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**PHASE 1 HERITAGE IMPACT ASSESSMENT
THE PROPOSED VISSERSHOK LANDFILL EXTENSION
CAPE TOWN**

Prepared for

SRK CONSULTING ENGINEERS AND SCIENTISTS

By

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Executive Summary

One potentially significant archaeological site was located during a Phase 1 Heritage Impact Assessment of the proposed Vissershok Landfill Extension in Cape Town.

Two sites have been identified to extend the current Vissershok landfill. These are Vissershok North and Vissershok East.

Both sites comprise mostly vacant land and are heavily infested with alien vegetation, resulting in low archaeological visibility. In addition, Vissershok East is highly degraded.

Relatively large numbers of stone tools were located on a high dune in Vissershok North. A prominent cap of silcrete underlies the dune, which provided Later Stone Age hunter-gatherers with an ideal source of raw material for manufacturing stone implements. The tools were, however, located in a fairly disturbed context.

No archaeological remains were located in Vissershok East.

An avenue of large Bluegum trees in Darling Road (between Van Schoorsdrif and the N7 National Road) in Vissershok East may, however, have some cultural/heritage significance.

Unconfirmed reports suggest that the historic Vissershok Uitspan was situated in the portion of the Vissershok East site that is currently being used by the Swartland Motorcross Club. The site has been severely degraded and altered and no material evidence of the Uitspan was located.

With regard to Vissershok North

- The impact of the proposed project on the Stone Age quarry site will likely be high. Stone Age quarries are considered to be extremely rare occurrences in the surrounding landscape.
- Additional Stone Age sites (both buried and surface) may be located during vegetation clearing operations and preparation of the site for landfill purposes.
- Human burial remains may be uncovered or exposed during earthworks and preparation of the site for landfill purposes.
- Overall, the receiving environment is not considered to be archaeologically sensitive, vulnerable or threatened.
- The site is suitable for development.

With regard to Vissershok East

- The impact of the proposed project on archaeological remains is considered to be low.
- The probability of locating significant archaeological remains during implementation of the project is also considered to be low.
- The avenue of Bluegum trees in Darling Road may qualify as a significant 'heritage' resource. A large portion of the avenue will, however, be retained within a proclaimed buffer zone.
- The receiving environment is not considered to be archaeologically sensitive, vulnerable or threatened.
- The site is suitable for development.
- The preferred alternative is Vissershok East, as the site is severely degraded and altered.

With regard to the proposed Vissershok Landfill Extension, the following recommendations are made.

With regard to Vissershok North

- The site should be searched for additional archaeological remains, once the area has been cleared of alien vegetation.
 - The Stone Age quarry should be investigated in more detail. This will require a systematic and controlled collection of the stone artefacts, and exposure and assessment of the silcrete quarry.
 - The Environmental Control Officer (ECO) is to be briefed by a professional archaeologist what to look out for, particularly during vegetation clearing operations and preparation of the site for landfill purposes. Levelling of dunes, for example, may expose buried archaeological sites.
 - Contractors, staff and plant operators should also be briefed what to look out for, particularly during vegetation clearing operations and earthworks.
 - Heritage remains uncovered or disturbed during vegetation clearing and earthworks should not be disturbed until inspected by the ECO and verified by a professional archaeologist.
 - Should any human remains be disturbed, exposed or uncovered during earthworks, these should immediately be reported to a professional archaeologist, or the South African Heritage Resources Agency.
- Burial remains should be treated sensitively at all times. Human remains should not be removed until inspected by a professional archaeologist.

With regard to Viissershok East

- The South African Heritage Resources Agency (SAHRA) should be consulted with regard to the heritage status of the avenue of Bluegum trees.

The tree lined avenue forms part of the old Darling/Mamre road, which according to SAHRA, is considered to be conservation-worthy.

The above recommendations are subject to the approval of SAHRA.

Table 1. Assessment of archaeological impacts of the proposed Vissershok
Landfill Extension: Vissershok North.

CRITERIA	IMPACT			
	CONSTRUCTION		OPERATION	
	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION
Extent Duration Intensity Probability Significance Status Confidence	Site specific Permanent High Definite High Negative High	Site specific Temporary Low Definite Low-very low Positive High	Site specific Permanent High Definite High Negative High	Site specific Temporary Low Definite Low-very low Positive High

Table 1. ² Assessment of archaeological impacts of the proposed Vissershok
Landfill Extension: Vissershok East.

CRITERIA	IMPACT			
	CONSTRUCTION		OPERATION	
	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION
Extent Duration Intensity Probability Significance Status Confidence	Site specific Short-term Low Improbable Very Low Negative High	Site specific Short-term Low Improbable Very Low Negative High	Site specific Short-term Low Improbable Very Low Negative High	Site specific Short-term Low Improbable Very Low Negative High

1. INTRODUCTION

1.1 Background and brief

SRK Consulting Engineers and Scientists have requested that the Agency for Cultural Resource Management undertake a Phase 1 Heritage Impact Assessment (HIA) of the proposed Viissershok Landfill Extension in Cape Town.

SRK, on behalf of the City of Cape Town: Cape Metropolitan Administration, are assessing two alternative sites. These are Viissershok North and Viissershok East.

The aim of the study is to locate, identify and map archaeological and heritage remains that may be negatively impacted by the proposed project, and to propose measures to mitigate against the impact.

2. TERMS OF REFERENCE

The terms of reference for the HIA were:

1. to identify and map heritage resources on the two potential landfills;
2. to assess the significance of the heritage resources;
3. to determine and assess the impact of the two potential landfills;
4. to recommend mitigation measures to minimise impacts associated with the two potential landfills; and
5. to indicate whether the two potential landfills are environmentally suitable or unsuitable for waste disposal purposes and identify an environmentally preferred site.

3. THE STUDY SITE

The study area and the proposed potential landfills are illustrated in Figure 1.

4. APPROACH TO THE STUDY AND DOCUMENTATION OF ARCHAEOLOGICAL SITES

The approach used in the HIA entailed a foot and vehicle survey of the two proposed landfills.

Archaeological sites located during the study have been plotted using Geographical Positioning System (GPS), mapped and photographed.

A desktop study was also undertaken.

5. ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations apply to the HIA.

- The field study was severely constrained by the nature of the proposed landfill sites. Both sites are heavily infested with alien vegetation, resulting in low archaeological visibility, while Vissershok East is also severely degraded.
- The field study focused mainly on the archaeological status of the proposed landfills, and to a very limited extent on the historical/heritage status of the proposed landfills. The study did not address issues related to heritage landscapes, for example, as required in Section 38.3 of the South African Heritage Resources Act (No. 25 of 1999).

SAHRA may therefore require an additional study relating to the historical/heritage status of the proposed landfill sites.

6. A BRIEF OVERVIEW OF THE REGIONAL ARCHAEOLOGICAL AND HISTORICAL CONTEXT OF THE STUDY AREA

The archaeological and historical context of the study area has been reasonably well documented.

Archaeological occurrences are well documented in the coastal zone of the study area. A large number of Later Stone Age¹ (LSA) and Middle Stone Age² (MSA) sites have been described (Rudner 1968; Kaplan 1993, 1997, 1998a,b,c, 1999), some of which have been examined in more detail (Deacon & Goosen 1997; Kaplan 1998d,e, Kaplan 2000a).

There are numerous historical accounts (both written as well as visual) of 'Strandlopers' (Khoi entrepreneurs in the trade between the Dutch and the Khoi) peopling the Table Bay coastline before and shortly after the arrival of the Dutch settlers at the Cape in 1652 (Smith 1983).

At least 17 Khoisan burial sites have been found or uncovered from the coastal dunes between Milnerton and Melkossstrand (Abrahams 1988; Deacon & Goosen 1997; Kaplan 1998a, Kaplan 2000, Kaplan 2002; Yates 2001). The majority of these burials were exposed as a result of earthworks and trenching for development purposes. Burials associated with bored stones, stone tools and ostrich eggshell beads have also been excavated on the farm Groot Oliphantskop (Kaplan 1996), between the N7 National Road and R27 (West Coast Road).

In more recent years, archaeological sites have been documented in the interior of the study area. LSA sites were located during a study of the proposed M12 Extension, while stone artefacts were also located in the ESKOM servitude north of the Diep River (Kaplan 2000b). MSA artefacts were also found during a study of Blaauwberg City Phase 2 residential development (Kaplan 2000c).

¹ A term referring to the last 20 000 years of precolonial history in southern Africa.

² A term referring to the period between 20 000 and 250 000 years ago.

Stone tools, pottery and fragments of ostrich eggshell have been located on the farms Blaauwberg (Joyces Dairy), Groot Oliphantkop, Vaatjie, and Brakkuil (Kaplan 1996, 2000d), a few kilometres north-west of the proposed Vissershok North landfill.

Bored stones and even more ancient Early Stone Age³ (ESA) tools have been collected from ploughed fields on the farms Vaatjie, Witdam and Brakkuil (Kaplan 2000d).

A Stone Age quarry site has also been documented on the farm Groot Oliphantkop (Kaplan 1996).

During the VOC (Dutch East India Company) period at the Cape, a number of forts and trading outposts were established in the Table Bay area, at Blouberg, Riet Valley, Vissershok and Jan Biesjies Craal (Milnerton) (CSIR Report 1988).

The early settlers, at Bloubergsvlei and Blouberg also excavated stone-lined wells and freshwater springs.

The locations of these sites are unknown, and all have probably been destroyed as a result of urban and residential development in the area.

The historic Cape Dutch homestead at Vissershok (1768) alongside the Diep River, a few kilometres south of the proposed Vissershok East Landfill, has been documented and described (Fransen & Cook 1980).

According to Mr J. P. Melck of the farm Vissershok, the historic Vissershok Uitspan was located in the portion of the Vissershok East site that has been cleared and prepared for use by the Swartland Motorcross Club. Oxen were outspanned at the site, and wheat destined for the colony was loaded onto boats/barges at the Diep River (Mr J. P. Melck pers. comm.).

The Cape Dutch homestead at Welbeloond (1785), south of the proposed Vissershok South Landfill, close to the Diep River, has also been described (Kaplan 2000b).

The remains of the Old Cape Road (or Northward route from the Cape) are still visible on the farms Groot Oliphantkop and Vaatjie (Mossop 1963; Kaplan 2000d).

Bloubergsvlei farm, to the east of the proposed Vissershok North Landfill, is the site of the Battle of Blouberg, which took place on 6 January 1806. In this battle, the VOC Company forces were defeated by a British expeditionary force, heralding the start of the second British occupation of the Cape, and the end of Dutch rule (Kaplan 1998a).

Unsubstantiated reports also claim that sailing ships were able to navigate up the Diep River, as far as Vissershok, about 13 kms from the river mouth, but these were probably shallow barges or ships boats (CSIR Report 1988).

The World War II buildings and the radar station on top of Blouberg Hill have also been documented (Kaplan 1998a).

³ A term referring to the period between 200 000 and 2 million years ago.

7. RESULTS OF THE HERITAGE IMPACT ASSESSMENT

7.1 Viissershok North

The 95 ha site on the farm Viissershok Uitspan 153, is bounded on the west by an Eskom powerline servitude, on the east by the N7 National Road and on the south by the Fuel Firing Services oil recycling facility and the existing Viissershok Landfill (Figure 1). The site is mostly vacant and heavily infested with alien vegetation, resulting in extremely low archaeological visibility (Figures 2 & 3). A large network of informal footpaths, tracks and service roads cut across the site.

VN 1. GPS reading S 33° 45, 510' E 18° 32, 377'

Relatively large numbers of LSA tools were located on a high dune in the central portion of the study site, north-east of the Skandaalkamp informal settlement (Figure 1A). The site is marked by way of a trig beacon on the 1:50 000 map (3381 DC Belville). The dune is underlain by a prominent cap of silcrete, which provided LSA hunter-gatherers with an ideal source of raw material for the manufacture of stone tools.

The fairly extensive scatter of tools, in silcrete and quartz, comprise unmodified and utilised flakes, an adze, miscellaneous retouched pieces, bladeslets, chunks and cores (Figure 4). One piece of partially ground ochre and two MSA flakes were also found. The silcrete cap is overlain by a layer of wind-blown sand, but is still visible on the eastern and southern margins of the dune (Figure 5).

The stone tools were located in a fairly disturbed context, however. The immediate surrounding area has been altered, while a 4x4 service track has been made up to the trig beacon on top of the dune. Some dumping alongside the road is also present.

VN 1 may well have been a valuable source of readily available raw material for many of the LSA sites that have been recorded and documented in the study area. Silcrete quarries are considered to be extremely rare occurrences in the surrounding landscape. Only one other Stone Age quarry site has been located in the region, on the farm Groot Oliphantskop (Kaplan 1996), a few kilometres north-west of Viissershok North.

Importance of site: **medium-high**

Impact: **the site will be destroyed once the area is prepared for landfill purposes**

Suggested mitigation: **the site should be examined in more detail**

7.2 Viissershok East

The 137 ha site on Farm 153, is located adjacent to and east of the current Viissershok site (Figure 1). The site slopes gently toward to east, resulting in a hilly terrain sloping down to the Diep River. The site is mostly vacant, but severely degraded. A portion of the site is leased by the Western Province Microlite Club, while a large portion in the east and south has been cleared and prepared for use by the Swartland Motorcross Club.

The remainder of the site is heavily infested with alien vegetation, resulting in low archaeological visibility.

No significant archaeological remains were located on the site.

7.3 Other finds

An avenue of large Bluegum trees occurs in Darling Road, between Van Schoorsdrif Road and the N7, in Vissershok East (Figures 1B & 6). The avenue comprises the southernmost extent of the old Darling/Mamre Road, which has been cut off by the N7, and is no longer in use.

Although not a declared National Monument, the Mamre Road is considered to be conservation-worthy (David Hart, South African Heritage Resources Agency, pers. comm. 1996).

Importance of site: **potentially high**

Impact: **According to Mr Chris Wiid (pers. comm.) of Arcus Gibb, about 2/3rds of the avenue will be retained within a proclaimed buffer zone once the site is prepared for landfill purposes**

Suggested mitigation: **none required**

Reports (Du Plessis 1998) also suggest that the historic Vissershok Uitspan was situated in the portion of the Vissershok East site that has been prepared for use by the Swartland Motorcross Club. The site has been severely degraded and altered and no material evidence of the Uitspan was located.

8. IMPACT STATEMENT

8.1 Vissershok North

With mitigation, the overall impact of the proposed project on archaeological remains is considered to be low.

The LSA quarry (VN 1) will be negatively impacted by the proposed project.

Additional Stone Age sites (both buried and surface) may be located during vegetation clearing operations and preparation of the site for landfill purposes.

Human burial remains may also be uncovered or exposed during earthworks and preparation of the site for landfill purposes.

8.2 Vissershok East

The overall impact of the proposed project on archaeological remains is considered to be low.

The probability of locating significant archaeological remains during implementation of the project in Vissershok East is also considered to be low.

9. IMPACT DESCRIPTION AND ASSESSMENT

A summary of the significance of the archaeological impacts is presented in Tables 1 and 2.

Table 1. Assessment of archaeological impacts of the proposed Vissershok Landfill Extension: Vissershok North.

CRITERIA	IMPACT			
	CONSTRUCTION		OPERATION	
	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION
Extent	Site specific	Site specific	Site specific	Site specific
Duration	Permanent	Temporary	Permanent	Temporary
Intensity	High	Low	High	Low
Probability	Definite	Definite	Definite	Definite
Significance	High	Low-very low	High	Low-very low
Status	Negative	Positive	Negative	Positive
Confidence	High	High	High	High

Table 2. Assessment of archaeological impacts of the proposed Vissershok Landfill Extension: Vissershok East.

CRITERIA	IMPACT			
	CONSTRUCTION		OPERATION	
	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION
Extent	Site specific	Site specific	Site specific	Site specific
Duration	Short-term	Short-term	Short-term	Short-term
Intensity	Low	Low	Low	Low
Probability	Improbable	Improbable	Improbable	Improbable
Significance	Very Low	Very Low	Very Low	Very Low
Status	Negative	Negative	Negative	Negative
Confidence	High	High	High	High

The HIA has shown that with the exception of VN 1, the proposed Vissershok Landfill Extension will have no significantly high negative impacts on archaeological sites.

The avenue of Bluegum trees in Darling Road (Vissershok East) will be negatively impacted by the proposed project. A significant portion of the road will, however, be retained within a proclaimed buffer zone.

10. LEGISLATION

Archaeological sites and human burial remains are protected under the National Heritage Resources Act (No. 25 of 1999).

It is an offence to destroy, damage, excavate, alter, or remove from its original position, or collect, any archaeological material or object, without a permit issued by the South African Heritage Resources Agency (SAHRA).

It is also an offence to destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority.

Building, structures and features in the landscape (including trees) over 60 years of age, are also protected under the National Heritage Resources Act (No. 25 of 1999) and may not be destroyed, damaged or altered without a permit issued by SAHRA.

11. PREFERRED ALTERNATIVE

With mitigation, both sites are suitable for development.

The preferred alternative is Vissershok East as the site is already severely degraded and altered.

12. CONCLUDING STATEMENT

12.1 Vissershok North

Overall, the receiving environment is not considered to be archaeologically sensitive, vulnerable or threatened.

12.2 Vissershok East

The receiving environment is not considered to be archaeologically sensitive, vulnerable or threatened.

13. RECOMMENDATIONS

With regard to the proposed Vissershok Landfill Extension, the following archaeological recommendations are made.

13.1 Vissershok North

- The site should be searched for additional archaeological remains, once the area has been cleared of alien vegetation.
 - The Stone Age quarry should be investigated in more detail. This will require a systematic and controlled collection of the stone artefacts, and exposure and assessment of the silcrete quarry.
 - The Environmental Control Officer (ECO) is to be briefed by a professional archaeologist what to look out for, particularly during vegetation clearing operations and preparation of the site for landfill purposes. Levelling of dunes, for example, may expose buried archaeological sites.
 - Contractors, staff and plant operators should also be briefed what to look out for, particularly during vegetation clearing operations and earthworks.
 - Heritage remains uncovered or disturbed during vegetation clearing and earthworks should not be disturbed until inspected by the ECO and verified by a professional archaeologist.
 - Should any human remains be disturbed, exposed or uncovered during earthworks, these should immediately be reported to a professional archaeologist, or the South African Heritage Resources Agency.
- Burial remains should be treated sensitively at all times. Human remains should not be removed until inspected by a professional archaeologist.

13.2 Vissershok East

- The South African Heritage Resources Agency (SAHRA) should be consulted with regard to the heritage status of the avenue of Bluegum trees.

The tree lined avenue forms part of the old Darling/Mamre road, which according to SAHRA, is considered to be conservation-worthy.

The above recommendations are subject to the approval of SAHRA.

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Figure 1 A. Heritage Impact Assessment, the proposed Vissershok Landfill Extension. Location of VN 1. Arrow indicates site.

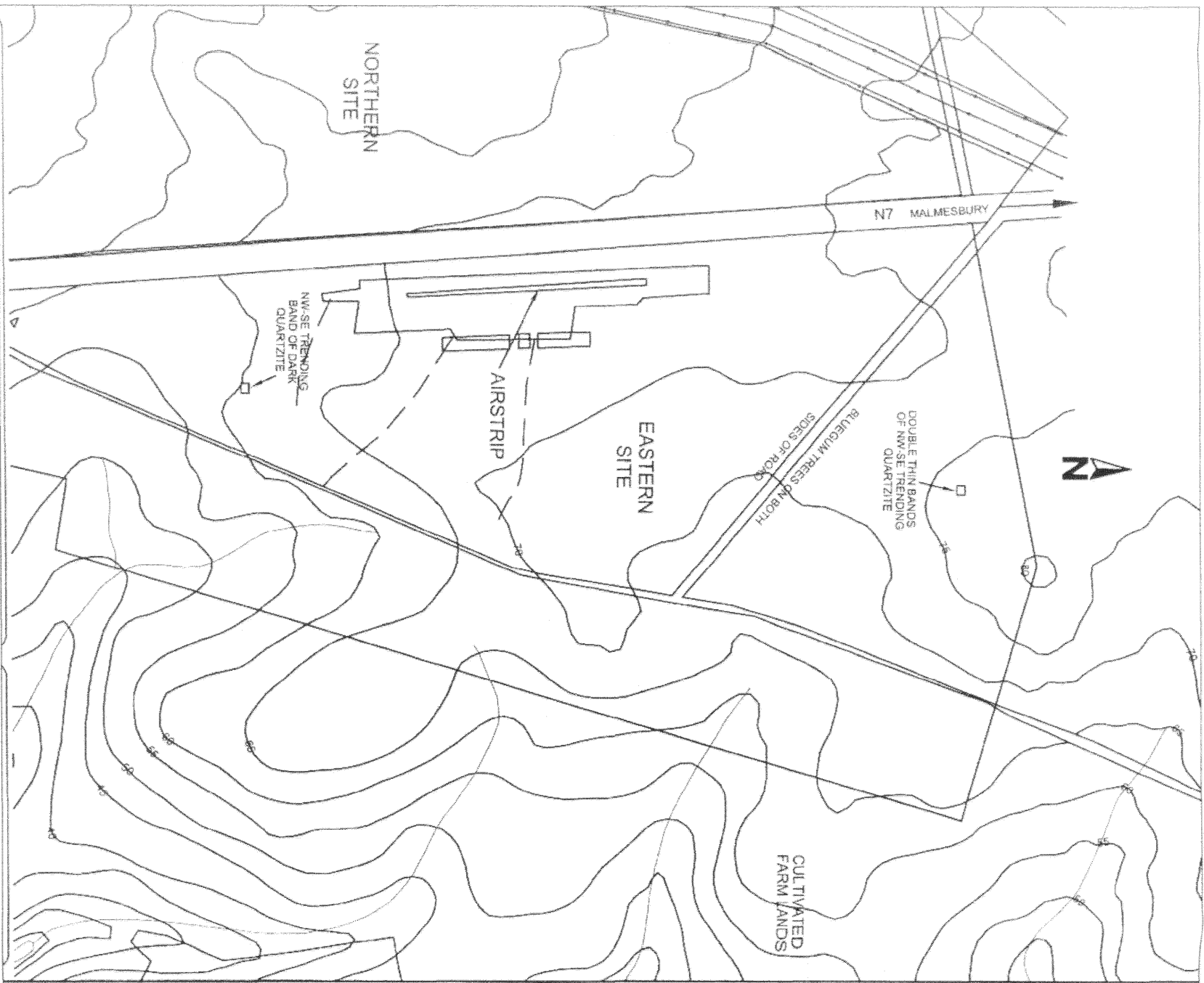


Figure 1 B. Heritage Impact Assessment, the proposed Vissershok Landfill Extension. Location of Bluegum trees alongside Darling Road.