline route does not pass through any sites of known historical significance, including the old cemetery area south of Langenhoven Bridge, which will be bypassed.

Social, spiritual, linguistic: No aspects or elements with such associations are known at this stage. It is probable that such significance could come to light during the public engagement process but is not likely to affect the chosen course of the pipeline.

Scientific, technological: The possibility exists that the pipeline route may cross over historic agricultural watercourses or irrigation channels, though the existence of such features (if, indeed, existing) still requires confirmation. In any event, should such features exist as in other parts of the region, it would be possible, with careful mitigation and remediation, to lay the pipeline under such features.

Archaeological: This has been addressed separately in a report prepared by the UCT Archaeological Contracts Office (refer Section 3, p2). Preliminary findings are that

negative impacts resulting from activity associated with the proposed sewer would be very low-neutral.

4.2 Preliminary Conclusions & Recommendations

Given the abovementioned preliminary findings, a full HIA of the pipeline route is not regarded as necessary. However, a heritage report of limited scope focusing, specifically, on the following aspects is recommended viz:

- 4.2.1 *Aesthetic Significance (Visual Impacts): Related to determining to what degree (if any) the Paarl Arboretum would be physically affected in the medium to long term.*
(Other possible negative visual impacts, e.g. affecting historic werf backdrops, would occur only during the construction phase and are, therefore, regarded as low, provided that the appropriate construction environmental management plans are implemented).
- 4.2.2 *Architectural Significance: (Visual & Physical Impacts): Relating to confirming, in situ, the absence of significant settings, or structures older than 60 years, in the path of the pipeline.*
(Initial investigations suggest, however, that the possibility of historically significant structures or settings being affected would be low).
- 4.2.3 *Historical & Archaeological Significance (Construction [excavation] impacts): Relating to affected land in general proximity to the old Paarl cemeteries on its east bank south of Langenhoven Bridge.*
(These areas should be subject to a scan of secondary historical sources in order to confirm the pre-existence, or not, of graves or (demolished) structures, in light of concerns expressed by the case officer at HWC).
- 4.2.4 *Technological Significance (Construction [excavation] impacts): Relating to the possible crossing of historic watercourses in the path of the pipeline.*
(In the event of such watercourses being affected, impacts would occur only during the construction phase and are likely to be low-neutral, provided that construction environmental management plans for these areas include appropriate mitigation and remediation measures informed by appropriate design indicators in the abovementioned heritage report).

5 THE PROPOSED WWTW CANDIDATE SITE ALTERNATIVES

The siting of a second WWTW for Paarl forms part of the second planning phase for alleviating the current wastewater treatment problems within the area. It is intended to serve the rural areas south of Paarl, as well as the southern portion of the town of Paarl. The treatment works will only be required in about 20 years time, depending on demand. However, site alternatives are being considered, at this stage, in order to make advanced provision for the necessary future land procurement. A separate EIA will then be conducted for the chosen site before the time comes to develop the complex.

Seven candidate sites for the WWTW were originally chosen within the region. These have since been narrowed down to four for technical and other reasons: viz:

- *Candidate Site 1: on the farm 'Parys' on the west side of the railway line and within the urban agricultural area of Southern Paarl;*
- *Candidate Site 3: on the farm 'De Zoete Inval' immediately south of the N1;*
- *Candidate Site 4: partly on the property of the Vilafonte Vineyards and Boland Brick brickfields east of the R45 to Simondium and south-east of Candidate Site 3 (De Zoete Inval); and*
- *Candidate Site 7: on the farm De Hoop further south and alongside the R301 to Franschhoek.*

5.1 Candidate Site 1: 'Groot Parys'

This site falls immediately beyond the Paarl urban boundary. It is situated between the Berg River defining the urban edge, and Jan van Riebeeck Freeway to the west of the Paarl/Wellington railway line.



View of the Parys site situated over the railway line (beyond the train in the middle distance) within a scenic setting of high significance

5.1.1 Nature of Potential Heritage Impacts:

Aesthetic: The affected farmland is primarily of contextual aesthetic significance. It is typically planted with vineyards but contains no buildings. The site has a setting of high scenic value in relation to the Berg river corridor and the scenic backdrop of Paarl Mountain. It is also close to a highly significant urban agricultural precinct comprising the farms Nancy, Goedmoed, La Concordia and La Borie et Picardie. This cluster is identified in the Paarl Farms Land Use Management Policy Report (June 2005) as being of High Conservation Value.

Other aspects of significance: The site is undeveloped and, therefore, has no architectural significance. It also has (at this stage) no known social, spiritual, linguistic, scientific or technological significance. The portions of the site alongside the Berg River may have archaeological significance relating to prehistoric pastoral or other activity, notwithstanding the agriculturally altered state of the ground.

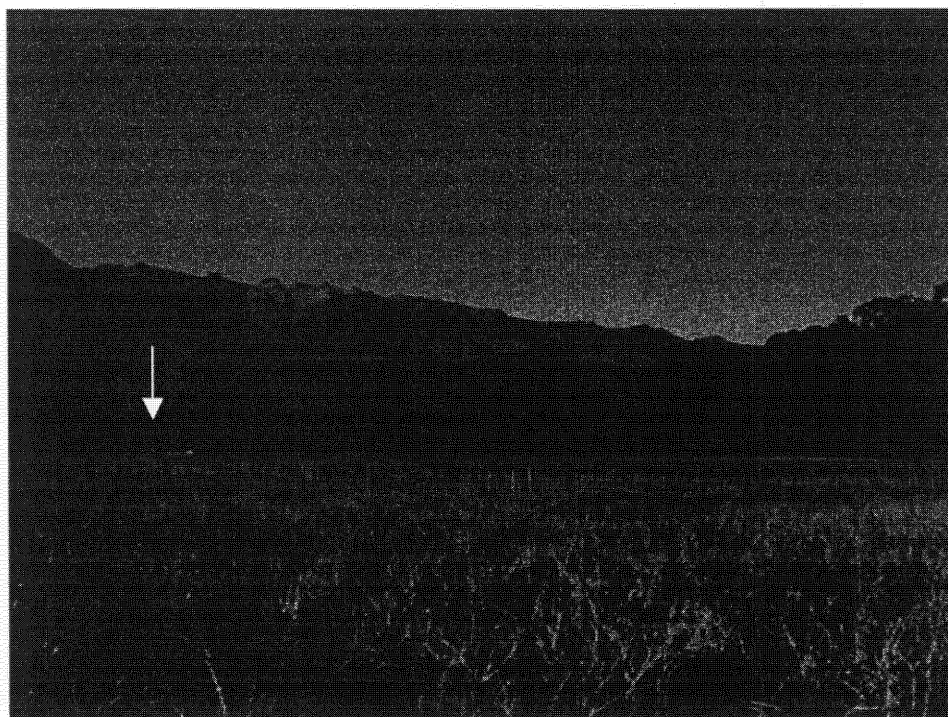
5.1.2 Preliminary Conclusions & Recommendations

The impact of a WWTW on this strategically sensitive site is regarded as *very high* in visual terms and, therefore, fundamentally undesirable. Apart from the negative visual impacts traditionally associated with wastewater plants (even with mitigation), development within a declared rural area so close to the Paarl urban edge is likely to

place pressure on adjacent open space systems including nearby historic urban farm precincts. It could also bring into question the relevance and effectiveness of the Paarl Farms Land Use Management Policy, intended to conserve Paarl's special urban agricultural sense of place. The development of the Parys site is, therefore, not regarded as feasible in heritage terms. Proceeding with this site alternative to the scoping (HIA Stage 1) stage is, consequently, regarded as highly undesirable in terms of its effect on the Paarl cultural landscape. In fact, the site should, in future, be regarded as a 'no-go' area for anything other than agricultural development.

5.2 Candidate Site 3: 'De Zoete Inval'

This site is situated south of the N1 beyond the Paarl urban edge, north-west of the Berg River and in the flatter plains extending south beyond the Paarl Valley trough towards the distant Simonsberg mountains. The region is a well-established wine producing area that includes the neighbouring farm Firwoods, identified in the Paarl Farms Land Use Policy as of high conservation value.



View south-east towards the 'De Zoete Inval' site showing fallow vineyards, treed backdrop defining the course of the Berg River, and mountain backdrop beyond. The position of a demolished structure (see 5.2.1) is arrowed (left).

5.2.1 Nature of Potential Heritage Impacts

Aesthetic: The affected farmland is primarily of contextual aesthetic significance, although with a setting of considerable scenic value within a typical landscape of rural vineyards and mountain backdrops (see images, p6). Scenic quality is, nevertheless, not considered quite as high as Site 1: Firstly, it is removed from the uniquely rural/urban landscape that characterizes South Paarl. Secondly, it is not as exposed to quality signature landscapes within its broader context (e.g. Paarl Mountain backdrops and vineyards).

Architectural: The site contains no structures. However, the remains of what appears to have been a group dwelling (presumably a group labourer's cottage judging from a number of group outhouses) exist towards the centre of the site. Considering the brick remains, this structure is likely to have dated back to the early 20C and may well have

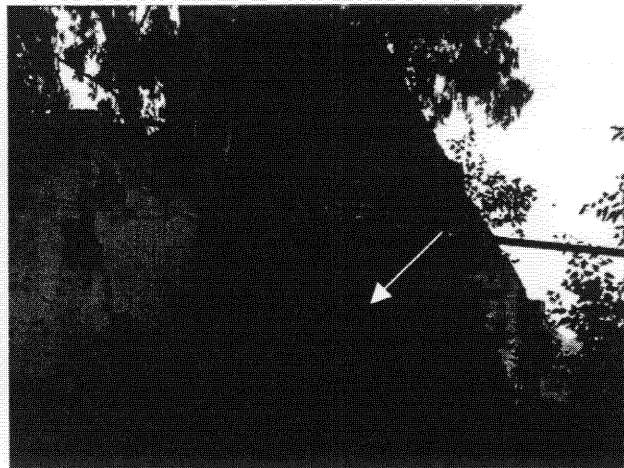
been similar to an existing ruined group labourer's dwelling on the western corner of the site with brickwork that could date back at least to the late 19C.



View north-west from the ruins in the centre of the site. Two good mature oaks (one partly visible in this picture) survive as possible remnants of a garden.



Left: surviving outhouses on the site of the ruins with typical 1930's brickwork. Note good mature oak in background.



Right: remains of the group labourer's cottage off the site but possibly with similar origins to the ruins on the site. Note stratified period brickwork (arrowed) with the earliest portions (dark brown) possibly dating back to the first half of the 19C.

Archaeological: The site may have historical archaeological potential in the vicinity of the ruins, as well as prehistoric and historical archaeological potential in the vicinity of the Berg River, notwithstanding the agriculturally altered state of the ground.

Other aspects of significance: The economic significance of the site with regard to loss of agricultural potential, is currently under study by others as part of a preliminary economic study. The site has (at this stage) no known social, spiritual, linguistic, scientific or technological significance. It is, however, possible that such significance

could come to light during a possible future public engagement process, depending on what site is finally identified for the WWTW.

5.2.2 Provisional Conclusions & Recommendations

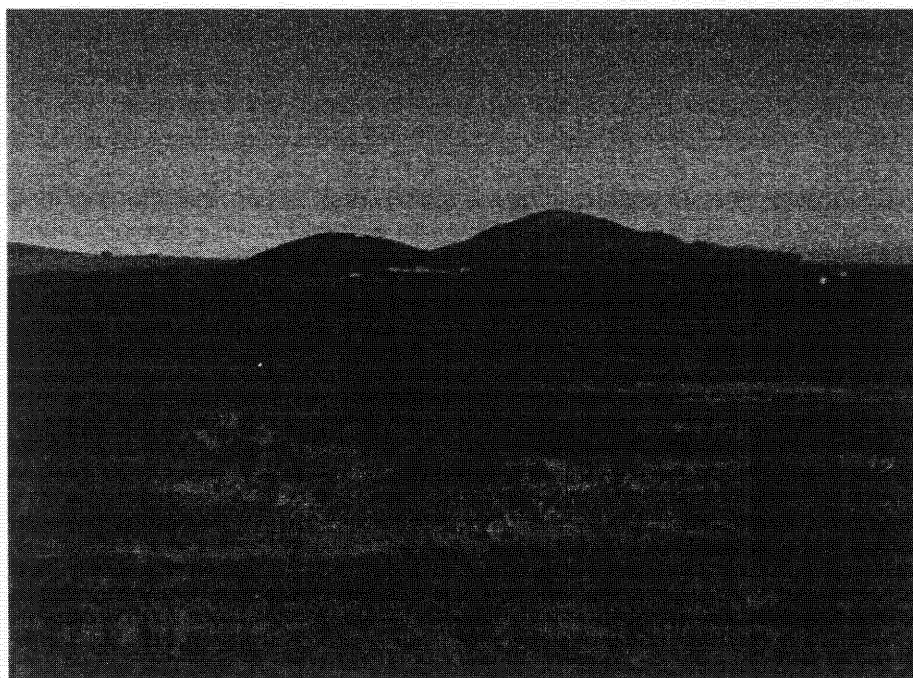
Potential sensitivity relates to visual impacts on the site itself, the scenic approaches to Paarl, and the nearby Firwoods farm and werf settings.

The site may have historical archaeological potential in terms of the ruins on the site. It may also have some pre-colonial archaeological significance considering its proximity to the Berg River.

Taking into account the visual sensitivity of the property, and the potentially negative impacts on *terroir* uniquely associated with Paarl as an urban wine-producing area, the impact of a proposed WWTW on this site is regarded as potentially *high*. This site is, therefore, provisionally identified as the second least favoured candidate (after Candidate Site 1) for the WWTW.

5.3 Candidate Site 4: 'Vilafonte/Boland Brickfields'

This site is situated south of the N1 and east of the R45 beyond the urban edge of the R101/Main Road area. Like Site Candidate 3, this site falls within the flatter plains extending south beyond the Paarl Valley trough towards the distant Simonsberg mountains. The site of the WWTW would extend partly over Vilafonte Vineyards, and partly on property owned by Boland Bricks. It contains no structures.



View looking south-west from the Boland brickfields over the site towards the Skurweberg in the distance. (The Simonsberg is to the left off the picture).

The area is characterized by expansive, partly uncultivated open space bounded by a mixture of brickfields, light commercial/industrial development and farmland including vineyards. The Vilafonte Vineyards are relatively newly established, but produce wines of prize-winning quality, much of which is earmarked for export.

5.3.1 Nature of Potential Heritage Impacts:

Aesthetic: The site is primarily of some contextual significance as part of a broader agricultural open space system, albeit eroded by adjacent light industrial/commercial development to the north-west, and brickfields and clay quarries to the north-east.

Archaeological: The site may have archaeological potential notwithstanding the agriculturally altered state of the ground. However, no particular geographic indicators suggesting archaeological sensitivity are evident (e.g. river corridors, high ground, rock outcrops etc).

Other aspects of significance: The site presumably has economic significance with regard to its quality vineyards and agricultural potential. It has no known social, spiritual, linguistic, scientific or technological significance. It is, however, possible that such significance could come to light during a possible future public engagement process, depending on what site is finally identified for the WWTW.

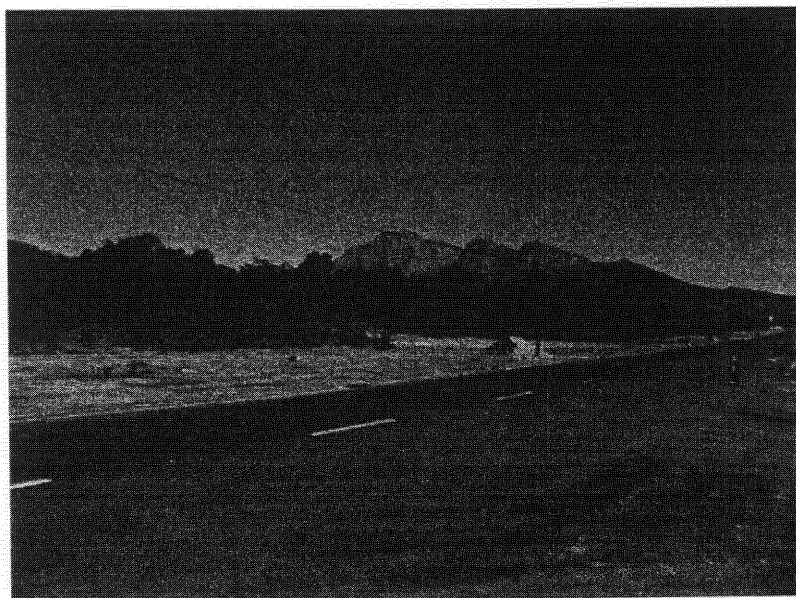
5.3.2 Provisional Conclusions & Recommendations

Potential sensitivity of this site relates to visual impacts on the scenic approaches to Paarl. The site may also have archaeological potential although there are no geographic indicators to support this. It is noted that the economic implications of the possible loss of portions of the Vilafonte vineyards are being considered as part of a preliminary economic study.

Given that the site is probably less visually sensitive than Candidate Sites 1 & 3 with no specific archaeological sensitivity, the impact of a proposed WWTW on this site is regarded as potentially *medium*. It is, therefore, provisionally identified as the second most favoured candidate site for the WWTW (after Candidate Site 7).

5.4 Candidate Site 7: 'De Hoop'

This site is situated approximately 4 km south of the N1 alongside the R301 to Franschoek. Like Site Candidates 3 & 4, this site falls within the flatter plains extending south beyond the Paarl Valley trough and is the farthest south from Paarl of the four candidate sites. It contains no known structures and remains uncultivated.



View of the site looking north-west over the R301 towards Paarl Mountain in the distance.

5.4.1 Nature of Potential Heritage Impacts:

Aesthetic: The site is covered in invasive alien vegetation and located along a relatively isolated stretch of the R301 (opposite a small-scale agri-industrial complex). The local area has low scenic significance. The dense vegetation on the site and low-lying nature of the topography makes a full visual inspection of the site impracticable.

Archaeological: The site may have archaeological potential although no particular geographic indicators suggesting archaeological sensitivity are immediately evident (e.g. river corridors, high ground, rock outcrops etc).

Other aspects of significance: The site has no known social, spiritual, linguistic, scientific or technological significance, nor is this likely, given its undeveloped state.

5.4.2 Provisional Conclusions & Recommendations

Potential sensitivity of this site relates to overall visual impacts from the R301 immediately south of the N1, as well as from the Kleinberg Pass/R301 as the topography opens up northwards towards the site. The site may have archaeological potential although there are no apparent geographic indicators to support this.

Given its relative isolation and generally low scenic qualities in the local context, the impact of a proposed WWTW on this site is regarded as potentially *low*. This site is, therefore, regarded as the most favoured candidate for the WWTW.

6 SUMMARY OF PROVISIONAL CONCLUSIONS

- 6.1 A full HIA of the outfall pipeline route is not regarded as necessary. However, a heritage statement and general design informants focusing only on the aspects identified in Section 4.2 is recommended.
- 6.2 Candidate Site 5 ('De Hoop') is provisionally identified as the most favoured candidate site for the WWTW. It is also the farthest removed from Paarl.
- 6.3 Candidate Site 4 ('Vilafonte/Boland Brickfields') is provisionally identified as the second most favoured candidate site for the WWTW
- 6.4 Candidate Site 3 (De Zoete Inval) has aesthetic significance and probable archaeological potential. This site is provisionally regarded as the third favoured site for the development of the WWTW.
- 6.5 Candidate Site 1 (Groot Parys) and its setting is regarded as scenically too sensitive to be considered for the future WWTW. It is, therefore, considered, to be a 'non-starter' for the proposed WWTW and should be screened out as a candidate site for this purpose.

Introduction

The Archaeology Contracts Office of the University of Cape Town was requested by Ninham Shand Consulting to comment on the range of possible heritage impacts that could take place as a result of the construction of the proposed Drakenstein Sewer, the construction of which is necessitated by the increasing suburbanization of the Drakenstein Valley.

The study area

The study area consists of the proposed linear alignment of the Drakenstein Sewer Main to be constructed in the Paarl area. The proposed alignment commences at the northern urban edge Paarl, runs along developed road reserves through the northern industrial areas on the eastern side of the Berg River. It then runs through the *Paarl Arborarium* roughly following the eastern bank of the Berg River, before proceeding in a southerly direction under the N2 then along the edge of cultivated lands of the farm Fernwood and terminates in the Levendal Estates. In total, the alignment is approximately 14 km in length.

While the alignment was not searched in detail, it was inspected by Tim Hart in the company of Nicole Zimmerman (Ninham Shand) to establish if there were any potential heritage issues that could be identified.

The following observations are relevant:

- The route lies outside the core historic area of Paarl
- The route follows existing servitudes and road alignments in Paarl, and once in the countryside, follows existing farm roads that run along the Berg River.
- Within the *Paarl Arborarium* the route follows the existing road through the arborarium.
- Virtually the entire route has been subject to prior disturbance.
- No archaeological material was observed on the land surface.

Findings

Construction of the sewer will not result in any permanent impacts to landscape, historic places or structures. No archaeological material in primary context will be disturbed, although limited movement of material may take place below surface on the footprint of the alignment.

Conclusion

In general, the negative impacts of the proposed activity are considered to be *very low - neutral*.

Visual impacts will be limited to the construction phase, no structures will be affected while impacts to buried archaeology (if any exists) will be limited to the narrow linear trench in which the sewer is to be placed.

Since the sewer avoids the core historic area, monitoring of excavations are not considered necessary.

Tim Hart

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