

ARCHAEOLOGICAL SPECIALIST STUDY

In terms of Section 38(8) of the NHRA for a
PROPOSED PAULSHOEK BULK WATER SUPPLY

Prepared by



CTS HERITAGE

In Association with

EnviroAfrica

And

ACRM

August 2018



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THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I Jenna Lavin, as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Jenna Lavin

Signature of the specialist

CTS Heritage

Name of company

16 August 2018

Date



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EXECUTIVE SUMMARY

The proposed Paulshoek Bulk Water Supply system includes the equipment for existing boreholes, the construction of a 228K steel panel reservoir, the installation of approximately 3.5km of pipelines, and the construction of a Water Treatment Works (desalination plant) and associated evaporation ponds (waste brine). The proposed development will be located approximately 500m southwest of Paulshoek settlement (Figure 1). The development area comprises open veld at the foot of a low, rocky kopje.

Overall, there were no constraints or limitations associated with the study. Access to all the location sites was unrestricted and mobility unhindered.

Dense natural vegetation, however, resulted in poor archaeological visibility, but indications are that the proposed site is not a sensitive archaeological or heritage landscape.

No archaeological resources were identified at Site 1, Site 2 or in the area proposed for the desalination plant. One rock art site was identified alongside the pipeline route.

In summary;

- The proposed development will not negatively impact on any significant archaeological resources, however it is recommended that site PLSK1 be formally recorded.
- PLSK1 must not be impacted by the proposed development and a 20m buffer around the site must be implemented.
- There is no heritage objection to the proposed development and neither site is preferred from a heritage perspective.



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CONTENTS

1. INTRODUCTION	4
1.1 Background Information on Project	4
1.2 Description of Property and Affected Environment	5
2. METHODOLOGY	5
2.1 Purpose of Archaeological Study	5
2.2 Summary of steps followed	5
3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT	6
4. IDENTIFICATION OF HERITAGE RESOURCES	9
4.1 Field Assessment	9
4.2 Archaeological Resources identified	11
4.3 Selected photographic record	12
5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT	13
5.1 Assessment of impact to Archaeological Resources	13
5.2 Proposed development alternatives	14
6. CONCLUSION AND RECOMMENDATIONS	14
7. REFERENCES	15



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1. INTRODUCTION

1.1 Background Information on Project

The proposed Paulshoek Bulk Water Supply system includes the equipment for existing boreholes, the construction of a 228K steel panel reservoir, the installation of approximately 3.5km of pipelines, and the construction of a Water Treatment Works (desalination plant) and associated evaporation ponds (waste brine). At present, the proposed layout of these components have not been determined, and the applicant has only provided estimated locations for the proposed water treatment works and evaporation ponds, and not the position of boreholes and pipelines. The proposed development will be located approximately 500m southwest of Paulshoek settlement (Figure 1). The development area comprises open veld at the foot of a low, rocky kopje.

The proposed Paulshoek Bulk Water Supply System includes the following:

- Equipment for existing boreholes,
- construction of a 228K steel panel reservoir,
- installation of approximately 3.5km of pipelines,
- construction of a Water Treatment Works (desalination plant) and associated evaporation ponds (waste brine).

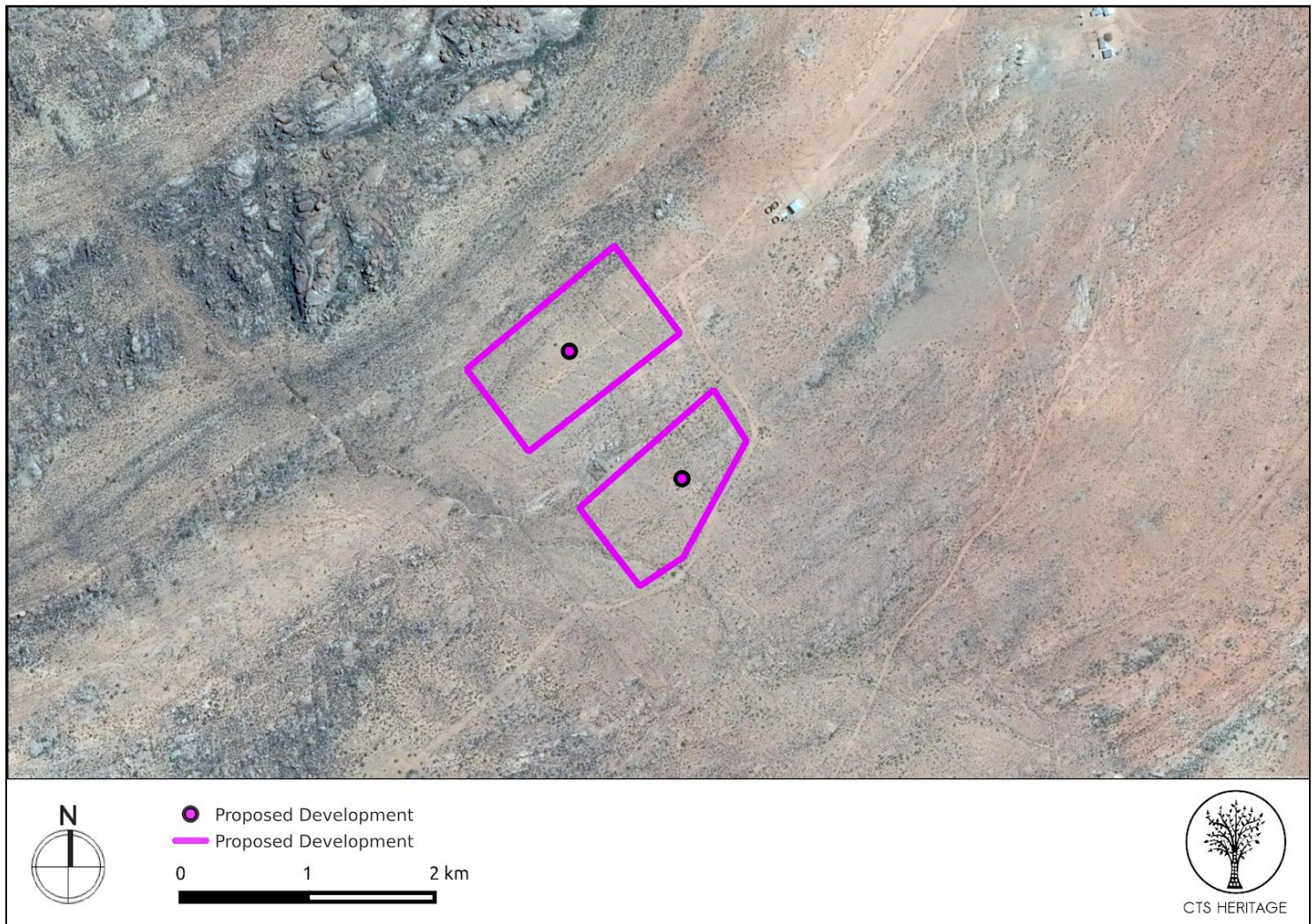
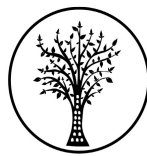


Figure 1: Close up satellite image indicating proposed location of development



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1.2 Description of Property and Affected Environment

Site 1 is a strip of land located on either side of a small gravel track leading from the towns water reservoir, at the foot of a rocky kopje. A green Jo-Jo tank is located on the site, which is mostly covered in scrub vegetation and sporadic bushes. The site is quite heavily overgrazed. Some pebble quartz was also noted. The eastern portion is located on a slightly terraced rocky ledge. There are no significant landscape features on the proposed site. A fenced conservation area defines the southern boundary of the proposed site.

Site 2 is located below the terraced ledge, on a sloping piece of ground, alongside a small gravel track. The site is quite severely degraded and overgrazed. There are no significant landscape features. The southern portion abuts the (above) fenced conservation area. A small goat kraal and camp is located below the rocky ledge. The surrounding area is trampled and overgrazed. Some litter is apparent and there is sheet erosion and a some erosion dongas in the north eastern corner, while a series of erosion dongas occur across the southern portion of the proposed WWTW site.

The site for the proposed desalination plant is severely degraded. The route for the water pipeline follows the alignment of an existing gravel track and crosses a rocky covered slope before connecting with the proposed desalination plant

2. METHODOLOGY

2.1 Purpose of Archaeological Study

The purpose of this archaeological study is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999) in terms of impacts to archaeological resources.

2.2 Summary of steps followed

- An archaeologist conducted a survey of the site and its environs on 9 and 10 August 2018 to determine what archaeological resources are likely to be impacted by the proposed development.
- The identified resources were assessed to evaluate their heritage significance in terms of the grading system outlined in section 3 of the NHRA (Act 25 of 1999).
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner.



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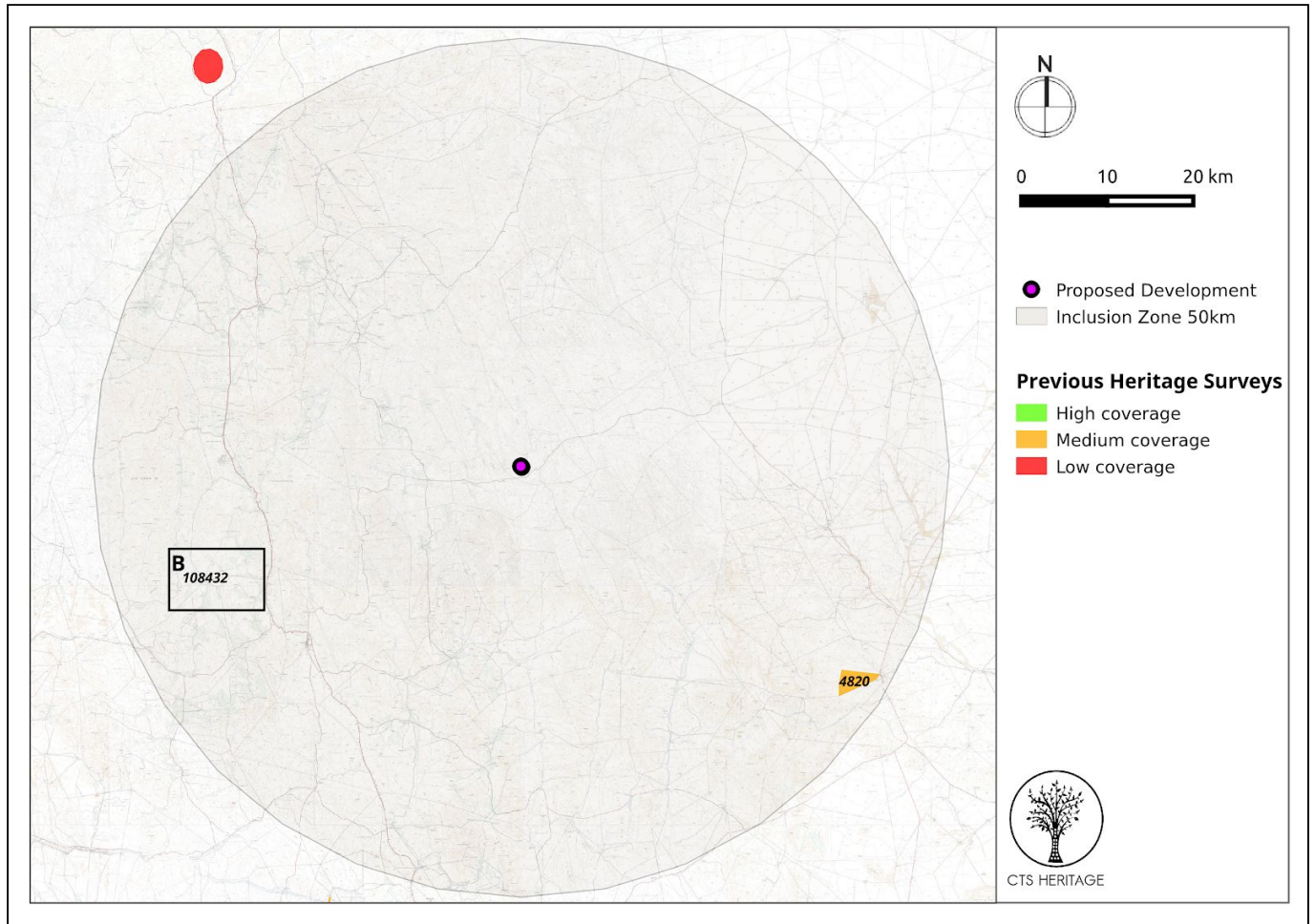


Figure 2: Close up satellite image indicating proposed location of development in relation to heritage studies previously conducted

3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

The central Namaqualand region has been inhabited since the Early Stone Age (ESA) and was increasingly exploited throughout the Middle and Later Stone Ages (MSA and LSA, respectively). In the period of recent prehistory, the area was home to Khoekhoen who moved seasonally through the landscape with their flocks, a pattern of transhumance that was repeated by the early European settlers in the region. The proposed development area is situated on the farm Leliefontein, on which the Leliefontein Mission Station was established in 1812, some 15km northwest of Paulshoek. The Mission Station was the site of the Leliefontein Massacre in 1902, which saw the slaughter of 35 local inhabitants by the Boer Leader Manie Maritz.

Very little heritage survey work has been conducted in this region, with only two previous archaeological surveys completed within a 50km radius (Figures 2a and 2b). A study conducted some distance to the southwest of the study area indicated that at least parts of the area are of low archaeological heritage significance (Webley 2012, SAHRIS NID 26814). However, a study conducted some 45kms to the southeast, identified several open surface scatters of Middle Stone Age artefacts, noting the presence of buried material in places; they recorded Later Stone Age sites and a number of highly patinated artefacts that were likely Early Stone Age in origin (Lanham and Manhire 2007, SAHRIS NID 4820). This disparity between findings is not surprising given the distance between the two surveys (approximately



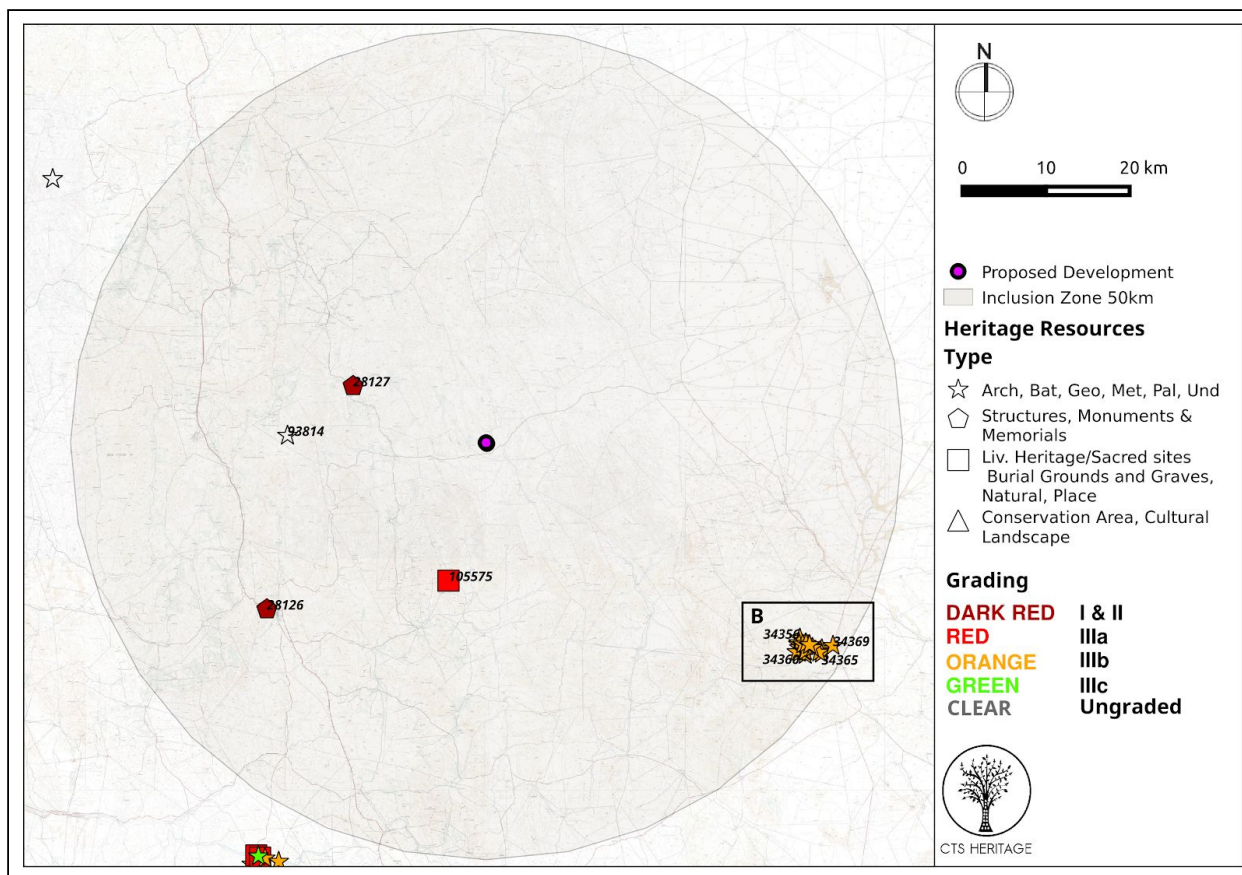
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90kms), and indicates spatially diverse archaeological signatures across the broader Namaqualand landscape. This pattern is more likely a consequence of the lack of reconnaissance and research in the area rather than a real lack of archaeological material.

Known heritage sites in the area include two Provincial Heritage Sites, being the Letterklip at Garies (SAHRIS SID 28126) and the Methodist Church and Manse at nearby Leliefontein (SAHRIS SID 28127) (Figure 3a), while a single graveyard has been graded Grade IIIa (SAHRIS SID 105575). The remaining known sites comprise twenty artefact locations recorded some 43km to the south east at Kliprand, Western Cape (Figure 3b), and a single rock art site (Figure 3a) located on a rocky outcrop to the west (SAHRIS SID 93814).

Table 1: Table of known heritage resources within the development footprint (Figure 3a and 3b)

Site ID	Site No	Site Name	Site type	Grading
28126	9/2/066/0011	Letterklip, Garies, Namaqualand District	Building	Grade II
28127	9/2/066/0012	Methodist Church and Manse, Leliefontein, Namaqualand District	Building	Grade II
34367	KRD13	Kliprand 13	Artefacts	NA
34355	KRD1	Kliprand 1	Artefacts	NA
34356	KRD2	Kliprand 2	Artefacts	NA
34357	KRD3	Kliprand 3	Artefacts	NA
34358	KRD4	Kliprand 4	Artefacts	NA
34359	KRD5	Kliprand 5	Artefacts	NA
34361	KRD7	Kliprand 7	Artefacts	NA
34362	KRD8	Kliprand 8	Artefacts	NA
34363	KRD9	Kliprand 9	Artefacts	NA
34364	KRD10	Kliprand 10	Artefacts	NA
34365	KRD11	Kliprand 11	Artefacts	NA
34366	KRD12	Kliprand 12	Artefacts	NA
34368	KRD14	Kliprand 14	Artefacts	NA
34369	KRD15	Kliprand 15	Artefacts	NA
34371	KRD16	Kliprand 16	Artefacts	NA
34373	KRD18	Kliprand 18	Artefacts	NA
34376	KRD19	Kliprand 19	Artefacts	NA
93814	Twee Rivieren	Twee Rivieren Rock Art Site	Rock Art	NA
34360	KRD6	Kliprand 6	Artefacts	NA
34372	KRD17	Kliprand 17	Artefacts	NA
34377	KRD 20	Kliprand 20	Artefacts	NA
105575	JUN-GROM-1	Juno-Gromis 01	Burial Grounds & Graves	Grade IIIa





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4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Field Assessment

Overall, there were no constraints or limitations associated with the study. Access to all the location sites was unrestricted and mobility unhindered.

Dense natural vegetation, however, resulted in poor archaeological visibility, but indications are that the proposed site is not a sensitive archaeological or heritage landscape.

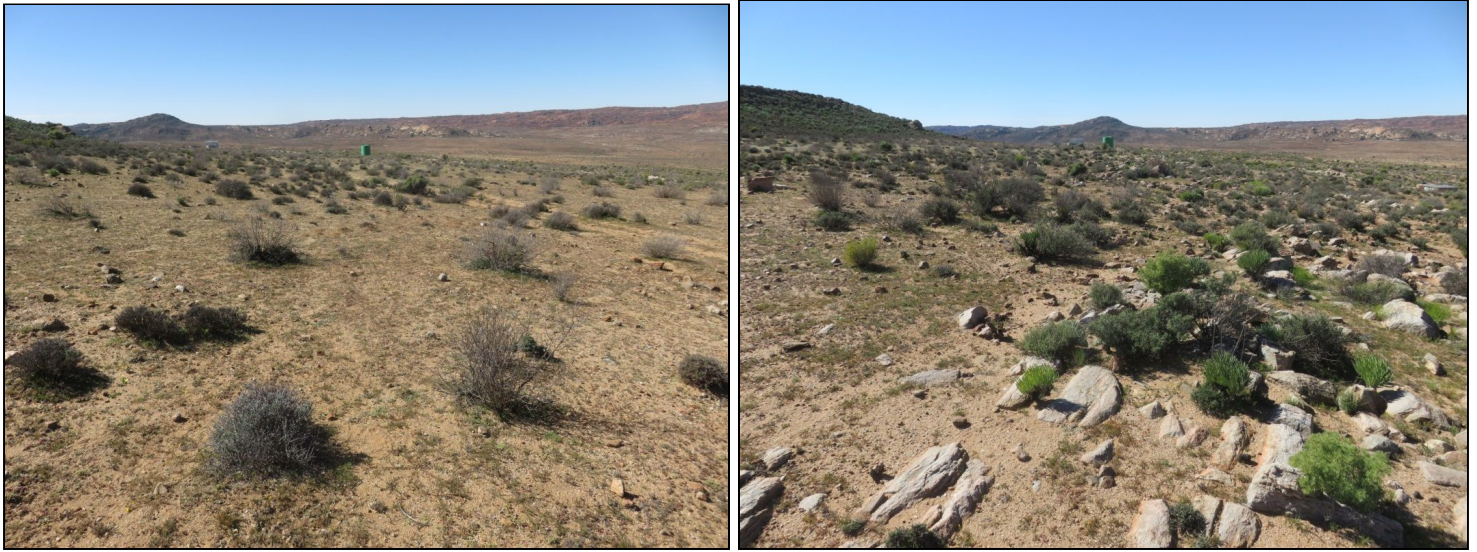
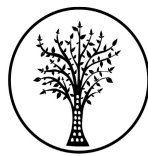


Figure 4.1: Contextual Images - Paulshoek Site 1



Figure 4.2: Contextual Images - Paulshoek Site 2



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Figure 4.3: Contextual Images - Paulshoek pipeline track



Figure 4.3: Contextual Images - Paulshoek pipeline track



Figure 4.4: Contextual Images - Paulshoek Desalination Plant



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4.2 Archaeological Resources identified

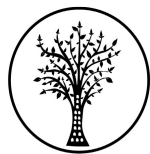
No archaeological resources were identified at Site 1, Site 2 or in the area proposed for the desalination plant. One rock art site was identified alongside the pipeline route and is recorded below.



Figure 5: Overall track paths of foot survey

Table 2: Sites identified during the field assessment

SAHRIS ID	Site Number	Description	Latitude	Longitude	Grading
128420	PLSK1	<p>Rock art site, large sandstone boulder, directly alongside pipeline route, on edge of footprint area of desalination building. Broken bottles, glass fragments, remains of fires, rusted metal cans on floor in front of boulder.</p> <p>Art: x 2 very faded possible indeterminate human figures, and indeterminate art, all in red ochre.</p> <p>The paintings themselves are very faded and not of a high technical quality, but these are possibly the first recorded San paintings to be documented in the area. The spiritual significance of the 'site' cannot be ignored.</p> <p>No archaeological deposit or remains</p>	S30° 22.434'	E18° 15.247'	IIIB



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4.3 Selected photographic record



Figure 6.1 Site PLSK1



Figure 6.2 Site PLSK1

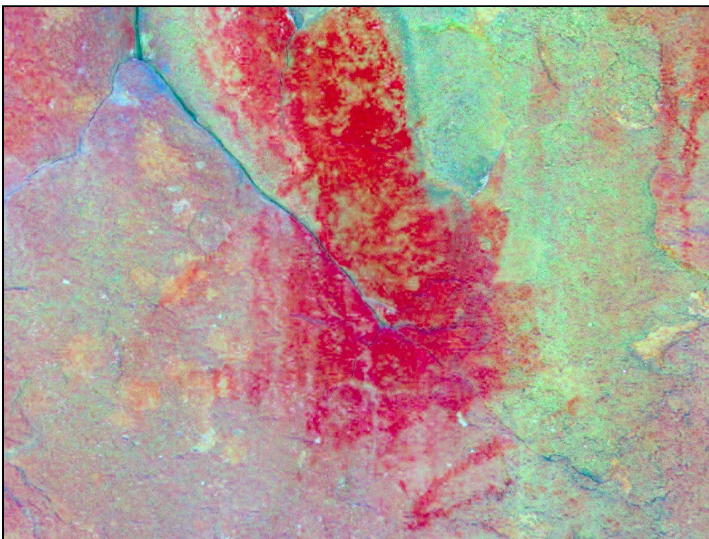


Figure 6.3 Rock art from site PLSK1 (d-stretch)



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Figure 6.4 Additional Rock art from site PLSK1

5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Archaeological Resources

Indications are that the proposed activities will not impact on significant archaeological heritage. The pipeline to the desalination plant at Paulshoek passes directly alongside rock art site (PLSK1), graded IIIB for its rarity in this area, however the overall impact significance, is rated as being low, and there are no objections to the proposed development.

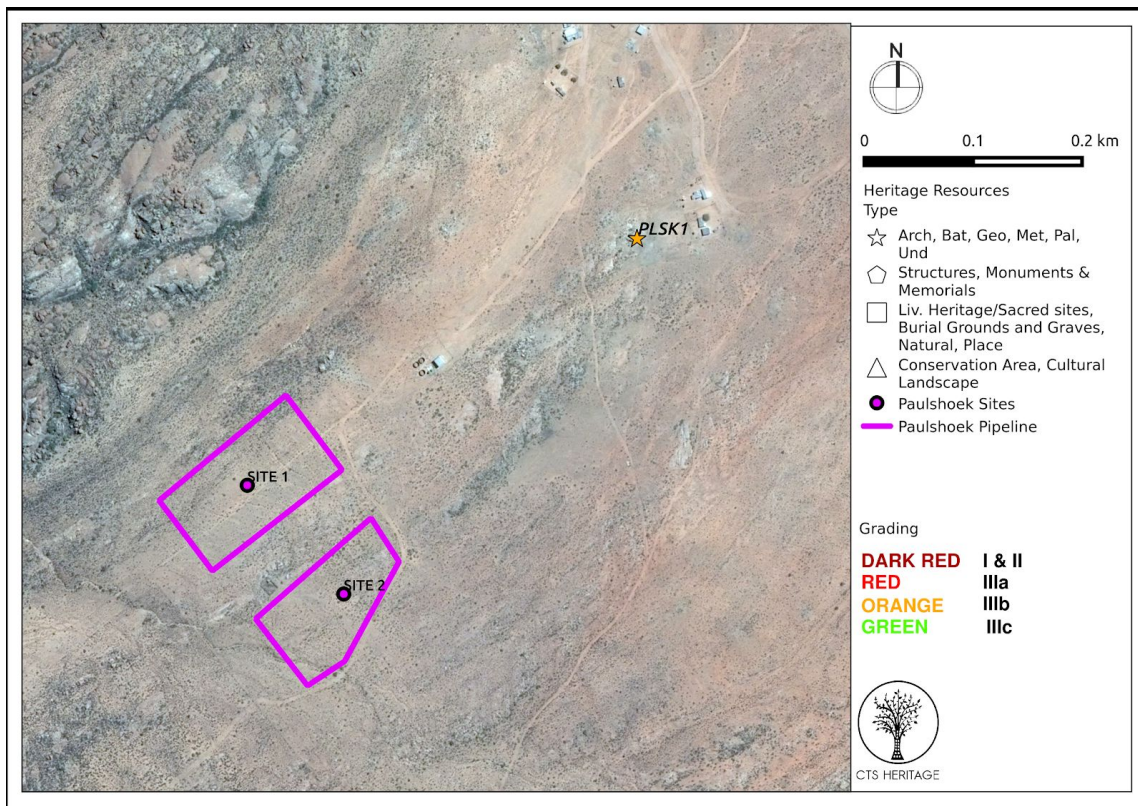


Figure 7: Map of heritage resources identified during the field assessment relative to the proposed development



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7. REFERENCES

Impact Assessment References				
Nid	Report Type	Author/s	Date	Title
4820	AIA	John Lanham, Anthony Manhire	01/11/2007	Archaeological Impact Assessment: Proposed Hondekloof Nickel Mine: Portion 6 of Farm Nuwefontein, Kliprand District, Western Cape Province
108432	HIA	Lita Webley	06/12/2012	Desktop HIA Brakfontein 431
4820	AIA	John Lanham, Anthony Manhire	01/11/2007	Archaeological Impact Assessment: Proposed Hondekloof Nickel Mine: Portion 6 of Farm Nuwefontein, Kliprand District, Western Cape Province