HERITAGE IMPACT ASSESSMENT
THE PROPOSED RAISING OF THE CLANWILLIAM DAM WALL, OLIFANTS RIVER VALLEY, CLANWILLIAM DISTRICT

Prepared for

Ninham Shand Consulting (Pty) Ltd
As part of an EIA

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EXECUTIVE SUMMARY

The Archaeology Contracts Office of the University of Cape Town was appointed by Ninham Shand Consulting (Pty) Ltd on behalf of the Department of Water Affairs and Forestry to undertake a heritage impact assessment of the proposed raising of the Clanwilliam Dam to a height of 15 m above present day full supply level (FSL). This study forms part of an EIA and feasibility study to investigate the implications of the proposed project.

The Heritage Impact Assessment has involved background historical research from both published and unpublished sources, a review of research and other work that has taken place in the area as well as an extensive field survey which has seen 95% of the FSL searched, community members interviewed and all identified heritage resources catalogued.

The study has revealed that there is a wide variety of heritage resources within and close to the proposed FSL. These range from ruined structures and landscape features, to historic roads, San Rock Paintings and the full range of pre-colonial archaeology. Conservation-worthy structures protected by Section 34 of the National Heritage Resources Act are relatively uncommon.

The finding of this report is that raising the height of the dam is feasible, however mitigation requirements will need to be both comprehensive, extensive and in some instances requiring expert resources not available in South Africa. Since the mitigation programme that is needed is so extensive, it is strongly suggested that measures be implemented at least two years prior to construction.

Summarised recommendations are as follows:

- There are at least 3 important San rock painting sites which lie within the proposed FSL. These are irreplaceable and cannot be lost or damaged. The only option is to remove the painted rock panels from the sites and install them in an especially established local museum or alternative facility. Operations as complex as this have been performed in other parts of the world. It is expected that international assistance will be required.

- All other rock paintings will need to be expertly recorded before the dam level is raised.

- All archaeological deposit sites (about 5) will need to be adequately sampled and curated.

- Complexes of colonial period ruins need excavation and recording.

- Historic road alignments will need to be mapped and photographically recorded.

- A graveyard (Rondegat) and an individual grave (Holfontein) will need to be subject to a consultation process and if necessary, exhumed and relocated.

- An historian which experience in oral history will need to be appointed to the project to collect information about places and communities before inundation.

- A palaeontologist should be appointed to inspect and conduct mitigory work at site CDE57.

- Design indicators for the construction of new roads, bridges and culverts will be needed to retain rural ambience and enhance tourism potential.

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1 INTRODUCTION

The Archaeology Contracts Office (ACO) was appointed by Ninham Shand Consulting to conduct a Heritage Impact Assessment for the proposed raising of the Clanwilliam Dam wall as part of an Environmental Impact Assessment (EIA) Due to concerns over the integrity and safety of the wall, it has to be strengthened. Given the extensive engineering work required to do this, Department of Water Affairs and Forestry is investigating the possibility of raising the dam wall to a height of up to 15 meters above the present full supply level. The EIA of which this Heritage Impact Assessment (HIA) is a part of, considers the possibility of raising of the dam level to a full 15 m above present levels.

1.1 Terms of reference

To assess the feasibility of increasing the capacity of the Clanwilliam Dam, it was necessary to undertake a full HIA of the proposed inundation zone of the Olifants River Valley (which could impact up to 20 m above present day full supply level (FSL) during times of peak 1:100 year flooding. All land up to or close to 15 m above present day full supply level were subject to detailed search.

The ACO undertook to:

- Identify and describe heritage resources,
- Discuss the significance of the resources,
- Make a summary of the potential impacts and key management issues,
- Summarise general policy and conservation issues that apply,
- Summarize the conservation objectives,
- Summarise the legislation,
- Make recommendations for the mitigation of adverse impacts,

This study require a large fieldwork component during which the following tasks were completed:

- Revisit identified sites (or more recently discovered sites) or places within the inundation zone to verify locations and site contents,
- Foot search areas within the inundation zone that have not been previously examined and,
- briefly describe the resources, photograph key components, and evaluate context,
- Foot search proposed realignment routes for the N7 National Road,
- Establish geographical co-ordinates using hand-held GPS systems,
- Attend workshops and meetings where required.

1.2 Background

This HIA follows earlier pre-scoping studies which examined 7 potential dam sites in the Olifants and Doring River System (Department of Water Affairs and Forestry 1998a). Although the scenario currently under consideration was not the preferred option from a heritage point of view, overall consideration of all other impacts pertaining to the other dam scenarios has indicated that raising the existing Clanwilliam Dam is the most suitable option. In general, impacts of building dams on the Doring River system were considered to be very high with the Olifants River system having relatively lower overall impacts, mainly due the

fact that it is already a highly disturbed natural system. The option of raising of the Clanwilliam Dam was judged to have the second lowest overall impact and is certainly the most economical (Department of Water Affairs and Forestry 1998b).

The proposal is to strengthen and raise the Clanwilliam Dam wall. The present wall which was initially built in 1935 and raised in 1966 is showing signs of failure necessitating a minimum of extensive engineering work to strengthen the wall. It is therefore logical for Department of Water Affairs and Forestry (DWAF) to investigate raising the wall height and increase the storage capacity which would help provide water for agricultural development in the Vredendal – Van Rhynsdorp area. Scenarios of raising the dam wall by 5, 10 and optimally 15 m have been considered. For the purposes of this study 15 m is considered to be the zone of full supply level (FSL) and is therefore the study area for the purposes of this Heritage Impact Assessment.

2 DESCRIPTION OF THE AFFECTED ENVIRONMENT

Much of the envisaged full supply level (FSL) is occupied by the existing Clanwilliam Dam, however flooding a further 15 m will affect the environment in a number of ways. Areas with steep gradients will experience minimum inundation in terms of surface area, however the converse applies to areas that are relatively flat.

2.1 Local topography and vegetation

The Clanwilliam Dam is located in the relatively fertile and steep-sided Olifants River Valley. The concrete dam wall, which was constructed in the 1930's and raised slightly in 1966, allows water to back up to a point some 18 to 19 km upstream at full supply (see Figure 1; Plate 1). Virtually all the land is zoned agricultural, however relatively small amounts are actively farmed.

The Olifants Valley is formed in Table Mountain Series sandstone. As a result there are numerous outcrops of this rock forming cliffs, ridges, terraces and *koppies* along the entire length of the proposed inundation zone (Plate 2). Several rock shelters and caves occur in these outcrops. Between these outcrops there are stretches of relatively featureless terrain which merely slope down with varying gradients into the waters of the dam. Much of the land surrounding the dam is uncultivated, being too steep or rocky, and in these areas the natural *fynbos* vegetation occurs. The local *fynbos* tends to be dominated by waist- to shoulder-high bushes but patches of taller vegetation do occur, predominantly in the vicinity of rocky outcrops (e.g. Plate 5). In general, little alien vegetation is present in the area with a few gum trees growing around the lower reaches of the dam and several stands of exotic acacia and gum trees occurring in the river flood plain further south, just beyond the reach of the current FSL. Indigenous wild fig trees are to be found growing against rock outcrops and crevasses.

Due to the steepness of the valley, areas of relatively flat, arable land are scarce and occur primarily in subsidiary valleys and also to the south of the current inundation zone where they form part of the Olifants River floodplain. These areas tend to be cultivated (e.g. Plate 3). Along much of the dam margin the sandy topsoil is being eroded by the lapping of the water resulting in the underlying gravels becoming exposed (Plate 4). The mountain slopes under the proposed realignment of the N7 Freeway are generally are generally very open being covered only with low scrubby vegetation.

2.2 Land use

Several fruit farms are located along the edges of the dam with most being on the western margins (e.g. Plate 6). They are predominantly citrus farms but some mango trees and vineyards are also present. In some areas the orchards are located well within the proposed inundation zone but many others are situated higher on the hills on either side of the dam. Several residential and holiday houses occur along the banks of the dam, some of which fall within the proposed inundation zone. On the eastern margin, near the dam wall, is a small nature reserve (Ramskop Nature Reserve) and just south of that is the Clanwilliam Dam Resort which is popular on weekends and over holidays. Much of the resort's land lies within the proposed inundation zone. The dam itself is used for recreational boating, fishing and water-skiing.

2.3 Archaeological background of the broader study area

A general background discussion of research already conducted in the area is provided. It is followed by an overview of the different types of archaeological and historical resources found in the area and the research conducted on each of these aspects. Table 1 summarises the categories of site that may be found in each period.

Since the late 1960's the Department of Archaeology at the University of Cape Town (UCT) and Iziko Museum has been conducting research in the Olifants River Valley. Limited work was also undertaken by the Department of Geography, but this was aimed more at exploring the geomorphological and palaeoclimatic features of the Olifants River Valley (Mabbutt 1957). While some of the UCT archaeology field trips were related to post-graduate student research projects, many aimed primarily at recording the rich rock art and Stone Age heritage of the northern Cederberg Mountains. This has resulted in a number of systematic surveys in or close to the study area along with hundreds of site records and pages of information. Excavations and artefact collections have been carried out at several Stone Age sites ranging in the Olifants River Valley as well as towards the eastern parts of the northern Cederberg Mountains. In recent years several Archaeological Impact Assessment studies have been completed, particularly in the Nooitgedacht (Halkett 2000), Caleta Cove (Manhire & Yates 1990) and Renbaan (Kaplan 2005) areas.

Table 1: Categories of heritage resources that may be present in each period.

Period	Category
Early Stone Age	Artefact scatter
Middle Stone Age	Artefact scatter
	Deposit
Later Stone Age	Artefact scatter
	Deposit
	Kraal
	Rock art
	Cultural landscape
Historical period	Artefact scatter
	Deposit
	Structures
	Road infrastructure
	Industrial infrastructure

Quarry
Cultural landscape
Graves
Other

2.4 Early and Middle Stone Age

The first reports of ESA material from the area were by Mabbutt (1954, 1957). Since that time very little more is known of the Early Stone Age (ESA) and Middle Stone Age (MSA) in the Olifants River Valley and surrounding areas. Finds have mostly been restricted to sporadic artefact scatters found on the current land surface. In general in the Western Cape, ESA and most MSA material is not found in primary context. Their great age means that ESA and MSA sites have been affected by natural geological processes: the artefacts having become included as clasts within sand and gravel substrates. Such artefacts are usually found on the surface as a result of erosion or disturbance.

In the Clanwilliam area, ESA artefacts have been found on the upper edges of the floor of the Clanwilliam Dam where the water has accelerated the erosion process. Large numbers of such occurrences have recently been recorded by the UCT Archaeology Department Field School and are being studied by Archer (in prep.). but these were only very brief.

Occasionally, sites with MSA material in primary context (uneroded or undisturbed) have been found. These are often rock shelters or caves where the material cannot be easily disturbed. Excavated sites in the general area so far known to contain MSA deposits or artefact scatters are Klipfonteinrand 1 (Parkington & Poggenpoel 1971a), Andriesgrond (Anderson 1991), Klein Kliphuis (Van Rijssen 1992) and Hollow Rock Shelter (Sevilla 48) (Evans 1993). Besides Hollow Rock Shelter which has only MSA artefacts in up to 35 cm of deposit, the other sites have revealed MSA accumulated on the bedrock and in the lowermost layers of deposit only. The paucity of early sites makes ESA and MSA occupation difficult to assess, but it appears from the number of artefacts found on the landscape that people have been using the area for well over five hundred thousand years.

2.5 Later Stone Age

The Later Stone Age (LSA) of the Olifants River Valley and surrounding area has been extensively researched and is comparatively well understood. The many rock paintings in the area have received much consideration (e.g. Manhire *et al.* 1983; Manhire 1998; Parkington 1989; Van Rijssen 1984; Yates *et al.* 1985) and several LSA deposits in rock shelters have been excavated.

Archaeological deposits are an important part of the Stone Age record as it is from these that most information regarding subsistence is derived. A deposit consists of one of more layers of debris including stone tools, food remains and fireplaces located in a place that was inhabited by people. Radiocarbon dates can be obtained from the residues and deposits thus offer the best opportunity to understand the temporal occurrence of various aspects of prehistory. Excavations have been carried out at De Hangen (Parkington & Poggenpoel 1971b; Parkington 1976), Klipfonteinrand 1 (Parkington & Poggenpoel 1971a; Thackeray 1977) and Klipfonteinrand 2 (Nackerdien 1989), Klein Kliphuis (Van Rijssen 1992), Sevilla 46 and 48 (A. Manhire, pers. comm.), Andriesgrond (Anderson 1991; Mazel 1978; Parkington

1980) and Renbaan (Kaplan 1987; Parkington 1980). Only the latter two lie in the greater Oliphants River Valley area but are located well above the dam in the hills to the west.

Many LSA sites consist only of scatters of stone artefacts. These are frequently on the talus slopes in front of rock shelters but they sometimes occur on open rocky terraces or other open areas. These scatters are usually in primary context and often contain no finds other than stone artefacts. Altogether, LSA occupation of the area seems to have been quite substantial although the density of sites varies from very high to very low depending on the landscape. Open artefact scatters have also been examined with artefacts having been either studied *in situ* or collected at several sites, five of which are within the Olifants River Valley. Four of the sampled scatters are situated on the the farms Malgashoek, Andriesgrond, Renbaan and Driehoek, while the fith was just south of the Clanwilliam Dam Campsite (Parkington 1980). Recently, artefact collections have been carried out by the UCT Archaeology Department at Procession Shelter to the east of the Olifants River as part of their annual Field School and excavation of the *in situ* deposits in the shelter may take place in the future (J. Parkington, pers. comm.).

The rock art of the Northern Cederberg area is very diverse, and perhaps the most fascinating and visually appealing of heritage resources in the area. Subject matter varies considerably with humans, animals and entoptic forms (images seen by shamans in a trance state) being frequent. Red is the most commonly used colour, varying from a dark orange to maroon. Other colours used include yellow, white and black but these preserve less well with the result that their use is manifested as conspicuous “gaps” on painted rock panels.

2.6 Historical background of the broader study area

The Clanwilliam area has a relatively long history of colonial settlement with the town being one of the oldest in South Africa. As a result many early farmhouses or their ruins are to be found in the area. Historians have concentrated their studies on mainly the frontier status of the valley and beyond in the 18th century. (Penn 1995; Mitchell 2001), however not much is known about the history of individual farms and settler families. The roads, mountain passes and their builders have been researched (Ross 2003; Storrar & Komnick 1984), as well as aspects of land tenure (Nell 1997)..

2.6.1 Early history of the Olifants River Valley and the Clanwilliam area

The first European travellers from the Cape passed over the mountains into the Olifants River Valley in the area of the current Piekenierskloof Pass in 1660 under Jan Dankaert. Seeing a large herd of elephants grazing in the valley, they named the river that lay below them the Olifants River. The party continued to a point somewhere near what would become Clanwilliam before returning to Cape Town (Mossop 1927). No mention is made in Mossop (1927) as to which bank they travelled on. The following exploration party, under Pieter Cruythoff, proceeded along the west bank to the point where the Elands Kloof River flows in from the west. From here the valley narrows and precipitated their decision to head up the hills to the west in search of the coastal plain which they knew lay on the other side of the mountains (Mossop 1927).

Later expeditions followed the same route as Cruythoff with the first ox-wagon entering the Olifants River Valley in late 1662. Although the wagon had been dismantled and carried over the Piekenierskloof Pass, that particular party decided upon reaching the Elands Kloof River to proceed without it (Mossop 1927).

Despite this early exploration, permanent colonial settlement of the Olifants River valley only occurred from about the 1720's onwards. The first loan farms or grazing licenses were (Mitchell 2001), By the 1730's most of the Olifants River Valley as far north as the Doorn River had been allocated to settlers (Nell 1997). It is unclear from Mitchell (2001) and Nell (1997), however, whether the allocations were made as loan farms or as grazing licences. The former would have implied a greater degree of permanence to the settlement. The first farmer in the region was Jan Dissels. In 1726 he acquired a loan-farm at the confluence of the Olifants River and a lesser river that was to become known as the Jan Dissels River. He named his farm Seekoeivlei and it is this farm upon which the town of Clanwilliam stands today. Mitchell (pers comm) has established that the first formal land grants within the Olifants River Valley took place in the late 18th century. Farms in the study area such as Andriesgrond was established in 1792, Rondegat as early as 1761 and Holfontein (where a complex of historic ruins lie) in 1794.

By the start of the 19th century *Bastard* and *Hottentot* people were resisting the colonial expansion resorting to stock theft. The farmers would mount raids to recover their stolen cattle and as a result tension grew steadily (Dickason 1973). In an attempt to restore order to the area, it was decided in 1808 that a sub-*drostdy* should be established. Seekoeivlei was bought from its then owner, Sebastian van Reenen, and the farmhouse was converted into offices for the newly appointed Deputy-Landdrost, Daniel van Ryneveld. A garrison and two houses were built and the tiny village, situated on the wagon track between Cape Town and Namaqualand, became known as Jan Dissel's Vlei. In 1814 Sir John Craddock changed the name of the village, naming it in honour of his father-in-law who had just become the first Earl of Clanwilliam. At this stage there were a total of sixteen *freeburgher* families living in Clanwilliam (Dickason 1973).

In 1820 a group of Irish settlers arrived in Clanwilliam and were allocated land to the north of the current town (Dickason 1973) (see Figure 16). Although some women married local farmers, the majority of settlers left the area as they found it a difficult place to settle.. By 1829, the Clanwilliam District consisted of six freehold farms, 212 loan farms allocated by the Dutch before 1806 and 30 quitrents allocated thereafter by the English (Langham-Carter 1993).

While the history of occupation and land use around Clanwilliam and on the relatively wider floodplain to its north is relatively easy to determine, the area between Clanwilliam and Citrusdal has proved to be far more difficult. This part of the Olifants River Valley is far steeper and hence would have been less desirable for settlement and farming. However, the presence of a few ruined farmsteads and other structures both above and below the current inundation zone does suggest that some degree of settlement did take place. Unfortunately, with so little written historical information available for the last two centuries we cannot say very much about these ruins. It seems likely that the occupation of the valley would have been during the 19th and early 20th centuries. Some relevant oral history was obtained during the course of the fieldwork from Mr Du Plessis, the owner of the farm Holfontein. The information concerns the ruins on his farm that will be impacted by the dam raising and is included in the record of sites contained in Appendix 3. Oral history may well provide more information than written records and is sure to be a critical area of research during the mitigation phase.

It is likely that many of the ruins were abandoned during the early decades of the 20th century, either due to the effects of the Spanish flu of 1918 or as a result of the depression during the early 1930's. At this time the government created jobs in the cities encouraging

people to move away from their farms in search of employment. The many small ruined farmhouses may be largely attributed to the exodus of people at that time.

The kinds of remains dating to the historical period that one finds around the Clanwilliam area include farmhouses and their associated outbuildings and features (both still in use or ruined), early roads and their related features and the cultural landscapes associated with the early European settlers of the area. Archaeological deposits also occur, usually in or near farmhouses, and these will contain artefacts of ceramic, glass and metal amongst other things. As with Stone Age deposits, historical deposits will also have layers pertaining to the different historical periods during which the related structures were occupied. In recent years excavations were commenced by UCT at a historical farmstead at Warmhoek, just to the south of Clanwilliam (see Section 1.4 below). This work is ongoing (J. Parkington, pers. comm.). Unfortunately, prior to the current research at Warmhoek, no archaeological work has been carried out on the historical remains present in the Clanwilliam area.

3 METHODS

The physical search of the proposed FSL was undertaken on foot with all finds described and recorded photographically. GPS co-ordinates were taken using a hand-held GPS receiver on the WGS84 datum. The occasional bushy areas prevented complete coverage, however overall visibility was adequate.and artefactual material could be easily identified.

Approximately 95 % of the entire area has been examined by the ACO team. Some areas that were judged to be particularly unsuited to prehistoric habitation were subjected to slightly less rigorous searching so as optimise resources., The findings of the various academic teaching and research projects which have taken place to date, have been utilised in this study. Overall, knowledge of the heritage of the study area is considered to be sound. Prior to the ACO survey, considerable areas have been surveyed during earlier UCT and SA Museum projects.

The few areas that were not examined are either difficult to access, previously studied or were judged to be unlikely to contain any heritage material. One of these areas was covered in April 2005 by the Agency for Cultural Resource Management (Kaplan 2005) and it was not deemed necessary to re-examine it.

Copies of all previous site records from the area were obtained and consulted to help identify any sites that may have been missed by the ACO team, either during our survey or by virtue of any sites being in the few areas not searched. For the sake of future researchers, an attempt has been made to cross-reference these earlier records with our own site records (Appendix 3) but this was found to be difficult and no doubt the task is incomplete. Some sites could not be matched with any in our records despite being in areas covered in. detail. We attribute this to inaccurate plotting prior to availability of GPS. Encouraging was the fact that the ACO survey actually increased the number of recorded sites in the dam area suggesting that our methods are competitive and coverage relatively good compared with previous work.

Concurrent with our fieldwork, an archival study concentrating on the dam itself and the surrounding roads was undertaken by Harriet Clift. The information obtained from this study is incorporated in Section 6.3 of this report.

4 HERITAGE LEGISLATION

Heritage resources found within the study area are protected under three sections of the National Heritage Resources Act (NHRA) of 1999 as outlined below. All information pertaining to the NHRA has been sourced from Acts Online (Acts.co.za).

4.1 Section 34: Structures.

Under this section all built structures greater than 60 years of age are protected. Structures are defined as “any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith”. This incorporates residential, agricultural and industrial buildings as well as dams and roads. Heritage resources protected under this section are the responsibility of the provincial heritage authority, Heritage Western Cape (HWC).

4.2 Section 35. Archaeology, palaeontology and meteorites.

Prehistoric and historic archaeological remains are protected under this section. Two categories of archaeological remains as defined in Section 2 are relevant to this project:

- “material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures”; and
- “rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10 m of such representation”.

Such remains include indigenous and European artefacts, rock art and graffiti and any man-made features of the landscape. Cultural landscapes are thus also protected here. Palaeontological material is unlikely to be present but if found would also be protected under Section 35. Heritage resources protected under this section are the responsibility of the provincial heritage authority, Heritage Western Cape (HWC).

4.3 Section 36: Burial grounds and graves.

This section of the act protects all graves located *outside* of burial grounds administered by a local authority and which are greater than 60 years of age. Such graves are the responsibility of the national heritage authority, the South African Heritage Resources Agency (SAHRA).

Formal cemeteries administered by a local authority are not protected under the heritage legislation but fall under the Exhumations Ordinance (Ordinance 12 of 1980). However, to avoid potential problems, it is preferred that applications for the relocation of such cemeteries be made to both the local authority and SAHRA.

5 ASSESSMENT CRITERIA

This section describes the criteria considered in the assessment of impact and significance. The general criteria are provided first with further details pertaining to specific categories of sites given in separate sections afterwards. Almost all the sites recorded in Appendix 3 were

visited by the ACO and assessed individually. A few had to be assessed from previous records, however, and this is noted in Appendix 3 where appropriate.

5.1 General criteria

5.1.1 Impact

This refers to the degree that a heritage site or object will be physically lost or damaged by the proposed activity.

The assessment of all impacts (as recorded in Appendix 3) is based on the assumption that the sites will not be destroyed prior to flooding. This obviously applies most specifically to built structures and road infrastructure. If any destruction of sites is to take place prior to the flooding of the dam then the impacts can immediately be assumed to be “very high” in all cases.

5.1.2 Significance

The significance rating primarily reflects the cost of losing a with respect to its heritage *significance* in terms of its typicality, rarity, aesthetic, tourism and educational value and research potential. A site’s research potential is essentially the contribution it can make to our understanding of local and regional history and/or prehistory. In almost all cases the sites are only considered to be significant within the local context of the Oliphants River Valley. Occasionally a site does have wider significance. These are rock art sites with tourism potential and contribute to the general significance of the Cederberg Landscape.

Certain categories of sites will, in the strictest sense, not be entirely lost when flooded. This applies mainly to those sites which are particularly robust, or where the context is already severely compromised.. This does at times temper the significance rating. Many sites are individual occurrences but others (usually historical structures) are part of larger complexes. In the latter instances the assessment of a site also considers the importance of the relationship between its associated elements.

5.2 Site specific considerations

5.2.1 Rock art

Since rock art is destroyed by water, the impacts on paintings are always very high. The significance of losing the paintings does, however, vary considerably. Paintings that are either poorly preserved or very simple or common in terms of their content are usually considered to be of low significance. Those that are either well preserved but have common subject matter or poorly preserved with relatively distinctive subjects are rated more highly. Well preserved rock art panels with complex or unique subject matter are given very high significance. Such paintings can serve as important records of the content and styles of rock art in the region and can also be used in tourism and education, either as part of a guided trail or in a museum if they have to be removed from their original outdoor context.

5.2.2 Artefact scatters

The physical impact on artefact scatters relates mainly to the erosion of the sands on which they occur. When the sand is removed the artefacts will settle among the underlying gravels

with smaller ones filtering down between the larger rocks. The smaller artefacts can then become mechanically abraded through the gradual natural movement of the gravels.

None of the ESA or MSA scatters found have any direct context which could be lost by flooding. As such the impacts are generally low or very low. Larger scatters of artefacts would receive slightly higher impact ratings than those scatters containing fewer artefacts. ESA artefacts are often quite large and far less likely to be damaged in the manner explained above which also contributes to their low rating. ESA and MSA artefacts have almost always been moved around naturally through geological processes and, since they have no context and cannot be regarded as living sites, the significance of any impacts is generally very low.

LSA scatters, on the other hand, are almost always found where they were originally left by the Stone Age inhabitants of the area. This was typically in front of rock shelters or on open terraces which were used by the people thus giving the artefacts direct context. Furthermore LSA artefacts are generally very small making them more susceptible to lateral movement and abrasion damage. The degree of impact on LSA scatters is largely based on the extent of the scatter with smaller scatters and those occurring away from obvious rock shelters being accorded lower significances.

5.2.3 Deposits

LSA deposits are sensitive to water in that flooding will result in their erosion and complete destruction. Impacts on LSA deposits are therefore always very high. Since deposits contain much contextual information, the significance of their loss is very high. Most deposits were found associated with rock art sites and have been given a high significance rating.

Historical deposits, on the other hand, may be less susceptible to erosion due to the fact that they are frequently found within structures. As such, both impact and significance ratings are lower than those on LSA deposits. The ratings of such sites are based on a combination of the assessment of their structures and potential deposits.

5.2.4 Structures

Many of the structures recorded during the survey are 19th century and were made primarily of mud bricks which rely on the application of plaster to the walls and the presence of a roof to maintain integrity. Any contact with water starts the steady process of dissolving the bricks and turning the walls into mud. Impacts on such structures are therefore very high. Other structures are built from stone only and would not suffer much impact at all by flooding unless demolition is required for dam purposes (we noted many stone ruins exposed during low dam levels during the recent drought). Several early to mid-20th century structures were also recorded and these are built with more durable materials including cement, stone, The few buildings within the proposed FSL that are occupied receive higher ratings as the impact will not only be on the physical structures but also on the landscape of agriculture..

Significance ratings for structures depend directly on their age, typically and rarity value, and aesthetics. Older buildings or ruins that may have historical value and potential archaeological deposits are attributed greater heritage significance than isolated ruins with no apparent uniquness or other associated elements.

5.2.5 Road infrastructure

The impacts on road infrastructure are assessed in a similar manner to those on structures. Consideration is given to the construction materials and the degree to which the infrastructure would be destroyed by inundation. The significance of impacts on unused roads or remnants thereof is assessed as per above but that on roads still in use is more difficult as issues other than just the physical structures are involved. Such significance is more easily assessed with the entire road considered as a whole. The impact and significance ratings provided in Appendix 3 consider only the impacts on the physical structures at each point mapped. However, a statement on the overall impact on each of the two historic roads as a whole is made separately in Section 7.4. This overall impact considers factors such as the loss of use of the roads and the loss of a scenic tourist route.

5.2.6 Industrial infrastructure

The impacts on the remains of industrial infrastructure are assessed in the same way as those on structures (described above). Since the structures are of concrete, the impacts will tend to be very low as inundation would have a moderate effect. As with other historical structures, demolition will result in the highest impact. In general, the significance of industrial remains is lower since the material is far younger, dating to within the 20th century and generally ephemeral.

5.2.7 Cultural landscapes

This term refers to the historical or archaeological landscape of an area – the way it has evolved and become layered over time. In the Clanwilliam area this includes primarily historical agricultural landscapes, roads and transport, but also the landscape of Pre-colonial habitation and the Dam itself.

Since cultural landscapes are less easily definable than other categories of heritage resources they are more difficult to assess. Impacts will generally be high but the significance will vary depending on the approximate age of the landscape, the collective features which characterise it, the amount of use which it currently receives and the degree to which it has already been impacted on by the current dam.

Quarries and roads are probably best placed under the banner of cultural landscapes but in this report are recognised as their own category since they are so numerous and require specific comment. Quarries and borrow pits, which in this area range in age throughout the 20th century are not considered to be unique or conservation-worthy heritage resources – the loss of which is considered to be of low significance.

5.2.8 Graves

Owing to the fact that human remains are involved, graves are regarded as highly sensitive and automatically receive the highest possible impact and significance ratings.The significance of the impacts is obviously far wider than the physical destruction of the graves and must consider the community and/or family of which the deceased was a part.

5.2.9 Other structures

This category includes such items as dams, furrows and stone cairns or beacons. Their assessment more or less follows the criteria described under 'structures' in Section 4.2.4 above.

6 SUMMARY OF FINDINGS

In this section an overview of the impacts on each category of heritage resource as outlined is presented (Table 1). The range of impacts that are likely to occur and their significance are indicated and discussed. Following in Section 4.4, some of the more critical heritage sites identified are subject to detailed comment. Due to the large number of recorded finds, individual heritage sites are not presented here. A full record of all the finds, as well as an assessment of impacts is presented in Appendix 3.

6.1 Early and Middle Stone Age

6.1.1 Artefact Scatters

During both the 2004 and 2005 surveys conducted by the UCT Archaeology Department and that carried out by the ACO for this project, many occurrences of ESA and MSA artefacts were noted lying on the dam floor beneath the current FSL. Our observations from this study which has focussed on the 15 m above FSL indicate that many more such occurrences are present just beneath the topsoils. The effect of the water accumulating in the dam is to erode the finer sand away leaving the artefacts exposed among the underlying gravels. Plate 9 illustrates the type of artefacts found on a scatter thought to be predominantly MSA

Within the current FSL ESA artefacts were frequently encountered lying on exposed gravels and bedrock, or naturally cemented into fossil *termiteria* which are more resistant to erosion than the surrounding sediments. Plate 7 shows an example of such an occurrence and Plate 8 illustrates some of the artefacts found. This site would not have been exposed if it were not for the action of the dam water. Many more such sites will become exposed as a result of the raised dam level. Since studies (in progress) have revealed that ESA scatters that are presently below the FSL appear to retain some degree of spatial patterning, it seems that flooding of the sites as a relatively small effect on lateral movement of artefacts.

6.2 Later Stone Age

6.2.1 Artefact Scatters

The survey has shown LSA sites tend to occur close to specific points (Plates 10 & 11) on the landscape (boulders, overhangs and terraces).The artefact density on the scatters recorded varies from very high (up to about 1000 artefacts per m^2) to low (less than 100 per m^2). Most of the very dense scatters were recorded in the vicinity of sites CDE1 to CDE6 (e.g. Plate 11). These scatters contain many formal tools with adzes being the most common (e.g. Plate 13). This pattern has been well documented with respect to recent Cederberg assemblages (e.g. Mazel & Parkington 1978; Parkington 1980).

Since the these LSA sites retain both sequences and spatial patterning , the sites are very sensitive to wave action and erosion.(see Plate 4 for an example). In this way they will lose their original context and much of their heritage significance..

6.2.2 Deposits

Only two sites that contain deposits were located within the study area (Plates 14 & 15). Approximately four or five others that might contain some deposit were identified, however this would need to be verified through trial excavation or probing. Similarly several sites have talus scatters which should also be tested for depth (e.g. Plate 10).

6.2.3 Rock Art

The northern Cederberg and Olifants River Valley areas are very rich in rock art and the area surveyed around the dam is no exception. Rock paintings are found in most areas where significant rocky outcrops incorporating vertical or overhanging rock occur. As a rule their distribution is more predictable than is the case with any other category of prehistoric remains. There are however exceptions: Some art was found on rock faces of poor quality were paintings would not normally be expected.

Preservation of the rock art is quite variable. It ranges from very faint faintings (e.g. Plates 16 & 17) on exposed, vertical surfaces (Plate 18). to art on more protected panels where the finest details are perfectly preserved (e.g. Plates 19 & 20). There is a tremendous range in the subject matter. Some paintings are very simple, sometimes containing just a single figure (e.g. Plate 21), while others, as depicted in Plates 17 & 19, are more complex. The majority of rock paintings are fairly simple with relatively few images per panel.

6.3 Historical Period

6.3.1 Structures

Historical buildings, most of them farmsteads and their related outbuildings, are present in the Olifants River Valley. In terms of overall occurrence, they range widely in both age and condition. Older ruined buildings are by far the most common structures in the study area. Many are in very poor condition due primarily to their roofs having been removed/collapsed since their abandonment. They are mainly built with mud bricks which are very poorly fired. As a result, any exposure to water causes them to dissolve and the structures then begin to fall apart. Those found within the proposed inundation zone are mostly ruined and likely to date to the 19th century or earlier (e.g. Plate 22).

There are a few 20th century buildings in the study area, most of which are occupied and less than 60 years of age. One or two have been abandoned and are in a poor state of repair.(e.g. Plate 23).

6.3.2 Historical artefact scatters and deposits

No historic artefact scatters or deposits were found in areas away from structures. Artefact scatters found associated with structures were all fairly ephemeral and no definite deposits were noted.

6.3.3 Road infrastructure

The first route between Citrusdal and Clanwilliam followed parts of the alignment taken by the original Ou Kaapse Weg along the Olifants River (see below) Between Rondegat (10 km south of Clanwilliam) and Brakfontein (12 km north of Citrusdal) it ran further inland (Figure 11).

Since then there have been three different formal road alignments linking Citrusdal and Clanwilliam. These three roads are addressed individually below.

Ou Kaapse Weg (original)

Dickason (1973) provides a map showing the area around Clanwilliam settled by the 1820 Irish Settlers (Figure 12). It shows the northern part of the wagon route to Table Bay running south from Clanwilliam on the eastern side of the Olifants River. The alignment in this area suggests that it was the northern part of this route that was used when Thomas Bain built the 'Ou Kaapse Weg'. The sketch map in Figure 11 indicates the alignment chosen by Bain for this new road. Bain was also responsible for the construction of Grey's Pass (now called Piekenierskloof Pass) where he completely ignored the old wagon track creating a new alignment of his own further to the east.

The road is built so as to avoid major excavations or cuttings. As a result it snakes over or around the many rocky buttresses along its course, at times dipping quite close to where the original river bed must have been. Because of this, it frequently runs beneath the current FSL leaving only isolated stretches remaining above water. These stretches include many fine examples of dry stone walling (e.g. Plates 26 & 27). In some areas the road surfacing is still preserved (e.g. Plate 28). A few stretches, which are still in use by recreational users when the dam level is low, show signs of *ad hoc* maintenance (e.g. Plate 29).

Ou Kaapse Weg (current)

Although no historical documentation was found relating to the construction of this road, it is clear that it must have replaced Bain's earlier road when the dam was built in the early 1930's. It is built in much the same way as the original road except that a more direct line had to be taken due to the presence of the dam. This necessitated the blasting of rock in several areas and the construction of very large retaining walls. (e.g. Plate 30). Concrete culverts were cast beneath these walls (e.g. Plate 31) to facilitate drainage. It is not known what kind of bridge was originally built over the Rondegat River but the one that is there now (Plate 32) seems more likely to mid-20th century in age.

Not all of this road will be flooded by the proposed increase in dam height. In some areas the water would merely reach the lowest courses of stones, but in others, the road will be completely submerged, in particular the area opposite the Holfontein and Melkboomfontein fields where the road often lies within five meters or less of the current FSL.

National Road (N7)

In 1935 the first National Roads Act was promulgated. Fourteen routes were selected to be national roads including the proposed Route 11 extending from Cape Town to Van Rhynsdorp via Citrusdal and Clanwilliam (Floor 1985). In 1939 construction was started on Grey's Pass but this had to be halted due to the outbreak of WW2. Work recommenced in the 1950's and was completed by 1958 when the pass was opened and renamed Piekenierskloof Pass, thus reverting to the original name but with a modern spelling (Ross 2003). The section of the N7 between Citrusdal and Clanwilliam was built in 1958 and 1959 and being less than 60 years of age it is not protected under Section 34 of the NHRA.

6.3.4 Industrial infrastructure

Three areas were identified to contain features classified as industrial infrastructure. These all pertain to the original construction of the Clanwilliam Dam in the 1930's. They include the dam wall itself (Plate 32), the construction site area (Plate 33) and an area assumed to have been the labour compound (Plate 34). The construction site and compound contain numerous foundations of buildings, sheds and plant bases scattered over a wide area.

The dam was built in the early 1930's, making it greater than 60 years of age and hence protected under Section 34 of the NHRA. One of the machine bases at CDW1 has the date 19.1.33 inscribed on it. The wall was raised slightly in 1966 when the upper portion and sluice gates were added. The newer concrete can be seen in Plate 32.

6.3.5 Cultural landscapes

Most cultural landscapes elements in the area are already severely compromised as a result of the existence of the Clanwilliam Dam. Many of the earliest farmsteads which were situated along the valley bottom have long been flooded and are represented only by stone foundations which are only visible when the dam is low (Plate 35). However, most likely still above FSL, are many of the fields that may have been associated with farms that now lie submerged.. With the shortage of arable land in the valley, such fields are probably still in use today incorporated within contemporary farming operations. Artefacts such as glass and ceramics are often found in very low frequencies in these areas.

Raising of the dam will impact existing agricultural landscape, especially at Rondegat, Kriedokrans and Andriesgrond - Olifants Dam where a number of orchards will be lost.(e.g. Plate 36). Fruit farming has taken place in the valley since the 19th century – loss of orchards does affect the identity of the area.

Numerous small quarries are present along the length of the east bank the Olifants River (e.g. Plate 37). These are associated with various episodes of road building in the years since 1860..

The actual Clanwilliam Dam itself has qualified as a form of cultural landscape by virtue of its age and the particular identity and associations it has imparted to the town of Clanwilliam. The effect of the proposed increase in the dam size will simply have the effect of increasing this. What is demonstrable is that the Olifants River Valley is a highly "layered" environment – the early landscape of pre-colonial settlement is preserved in places, but overprinted by European settlement and Agriculture, which in itself was overprinted by the dam itself.

6.3.6 Graves

A family burial ground at Rondegat (Plate 38) and a single grave at Holfontein are the only clear locations containing human remains found. The Holfontein grave dates back to 1935 while the burial ground at Rondegat contains at least fifteen formal graves (several of which contain more than one individual) with engraved headstones or only marked with sandstone rocks at the head and feet (Plate 39). It is estimated that there are at least 30 people buried there;

Mr Du Plessis of Holfontein commented that a further four graves were present near the edge of the river on his farm, but we were unable to locate them during our search.

6.3.7 Other structures

Such remains include an old stone and earth dam and several stone cairns or beacons, the significance of which are almost impossible to ascertain.

7 SUMMARY OF IMPACTS

120 records of heritage sites in or close to the proposed maximum FSL exist. Some 93 sites will be directly impacted by inundation, while a further 8 could suffer from secondary impacts. Should any further sites be discovered, it is not expected that the overall impact statement will change.

- An indication of impact and significance is provided for each record both in Table 2 in this section and also in the detailed site records in Appendix 3. The summary is presented according to period (i.e. age of the sites) while the number of occurrences within each period is indicated in Tables in the relevant sections.

- Some sites contain material dating to two or more periods and these are considered only under the later (more recent) period since the impacts on younger sites are generally greater than on older ones.

- Where more than one category is involved in a site (e.g. artefact scatter and rock art), the impact for that site is based on the most sensitive category (e.g. rock art).

- Significance rating refers to the significance of the site in heritage terms – its potential and importance as a resource (ie the cost of its loss) while impact refers to the degree of destruction that the heritage site will suffer.

Table 2: List of all sites that will be directly impacted. They are sorted by period and category and their impact and significance ratings are indicated.

Site number	Period	Category	Impact	Significance
CDW14	ESA	Artefact scatter	Very Low	Very Low
CDW16	ESA	Artefact scatter	Very Low	Very Low
CDW7	ESA/MSA	Artefact scatter	Low	Low
CDW9	MSA, LSA	Artefact scatter	Very Low	Low
CDW60	MSA/LSA	Artefact scatter	Medium	Very Low
CDE9	MSA	Artefact scatter	High	Low
CDW3	MSA	Artefact scatter	Low	Low
CDW5	MSA	Artefact scatter	Very Low	Very Low
CDW38	MSA	Artefact scatter	Very Low	Very Low
CDW63	MSA	Artefact scatter	Very High	Very Low
CDW36	ESA, LSA	Artefact scatter	Medium	Low
CDE4	LSA	Artefact scatter	High	Medium-High
CDE6	LSA	Artefact scatter	High	Low-Medium
CDE33	LSA	Artefact scatter	Medium	Low
CDE36	LSA	Artefact scatter	Low-Medium	Very Low
CDE37	LSA	Artefact scatter	Low-Medium	Very Low
CDE40	LSA	Artefact scatter	Very High	Medium

Site number	Period	Category	Impact	Significance
CDW48	LSA	Artefact scatter	Low	Very Low
CDW53	LSA	Artefact scatter	Medium-High	Very Low
CDW54	LSA	Artefact scatter	Low	Very Low
CDE5	LSA	Artefact scatter, Rock art	Very High	Medium-High
CDW23	LSA	Artefact scatter, Rock art	Very High	Low-Medium
CDW25	LSA	Artefact scatter, Rock art	Very High	Medium
CDW31	LSA	Artefact scatter, Rock art	Very High	Low
CDW32	LSA	Artefact scatter, Rock art	Very High	High
CDW52	LSA	Artefact scatter, Rock art	Very High	High
CDE2	LSA	Artefact scatter, Deposit, Rock art	Very High	Very high
CDW11	LSA	Kraal Rock art	Very high	High
CDW12	LSA	Deposit Rock art	Very High	Medium-High
CDE1	LSA	Rock art	Very High	Very high
CDE3	LSA	Rock art	Very High	Medium
CDE10	LSA	Rock art	Very High	Low-Medium
CDE13	LSA	Rock art	Very High	Low
CDE15	LSA	Rock art	Very High	Medium
CDE20	LSA	Rock art	Very High	Medium-High
CDE23	LSA	Rock art	Very High	High
CDE35	LSA	Rock art	Very High	Low
CDE38	LSA	Rock art	Very High	Low
CDE39	LSA	Rock art	Very High	Medium-High
CDW10	LSA	Rock art	Very High	Very High
CDW24	LSA	Rock art	Very High	Very Low
CDW46	LSA	Rock art	Very High	Medium
CDW47	LSA	Rock art	Very High	Medium
CDW50	LSA	Rock art	Very high	High
CDW51	LSA	Rock art	Very high	Very low
CDW55	LSA	Rock art	Very High	Very Low
CDE16	Historical	Structures	Very High	Low-Medium
CDE17	Historical	Structures	Low-Medium	Very Low
CDE19	Historical	Structures	Low-Medium	Low
CDE25	Historical	Structures	Medium	Very Low
CDE27	Historical	Structures	Low	Very Low
CDE32	Historical	Structures	Very Low	Very Low
CDW4	Historical	Structures	Low	Low
CDW6	Historical	Structures	Very Low	Very Low
CDW8	Historical	Structures	Low	Low
CDW13	Historical	Structures	Very High	Medium
CDW17/18/19/20/21/22*	Historical	Structures	Very High	Low
CDW26	Historical	Structures	Very Low	Very Low

Site number	Period	Category	Impact	Significance
CDW27	Historical	Structures	High	Low
CDW28	Historical	Structures	Very Low	Very Low
CDW29	Historical	Structures	Low	Very Low
CDW40	Historical	Structures	Low	Low
CDW43	Historical	Structures	Low	Low
CDW44	Historical	Structures	Low	Low
CDW45	Historical	Structures	Low	Low
CDE8/44/54/56*	Historical	Road infrastructure	Low	Low
CDE11	Historical	Road infrastructure	High	Very low
CDE12/14/18/26/28/ 31/41/43/46/50/51/52*	Historical	Road infrastructure	Low	Low
CDW57	Historical	Road infrastructure	Very High	Very Low
CDW59	Historical	Road infrastructure	Very High	Low-Medium
CDW1	Historical	Road infrastructure, Industrial infrastructure	Very High	Low
CDW56	Historical	Industrial	Very High	Low
CDW58	Historical	Industrial	Very High	Very Low
CDW62	Historical	Industrial	High	Low-Medium
CDE29	Historical	Quarry	Very Low	Very Low
CDE30	Historical	Quarry	Very Low	Very Low
CDE34	Historical	Quarry	Very Low	Very Low
CDE42	Historical	Quarry	Very Low	Very Low
CDE45	Historical	Quarry	Very Low	Very Low
CDE47	Historical	Quarry	Very Low	Very Low
CDE48	Historical	Quarry	Very Low	Very Low
CDE49	Historical	Quarry	Very Low	Very Low
CDE53	Historical	Quarry	Very Low	Very Low
CDW2	Historical	Quarry	Very High	Low
CDE21	Historical	Cultural landscape	Medium	Low-Medium
CDW41	Historical	Cultural landscape, Other structures	Very Low	Low
CDW42	Historical	Cultural landscape, Other structures	Low	Very Low
CDE22	Historical	Graves	Very High	Very High
CDW15	Historical	Graves	Very High	Very high
CDE55	Historical	Other structures	Very Low	Very Low
CDW30	Historical	Other structures	Low	Very Low
CDW39	Historical	Other structures	Very Low	Very Low
CDW49	Historical	Other structures	Low	Low

* Note that where multiple numbers are given, these records all pertain to a single site.

7.1 Early and Middle Stone Age

7.1.1 Artefact scatters

Very little of the ESA or MSA material located either above or below the current FSL is in a primary context. In general, disturbance of this material will not lead to an impact of any significance since no actual damage is likely to occur to the artefacts. In fact, the dam might be considered to have a slightly positive impact on such scatters as their erosion from the soil

essentially makes them available for study at times of low water when this would not otherwise have been the case.

Table 3 records the range of impacts of flooding on the ESA and MSA material located and examined during the current survey.

Table 3: Range of impacts on ESA & MSA sites.

Period and Category	N	Range of impacts	Range of significances
ESA artefact scatters	2	Very low	Very low
MSA artefact scatters*	6	Very low – Very high	Very low – low

* One of these sites may include ESA artefacts
Note: Artefact scatters also including LSA material are included only under LSA.

7.2 Later Stone Age

7.2.1 Rock Art

There are many factors implicated in the deterioration of rock art, however direct contact with water is one that has the most aggressive and irreversible effect.. Water acts on exposed rock surfaces in two primary ways: (1) it exerts a mechanical weathering action on the rock and (2) it mobilises soluble salts. The latter is the most significant as the repeated hydration and dehydration of the rock results in the crystallisation of salts both on and beneath the surface of the rock. While surface salt crystallisation may slowly obliterate paintings, that within the rock will cause exfoliation of the surface and total loss of the art (Van Rijssen 1987). It is quite clear that paintings that become submerged in water will soon disappear while art in very close proximity to standing water will deteriorate more rapidly than would otherwise be the case due to the increased humidity levels. Furthermore, rock surfaces beneath the current FSL usually become coated with a black deposit which would also destroy the paintings.

While flooded paintings will obviously be subjected to direct primary impacts, there are also indirect impacts that need to be considered. As discussed above salt action as a result of the increased humidity surrounding the dam also causes much damage to rock art that is not submerged. At least three painted sites (CDE1, CDE10 & CDE23) are located within about one to five meters of the current water's edge at full supply. All three appear to have suffered some deterioration, primarily in the form of exfoliation, which may well be a result of their proximity to the water. Furthermore, sites near the water's edge become more attractive to people as picnic locations and are generally more easily discovered. This opens them to various forms of abuse including deliberate vandalism (e.g. Plate 40 & 41) and blackening from fire smoke. These secondary impacts can be medium to high in the short term, but are probably best considered very high in the long term.

Since full destruction of rock paintings would occur with flooding, the impacts are always very high. The significance of their loss ranges from very low to very high with 17 of the 26 sites containing art being of medium significance or greater. Although tracing and photography would be suitable mitigation for most of the sites, there are at least three for which this option is not appropriate (CDE1, CDE2 & CDW10). It is suggested that these three paintings (and any others recommended by HWC) should be physically removed from their sites and stored and/or displayed in an appropriate museum.

7.2.2 Artefact Scatters

Depending on the size and content of the scatters, the significance of the impact could vary from fairly low to medium, or occasionally high. Since the artefacts are not in a sealed depositional context, they could not be accorded very high heritage significance.

7.2.3 Archaeological Deposits

If test excavations prove archaeological deposits to be present at any of the sites identified, the impact of flooding such deposits would be very high. Depending on the depth and extent of the deposits one could expect impacts of medium to very high significance.

Table 4 records the expected impacts of flooding on the LSA material located and examined during the current survey.

Table 4: Range of impacts on LSA sites.

Categories	N	Range of impacts	Range of significances
Artefact scatters*	12	Low – high	Very low – medium-high
Artefact scatter & rock art	6	Very high	Low – high
Artefact scatter, deposit & rock art	1	Very high	Very high
Kraal & rock art	1	Very high	High
Deposit & rock art	1	Very high	Medium-high
Rock art	17	Very high	Very low to very high

* Two of these sites do or may include MSA artefacts and one includes ESA artefacts.

7.3 Historical period

7.3.1 Structures

Unfortunately the older and usually ruined historic structures are very prone to deterioration due to early construction methods. Many of the structures located are already in very poor condition (ruins), so although the impact of flooding is generally quite high, the significance of losing these buildings is relatively low. Furthermore, none were found to have obvious archaeological deposits associated with them, thereby limiting the amount of archaeological data that may be collected at the sites. Most of the more recent (20th century) historical structures are built from more durable materials, usually breeze blocks. Some of these buildings are still occupied. The archaeological impact of flooding on these structures is generally low due to their and low heritage significance.

7.3.2 Road infrastructure

In terms of roads, there are two main areas of concern. These are the two roads that run along the eastern edge of the dam – the Bain Road (*original Ou Kaapse Weg*) and the Citrudal Clanwilliam Road (circa 1935)..The N7, being less than 60 years of age is not protected and therefore not discussed here. Sections of these roads will be flooded but not necessarily destroyed as demonstrated by the fact that the Bain road has survived years of

inundation under the present dam. They will be lost as a heritage resource for the life of the dam.

- The Old Citrusdal-Clanwilliam Road (1935) is not unique in terms of its age or construction, but it is a scenic drive and is used by several farmers on the East side of the dam to transport produce. In general terms, *impacts to this road are considered to be relatively low, as is its significance*, however this must been seen in the light that the social impacts with respect to farming and tourism are likely to be rather more significant.

- Short sections of the earlier Bain 1860's road are still in use by farmers and ORV enthusiasts. Inundation of the remaining sections of this road above the present FSL will *result in a low-medium impact but the heritage significance of the road may be considered medium* mainly due to its age, its association with Bain himself and the opening of the Cape Frontier as well as its relatively good state of preservation in places.

7.3.3 Industrial infrastructure

All heritage recorded under this category pertains to the original construction of the Clanwilliam Dam wall. The very high impacts recorded are due to the fact that the structures will need to be demolished during the course of the project. Some fall in the area that will again be used as a construction and quarry site while another falls within the proposed new N7 road alignments. Despite the high impacts on these sites, they have very low heritage value and are therefore of very low significance. The dam wall is more important. It is a good example of a relatively early reinforced concrete dam wall. Although it will not be demolished, it will be completely covered in new concrete when it is strengthened and will therefore be all but lost. Due mainly to its age, we have accorded the impact on the dam a significance of low-medium.

7.3.4 Quarries

Only one quarry in the old dam the construction area will experience a high impact due to the fact that it will be reopened. The remainder will simply be flooded and effectively experience no impact of any consequence. Since these quarries are merely the source of material for road building they have little heritage value and are assigned very low significance.

7.3.4.1 Site CDE57

Potential impacts on the quarry numbered CDE57 cannot be assessed at this time and the site has not been included in the tables presented in this report. The quarry is still in use and is being excavated into shale beds. These beds should be examined by a palaeontologist to check whether any fossils might be present. The significance of inundation of potential fossil-bearing material cannot be gauged until such comment can be obtained.

7.3.5 Cultural landscapes

In general the cultural landscapes around the Clanwilliam Dam have already been significantly altered by the original inundation of the valley in the 1930's. As such, the impacts on cultural landscapes is low or very low and of fairly low significance. The most significant cultural landscape recorded during the survey is perhaps the crossroads of the Old Citrusdal and Algeria Roads close to Kriedouwkrans farm, just east of the Oliphants River low water bridge. This area is an old road junction which has landmark qualities in terms of its

established trees and scenic qualities. Picnickers often stop at this point today, while traditionally it may have been some sort of stopping point or *outspan* for many years. This area may be become inundated at times of high dam levels with the resulting loss of the "place" on the landscape. We consider the heritage significance of this area to be low-medium. It will suffer a high negative impact if the dam were to be raised.

7.3.6 Graves

Where human remains are involved, the impacts and significance are automatically very high. Precedent in South Africa involves removal of graves in the face of flooding caused by dams, however SAHRA recently, with community agreement allowed human remains to be left *in-situ* while only grave stones were removed to a suitable repository. Peoples' response to grave relocation can be emotionally and politically fraught – the handling of which requires experience and sensitivity. A consultation programme will be necessary to determine what interested and affected parties would require in terms of future of the graves.

7.3.7 Other structures

The features recorded in this category are of little importance in terms of local heritage and will generally suffer very little impact from inundation. Impacts and significance are therefore always low or very low.

Table 5 records the range of impacts on the historical material located and examined during the current survey.

Table 5: Range of impacts on Historical sites.

Category	N	Range of impacts	Range of significances
Structures	19	Very low – very high	Very low to medium
Road infrastructure	5	Low – very high	Very low – low-medium
Road infrastructure & Industrial infrastructure	1	Very high	Low
Industrial infrastructure	3	High – very high	Very low – low-medium
Quarry	10	Very low – very high	Very low – low
Cultural landscape	1	Medium	Low-medium
Cultural landscape & Other structures	2	Very low – Low	Very low – Low
Graves	2	Very high	Very high
Other structures	4	Very low – low	Very low – low

* Where more than one period or category is represented at a site only the youngest and/or most sensitive respectively are given.

7.4 Specific sites of importance

A number of sites and areas within the study are considered to be important, and in one or two instances, exceptional. This section highlights these sites.

7.4.1 CDE1 to CDE6 *Clanwilliam Dam resort area*

These six Later Stone Age sites are located in an area just to the south of the campsite and are all in close proximity to one another. Two important rock art sites are located here (CDE1 and CDE2). Most of the rock art at CDE1 is of relatively poor quality and sadly some has already suffered vandalism. However, a tiny panel depicting ten indigenous fat-tailed sheep has survived in the middle of the rock shelter wall (Plate 42). While fat-tailed sheep are not particularly uncommon, we consider the painting of a whole flock to be extremely rare. Site, CDE2, contains a large group scene containing many figures, bags and other motifs (Plates 14 & 19). Again, paintings of group scenes are not particularly uncommon, but the spectacular preservation of this painting makes it unique. Both paintings have been executed in immaculate detail and there is no doubt that they are both highly significant in terms of the local spectrum of rock art.

Also in this area are several stone artefact scatters and at least one or two patches that may contain stratified archaeological deposits. The artefact scatters here are without a doubt the richest located during the survey and are of very high research potential. Should any stratified deposits be located through trial excavations, they too would offer much to the Later Stone Age researcher.

7.4.2 The 1930's *Ou Kaapse Weg* (CDE12/14/18/26/28/31/41/43/46/50/51/52)

This road (Plate 30 & 31) is of special significance since it has far wider value than most heritage resources in the area. The loss of this road will affect access to farms, remove a drive with high scenic value and impact on tourism and tourism potential in the area. Unfortunately loss of the road is un-mitigable, short of the proponent devising an alternative route with similar visual qualities and tourism potential.

7.4.3 CDE22 *Rondegat grave yard*

This site is the Rondegat Graveyard (Plates 38 & 39). Although not specifically protected under Section 36 of the NHRA (it is protected by other legislation), it contains graves in excess of 100 years old and is certainly part of the cultural heritage of the area. The names on the headstones include Nieuwoudt, Van de Merwe, Smit, Raad, Van Wyk and Du Plessis. At least five of these names are known to us as being still associated with farms in the Cederberg and Oliphants River Valley and it is therefore clear that this graveyard was, and still is (the most recent grave is dated 1995), an important place for the local farming community. . Furthermore, some graves are marked only by sandstone head- and footstones suggesting that these are of lower status or greater antiquity.

7.4.4 CDW10 and CDW11 *Nooitgedacht*

CDW10 is a rock art site with a large number of images, mostly in an excellent state of preservation. The art depicts a number of human figures, both male and female, several bags with detailed tassles and a number of other images (Plates 43 & 44). Animals are rare. The subject matter is not uncommon but overall the two panels, split by a natural fissure in the rock wall, are among the most spectacular in the Oliphants River Valley.being created with great attention to detail. As such they certainly deserve conservation.

CDW11 contains a prehistoric kraal (Plate 45) complete with a smaller "lammetjie kraal" (Plate 46) near its entrance. Prehistoric kraals are seldom seen in the south-western Cape.

Although the kraal would not be heavily impacted by flooding, its uniqueness suggests that a very detailed recording of the structure should take place prior to inundation.

7.4.5 CDW13 and CDW15 *Holfontein*

This site consists primarily of five closely related structures (CDW13) (Plate 47). One is said by the current landowner (Mr Du Plessis) to have been a school and another, the house of the principal. Although the structures are in a poor state, it is our opinion that they hold the potential to yield far more information than is evident from their physical examination. Related to the building complex is a grave (CDW15) (Plate 48) which adds to the significance of the area.

7.5 Some discussion of secondary impacts

Although not specifically covered by this impact assessment, many other sites of great significance lie within close range of the Clanwilliam Dam. As such, some consideration must be given to secondary impacts that may result. These impacts take two primary forms: vandalism by people and enhanced degradation due to localised microclimatic differences around the dam.

7.5.1 Vandalism

Vandalism of archaeological sites, especially rock art sites, occurs primarily as a result of increased access to the sites combined with lack of active control. Vandalism of sites in accessible areas along the current FSL (for example near the Clanwilliam Dam Campsite) is common. The raised water level will improve boat access to and visibility of some sites which would otherwise have been too far from the water's edge to merit casual consideration by the public. The water's edge is always a desirable area for walking, picnicking, and other leisure activities and people invariably make their way into rock shelters when seeking places to make fires. In such sites it is common to find graffiti scribbled over rock art, rubbish littering the floor of the site and surrounding area and the remains of fires on the surface of deposits. In addition the fire smoke blackens the walls of the shelters resulting in a loss of any rock art that may be present.

7.5.2 Microclimate change

Increased levels of moisture in the air and ground can affect the preservation of archaeological deposits and rock art. While there is no way to prevent this from occurring if the dam is raised, consideration should be given to the full recording of all rock art images located within an appropriate distance of the water's edge as part of the overall mitigation. Individual assessment of other material (specifically deposits) should also take place with appropriate measures being implemented as necessary.

8 MITIGATION REQUIREMENTS

In this section we provide an overview of the kinds of mitigation that will be required for the various types of heritage identified in the study area. In Appendix 3 brief mitigation requirements are suggested for each individual site. It should be emphasised that at sites potentially containing archaeological deposits, it is difficult to assess the the kind of mitigation

required.This can often only be establsihed after the excavation of one or more test holes. Such test excavations would usually be one square meter in extent.

8.1 Rock art

All rock art close to or below the proposed FSL should be recorded in detail by people with expertise in this field. The recording should be by means of a full photographic record followed by careful tracing of the images. Three sites (CDE1, CDE2 & CDW10) will need to have their main panels removed entirely from the sites and relocated to a place of safety, preferably within the local area. This process is likely to be costly and difficult to achieve and suitably experienced people would need to be sourced (possibly internationally) to perform the operation.

8.2 Artefact scatters

Suitable mitigation of MSA and ESA scatters would usually constitute a description and photographic record of the artefacts and their location. Occasionally collection of the more significant assemblages may be required by Heritage Western Cape (HWC).

LSA scatters are usually of far greater density than ESA or MSA scatters in this area. Mitigation by sampling or excavation of representative sites will be required. Furthermore, if preliminary tests of these scatters indicate that subsurface deposits are present, then the sites should be treated as deposit sites and excavated appropriately.

8.3 Archaeological Deposits

Deposits have the potential to yield the greatest amount of archaeological information in that they can contain organic and inorganic remains that have accumulated in sequence over time. These will be lost entirely through inundation. This means that as much volume as possible will need to be excavated from deposit sites to recover an archive of information which would otherwise be lost.

- No clear deposits were located but several sites (specific sites indicated in Appendix 3) will need to be tested by trial excavation in order to check whether any subsurface deposits are present. If any substantial depos its are identified then a detailed excavation program will need to be carried out. This may vary in size with only a few square meters often sufficing in smaller sites but with greater areas required in more substantial deposits.

Although we generally did not record sites located above the proposed FSL, one site located outside of this area was recorded and deserves special mention. Andriesgrond Cave (CDW61) is probably the most important archaeological site needing consideration here. It is located in the koppie just above the proposed new N7 road alignments. In Figure 4 the actual cave is indicated by a triangle while the approximate maximum extent of the talus artefact scatter is given by the dotted circle. Care should be taken when designing the new road to ensure that no lay-bys are situated within easy walking distance of the cave. In this way, most people that do take the effort to reach the site are likely to be those with an appreciation of archaeology and that would be less likely to vandalise the rock art or deposits.

8.4 Ruined structures

Farm complexes should have all buildings and features surveyed and photographed in full. Archival research and oral histories should be conducted to establish the history of land use and ownership. Test excavations should be conducted in and around all buildings with more extensive excavations being carried out as necessary.

8.5 Cultural landscapes

Collection of range a of data ranging from oral histories of the area, observations about archaeology, dam structure, historic settlements and roads will go some way to illustrate the highly layered cultural landscape that will be affected. It is difficult to suggest a specific mitigation measure for this as overall the greatest amount of impact took place when the dam was built in the early 20th century. The proposed raising is in many ways an impact on a series of earlier landscapes that have already been affected.

8.6 Road infrastructure

The flooding of roads, especially the Clanwilliam-Citrusdal Road (built shortly post 1930) on the eastern side of the dam does represent a loss of heritage as parts of the "artefact" will be to all intents and purposes lost, although not necessarily destroyed. While we see this as a relatively low impact to material heritage, social and tourism impacts will be rather more substantive.

There is no simple method to adequately mitigate against this loss. The best that can be done is to make sure that there is a good documentary record (suggest mapping and digital video) of the route before inundation. Re-routing the those portions of the road to be inundated above the proposed FSL may alleviate the social and tourism impacts to some extent provided that any new diversions are designed within the ambit of creating a scenic drive.

The original Bain road of 1860 is clearly visible when the dam is empty, however there are portions of it that exist above the existing FSL. Raising the wall will mean that it will be very unlikely that those portions of the road below the existing FSL will ever be seen again, while only the highest sections of the road (presently above FSL) may be exposed at times of low water. This means that the Bain road will become substantially less accessible as a heritage resource.

Loss of the remains of the Bain Road will not be a serious social impact as it is mostly derelict, however it does enjoy greater historical significance than other roads in the area. Again, its loss if difficult to mitigate – the best that can be done is mapping and photographic record.

8.7 Industrial infrastructure

The fragments of industrial infrastructure relating to the construction of the dam are of relatively low significance due to its lack of completeness and poor heritage qualities. Mitigation is not suggested other than possibly a video record of the remains.

The most significant structure is the dam wall itself which will be substantially re-engineered to the point that its present form will no longer be recognisable. In mitigation it is suggested that a documentary archive of material relating to the present dam wall be collected, the

present operation aspects of the dam be video/photographed. It is also strongly recommended that a small visitor's centre be established that interprets the history of the dam and Olifants River Irrigation Scheme, acknowledges the engineer involved in its original construction as well as the ecology of the Olifants River system.

8.8 Quarries

The quarries, which are considered to be heritage sites of low significance, will not require any mitigation measures. Those that are associated with the Bain or Clanwilliam-Citrusdal Rd can be included within the video archive.

8.9 Graves

All the graves noted within the study area are historic or contemporary. Apart from a single grave situated close to the historic school settlement, all are located in a single cemetery at Rondegat. The graves will need to be exhumed and re-interred in either a new cemetery that is acceptable to interested and affected parties, or relocated to the municipal cemetery at Clanwilliam.

Two legislative processes are involved here. The graves that are in a regulated cemetery under local authority control require permission from the local authority and I&AP's in terms of the Exhumations Ordinance of 1980. It is assumed (although this would need to be confirmed) that the Rondegat grave yard is under municipal control.

Graves that are greater than 60 years of age (Holfontein) outside a formal graveyard fall outside of the control of a local authority and are handled by SAHRA in terms of the NHRA. SAHRA will require that all reasonable attempts are made to contact descendent communities to inform any decisions that need to be made.

8.10 Other structures

Other structures, given their low significance, need to be recorded photographically and where appropriate (e.g. *lei water*, some surveying will need to be done.

8.11 Re-alignment of N7

While no heritage sites were identified with the proposed alignment, reference is made to Andriesgrond Cave (CDW61) – an important archaeological site that could suffer secondary impacts.. It is located in the koppie just above the proposed new N7 road alignments. In Figure 4 the actual cave is indicated by a triangle while the approximate maximum extent of the talus artefact scatter is given by the dotted circle. Care should be taken when designing the new road to ensure that no lay-bys are situated within easy walking distance of the cave. In this way, most people that do take the effort to reach the site are likely to be those with an appreciation of archaeology and that would be less likely to vandalise the rock art or deposits.

9 RECOMMENDATIONS

9.1 Raising of the dam wall

Most of the heritage resources and archaeological sites found during our survey can be mitigated however certain issues requiring less straightforward measures highlighting.

- Three rock art sites will be difficult to mitigate successfully as their removal from their natural surroundings is recommended. This will involve physically removing the painted panels of rock by judicious and expert use of explosives or diamond saw cutting. It is likely that expertise from outside of the country will be needed to assist with this.

- Some of the historical sites will need substantial and detailed historical research incorporating oral histories and archival work. To this end, records of the Superintendent General of Education and the various missions that have worked in the area might be helpful. Specialist historians should be employed to work on the study.

- The graves will need a full public participation process prior to any disturbance and a suitable location would need to be established for their re-interment.

If it can be demonstrated that:

- *suitable expertise can be sourced for the removal, relocation, display and interpretation of the three important rock art panels,*
- *the required level of historical and archaeological research can be fulfilled, and*
- *a suitable solution to the grave exhumation and relocation can be found,*

Then we recommend that, subject to approval from HWC and SAHRA, the raising of the dam be allowed to proceed.

9.2 Future Land use

Before any changes in land use are proposed on land that may be purchased by DWAF or the state, further studies of those properties should be conducted to ensure that the land and features thereon will be reused in an appropriate and sensitive manner with respect to any heritage sites on those properties. For example, there are numerous rock art sites, Stone Age deposits and historical structures located on many of the farms surrounding the dam, and while not affected by the raised inundation levels, they could be implicated if land use around the dam changes in the future.

9.3 Design indicators for new road alignments

While this matter will be addressed in future phases of work, we alert the proponent that design indicators will need to be developed to safeguard the aesthetic qualities of the landscape in the face of development of new road alignments and engineering projects. A separate study by specialist landscape architects will be required if the construction of the dam is to be permitted.

9.4 Upliftment for Clanwilliam and future international partnerships

The Clanwilliam Living Landscape (CLL) project is an existing community run heritage project that was initiated by Prof John Parkington of UCT some 5 years ago. The organisation is committed to education, heritage tourism and conservation of local heritage, in particular the rock painting sites of the Cederberg Mountains. The organisation has established a heritage

tourism route, has acquired land and owns a house, shop and a school in Clanwilliam which hosts casual visitors, school groups, research teams. Importantly for this project is the fact that the Living Landscape Project creates opportunities for joint ventures in that the benefits of the mitigatory studies that will need to be done (if the dam is to be raised) can be immediately interfaced into a well established and internationally recognised local initiative. Future initiatives of the CLL involve establishing a local museum/learning centre which could serve as a repository for rock paintings, artefacts and information relating to the history of the Valley.

Through its international contacts, the Clanwilliam Living Landscape project is in a position to help source the best expertise for handling the greatest heritage mitigation challenge – namely the removal and relocation of rock paintings. Prof Jean-Philippe Rigaud of the Institute of Prehistory and Quaternary Geology at the University of Bordeaux (a renowned expert) is regular visitor to RSA and has expressed a willingness to offer his knowledge (and material assistance) to this project should the development take place. It is strongly suggested that a meeting be set up between DWAF, Ninham Shand, Prof Rigaud, Prof Parkington to discuss the viability of the mitigation requirements of this report on the occasion of Prof Rigaud's next visit to RSA (November 2005).

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PWD 1/141 'Plan of Road constructed between Rondegat and Clanwilliam' filed after letter to Robinson from Spindler dated 13/01/1868.

WSO 7 1.13/15/3 c1930-1932

M4/79 c1860, Map of Greys Pass and Clanwilliam Road

M3/4711 1943, Military map

M3/2826 c1900, Casgrain

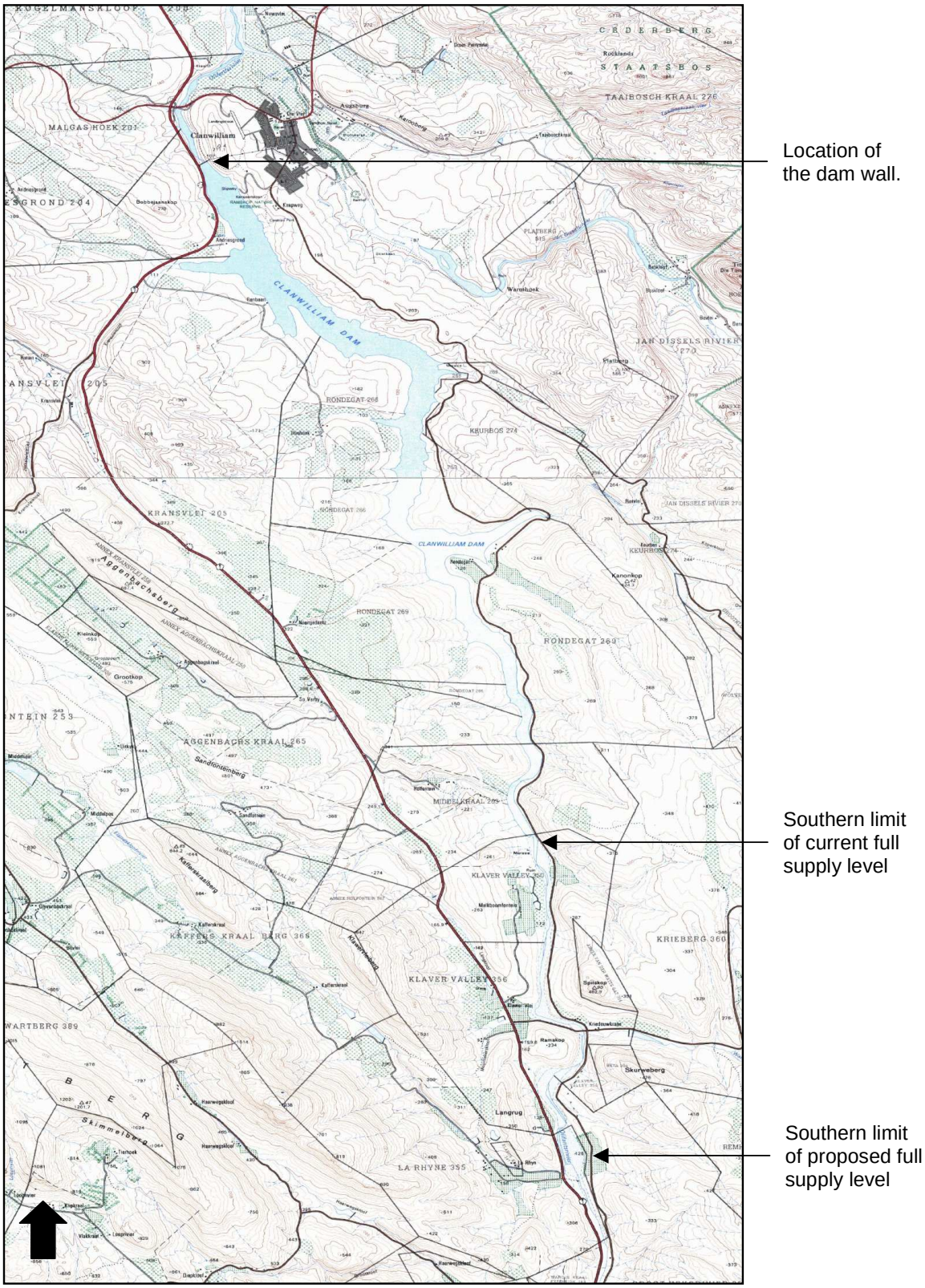
11 ACKNOWLEDGEMENTS

Anthony Manhire, John Parkington and Lance van Sittert, Laura Mitchel provided information included in this report.

12 INVESTIGATION TEAM

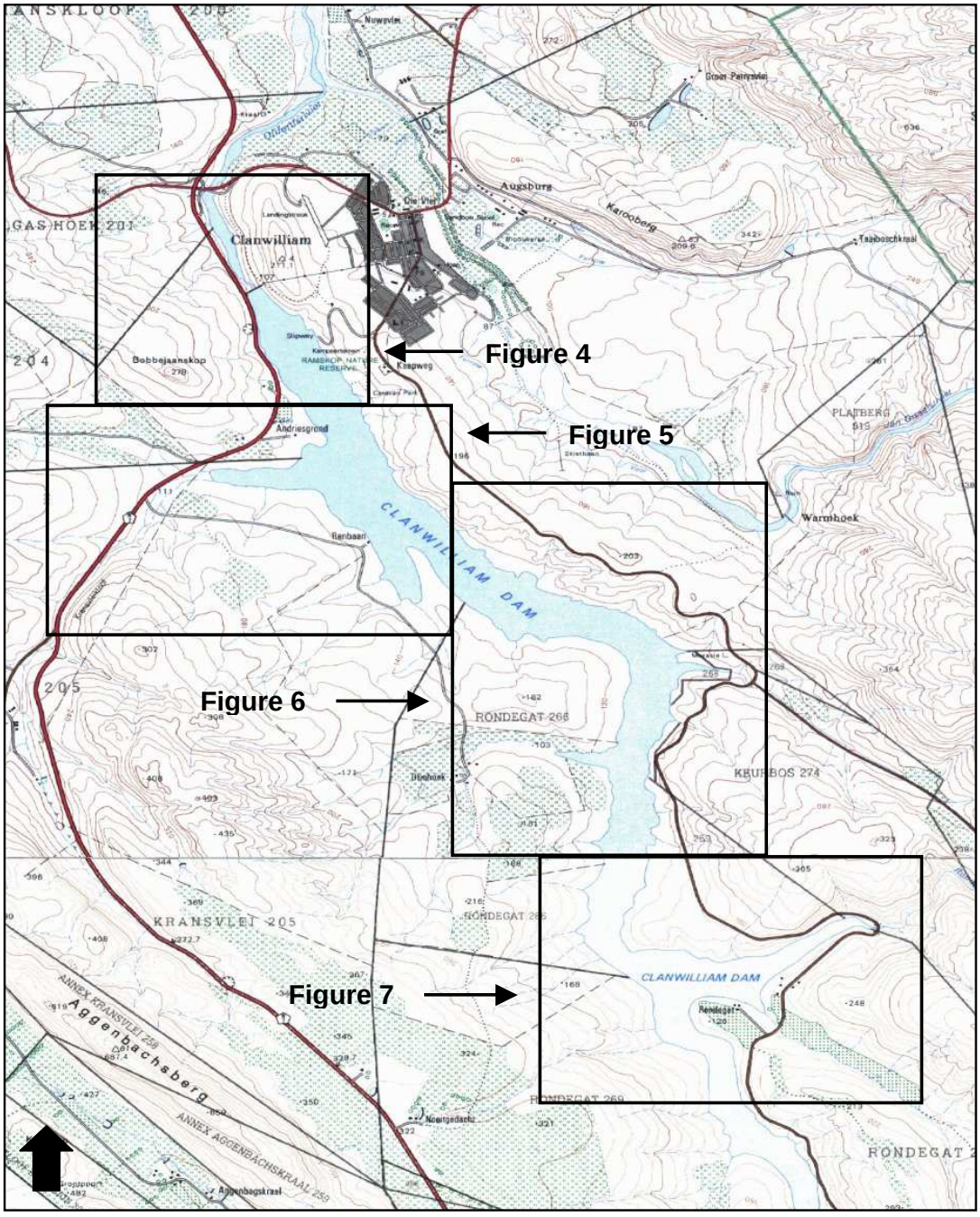
Fieldwork:	T. Hart J. Orton A. Manhire P. Hine S. Davis
Report:	J. Orton T. Hart
Archival research:	H. Clift

13 APPENDIX 1 – Figures



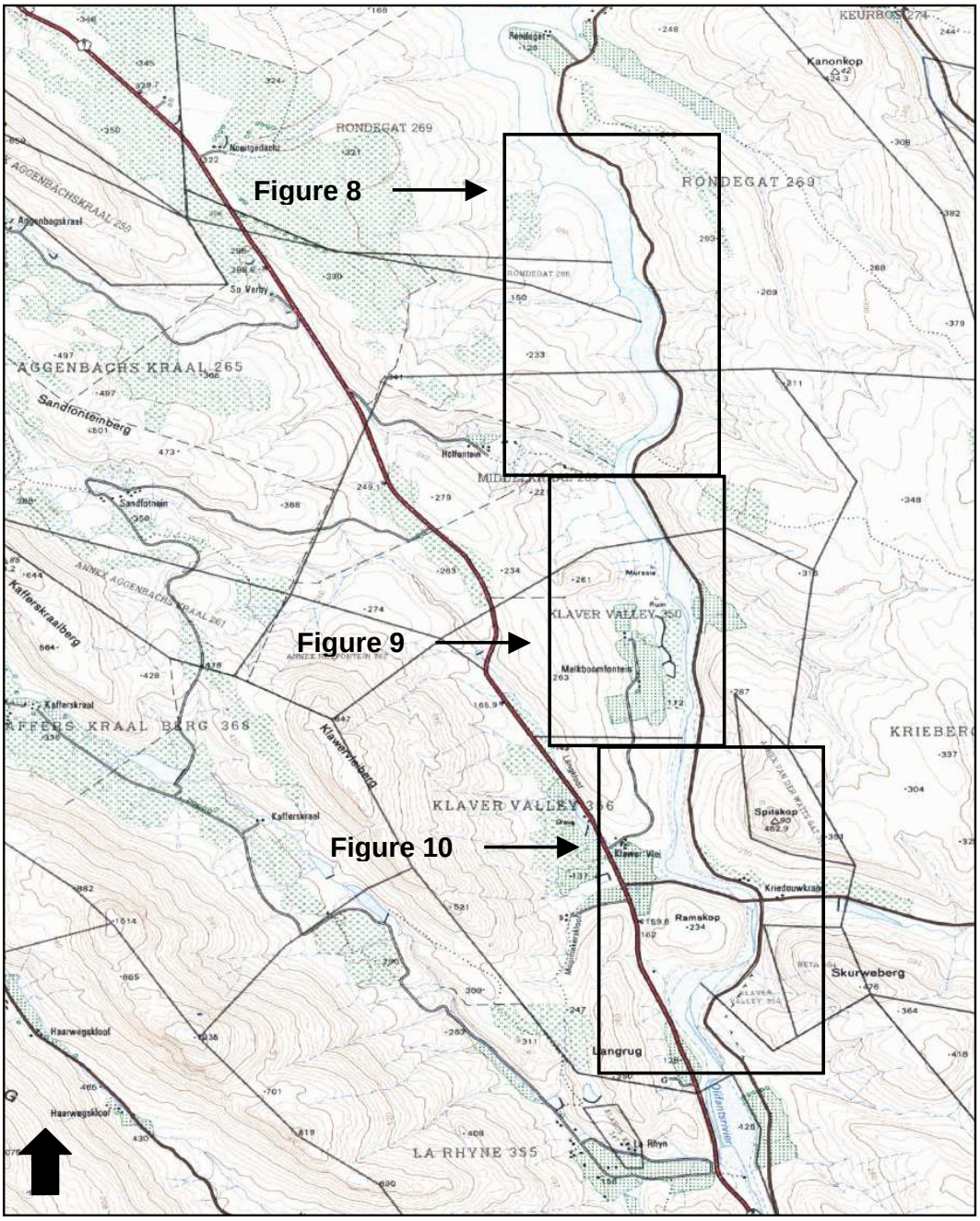
Composite of 3218BB Clanwilliam & 3218BD Oliewenboskraal (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 1: Location of the Clanwilliam Dam and the survey area.



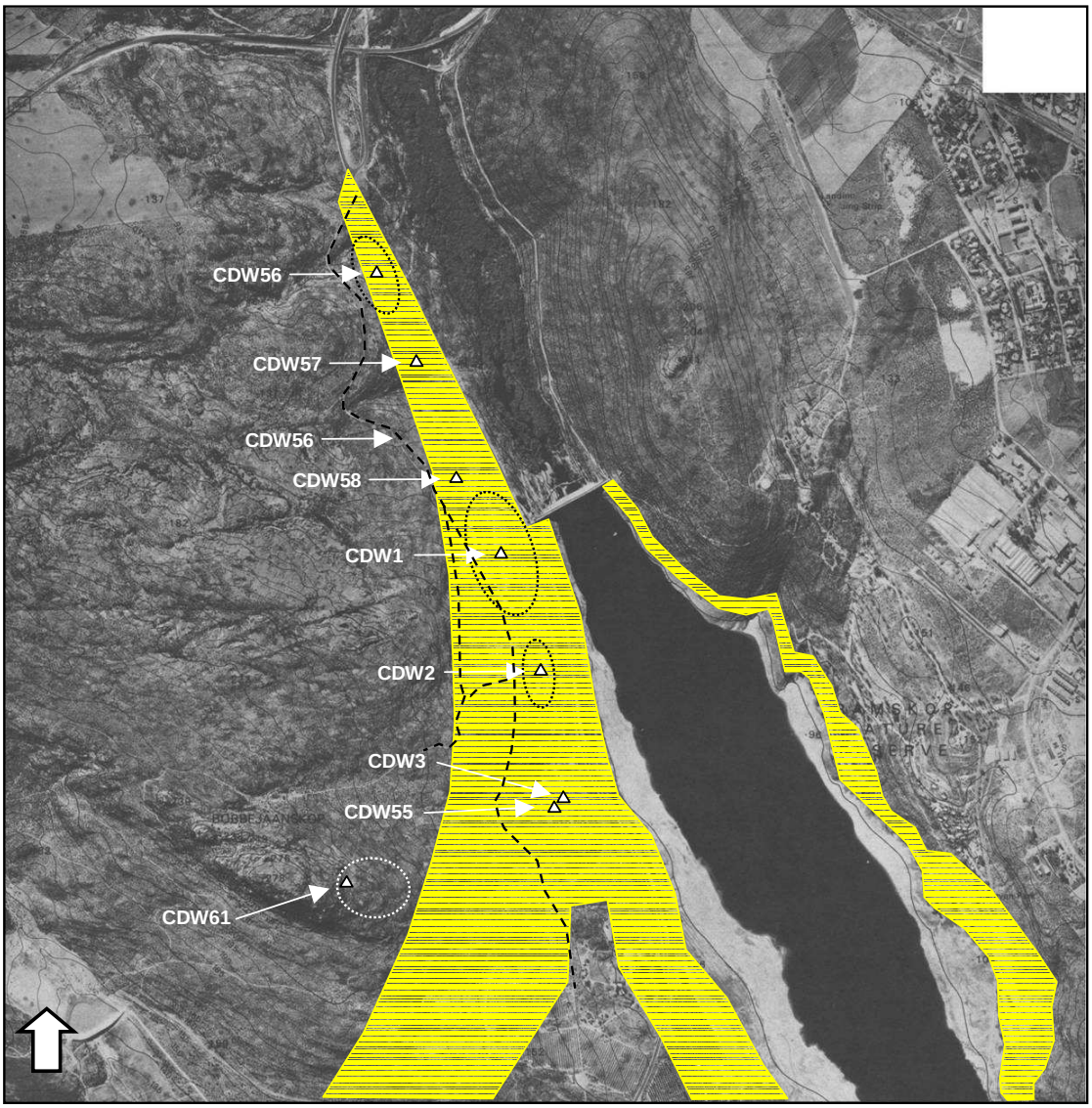
3218BB Clanwilliam & 3218BD Oliewenboskraal (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 2: Northern portion of the Clanwilliam Dam showing the location of the aerial photographs contained in Figures 4 to 7.



3218BD Oliewenboskraal (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 3: Southern part of the Clanwilliam Dam showing the location of the orthophotographs contained in Figures 8 to 10.

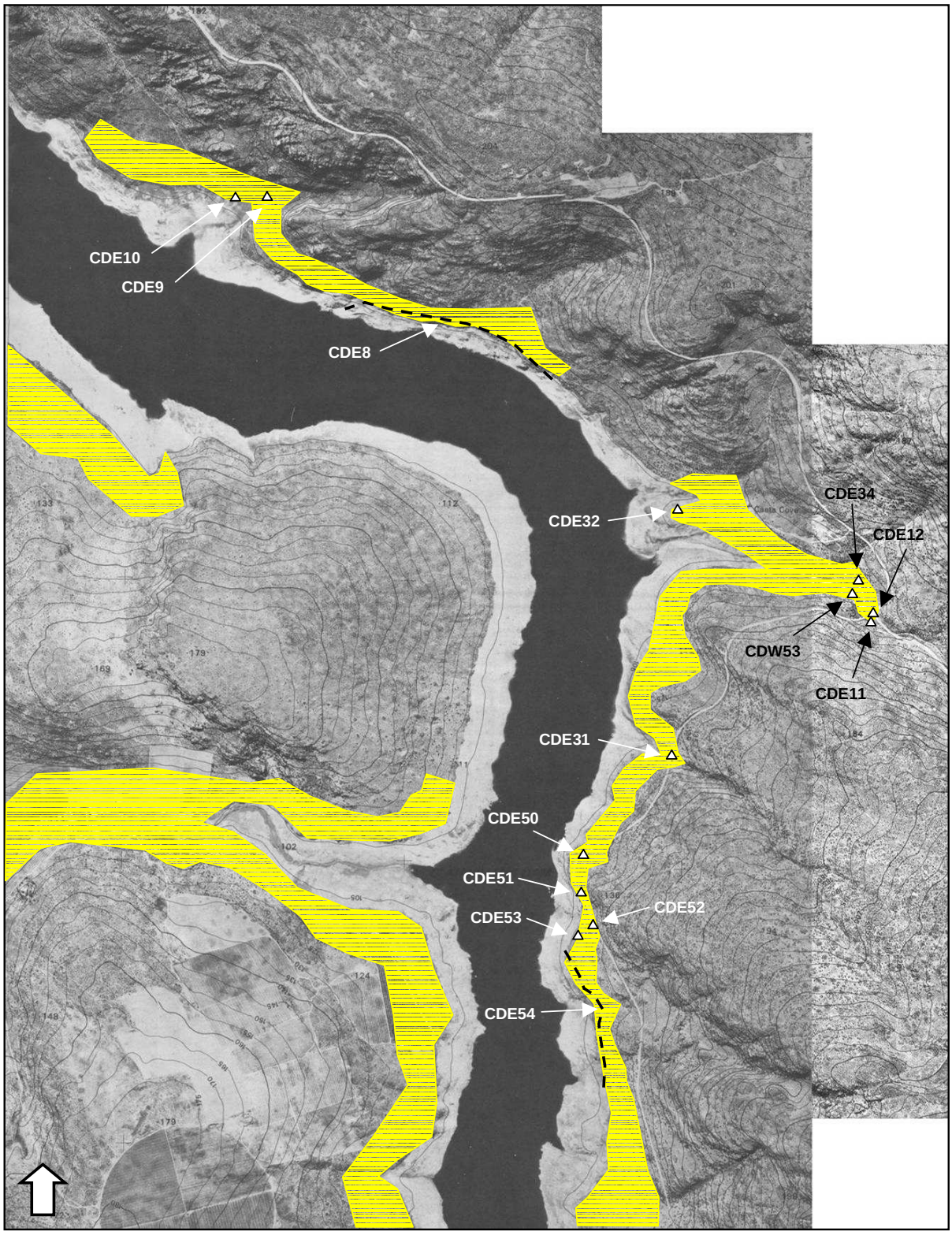


3218BB 18 Clanwilliam (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 4: Orthophotograph showing the locations of sites recorded and areas covered (shaded yellow) during the survey.

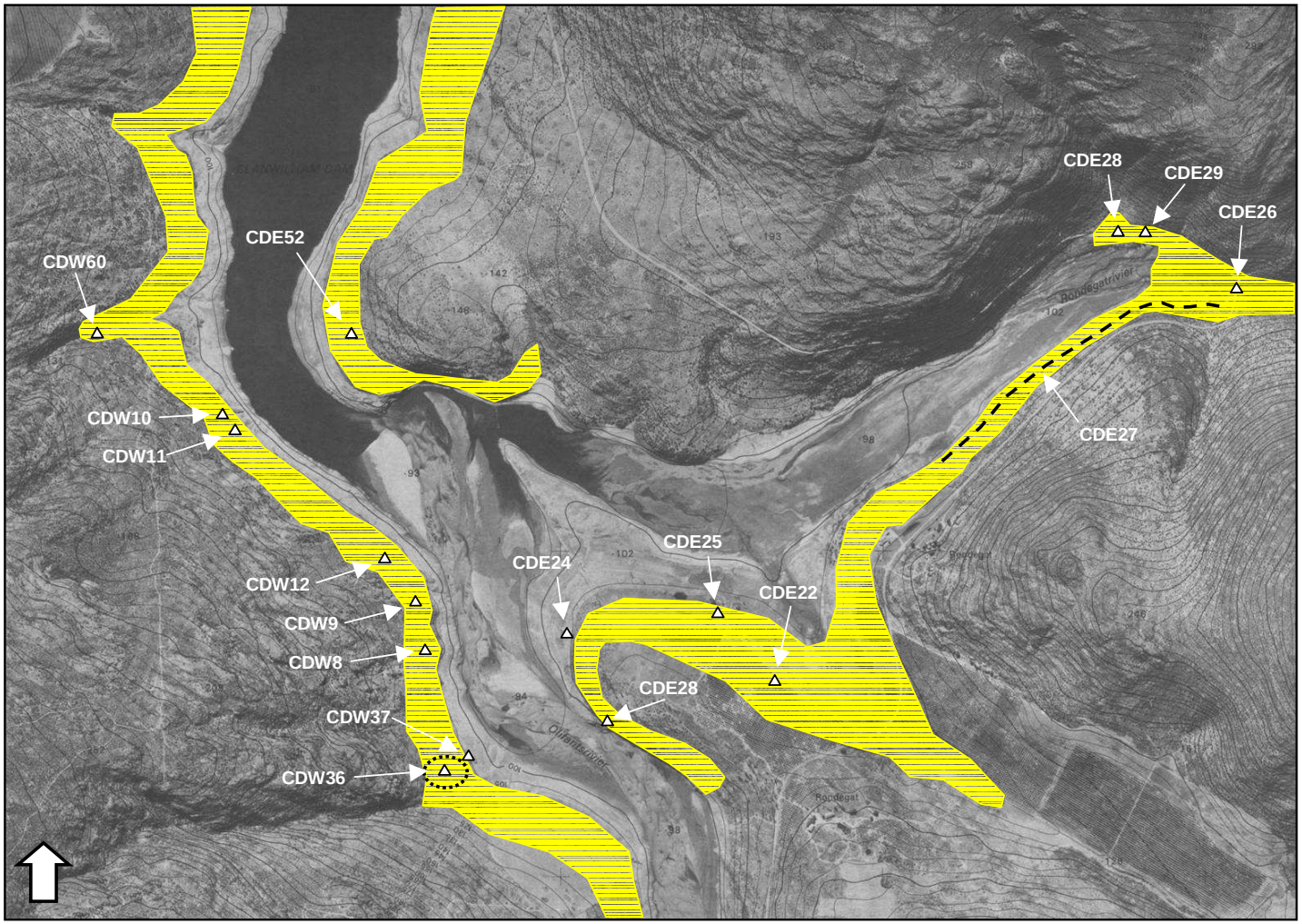
3218BB 23 Kransvleikloof (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 5: Orthophotograph showing the locations of sites recorded and areas covered (shaded yellow) during the survey.



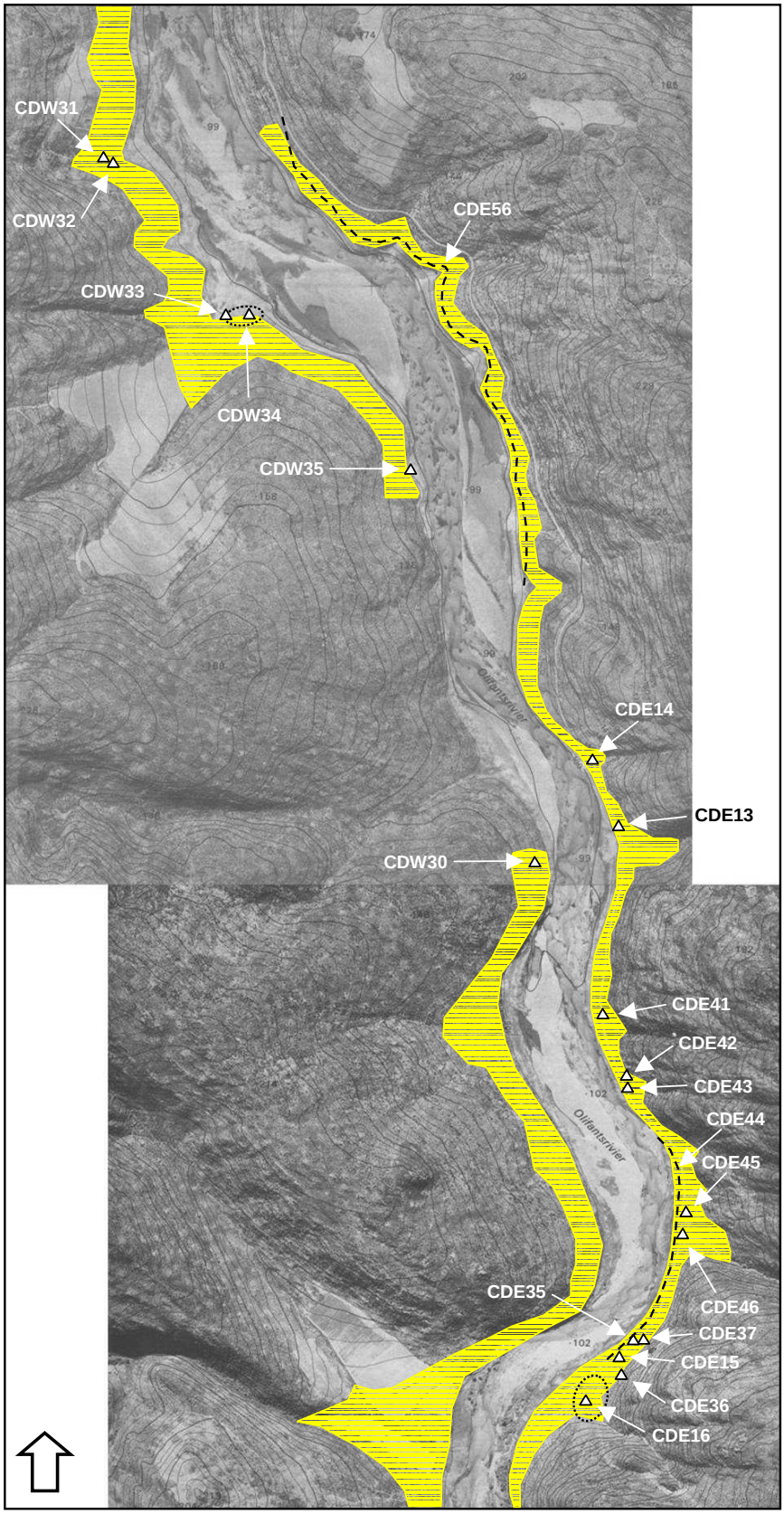
3218BB 24 Clanwilliamdam (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 6: Orthophotograph showing the locations of sites recorded and areas covered (shaded yellow) during the survey. Note: the western end of the valley just below centre has been searched and nothing found.



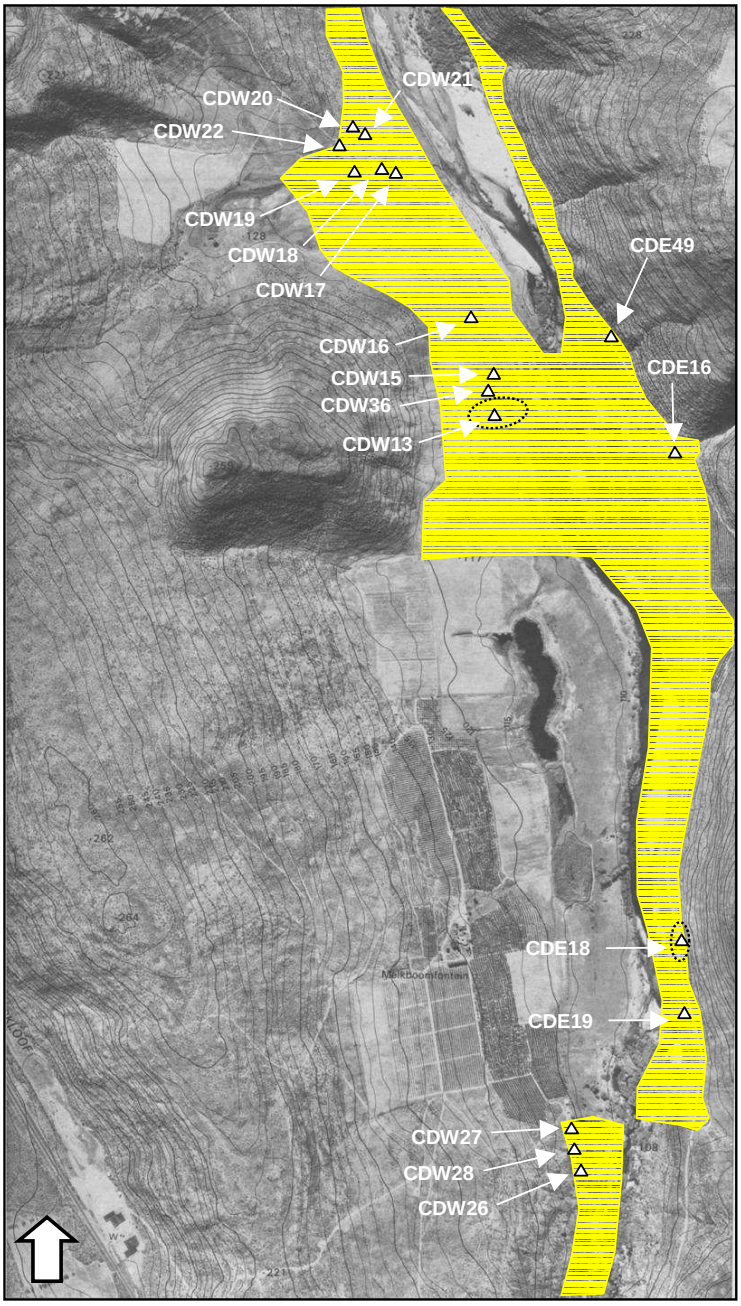
3218BD 4 Rondegat (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 7: Orthophotograph showing the locations of sites recorded and areas covered (shaded yellow) during the survey.



3218BD 4 Rondegat & BD 9 Holfontein (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 8: Orthophotograph showing the locations of sites recorded and areas covered.



3218BD 9 Holfontein & BD 14 Ramskop (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 9: Orthophotograph showing the locations of sites recorded and areas covered (shaded yellow) during the survey.

3218BD 14 Ramskop BD 15 Kriedouw (Mapping information supplied by - Chief Directorate: Surveys and Mapping. Website: w3sli.wcape.gov.za)

Figure 10: Orthophotograph showing the locations of sites recorded and areas covered (shaded yellow) during the survey.

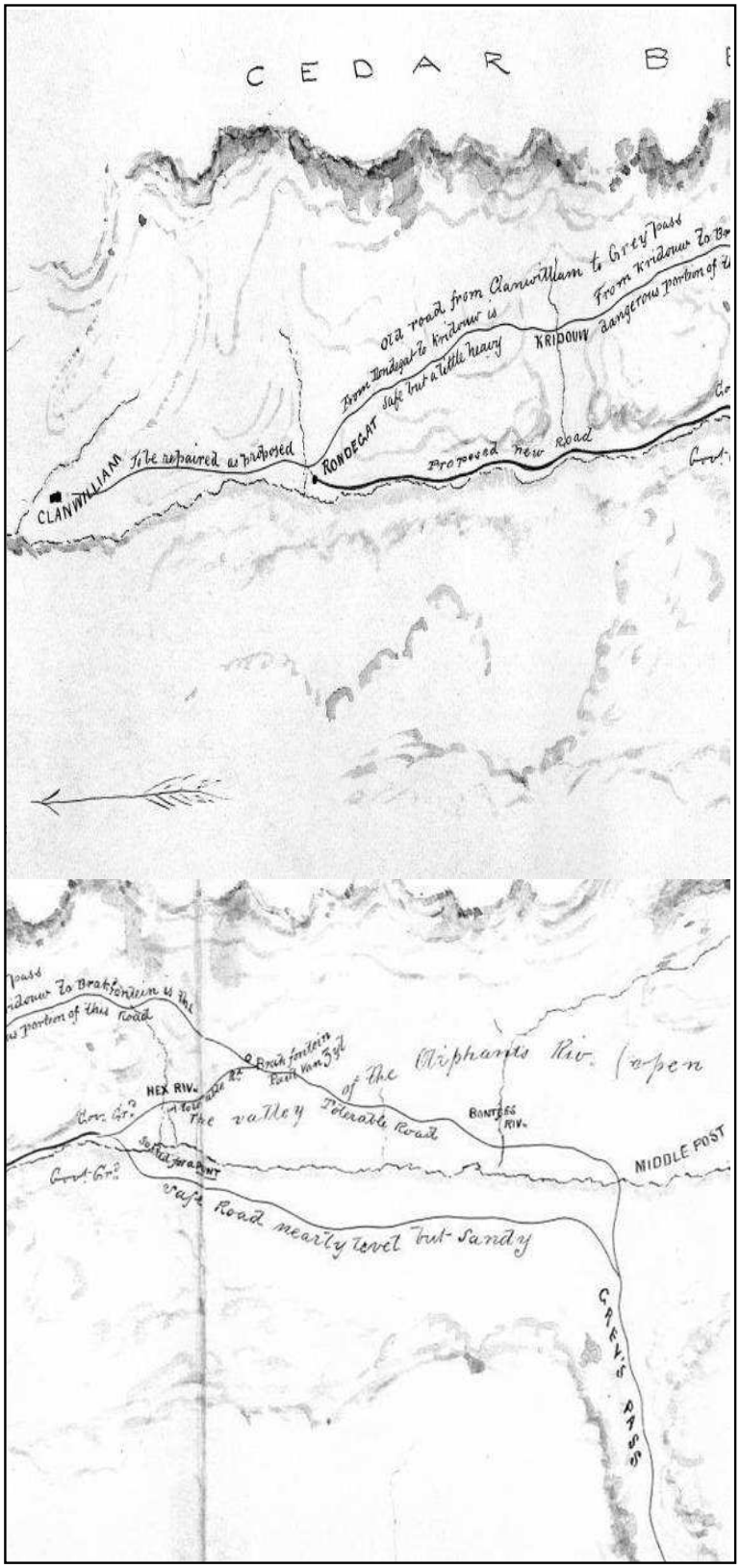


Figure 11: A map dating to 1860 showing the road alignment proposed by Thomas Bain as well as the original route (M4/79).

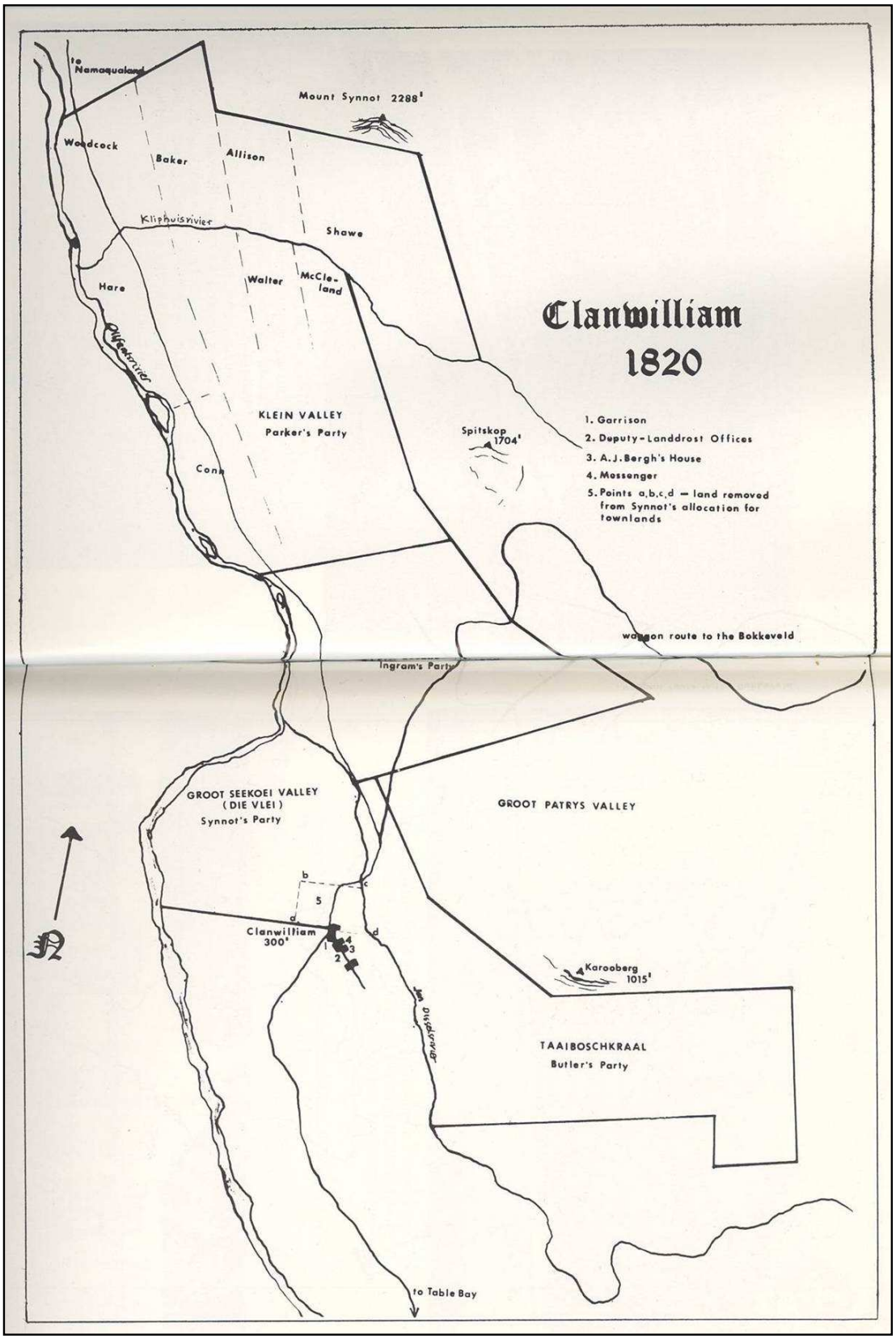


Figure 12: A map of the Clanwilliam area showing the allocations of land to the Irish settlers and the beginnings of the town of Clanwilliam (Dickason 1973: between pp. 20 & 21).

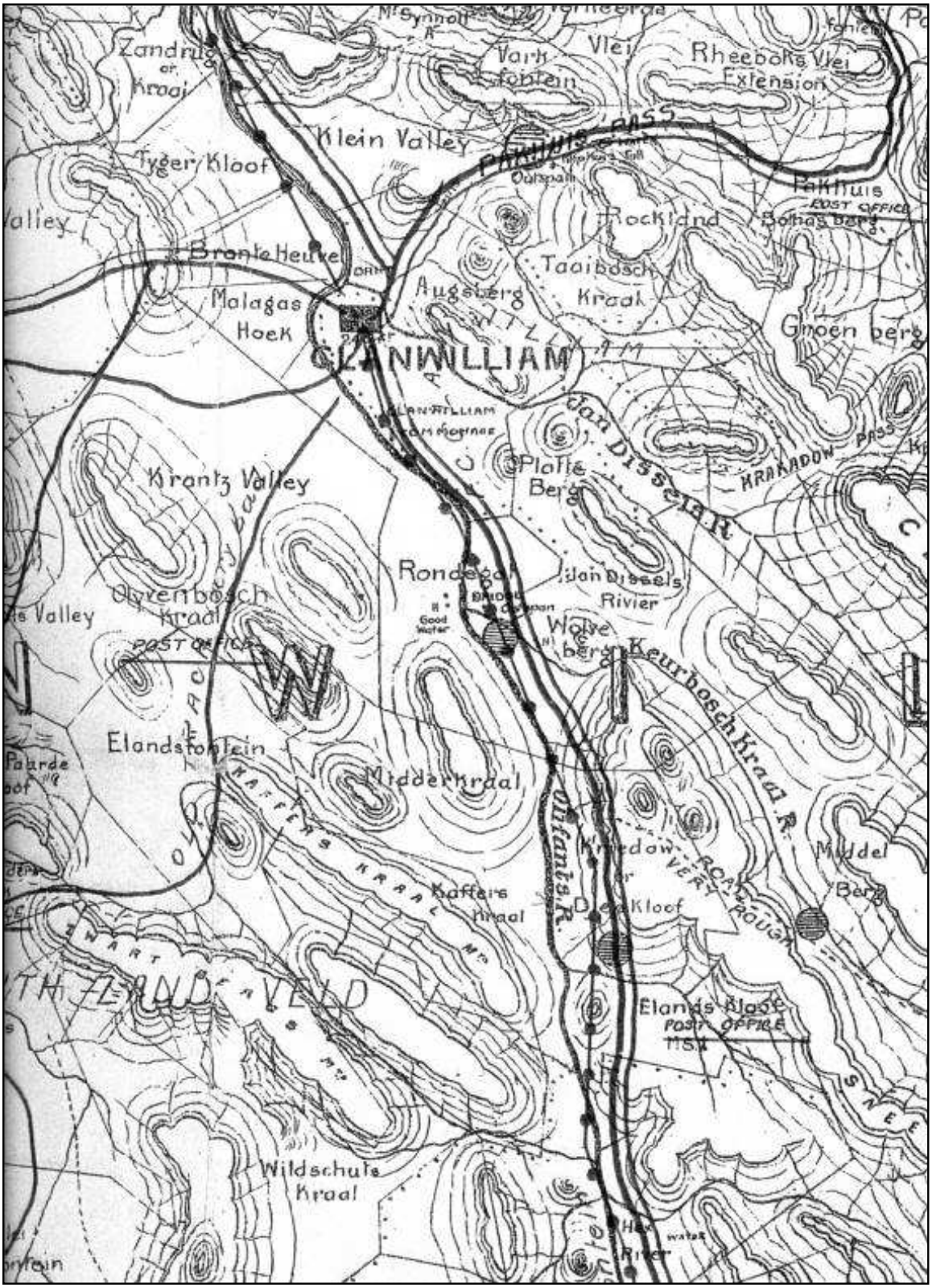


Figure 13: M3/2826 1900 (Casgrain). The road on the east bank of the Olifants River is indicated on this map with a double line, designating a Main Road.

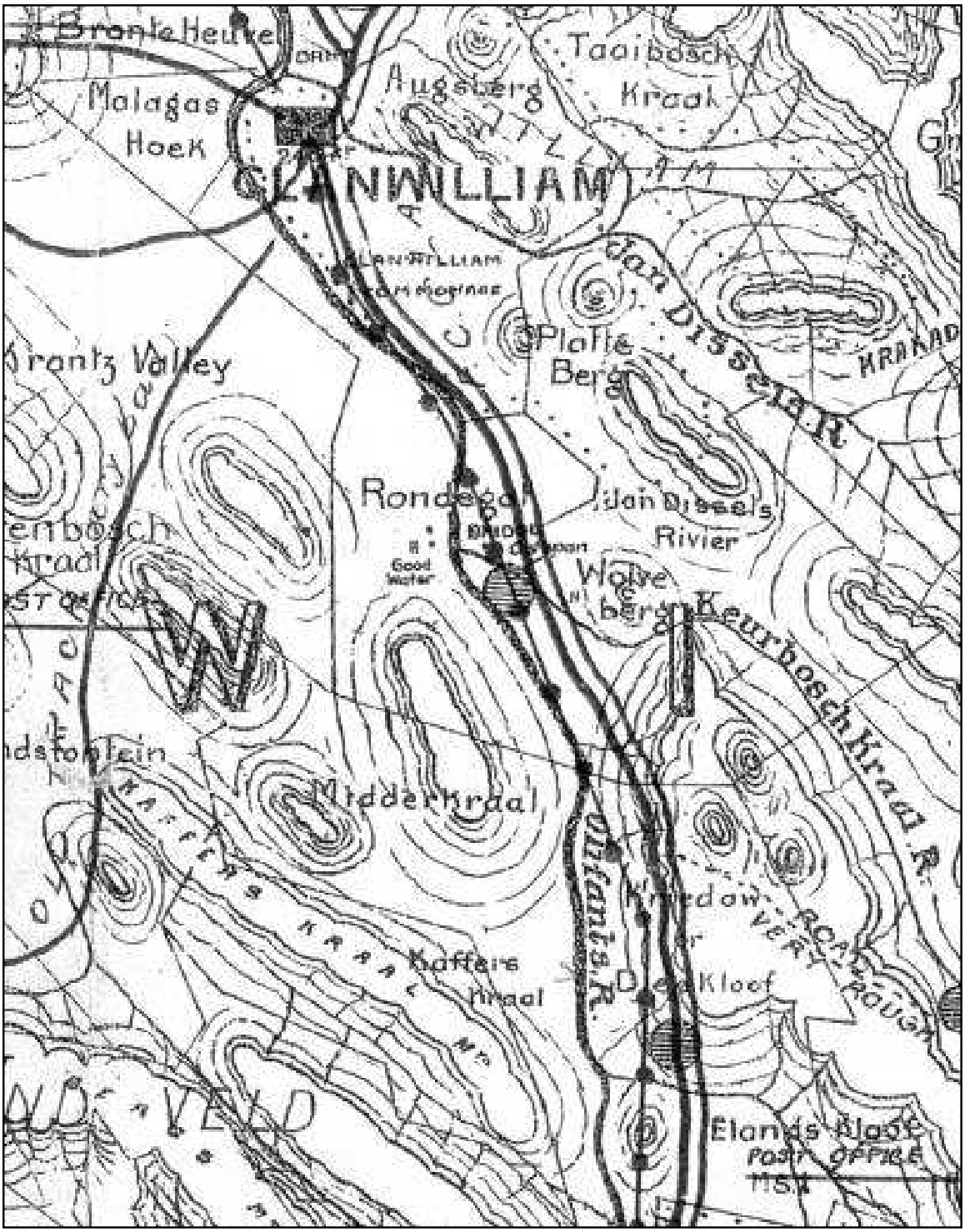


Figure 14: Detail of the central part of Figure 17.

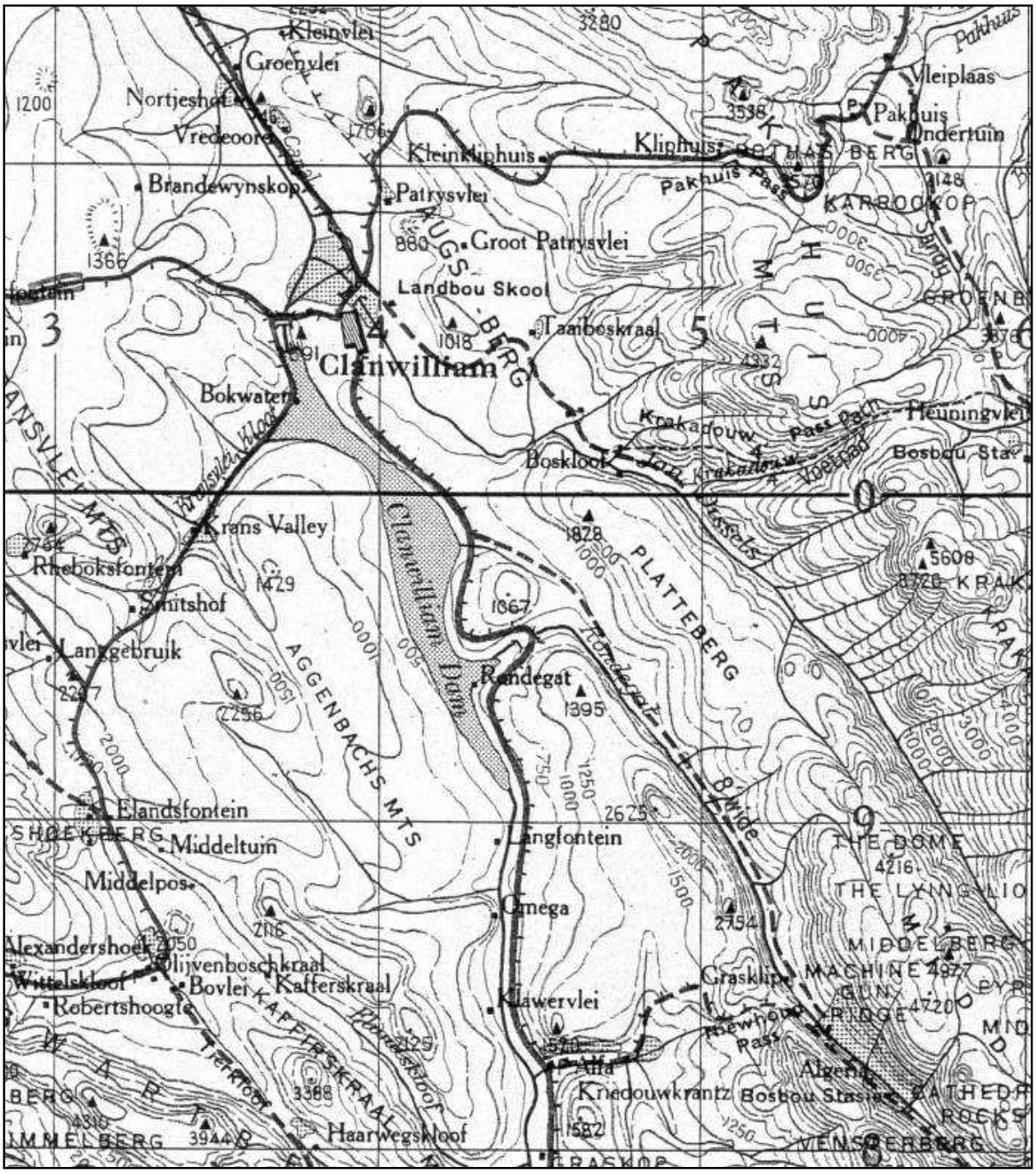


Figure 15: A map of the Clanwilliam Dam and surrounding areas made for the military in 1943. It is the earliest map showing the Clanwilliam dam. The main road from Citrusdal to Clanwilliam still runs along the east bank of the Olifants River (M3/4711, 1943).

14 APPENDIX 2 – Plates

Plate 1: View over part of The Clanwilliam Dam showing the inundated Oliphants River Valley.

Plate 2: View towards the south showing rocky outcrops along the western edge of the Clanwilliam Dam.

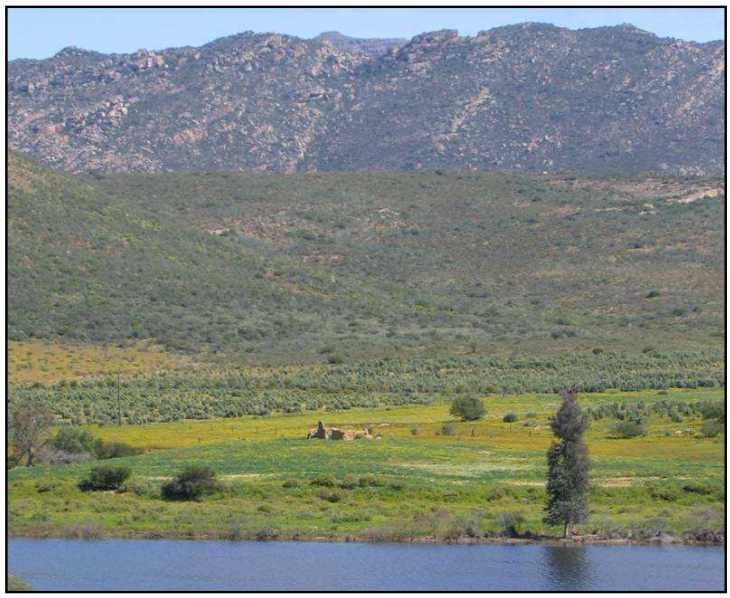


Plate 3: View over part of the Holfontein Farm showing a section of cultivated floodplain on the western bank of the Oliphants River.

Plate 4: An example of bank erosion alongside the current full supply level near CDE5. Large artefacts on or in the sand may still be recovered from the gravel but small artefacts will be lost.

Plate 5: Photograph showing the vegetation of the area. There are both thickly and sparsely vegetated patches. In many areas the bush is considerably thinner. Note the large wild fig tree growing at the base of the cliff band.

Plate 6: View of the Andriesgrond (Bokwater) Farm on the western edge of the Clanwilliam Dam. On this farm some orchards are located very near the current water level.

Plate 7: CDW34. A fossil termiterium with ESA artefacts naturally cemented into it. This site is below the current full supply level.

Plate 8: CDW34. ESA and MSA artefacts found eroding out of the fossil termiterium (scale in cm).

Plate 9: CDE07. An example of a stone artefact scatter that may be MSA or LSA (scale in cm). These artefacts and the underlying sands are below the current full supply level and are being actively eroded by the dam water.

Plate 10: CDE5. The terrace area in front of the rock shelter has a dense artefact scatter on its surface. This terrace would quite likely have been the main activity area during occupation of the site.

Plate 11: CDE4. An example of a talus artefact scatter. Although the boulders in the background would have been the focus of occupation, some deposits may have built up in the open areas in front of them.

Plate 12: CDE5. A close up of the artefact scatter on the terrace pictured in Plate 9. The scatter on this terrace is particularly dense (scale in cm).

Plate 13: CDE4. An example of the stone artefacts present in an artefact scatter on a terrace. The two artefacts immediately left of the scale are adzes made in silcrete while the remainder are flakes, chunks and chips of quartz, silcrete, cryptocrystalline silica and quartzite (scale in cm).

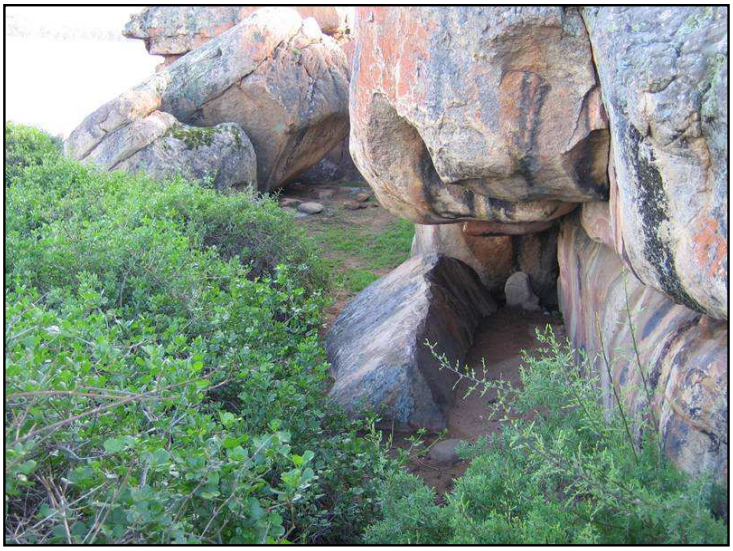


Plate 14: CDE2. The boulder in the foreground of Plate 8 is the obvious one in the centre of this photograph. There may be archaeological deposit to the right of the boulder (below the rock art) and also in the gulley in the background. An extensive artefact scatter occurs down slope to the left but testing is needed to check for deposit.

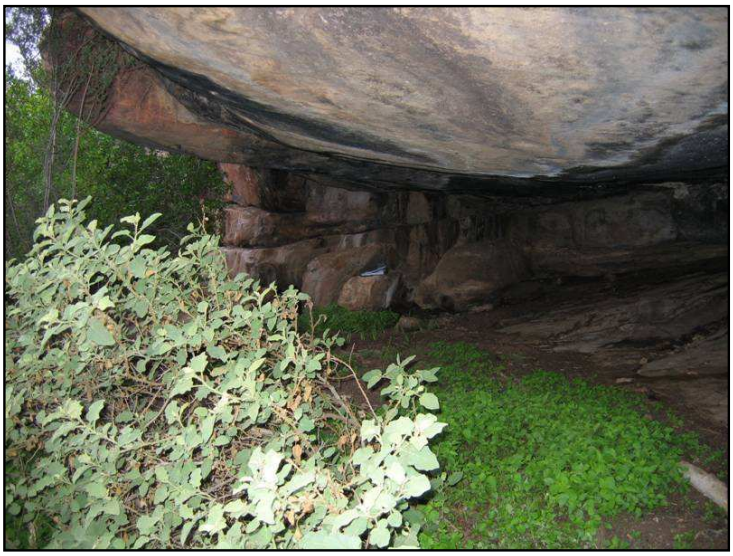


Plate 15: CDW12. The interior of this cave and the area immediately in front of it may well contain archaeological deposits but the vegetation cover prevents an accurate assessment. Again many artefacts occur on the ground surface.

Plate 16: CDW24. An example of very poorly preserved rock art. It is not possible to determine what was painted here but it is likely that it was only one or two images.

Plate 17: CDE15. An example of poorly preserved but more complicated rock painting. At least two eland, three elephants, one human and one other indeterminate image are painted on this panel. Some of the images are in black pigment, but as is typical of this colour, it has preserved less well than the red. The eland would have had white on them but this colour is gone completely (scale in cm).

Plate 18: CDE15. The paintings shown in Plate 5 are located on the front of the big boulder nearest the river. Due to its location, this panel is exposed to wind, rain and sun and this has led to natural deterioration of the painted images.

Plate 19: CDE2. An example of an almost perfectly preserved rock painting. This group scene consists of numerous human figures as well as various other objects including bags. An eland torso can also be seen in the upper left hand corner. Various shades of red and orange are still visible but all traces of white have disappeared. The rock shelter containing this painting is shown in Plate 8.

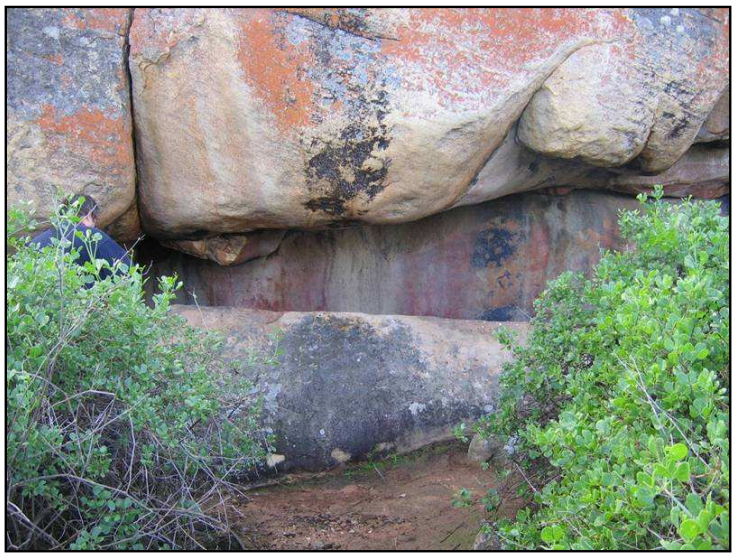


Plate 20: CDE2. The protected location of this unique painting beneath a rock overhang and behind a boulder has resulted in its near perfect preservation. The panel depicted above is located on the left hand side of the recessed surface. More paintings are present on the central and right hand portions of the wall.

Plate 21: CDE13. An example of a rock painting with just a single image, that of a human figure. The site is exposed resulting in poor preservation of the art.

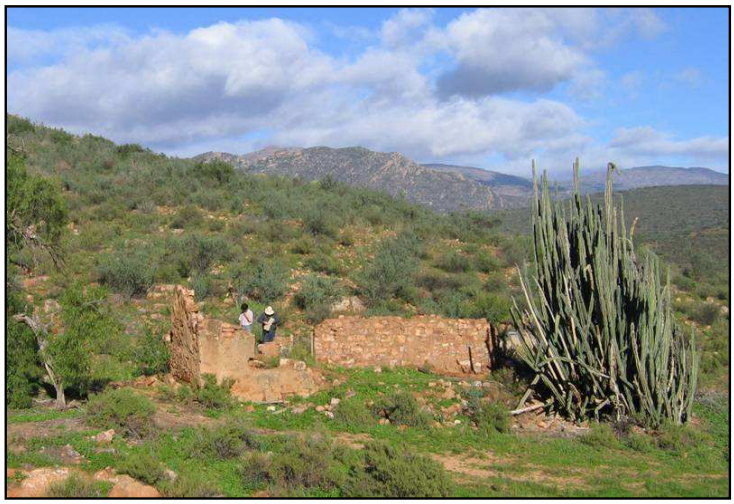


Plate 22: CDE16. An example of a presumed late 19th century dwelling that is now in ruin. Several other features related to this little farmstead are to be found in the immediate area.

Plate 23: CDW27. An example of an historic structure that is still currently in use as a residence. This cottage probably dates to about the 1930's or 1940's.

Plate 24: CDE16. An example of a presumed late 19th century dwelling that is now abandoned. Several other features related to this little workers house are to be found in the immediate area.

Plate 25: CDW44. An example of a modern house that is already in ruin. This house has an inscribed date of 1944 on a drain indicating that it is older than 60 years and hence is protected.

Plate 26: CDE08. This section of dry stone retaining wall on the 1860 road is located immediately alongside the current full supply level. It supports the road from beneath.

Plate 27: CDE08. This small retaining wall is located on the upslope side of the 1860 road and serves to hold up a small sandy embankment above the road.

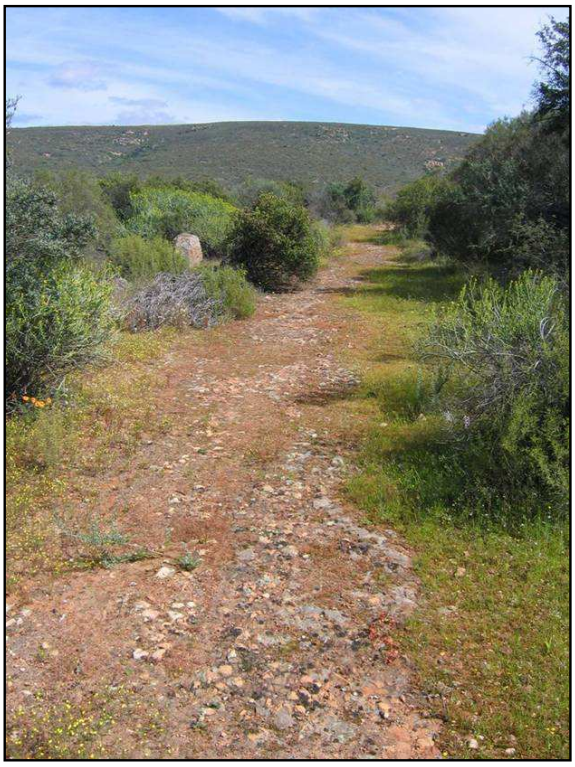


Plate 28: CDE56. A section of the 1860 road with the surface remaining intact. It appears to be of compacted gravel and fossil termiterium.

Plate 29: CDE08. This section of the 1860 road is still utilised by vehicles for access to the dam shoreline and surrounding areas.

Plate 30: CDE14. At this point a large retaining wall had to be built to support the 1930's road as it traversed a steep section of the valley.

Plate 31: CDE31. Another section of the 1930 road built up with a retaining wall. This section crosses a small river valley and had to have a concrete culvert inserted at its base. Such culverts were very commonly employed along the length of the road.

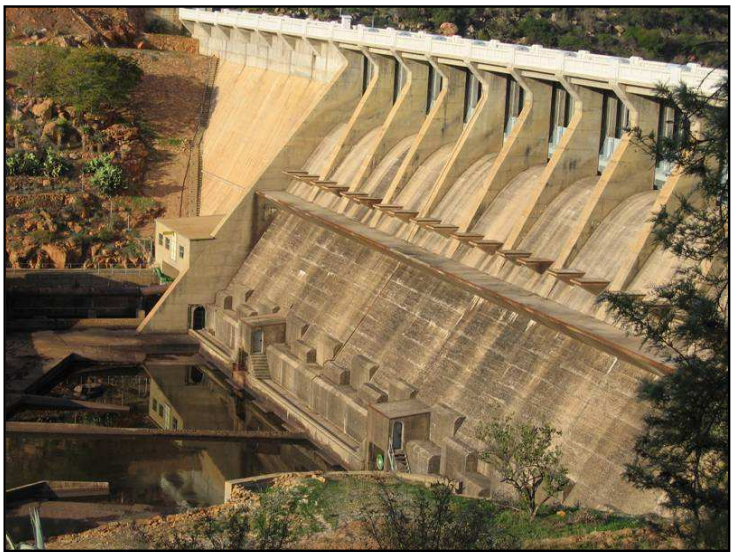


Plate 32: CDW62. The Clanwilliam Dam wall. The bulk of the wall was built in the 1930's but the upper portion with the sluice gates was added in 1966.

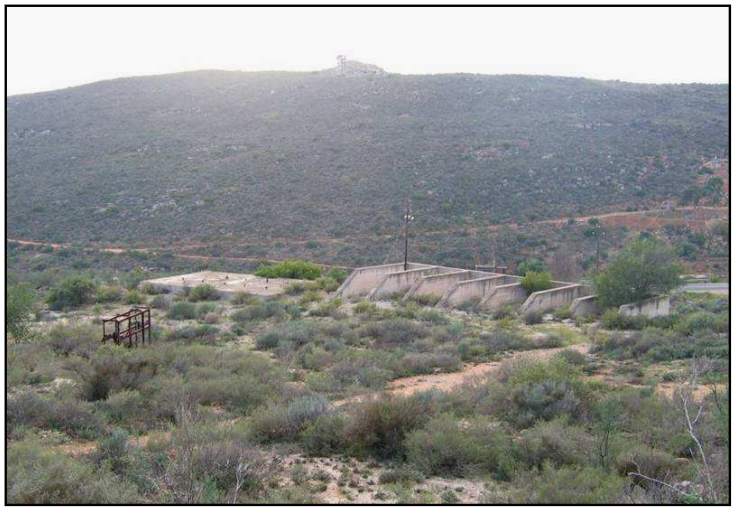


Plate 33: CDW01. This site comprises the construction area of the Clanwilliam Dam. It contains various structures and machine bases and is located immediately to the west of the dam wall. A date of 19.1.33 is inscribed on one of the structures.

Plate 34: CDW56. This area contains several concrete foundations and retaining walls and is thought to be part of the labour compound from the building of the Clanwilliam Dam.

Plate 35: CDW33. An example of a cultural landscape that has been all but obliterated by the original flooding of the Clanwilliam Dam. This picture shows the remains of ahouse, while a threshing floor is located in the valley behind. The nearby fields, in the same valley, were probably cultivated by the inhabitants of this house.

Plate 36: CDE21. This cultural landscape is located just to the east of the low water bridge leading to Algeria. It is still fully functional and has not been impacted on by the current dam as many other farming landscapes have.

Plate 37: CDE47. An example of a small quarry occurring alongside the 19th century road. Numerous such quarries are present near to both this and the 20th century road that is still currently in use today.

Plate 38: CDE22. The Rondegat graveyard contains approximately 20 graves, probably representing some 30 individuals.

Plate 39: CDE21. Both the formal engraved headstones and the less formal sandstone head- and footstones can be seen in the Rondegat burial ground.

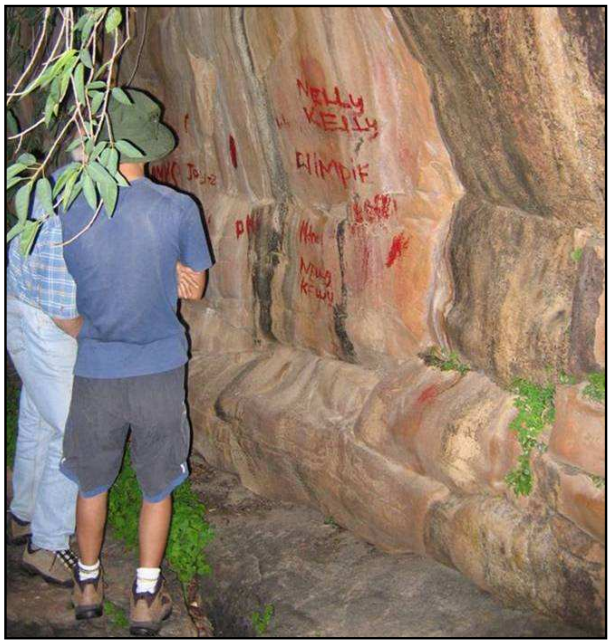


Plate 40: CDE20. An example of a site that has been deliberately vandalised. This degree of vandalism is rare; charcoal, koki pen and white correction fluid are far more commonly used for graffiti. This graffiti was added after July 2004.

Plate 41: CDE23. Another deliberately vandalised site. Charcoal is relatively easy to remove, but nonetheless the removal process will also have an impact on the painting.

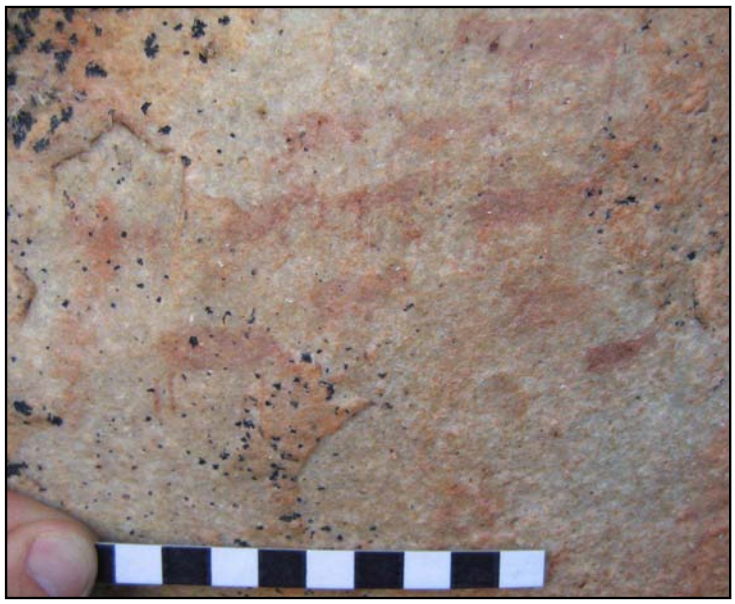


Plate 42: CDE1. This photograph illustrates the very unique and tiny flock of ten fat-tailed sheep painted at this site. The scale is in cm.

Plate 43: CDW10. A detail of the main rock art panel showing human figures, some carrying tassled bags.

Plate 44: CDW10. These images are located just below the main panel and show human figures, a tassled bag hanging on a peg and several other shapes.

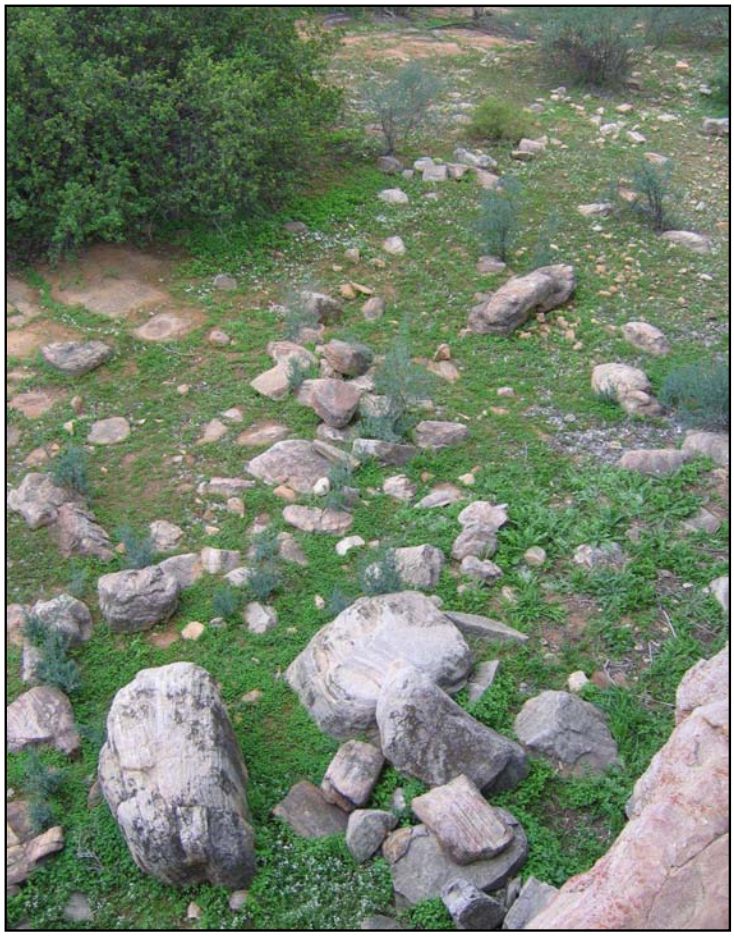


Plate 45: CDW11. The toppled remains of the stone kraal can be seen curving up and rightwards from the base of the photograph.

Plate 46: CDW11. Here the small circle of the “lammetjie kraal” can be seen. This lies at what appears to be the entrance to the main kraal.

Plate 47: CDW13. The two main structures of this complex, the school and the principal's house, can be seen here.

Plate 48: CDW15. This single grave lies just north of the school complex (CDW13) and is dated 2 April 1935. The remains are those of a P.D. Moller.

15 APPENDIX 3 – Record of archaeological sites / heritage resources

Explanation of site records

Site Number: Allocated by ACO in 2005. CDE refers to sites found on the Clanwilliam Dam East bank and CDW to those on the West bank.

Period: According to the four periods listed in Table 6. Note that combinations can occur (separated by a comma) and that it is sometimes not possible to distinguish between periods (separated by a backslash).

Table 6: Summary of the categories of heritage resources that may be present in each period. (This table is the same as that included as Table 1 in Section 1.)

Period	Category
Early Stone Age	Artefact scatter
Middle Stone Age	Artefact scatter
	Deposit
Later Stone Age	Artefact scatter
	Deposit
	Kraal
	Rock art
	Cultural landscape
Historical period	Artefact scatter
	Deposit
	Structures
	Road infrastructure
	Industrial infrastructure
	Quarry
	Cultural landscape
	Graves
	Other

Category: According to the categories listed in Table 6. Where multiple categories are present they are listed individually.

Site Description: The nature of the site. The categories used are described in Table 7.

Table 7: Terms used in the site descriptions.

Site description	Meaning
Rock shelter	Cave or rock overhang
Rock shelter with open talus	As above with an open area/slope with artefacts in front of it.
Rock wall	Exposed vertical rock on a cliff or boulder.
Rock wall with open talus	As above with an open area in front of it.
Open area	Open sandy or rocky area with no steep rock focus.

Structures	Any historical building or ruin thereof, residential or other.
Road infrastructure	Roads, bridges, culverts and retaining walls.
Quarry	Any place where material has been excavated.
Cultural landscape	An area containing man-made features of historical significance.
Graves	Graveyards or isolated graves.
Other structures	Includes cairns, beacons, dams and leiwater slote.

Impact: Scaled from very low to very high. (Note that, as described in Section 5, the impacts suggested here assume no destruction of sites to take place prior to flooding of the dam. If sites are destroyed then the impacts are automatically “very high”.) If a site is comprised of multiple components then the highest impact is reflected.

Significance: Scaled from very low to very high. If a site is comprised of multiple components then the highest significance is reflected.

GPS co-ordinates: Given in degrees, minutes and seconds.

Description: A brief description of the content of the site highlighting significant components and important features.

Comments: Any other relevant comments, especially those influencing the impact and significance ratings are recorded here when necessary.

Suggested mitigation: Mitigation measures, based on the significance of the impacts, are suggested.

Previous records: All known previous recordings of the site are listed here by their site numbers with the person responsible for the record in brackets as follows:

(UCT – Manhire)	These records are the result of UCT departmental fieldtrips co-ordinated by Anthony Manhire.
(UCT – Van Rijssen)	These records are the result of an extensive research project carried out by Bill van Rijssen.
(ACO – Halkett 2000)	These records are the result of a contract survey carried out on the Nooitgedaght farm by the ACO.

A3.1 Clanwilliam Dam East

Site Number: CDE1
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Very high
GPS co-ordinates: S 32°12' 05.2" E 18°53' 19.2"
Description: This shelter is located in an outcrop right on the edge of the current FSL. There are two panels of paintings and the floor of the shelter has been washed out by water. The paintings contain one hook head, a tiny flock of ten fat-tailed sheep and several other images. A small amount of graffiti is present.
Comments: In terms of subject matter the tiny flock of sheep is a unique and significant painting.
Suggested mitigation: The section of rock containing the flock of sheep should be removed and relocated. All the art should be recorded by means of photography and tracing prior to removal of the panel.
Previous records: DAME4 (UCT Field School 2004)

Site Number: CDE2
Period: LSA
Category: Artefact scatter, Deposit, Rock art
Site Description: Rock shelter with open talus
Impact: Very high
Significance: Very high
GPS co-ordinates: S 32°12' 06.4" E 18°53' 21.3"
Description: This shelter is located under a bedrock outcrop and has a large boulder forming a courtyard area just to the north of the shelter. The site has excellent, well preserved paintings with probable deposit below the art and also in the courtyard to the north. There is an extensive artefact scatter all over the talus slope in front of the site. The paintings include a large group scene on the left most panel and many other images including animals and humans.
Comments: These paintings are the most spectacular of those to be flooded and the left hand panel is very significant in terms of content.
Suggested mitigation: At least the main rock art panel (the left side of the painted wall) should be removed and relocated. If possible the entire painted surface should be kept intact. All the rock art should be recorded by means of tracing and photography prior to removal of the panel. The areas beneath and to the north of the rock art should be tested for archaeological deposits. A fairly large area of the artefact scatter on the talus should be excavated and also tested for depth in case there are further subsurface deposits.
Previous records: DAME5 (UCT Field School 2004)

Site Number: CDE3
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Medium

GPS co-ordinates: S 32°12' 06.6" E 18°53' 21.0"
Description: This site is a small shelter that may have a deposit associated with it. The paintings include figures and palettes as well as many long, curved, vertical lines. There is a possible tiny kraal between the rocks below the paintings.
Comments:
Suggested mitigation: The rock art should be recorded by means of tracing and photography and the shelter should be tested for deposit. Further excavations may be necessary if good deposits are present.
Previous records: DAME6 (UCT Field School 2004)

Site Number: CDE4
Period: LSA
Category: Artefact scatter
Site Description: Open area
Impact: High
Significance: Medium-High
GPS co-ordinates: S 32°12' 07.2" E 18°53' 21.6" (4A)
S 32°12' 07.4" E 18°53' 21.1" (4B)
Description: A large area of scattered artefacts occurs on the large terrace in front of the cliff line of which CDE2, 3 and 5B are a part. In this area the scatter does not appear to be associated with any particular shelter(s). In the area of CDE4A there is a moderate density of artefacts while at CDE4B the scatter is particularly dense. Most artefacts are of silcrete with quartz and CCS making up most of the remainder. Silcrete adzes are present.
Comments:
Suggested mitigation: The area at CDE4A should be tested in a few places and excavated further if necessary. A large excavation of the area at CDE4B should take place.
Previous records:

Site Number: CDE5
Period: LSA
Category: Artefact scatter, Rock art
Site Description: Rock shelter with open talus
Impact: Very high
Significance: Medium-high
GPS co-ordinates: S 32°12' 08.2" E 18°53' 21.4" (5A)
S 32°12' 08.3" E 18°53' 21.2" (5B)
Description: This site has several panels of poorly preserved rock art in a fairly large rock shelter. Some ochre smears and several human and animal figures can be discerned. There is a large scatter of artefacts associated with the shelter and extending down the talus slope in front of the site. The area around CDE5A has a moderate density of artefacts with a tiny bifacial point being noted here. Point CDE5B is the rock shelter. The artefact scatter directly in front of the shelter is extremely dense. Most artefacts are of quartz and silcrete but CCS and quartzite are also present.
Comments: This artefact scatter is the most extensive scatter recorded during the survey.
Suggested mitigation: All rock art should be recorded by means of tracing and photography. The interior of the rock shelter (CDE5B) should be tested for deposit. An excavation of perhaps up to 30 m^2 should be conducted on the talus slope focussing on the area directly in front of the shelter. Areas of scatter further from the shelter should also be tested and excavated further as required.

Previous records: DAME8 (UCT Field School 2004)

Site Number: CDE6
Period: LSA
Category: Artefact scatter
Site Description: Open area
Impact: High
Significance: Low-medium
GPS co-ordinates: S 32°12' 10.2" E 18°53' 21.8"
Description: This site consists of a moderate density artefact scatter on the talus slope in front of the cliff line of which CDE2, 3 and 5B are a part. Quartz, silcrete, quartzite and CCS are present and adzes were noted. The scatter is not directly associated with any particular rock shelter.
Comments:
Suggested mitigation: A few square meters should be tested and excavated as necessary.
Previous records:

Site Number: CDE7
Period: MSA / LSA
Category: Artefact scatter
Site Description: Open area
Impact: N/A
Significance: N/A
GPS co-ordinates: S 32°12' 08.9" E 18°53' 18.8"
Description: This scatter lies within the limits of the current FSL. It consists of a moderate density scatter of microlithic artefacts but it was not possible to tell whether they are of MSA or LSA origin.
Comments: This site was recorded as an example of the impacts of flooding talus scatters.
Suggested mitigation: N/A
Previous records:

Site Number: CDE8
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Content: Historical
Impact: Low
Significance: Low
GPS co-ordinates: S 32°13' 20.8" E 18°55' 07.8"
S 32°13' 18.5 E 18°55' 07.8"
S 32°13' 17.2" E 18°54' 58.0"
S 32°13' 15.6" E 18°54' 46.2"
Description: The four points recorded here lie along a stretch of the 1860's Citrusdal/Clanwilliam road that lies above the current FSL. The structure of the road can be clearly seen with terrace walls, stone bollards and the road surfacing all being present.
Comments: Little of this road remains above the current FSL and this section provides an impression of what the road must have been like prior to flooding.

Suggested mitigation: This portion of road should be surveyed and recorded both with video and still photography. If possible, it and any other sections that are visible should be mapped onto aerial photographs.
Previous records:

Site Number: CDE9
Period: MSA
Category: Artefact scatter
Site Description: Open area
Impact: High
Significance: Low
GPS co-ordinates: S 32°13' 00.8" E 18°54' 32.5"
Description: This consists of a light scatter of quartz, silcrete and quartzite artefacts along the base of a cliff-line. Although it is uncertain, these artefacts are most likely MSA in origin.
Comments: The artefacts have no apparent context and will not be meaningful as a sample.
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE10
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Low-medium
GPS co-ordinates: S 32°13' 02.1" E 18°54' 28.1"
Description: This shelter is located in a small rock outcrop within a few meters of the current FSL. The art is poorly preserved with most of the paint being rather faded. It may have already been impacted by increased humidity as a result of its close proximity to the water. The paintings consist of many lines of finger dots, some of which are painted on poor quality rock surface.
Comments:
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records: DAME14 (UCT Field School 2004)

Site Number: CDE11
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: High
Significance: Very low
GPS co-ordinates: S 32°13' 49.9" E 18°55' 53.8"
Description: Here we found a short stone alignment forming a low terrace. It appears as though it may have been a road.
Comments: This is a relatively small feature with unknown context.
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE12
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Content:
Impact: Low
Significance: Low
GPS co-ordinates: S 32°13’ 48.8” E 18°55’ 54.5”
Description: This is one of the road bridges built on the 1930’s Citrusdal/Clanwilliam road. It consists of dry stone walls with two concrete culverts at the lowest point.
Comments:
Suggested mitigation: Video and photographic recording.
Previous records:

Site Number: CDE13
Period: LSA
Category: Rock art
Site Description: Rock wall
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°17’ 52.1” E 18°56’ 36.0”
Description: This painting is located on the exposed face of an outcrop of bedrock immediately alongside the Citrusdal/Clanwilliam road. The painting is of a single human figure.
Comments: The proximity of the road has resulted in the removal any other context that may have been present with this painting.
Suggested mitigation: The painting should be recorded by means of tracing and photography.
Previous records:

Site Number: CDE14
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°17’ 48.6” E 18°56’ 34.1”
Description: This is one of the road bridges built on the 1930’s Citrusdal/Clanwilliam road. It consists of dry stone walls with concrete culverts at the lowest point. The dry stone wall continues up the hill for a few hundred meters to the south of the bridge.
Comments:
Suggested mitigation: Mapping, video and photographic recording
Previous records:

Site Number: CDE15
Period: LSA
Category: Rock art

Site Description: Rock wall
Impact: Very high
Significance: Medium
GPS co-ordinates: S 32°18' 48.0" E 18°56' 37.9"
Description: This rock art is on one of three isolated boulders along the old Citrusdal/Clanwilliam road. The paintings are poorly preserved but several images are discernible. One elephant, two eland, one human figure and three unidentifiable animals could be distinguished. There is no evidence of artefactual material around the boulders.
Comments: It is rare to find rock art in such isolated and exposed locations.
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records: Rondegat U (UCT – Van Rijssen)

Site Number: CDE16
Period: Historical
Category: Structures
Site Description: Structures
Impact: Very high
Significance: Low-medium
GPS co-ordinates: S 32°18' 51.2" E 18°56' 36.5" (16A northern end)
S 32°18' 51.8" E 18°56' 35.9" (16A southern en d)
S 32°18' 54.2" E 18°56' 35.8" (16B)
S 32°18' 54.2" E 18°56' 34.5" (16C)
Description: This is an old farm complex located on the outwash fan at the foot of a short steep valley. Several features were identified including the house (CDE16C), a small cement and stone pool of approximately 1.2 m diameter and a nearby stone wall/foundation (CDE16B), and a low terrace built up with a single line of stones (CDE16A).
Comments:
Suggested mitigation: The complex should be surveyed and recorded photographically. Test excavations should be conducted around the house and in the cement pool to ascertain if any historic deposits are present. If necessary these should be excavated. Detailed archival research should be done to ascertain the history of the settlement. Oral history would probably be very useful here.
Previous records: DAME24 (UCT Field School 2004)

Site Number: CDE17
Period: Historical
Category: Structures
Site Description: Structures
Impact: Low-medium
Significance: Very low
GPS co-ordinates: S 32°19' 43.9" E 18°56' 49.0"
Description: This structure is a single stone and cement garage with a pointed finish.
Comments: This garage apparently relates to the ruins immediately across the river (CDW13 complex).
Suggested mitigation: This structure should be recorded photographically and considered during archival and oral historical research of the CDW13 complex.
Previous records:

Site Number: CDE18
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°20' 27.9" E 18°56' 51.3"
Description: This is another stretch of the dry stone retaining wall beneath the 1930's Citrusdal/ Clanwilliam road. It is an area with quite a steep slope.
Comments:
Suggested mitigation: Video and photographic recording
Previous records:

Site Number: CDE19
Period: Historical
Category: Structure
Site Description: Structure
Impact: Low-medium
Significance: Low
GPS co-ordinates: S 32°20' 34.4" E 18°56' 52.5"
Description: This structure is a single stone and cement garage with a pointed finish of modern cement.
Comments:
Suggested mitigation: This structure should be recorded photographically and some archival research should be done to determine which farm it belonged to.
Previous records:

Site Number: CDE20
Period: LSA
Category: Rock art
Site Description: Rock wall
Impact: Very high
Significance: Medium-high
GPS co-ordinates: S 32°21' 48.1" E 18°57' 03.9" (see comment below)
Description: This site is located at the foot of a cliff on the very edge of the floodplain of the Olifants River. Several human figures and various other images are present. One of the human figures is a hook head with a yellow face. The paintings have been severely vandalized since June 2004 with bright red paint.
Comments: The Van Rijssen description lists many more images than are visible today and the vandalism has undoubtedly had a significant effect on this panel. Due to being under a cliff we struggled to get a good GPS fix. This reading may be slightly off.
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records: Kriedouwkrantz 11 (UCT – Van Rijssen)

Site Number: CDE21
Period: Historical

Category: Cultural landscape
Site Description: Cultural landscape
Impact: Medium
Significance: Low-medium
GPS co-ordinates: S 32°21' 57.8" E 18°57' 18.5"
Description: This is the area just to the east of the bridge over the Olifants River on the N7/Algeria road. It consists of the intersection of the Citrusdal/Clanwilliam and the N7/Algeria roads as well as the fields and old trees of the farm Kriedouwkrans.
Comments: Should the flood level be raised by the full 15 m then this farm will be the only one on which a meaningful section of the cultural landscape will be lost. Most other farms have already been impacted by the existing dam to such a degree that the loss of further land will not constitute much impact on cultural landscapes.
Suggested mitigation: Video and photographic recording. The treatment of this intersection as well as the Algeria bridge/causeway will require specific intervention to ensure that engineering solutions retain/enhance rural ambience.
Previous records:

Site Number: CDE22
Period: Historical
Category: Graves
Site Description: Graves
Impact: Very high
Significance: Very high
GPS co-ordinates: S 32°16' 08.7" E 18°55' 55.2"
Description: This is the graveyard of the farm Rondegat. Although it has been used as recently as 1995, the graveyard dates back to at least the late 19th century with the earliest dated headstone being from 1896. A small number of graves that have only sandstone head and foot stones are also present. These may either predate the more formal graves or could be the graves of poor farm workers or servants.
Comments:
Suggested mitigation: Depending on whether this graveyard is under municipal control or not, liaison with the appropriate authority is required. Both the Exhumation Ordinance of 1980 and NHRA Section 36 require a that a public consultation process will need to be carried out before exhumation of graves can take place. All graves older than 100 years must be exhumed by an archaeologist. All graves and headstones should be recorded photographically.

Previous records:

Site Number: CDE23
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: High
GPS co-ordinates: S 32°16' 14.1" E 18°55' 37.4"
Description: This site is a rock shelter located near the top of a cliff on the immediate edge of the current FSL. When the dam is full the water extends into the shelter and up against the lower part of the painted wall. The shelter would almost certainly have had a deposit in it but

this has been scoured out by the dam water. The paintings include a large number of human figures and a few animals. Most are well preserved but some fading has occurred. A single instance of graffiti exists over a faded portion of the paintings.
Comments:
Suggested mitigation: The paintings should be recorded by means of tracings and photography.
Previous records: Rondegat B (UCT – Van Rijssen)
RG2 (UCT – Manhire)
DAME23 (UCT Field School 2004)

Site Number: CDE24
Period: ESA
Category: Artefact scatter
Site Description: Open area
Impact: N/A
Significance: N/A
GPS co-ordinates: S 32°16' 07.6" E 18°55' 29.6"
Description: This is a moderate scatter of ESA artefacts including a few crude hand-axe and chopper-like forms. Many of the artefacts are made on river cobbles. The scatter is located below the current FSL.
Comments: The site was recorded as an example of the impacts on unseen subsurface ESA scatters.
Suggested mitigation:
Previous records: DAME23 (UCT Field School 2004)

Site Number: CDE25
Period: Historical
Category: Structures
Site Description: Structures
Impact: Medium
Significance: Very low
GPS co-ordinates: S 32°16' 01.4" E 18°55' 50.1"
Description: This is the remains of a farmhouse that was demolished in 1967. Very little fabric remains with just a few stones and one small plastered section being visible. The walls were made of stone and mud and the floors were of more modern cement. A few other cement floor surfaces nearby indicate other outbuildings in the vicinity.
Comments: This may be the earlier farmhouse of the farm Rondegat. This farm will lose a significant area of land should the dam be raised by the full 15 m. However, with the current FSL having impacted so severely on the cultural landscape, this landscape has not been recorded as a heritage resource (see also comments at CDE21 above).
Suggested mitigation: All visible structural remains should be surveyed and archival research should be conducted to establish the age and ownership history of the farm and its buildings.
Previous records:

Site Number: CDE26
Period: Historical
Category: Road infrastructure

Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°15' 29.1" E 18°56' 49.7"
Description: The bridge over the Rondegat River is a large concrete double span bridge with the gravel road surface extending over the bridge. The river valley is quite deep at this point thus necessitating the large bridge. It is part of the 1930's road alignment.
Comments: Unfortunately no date is inscribed on the bridge but it appears to be a mid-20th century structure. It presumably replaced an earlier structure on the same site.
Suggested mitigation: See CDE12.
Previous records:

Site Number: CDE27
Period: Historical
Category: Structure
Site Description: Structure
Impact: Low
Significance: Very low
GPS co-ordinates: S 32°15' 46.3" E 18°56' 16.0"
S 32°15' 37.6" E 18°56' 27.6"
S 32°15' 31.6" E 18°56' 43.6"
Description: A terrace several hundred meters long runs along the south bank of the Rondegat River beginning near the modern farmhouse and ending at the Rondegat bridge. It sometimes has a low stone wall but usually is just a clay embankment. The surface is slightly concave.
Comments: It is not known what this feature was but it may have been a water furrow or some sort of road.
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE28
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°15' 23.8" E 18°56' 35.6"
Description: This is one of the road bridges built on the 1930's Citrusdal/Clanwilliam road. It consists of dry stone walls with a concrete culvert at the lowest point.
Comments:
Suggested mitigation: See CDE12.
Previous records:

Site Number: CDE29
Period: Historical
Category: Quarry
Site Description: Quarry
Content:

Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°15’ 23.4” E 18°56’ 39.6” (quarry)
S 32°15’ 26.4” E 18°56’ 47.3” (furrow)
Description: The small quarry here probably relates to the road construction. A terraced roadway leads down from this quarry towards the bridge (CDE28). A nearby furrow, probably for drainage, leads away from the top of the quarry, down towards the south and another comes in to the same point from the south.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE30
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°15’ 34.1” E 18°56’ 06.9” (30A)
S 32°15’ 33.0” E 18°55’ 03.5” (30B)
Description: This site consists of two small informal quarries.
Comments: These quarries may relate to the old Citrusdal/Clanwilliam road or the historic ‘*trapvloer*’ located nearby.
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE31
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°14’ 05.8” E 18°55’ 20.1”
Description: This is one of the road bridges built on the 1930’s Citrusdal/Clanwilliam road. It consists of dry stone walls with a concrete culvert at the lowest point.
Comments:
Suggested mitigation: Video and photographic recording
Previous records:

Site Number: CDE32
Period: Historical
Category: Structures
Site Description: Structures
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°13’ 37.4” E 18°55’ 30.3” (32A)
S 32°13’ 38.3” E 18°55’ 26.3” (32B)

Description: A small packed stone feature with an iron post at one corner remains above the current FSL (CDE32A). The post has a loop on the top of it. A similar post was found to the south of the Coleta Cove valley just hammered into a bedrock outcrop. Three concrete foundations and one in stone are located very nearby but are within the current FSL (CDE32B).
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE33
Period: LSA
Category: Artefact scatter
Site Description: Rock shelter with open talus
Impact: Medium
Significance: Low
GPS co-ordinates: S 32°13' 46.8" E 18°55' 52.5"
Description: This site is located on the terrace in front of a small rock shelter. There is a light stone artefact scatter and a good scatter of pottery.
Comments:
Suggested mitigation: A small test excavation of the talus scatter should be done and expanded if necessary.
Previous records:

Site Number: CDE34
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°13' 45.5" E 18°55' 54.1" (34A)
S 32°13' 43.8" E 18°55' 52.1" (34B)
Description: This site consists of two small quarries, possibly related to the building of the Clanwilliam/Citrusdal road to the east. There is a low terraced roadway running along the base of the quarries which is usually terraced with just a single line of stones.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE35
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°18' 45.8" E 18°56' 41.0"
Description: This site has a single animal figure painted low down on a boulder immediately alongside the Citrusdal/Clanwilliam road.
Comments:

Suggested mitigation: The painting should be recorded by means of tracing and photography.
Previous records: Rondegat V (UCT – Van Rijssen)

Site Number: CDE36
Period: LSA
Category: Artefact scatter
Site Description: Rock shelter with open talus
Impact: Low-medium
Significance: Very low
GPS co-ordinates: S 32°18' 50.9" E 18°56' 38.0"
Description: Scatter of quartz and CCS artefacts with a few river cobbles on the slope in front of a small painted shelter. The rock art will be out of reach of the FSL.
Comments:
Suggested mitigation: No mitigation required.
Previous records: Rondegat S (UCT – Van Rijssen)

Site Number: CDE37
Period: LSA
Category: Artefact scatter
Site Description: Rock shelter with open talus
Impact: Low-medium
Significance: Very low
GPS co-ordinates: S 32°13' 46.8" E 18°55' 52.5"
S 32°13' 47.2" E 18°55' 41.8" (37A)
S 32°13' 47.0" E 18°55' 42.3" (37B)
Description: Quartz, silcrete and hornfels artefacts and a few river cobbles extending down the slope in front of two painted shelters (CDE37A & CDE37B).
Comments: The rock art at CDE37B is extensive but both painted sites will be clear of the inundation zone.
Suggested mitigation: No mitigation required.
Previous records: CDE37B: Rondegat T (UCT – Van Rijssen)

Site Number: CDE38
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°21' 45.8" E 18°56' 50.2"
Description: This site is a tiny shelter very near the river and has only indistinct paintings but including human figures.
Comments: From the Van Rijssen notes it is not clear which record matches CDE38. It is also unclear whether two separate sites were recorded or perhaps the same site was recorded twice by separate people.
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records: KR6 or KR7a (UCT – Van Rijssen)

Site Number: CDE39
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Medium-high
GPS co-ordinates: S 32°21' 44.6" E 18°56' 49.1"
Description: Low shelter with extensive but poorly preserved paintings. At least 35 images are discernible including a running figure with a triple recurved bow.
Comments:
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records: KR7b (UCT – Van Rijssen)

Site Number: CDE40
Period: LSA
Category: Artefact scatter
Site Description: Rock shelter
Impact: Very high
Significance: Medium
GPS co-ordinates: S 32°21' 44.1" E 18°56' 48.4"
Description: This tiny shelter contains at least 12 figures including three holding bows with the strings visible. Preservation is variable.
Comments:
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records:

Site Number: CDE41
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°18' 10.6" E 18°56' 35.6"
Description: This is one of the dry stone retaining walls with a concrete culvert along the 1930's Citrusdal/Clanwilliam road.
Comments:
Suggested mitigation: See CDE12.
Previous records:

Site Number: CDE42
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low

Significance: Very low
GPS co-ordinates: S 32°18’ 13.9” E 18°56’ 34.9”
Description: This is a small quarry pertaining to one of the road-building episodes.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE43
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°18’ 14.6” E 18°56’ 35.8”
Description: This is one of the dry stone retaining walls with a concrete culvert along the 1930’s Citrusdal/Clanwilliam road.
Comments:
Suggested mitigation: Video and photographic recording
Previous records:

Site Number: CDE44
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°18’ 27.1” E 18°56’ 43.8” (northern end)
S 32°18’ 31.4” E 18°56’ 44.7” (mid-section)
S 32°18’ 48.5” E 18°56’ 36.1” (southern end)
Description: This is a section of the old 1860’s road which is above the current FSL.
Comments:
Suggested mitigation: This portion of road should be surveyed and recorded both with video and still photography. If possible, it and any other sections that are visible should be mapped onto aerial photographs.
Previous records:

Site Number: CDE45
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°18’ 33.7” E 18°56’ 45.8”
Description: This quarry lies alongside the 1930’s Citrusdal/Clanwilliam road and must relate either to its construction or subsequent resurfacing.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE46
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°18’ 37.1” E 18°56’ 44.8”
Description: This is one of the dry stone retaining walls with a concrete culvert along the 1930’s Citrusdal/Clanwilliam road.
Comments:
Suggested mitigation: See CDE12.
Previous records:

Site Number: CDE47
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°18’ 56.0” E 18°56’ 29.3”
Description: A small road building quarry.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE48
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°13’ 46.8” E 18°55’ 52.5”
Description: Two small road building quarries.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE49
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°19’ 41.7” E 18°56’ 48.7”
Description: A small road building quarry.
Comments:

Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE50
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: low
Significance: Low
GPS co-ordinates: S 32°19' 41.7" E 18°56' 48.7"
Description: This is one of the dry stone retaining walls with a concrete culvert along the 1930's Citrusdal/Clanwilliam road.
Comments:
Suggested mitigation: Photographic and video recording.
Previous records:

Site Number: CDE51
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°14' 19.9" E 18°55' 14.7"
Description: This is one of the dry stone retaining walls with a concrete culvert along the 1930's Citrusdal/Clanwilliam road.
Comments:
Suggested mitigation: Photographic and video recording
Previous records:

Site Number: CDE52
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°14' 22.6" E 18°55' 15.7"
Description: This is one of the dry stone retaining walls along the 1930's Citrusdal/ Clanwilliam road. There is no concrete culvert present.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE53
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very low

Significance: Very low
GPS co-ordinates: S 32°14’ 25.8” E 18°55’ 15.6”
Description: A small road building quarry from which fossil termiterium has been removed. This is quite likely to have been for surfacing of the 1860 road.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE54
Period: Historical
Category: Road infrastructure, Quarry
Site Description: Quarry (CDE54A – E)
Road infrastructure (CDE54F)
Impact: Low
Significance: Low
GPS co-ordinates: S 32°14’ 28.9” E 18°55’ 13.9” (CDE54A)
S 32°14’ 31.2” E 18°55’ 15.2” (CDE54B)
S 32°14’ 33.3” E 18°55’ 16.6” (CDE54C)
S 32°14’ 38.9” E 18°55’ 18.5” (CDE54D)
S 32°14’ 40.9” E 18°55’ 19.5” (CDE54E)
S 32°14’ 45.4” E 18°55’ 19.5” (CDE54F)
Description: Several small road building quarries occur immediately alongside the 1860 road. The road appears near point CDE54A and fades into a flat, sandy area at point CDE54F. Both sandstone and fossil termiteria have been removed from the quarries.
Comments: These features are recorded as one site since they are all related and lie alongside the road. All points can be taken as indicating the alignment of the road. The impact on and significance of the quarries is very low.
Suggested mitigation: No mitigation required for the quarries. The portion of road should be surveyed and recorded both with video and still photography. If possible, it and any other sections that are visible should be mapped onto aerial photographs.
Previous records:

Site Number: CDE55
Period: Historical
Category: Other structure
Site Description: Structure
Content: Historical
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°14’ 29.9” E 18°55’ 14.0”
Description: Here we found a stone beacon, presumably built for surveying purposes. It lies immediately alongside the old 1860 road and probably dates to that time. It is built from stone blocks and cemented together with clay.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDE56

Period: Historical
Category: Road infrastructure, Quarry
Site Description: Road infrastructure (CDE56A)
Quarry (CDE56B – G)
Impact: Low
Significance: Low
GPS co-ordinates: S 32°16' 44.5" E 18°55' 57.4" (CDE56A – northern end of road)
S 32°16' 52.3" E 18°56' 02.2" (CDE56B)
S 32°16' 56.6" E 18°56' 12.2" (CDE56C)
S 32°17' 11.1" E 18°56' 21.4" (CDE56D)
S 32°17' 16.8" E 18°56' 25.1" (CDE56E)
S 32°17' 19.5" E 18°56' 25.4" (CDE56F)
S 32°17' 28.4" E 18°56' 26.2" (CDE56G)
S 32°17' 32.0" E 18°56' 26.8" (CDE56A – southe rn end of road)
Description: Several small road building quarries alongside an exposure of the old 1860 road.
Comments: These features are recorded as one site since they are all related and lie alongside the road. All points can be taken as indicating the alignment of the road. The impact on and significance of the quarries is very low.
Suggested mitigation: No mitigation required for the quarries. The portion of road should be surveyed and recorded both with video and still photography. If possible, it and any other sections that are visible should be mapped onto aerial photographs.

Previous records:

Site Number: CDE57
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: n/a
Significance: n/a
GPS co-ordinates: S 32°20' 27.9" E 18°56' 51.4"
Description: This quarry is still being used but it is unknown when quarrying first began here. Since the current quarry faces are all modern, the quarry is here considered to fall outside the realms of heritage.
Comments: It might be useful for a palaeontologist to examine the exposure to determine whether any fossil bearing layers are present and to provide an assessment of impact should this be necessary.
Suggested mitigation: n/a (but see comment above)
Previous records:

A3.2 Clanwilliam Dam West

Site Number: CDW1
Period: Historical
Category: Road infrastructure, Industrial infrastructure
Site Description: Structures (1A-C)
Road infrastructure (1D)

Open area (1E)
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°11' 04.4" E 18°52' 17.8" (1A)
S 32°11' 15.4" E 18°52' 19.6" (1B)
S 32°11' 13.7" E 18°52' 25.8" (1C)
Description: This area is the original dam construction site from the 1930's. It consists of several related features. The following features are included here: a large concrete structure that is assumed to have served as a set of seven hoppers for holding construction materials (1A), the remains of an old machine (1A), the floor of what is assumed to have been a shed with wooden poles in it around the edges (1A), a small concrete structure that might have been a dam (1B), and several concrete machine bases and walls that have been damaged by the construction of the N7 (1C). On one of these machine bases is inscribed the date 19.1.33. A terraced road runs along the back of the construction site (1D). A very light scatter of MSA artefacts occurs over the general area (1E).
Comments:
Suggested mitigation: No mitigation required for CDW1E. The other features should all be surveyed and recorded photographically.
Previous records:

Site Number: CDW2
Period: Historical
Category: Quarry
Site Description: Quarry
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°11' 30.2" E 18°52' 27.9"
Description: These two large quarries were undoubtedly used in the construction of the dam. They currently have a large amount of rubbish in them including several car wrecks.
Comments:
Suggested mitigation: The quarry faces should be examined for historical graffiti and if any is found it should be documented and recorded photographically. No other mitigation is required.
Previous records:

Site Number: CDW3
Period: MSA
Category: Artefact scatter
Site Description: Open area
Impact: Low
Significance: Low
GPS co-ordinates: S 32°11' 33.3" E 18°52' 28.0"
Description: This is a light scatter of artefacts on a terrace below a painted wall. The artefacts are assumed to be MSA in origin.
Comments: `
Suggested mitigation: No mitigation required.
Previous records: DAM5 (UCT Field School 2004)
MG14 (UCT – AHM)

Site Number: CDW4
Period: Historical
Category: Structures
Site Description: Structures
Impact: Low
Significance: Low
GPS co-ordinates: S 32°12’ 02.4” E 18°52’ 50.8”
Description: Here we found a small stone and cement pool with some little cement gutters to lead water into it from a large flat boulder. A few meters away is a stone and cement oven. No other historical structures are present in the vicinity.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW5
Period: MSA
Category: Artefact scatter
Site Description: Open area
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°12’ 17.4” E 18°52’ 42.3”
Description: This is a very thin scatter of stone artefacts in a sandy area that are assumed to be MSA. Silcrete, quartz and quartzite flakes are present.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW6
Period: Historical
Category: Structures
Site Description: Structures
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°12’ 18.7” E 18°52’ 12.9”
Description: Here there are several long concrete foundations. It is not known what structures these are from.
Comments:
Suggested mitigation: Archival work should attempt to identify the origin and purpose of the structures. If they are found to be older than 60 years then they should be surveyed. No other mitigation is necessary.
Previous records:

Site Number: CDW7
Period: ESA / MSA
Category: Artefact scatter
Site Description: Open area
Impact: Low

Significance: Low
GPS co-ordinates: S 32°12’ 19.0” E 18°52’ 07.5”
Description: In this area there is a large scatter of stone artefacts, some of which lie below the current FSL of the dam. These artefacts could be either ESA or MSA in origin.
Comments:
Suggested mitigation: Some formal sampling or on site recording of the scatter should take place.
Previous records: DAM8 (UCT Field School 2004)

Site Number: CDW8
Period: Historical
Category: Structures
Site Description: Structures
Impact: Low
Significance: Low
GPS co-ordinates: S 32°16’ 10.0” E 18°55’ 14.3”
Description: This is a stone wall built beneath a large wild fig tree and up against a rock outcrop. It may have functioned as a small kraal but now has approximately 0.5 m of soil built up behind it.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW9
Period: MSA, LSA
Category: Artefact scatter
Site Description: Open area
Impact: Very low
Significance: Low
GPS co-ordinates: S 32°16’ 01.1” E 18°55’ 13.9”
Description: This scatter of artefacts is located on a flat rocky outcrop. One LSA formal tool (a silcrete adze) was found but it is suspected that some of the artefacts may be MSA in origin. The artefacts are made on quartzite, silcrete, sandstone and quartz.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW10
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Very high
GPS co-ordinates: S 32°15’ 47.0” E 18°54’ 53.8”
Description: This panel is of very high quality with many figures being represented. The subjects include male and female humans, several bags and various other marks. There is no graffiti and the art is well preserved.
Comments:

Suggested mitigation: Both panels of rock art need to be fully preserved. They should be removed from the outcrop and housed in a safe location. All the paintings should be recorded by means of tracing and photography prior to their removal.
Previous records: DAM20 (UCT Field School 2004)
Nooitgedacht 13 (UCT – Van Rijssen)

Site Number: CDW11
Period: LSA
Category: Kraal, Rock art,
Site Description: Rock shelter with open talus
Impact: Very high
Significance: High
GPS co-ordinates: S 32°15' 48.5" E 18°54' 54.0"
Description: A stone kraal measuring 13 m by 18 m has been built in front of and up against the cliff on which the paintings lie. A second kraal of approximately 2.5 m diameter is located at the south-eastern side of the main kraal. This may have been for lambs. The rock art is located on the wall forming the back of the kraal and is fairly central. Although only moderately preserved, at least two human figures and two animals (probably elephants) are discernible. Only two stone artefacts were found in the area of the kraal.
Comments:
Suggested mitigation: A detailed plan of the kraal should be drawn and the rock art should be recorded by means of tracing and photography. Test excavations should be conducted in the kraal and further excavations should follow if necessary.
Previous records: DAM20 (UCT Field School 2004)
NG12 (UCT - Van Rijssen)

Site Number: CDW12
Period: LSA
Category: Deposit, Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Medium-high
GPS co-ordinates: S 32°15' 59.4" E 18°55' 08.5"
Description: This site is a low, but fairly deep cave with rock paintings that include finger dots and handprints. An odd painting of a circle with six stripes inside it is present in the far right hand side of the shelter. The main panel of rock art on the left hand side of the cave is poorly preserved. Many artefacts in quartz, silcrete (including two adzes) and quartzite were found on the floor in and in front of the cave and both these areas most likely contain archaeological deposit. Some animal bones were also present.
Comments:
Suggested mitigation: The rock art should be recorded by means of tracing and photography. The deposit should be tested for depth and content with further excavations conducted if necessary. If no deposit is present then formal excavation and collection of artefacts from the cave floor should take place.
Previous records: DAM21 (UCT Field School 2004);
NG51 (Halkett 2000)

Site Number: CDW13

Period: Historical
Category: Structures
Site Description: Structures
Impact: Very high
Significance: Medium
GPS co-ordinates: S 32°19' 39.7" E 18°56' 32.7" (13A)
S 32°19' 40.1" E 18°56' 33.5" (13B)
S 32°19' 39.9" E 18°56' 29.6" (13C)
S 32°19' 39.2" E 18°56' 33.5" (13D)
S 32°19' 39.6" E 18°56' 32.8" (13E)
Description: This site is a complex of buildings built from stone, cement, mud bricks and breeze blocks. According to the landowner, Mr Du Plessis, the two main buildings were used as a school (CDW13A) and the principal's house (CDW13B). The three other buildings of the complex include a cottage (CDW13C), a possible stone kraal (CDW13D) and a toilet (CDW13E). All buildings are located within an area of some 120 m by 40 m. Mr Du Plessis's father, who attended the school, bought the land in 1939, at which point the buildings were unoccupied. The presence of a grave (CDW15) nearby dating to 1935 suggests that the buildings were abandoned during the late 1930's. In addition he also informed us that the garage across the river (CDE17) belonged to this complex. Prior to the construction of the N7, the road along the east bank of the river was the only access to the area. As a result vehicle owners had to park on the east bank and cross the river by boat to access their land.
Comments:
Suggested mitigation: All structures and features of this complex should be surveyed and recorded photographically. Test excavations should be done in each structure and expanded if necessary. Detailed archival research should be conducted to establish the age and ownership history of the complex and the function of each structure. Oral history may be useful here.
Previous records:

Site Number: CDW14
Period: ESA
Category: Artefact scatter
Site Description: Open area
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°19' 35.8" E 18°56' 28.7"
Description: This is a very light scatter of quartzite artefacts on the top of a hill. The artefacts were mostly just flakes, but one crude hand-axe was found.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW15
Period: Historical
Category: Graves
Site Description: Graves
Impact: Very high
Significance: Very high
GPS co-ordinates: S 32°19' 35.1" E 18°56' 28.7"

Description: This is a grave located some way to the north of the complex of buildings on the same hill as CDW14. The buried person, P. D. Moller, is said by Mr Du Plessis to have been related to the principal of the school. The granite and marble headstone is dated 2 April 1935.
Comments:
Suggested mitigation: Living relatives will need to contacted for comment. If exhumation is required, a permit will need to be obtained from SAHRA under section 36.
Previous records:

Site Number: CDW16
Period: ESA
Category: Artefact scatter
Site Description: Open area
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°19' 27.5" E 18°56' 26.5"
Description: These artefacts were mostly in a pile of stones removed from a field. A few others were also noted in the field itself. Some crude hand-axe and chopper-like forms were observed. All are in quartzite.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW17
Period: Historical
Category: Structures
Site Description: Structures
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°19' 18.9" E 18°56' 19.8"
Description: This is a ruined building made of mud bricks and river cobbles. It is said by Mr Du Plessis to have been a store related to the farm complex in this area. Towards the river is a mound with four iron poles in it. It is uncertain what this feature is. It seems unlikely to be a grave since no bones are present in the spoils of an aardvark burrow dug into the mound.
Comments: This is part of a complex including CDW17 – CDW22 inclusive.
Suggested mitigation: The entire complex should be surveyed and recorded photographically. Test excavations should be done inside all buildings and expanded if necessary. Detailed archival research should be done to establish the age and ownership of the complex and the function of each structure. Oral history may be very useful here. The feature with the iron poles should be shovel tested.
Previous records:

Site Number: CDW18
Period: Historical
Category: Structures
Site Description: Structures
Impact: Very low
Significance: Very low

GPS co-ordinates: S 32°19’ 16.2” E 18°56’ 18.8”
Description: This is a low stone wall which may be either a terrace or the remains of a building foundation.
Comments: This is part of a complex including CDW17 – CDW22 inclusive.
Suggested mitigation: The terrace should be surveyed along with the rest of the complex. No other mitigation is required.
Previous records:

Site Number: CDW19
Period: Historical
Category: Structures
Site Description: Structures
Impact: Very low
Significance: Low
GPS co-ordinates: S 32°19’ 16.2” E 18°56’ 16.5”
Description: Here we found two long parallel dry stone walls some 0.4 m in height and extending for several tens of meters. These are related to the farm complex.
Comments: This is part of a complex including CDW17 – CDW22 inclusive.
Suggested mitigation: See CDW17 above.
Previous records:

Site Number: CDW20
Period: Historical
Category: Structures
Site Description: Structures
Impact: Low
Significance: Low
GPS co-ordinates: S 32°19’ 13.7” E 18°56’ 16.0”
Description: This is a large rectangular stone kraal with the walls still standing at or close to original height. There is a possible room on the eastern end of the kraal.
Comments: This is part of a complex including CDW17 – CDW22 inclusive.
Suggested mitigation: See CDW17 above.
Previous records:

Site Number: CDW21
Period: Historical
Category: Structures
Site Description: Structures
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°19’ 14.4” E 18°56’ 14.3”
Description: This is the remains of a small structure made of mudbricks and stone and measuring about 3 m by 6 m. A few breeze blocks are present in the ruin suggesting that they were once also part of the structure.
Comments: This is part of a complex including CDW17 – CDW22 inclusive.
Suggested mitigation: See CDW17 above.
Previous records:

Site Number: CDW22
Period: Historical
Category: Structures
Site Description: Structures
Impact: Low-medium
Significance: Low
GPS co-ordinates: S 32°19' 16.2" E 18°56' 14.3"
Description: This is likely to have been the main farmhouse for the complex. It was clearly purposefully demolished in the recent past. It was built from stone, cement and breeze blocks and the rubble includes some modern tiles. This house may have replaced an earlier farmhouse since it looks to have been more modern than most of the other historic structures in the area.
Comments: This is part of a complex including CDW17 – CDW22 inclusive.
Suggested mitigation: See CDW17 above.
Previous records:

Site Number: CDW23
Period: LSA
Category: Artefact scatter, Rock art
Site Description: Rock wall with open talus
Impact: Very high
Significance: Low-medium
GPS co-ordinates: S 32°21' 27.6" E 18°56' 40.7"
Description: There is a long stepped line of low vertical cliffs at this site with paintings located on the southernmost wall. The images include a hook head, a small antelope, some stick figures and an odd human figure on a separate panel on the right hand side of the corner. Many artefacts were found on the talus slope in front of the cliff and some deposit may also be present. The artefacts are of quartz, quartzite and silcrete (including one adze). Two potsherds were also found.
Comments:
Suggested mitigation: The rock art should be recorded by means of tracing and photography. The deposit should be tested for depth with further excavation being done if necessary. If no deposit is present a formal collection of artefacts from the talus area should be done.
Previous records: Kriedouwkrans 16 (UCT – Van Rijssen)
DAM27 (UCT Field School 2004)

Site Number: CDW24
Period: LSA
Category: Rock art
Site Description: Rock wall
Impact: Very high
Significance: Very low
GPS co-ordinates: S 32°21' 26.4" E 18°56' 40.0"
Description: Here we found only a very poorly preserved and indiscernible rock painting on a vertical rock wall. The site is screened by thick bushes but no artefacts were seen in the area.
Comments:

Suggested mitigation: The painting should be recorded by means of tracing and photography.
Previous records:

Site Number: CDW25
Period: LSA
Category: Artefact scatter, Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Medium
GPS co-ordinates: S 32°21' 17.6" E 18°56' 39.5"
Description: This is a small rock shelter site with rock art on the rear wall. One animal, possibly a sheep, is fairly well preserved. The only other discernible images are one or two human figures but these are poorly preserved. There may be a shallow deposit on the floor of the shelter.
Comments:
Suggested mitigation: The rock art should be recorded by means of tracing and photography and the deposit should be tested for depth and excavated if necessary.
Previous records: DAM28 (UCT Field School 2004)

Site Number: CDW26
Period: Historical
Category: Structure
Site Description: Rock shelter
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°20' 53.7" E 18°56' 39.4"
Description: This small rock shelter contains a tiny 'structure' that may be a historic kraal. The rectangular structure is one stone high, having fallen apart slightly. There is a clear entrance opposite the back wall.
Comments:
Suggested mitigation: No mitigation is required.
Previous records:

Site Number: CDW27
Period: Historical
Category: Structure
Site Description: Structure
Impact: High
Significance: Low
GPS co-ordinates: S 32°20' 46.3" E 18°56' 40.4"
Description: At least one and possibly two of these labourers' cottages appear to date to the 1930's or 1940's. The more obvious one is a simple rectangular structure with a traditional oven attached to the northern end. It is built of cement breeze blocks with imitation cobble exteriors.
Comments: High impact is assigned on the basis that the houses are still occupied. Otherwise the impact would be low.

Suggested mitigation: Archival research and oral history should be done to determine the age of the structures.
Previous records:

Site Number: CDW28
Period: Historical
Category: Structure
Site Description: Structure
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°20' 47.6" E 18°56' 40.1"
Description: Among several boulders we found some dry stone walling. This may relate to the nearby labourers cottages but this is uncertain. Some of the rocks are quite large and the structure is unlikely to have been made by local children.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW29
Period: Historical
Category: Structure
Site Description: Structure
Impact: Low
Significance: Very low
GPS co-ordinates: S 32°19' 08.4" E 18°56' 15.6"
Description: This is just a small rectangular structure made of cement breeze blocks. There are many metal window frames and other items lying on the ground around the building.
Comments: This structure probably goes with the complex of buildings to its south (CDW17 – CDW22).
Suggested mitigation: The structure should be surveyed with the CDW17 – CDW22 complex and recorded photographically.
Previous records:

Site Number: CDW30
Period: Historical
Category: Other structure
Site Description: Other Structure
Impact: Low
Significance: Very low
GPS co-ordinates: S 32°18' 03.0" E 18°56' 27.8"
Description: A large stone cairn was found atop a rocky promontory. This may have been used by early surveyors or more likely it marked a boundary line. It measures 1.2 m by 1.5 m wide and is about 0.7 m high.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW31
Period: LSA
Category: Artefact scatter, Rock art
Site Description: Rock wall
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°16' 49.8" E 18°55' 38.0"
Description: The rock art at this site is poorly preserved as a result of having been painted on an exposed vertical rock face. About four human figures and one animal figure could be discerned. A very light scatter of artefacts in quartz, silcrete and quartzite is present in front of the rock wall. Two potsherds were found among the scatter.
Comments:
Suggested mitigation: The rock art should be recorded by means of tracing and photography.
Previous records: DAM23 (UCT Field School 2004)

Site Number: CDW32
Period: LSA
Category: Artefact scatter, Rock art
Site Description: Rock wall
Impact: Very high
Significance: High
GPS co-ordinates: S 32°16' 50.3" E 18°55' 38.5" (32A)
S 32°16' 49.9" E 18°55' 38.9" (32B)
Description: This site (32A) has moderately preserved paintings although a human figure holding a triple recurved bow is well preserved. Several other human figures and some indeterminate images are also present. A few artefacts were found below the paintings and on the terrace just in front of the rock wall. A little way further out from the rock wall is a more significant scatter of artefacts (32B) made in quartz, silcrete and quartzite. It is uncertain whether these artefacts are MSA or LSA.
Comments:
Suggested mitigation: The rock art (CDW32A) should be recorded by means of tracing and photography and a formal collection of artefacts from CDW32B should be made.
Previous records:

Site Number: CDW33
Period: Historical
Category: Structures
Site Description: Structures
Impact: N/A
Significance: N/A
GPS co-ordinates: S 32°17' 03.6" E 18°55' 52.0" (33A)
S 32°17' 02.7" E 18°55' 54.7" (32B)
Description: This site is located just beneath the current FSL. Three features were recorded. There is a stone house foundation, a small rectangular stone foundation just in front of the house and a 15 m diameter threshing floor some 60 m away from the house. This complex may relate to the earliest cultivation of some of the nearby arable land.
Comments: Some nearby farm fields were probably first cultivated by the inhabitants of these structures and as such the site is recorded as it is part of the local cultural landscape.

Suggested mitigation: Since the structures are already flooded no mitigation is required.
Previous records: DAM25 (UCT Field School 2004)

Site Number: CDW34
Period: ESA, MSA
Category: Artefact scatter
Site Description: Open area
Impact: N/A
Significance: N/A
GPS co-ordinates: S 32°17' 03.4" E 18°55' 54.7" (32A)
Description: This site is located just beneath the current FSL immediately alongside the threshing floor of CDW33. It consists of a particularly dense scatter of ESA artefacts included within a fossil termiterium. There are also occasional MSA artefacts present.
Comments: Although already flooded, the site was recorded as an example of what will happen to similar sites located beneath the soil surface within the proposed flood zone.
Suggested mitigation: N/A
Previous records:

Site Number: CDW35
Period: ESA, MSA
Category: Artefact scatter
Site Description: Open area
Impact: N/A
Significance: N/A
GPS co-ordinates: S 32°17' 19.6" E 18°56' 13.7"
Description: Here we found a good scatter of ESA material with an unusually high frequency of cores. The scatter is located on a rocky terrace just below the current FSL. The artefacts are mostly in quartzite but a few in silcrete and quartz were seen. A few flakes look like MSA flakes.
Comments: Although already flooded, this site was recorded as a further example of the impacts on subsurface ESA sites.
Suggested mitigation: N/A
Previous records:

Site Number: CDW36
Period: ESA, LSA
Category: Artefact scatter
Site Description: Open area
Impact: Medium
Significance: Low
GPS co-ordinates: S 32°16' 54.4" E 18°55' 18.0" (36A)
S 32°16' 17.1" E 18°55' 19.2" (36B)
S 32°16' 17.3" E 18°55' 15.7" (36C)
S 32°16' 19.7" E 18°55' 14.5" (36D)
Description: Extending down a ridge below a large site complex we found many stone artefacts. While most are clearly LSA in origin, there are some ESA pieces as well. The scatter covers a wide area just above the current FSL and also extends slightly below this level. The scatter is denser on the lower slopes and it is unclear whether there is a direct

relationship between the artefacts and the complex of shelters and sites on the hill further up the slope. A particularly dense scatter of LSA material is present at point CDW36D.
Comments: The four GPS points indicate areas of greatest artefact density.
Suggested mitigation: Formal artefact collections should be done from a few of the densest areas of scatter.
Previous records:

Site Number: CDW37
Period: Historical
Category: Structures
Site Description: Structures
Impact: N/A
Significance: N/A
GPS co-ordinates: S 32°16' 14.7" E 18°55' 20.3" (37A)
S 32°16' 16.9" E 18°55' 20.0" (37B)
Description: This site consists of two components. One is a small stone foundation of about 5 m by 6 m located just beneath the current FSL (37A). The other is a small dry stone kraal built up against a rock outcrop at the current FSL (37B). The latter is built in the same style as the other structure, i.e. two rows of larger stones with smaller rocks and gravel placed in between.
Comments:
Suggested mitigation: Since no further impact will occur, no mitigation is required.
Previous records:

Site Number: CDW38
Period: MSA
Category: Artefact scatter
Site Description: Open area
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°13' 30.3" E 18°53' 41.6"
Description: This is a very ephemeral scatter of artefacts but is confined to a relatively small area. It is mostly of silcrete and is assumed to be of MSA origin.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW39
Period: Historical
Category: Other structures
Site Description: Other structures
Impact: Very low
Significance: Very low
GPS co-ordinates: S 32°13' 22.7" E 18°53' 44.8" (39A)
S 32°13' 18.8" E 18°53' 42.7" (39B)
S 32°13' 16.9" E 18°53' 41.9" (39C)
Description: In this area we found a series of what seem like stone cairns. The cairns are essentially loosely arranged piles of stones. Lichen growth on the stones suggests that they

are quite old. It was thought that they may be burials but this seems unlikely. There are four cairns together in one area (39A) and a fifth (39B) and sixth (39C) are located in different places stretching further to the north.
Comments:
Suggested mitigation: No mitigation required.
Previous records: DAM9 (UCT Field School 2004)

Site Number: CDW40
Period: Historical
Category: Structures
Site Description: Structures
Impact: Low
Significance: Low
GPS co-ordinates: S 32°12' 57.5" E 18°53' 14.2"
Description: This is a two-roomed rectangular cottage with a traditional hearth on the northern end. It has steel window frames and a wooden door frame and wooden door. The roof is of asbestos. Front door step is well worn suggesting much use. There is a barrel oven outside and stone alignments mark the placement of gardens. The asbestos roof appears to be original.
Comments: This structure is part of the Renbaan Complex that includes CDW43 – 45.
Suggested mitigation: Archival research and oral history should be done to ascertain the age and ownership of the structure. The position of all buildings and features related to the farm complex should be surveyed. A photographic record of the farm complex should also be made.
Previous records:

Site Number: CDW41
Period: Historical
Category: Cultural landscape, Other structures
Site Description: Open area
Impact: Very low
Significance: Low
GPS co-ordinates: S 32°13' 06.7" E 18°53' 18.2" (southern end)
S 32°12' 58.1" E 18°53' 16.2" (north-eastern c orner)
S 32°12' 57.5" E 18°53' 15.0" (northern end)
Description: Here we found a leiwater sloot with several openings in it. The sloot has been formalised with stone and cement and the openings appear to lead onto a large field below. This field has had the stones pulled out of it and laid in neat rows creating long lines clearly visible on the orthophoto in Figure 5. The field and stone lines run well into the dam so they must pre-date the 1930's.
Comments:
Suggested mitigation: The leiwater and surrounding features (including the field below current flood level if possible) should be surveyed and recorded photographically. Oral history may help to trace the makers and users of the fields and *leiwater sloot* and ascertain their age.
Previous records:

Site Number: CDW42

Period: Historical
Category: Cultural landscape, Other structures
Site Description: Other structure
Impact: Low
Significance: Very low
GPS co-ordinates: S 32°13' 04.4" E 18°53' 16.7"
S 32°13' 04.0" E 18°53' 15.3"
Description: This is also a leiwater sloot but it runs at approximately 90 degrees to that in CDW41. It consists of four individual sections between the terraces with no walls being present on the flat areas of the terraces.
Comments: The associated terraces appear to be newer than those to the east of CDW41.
Suggested mitigation: The *leiwater* and surrounding features should be surveyed and recorded photographically. Oral history may help to trace the makers and users of the fields and leiwater sloot and ascertain their age.
Previous records:

Site Number: CDW43
Period: Historical
Category: Structures
Site Description: Structures
Impact: Low
Significance: Low
GPS co-ordinates: S 32°12' 54.5" E 18°53' 12.8"
Description: This building is larger than that at CDW40 but is built in the same manner. It has three rooms and has had its asbestos roof replaced. There is a circular cement dam just to the east of this structure.
Comments: This structure is part of the Renbaan Complex that includes CDW40, 44 & 45).
Suggested mitigation: See CDW40 above.
Previous records:

Site Number: CDW44
Period: Historical
Category: Structures
Site Description: Structure
Impact: Low
Significance: Low
GPS co-ordinates: S 32°12' 51.3" E 18°53' 15.0"
Description: This appears to be the main farmhouse of the farm 'Renbaan'. It is constructed in the same materials as CDW43 and CDW40. This building has been partly demolished and stripped of all its fittings. A date of 29-(?)-1944 was found inscribed in a cement feature alongside the house. The farm is not indicated on the 1943 map shown in Figure X so we can probably assume that the 1944 date marks the construction of the house rather than the addition of a feature.
Comments: This structure is part of the Renbaan Complex that includes CDW40, 43 & 45).
Suggested mitigation: See CDW40 above.
Previous records:

Site Number: CDW45

Period: Historical
Category: Structures
Site Description: Structures
Impact: Low
Significance: Low
GPS co-ordinates: S 32°12’ 51.1” E 18°53’ 13.9”
Description: This structure is a large building, probably a barn, with the remains of two sash windows. There is a smaller room on the northern end of the building which had a single window. The entire roof and the door of the room have been removed. Some old farm machinery is standing inside and just in front of the building. The foundations of another building are located a short way upslope and are not recorded separately. There is also a cement feature to the west of the barn that was probably for dipping livestock.
Comments: This structure is part of the Renbaan Complex that includes CDW40, 43 & 44).
Suggested mitigation: See CDW40 above.
Previous records:

Site Number: CDW46
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Medium
GPS co-ordinates: S 32°12’ 44.2” E 18°51’ 44.5”
Description: This tiny shelter is located under a large shelf of rock. The painting consists only of a red patch with several stripes extending vertically above it. Although the subject cannot be determined, the painting is nonetheless interesting.
Comments:
Suggested mitigation: The painting should be recorded by means of tracing and photography.
Previous records: KVK10 (UCT – AHM)

Site Number: CDW47
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: Medium
GPS co-ordinates: S 32°12’ 48.5” E 18°51’ 41.9”
Description: This peculiar little site is barely a rock shelter. It consists of a tiny space closed in by rock on the right and a mass of tree roots on the left. Several images were originally present but preservation of most is poor. The most notable image is a bichrome eland near the top of the panel.
Suggested mitigation: The painting should be recorded by means of tracing and photography.
Previous records: KVK9 (UCT – AHM)

Site Number: CDW48
Period: LSA

Category: Artefact scatter
Site Description: Open area
Impact: Low
Significance: Very low
GPS co-ordinates: S 32°12’ 51.4” E 18°51’ 41.9”
Description: A low density scatter of artefacts occurs around the head of a small valley to the east of the main kloof. Quartz, quartzite, silcrete and CCS were all noted. It is not possible to tell from where the artefacts have originated.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW49
Period: Historical
Category: Other structures
Site Description: Other structures
Impact: Low
Significance: Low
GPS co-ordinates: S 32°12’ 49.2” E 18°51’ 37.7” (west end of wall)
S 32°12’ 51.1” E 18°51’ 39.0” (west end of wal l)
Description: Here we found the remains of what seems to be an old farm dam spanning the kloof. The wall is 4 m wide and has been broken through towards its eastern end. It is a dry stone wall packed with fine sand.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW50
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high
Significance: High
GPS co-ordinates: S 32°16’ 09.3” E 18°55’ 14.3”
Description: This site is a small domed rock shelter with rock art on its roof. The paintings include two eland, one small antelope and a human figure.
Comments: This record is taken from Halkett (2000) and has not been confirmed during our survey. It is uncertain whether this site falls within the inundation zone or not.
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records: Possibly Nooitgedacht 8 (UCT – Van Rijssen) but the records are ambiguous.

Site Number: CDW51
Period: LSA
Category: Rock art
Site Description: Rock shelter
Impact: Very high

Significance: Very low
GPS co-ordinates: S 32°15’ 56.2” E 18°55’ 09.0”
Description: This shallow overhang contains two or three patches of red paint but no discernible images.
Comments: This record is taken from Halkett (2000) and has not been confirmed during our survey. It was not found during our survey and may fall out of the inundation zone.
Suggested mitigation: No mitigation required.
Previous records: NG52 (Halkett 2000)

Site Number: CDW52
Period: LSA
Category: Artefact scatter, Rock art
Site Description: Rock shelter
Impact: Very high
Significance: High
GPS co-ordinates: S 32°13’ 03.0” E 18°51’ 18.7”
Description: This small shelter is formed beneath a boulder and has more painting on its roof than walls. At least ten figures are present as well as a “Phoenician galleon” Description image. There is a scatter of stone artefacts on the terrace immediately above the paintings.
Comments:
Suggested mitigation: The paintings should be recorded by means of tracing and photography. No mitigation is required for the artefacts.
Previous records:

Site Number: CDW53
Period: LSA
Category: Artefact scatter
Site Description: Rock shelter
Site Description: Open area
Impact: Medium-high
Significance: Very low
GPS co-ordinates: S 32°15’ 59” E 18°55’ 12”
Description: Light artefact scatter in quartz and silcrete located in a small sandy valley.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW54
Period: LSA
Category: Artefact scatter
Site Description: Rock shelter
Impact: Low
Significance: Very low
GPS co-ordinates: S 32°13’ 02.6” E 18°51 16.8” (CDW54A)
S 32°13’ 02.2” E 18°51’ 16.0” (CDW54B)
Description: Light artefact scatters between boulders and in rock shelters. Artefacts in quartz, quartzite and silcrete are present and a lump of ochre displaying a ground facet was found at CDW54B.
Comments: This forms a site complex with several small shelters among the rock outcrops.

Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW55
Period: LSA
Category: Rock art
Site Description: Rock wall
Impact: Very high
Significance: Very low
GPS co-ordinates: S 32°11' 13.7" E 18°525' 27.0"
Description: This site contains a poorly preserved painting of either two or four human figures. It is at the base of a vertical cliff affording it little protection from the elements.
Comments:
Suggested mitigation: The paintings should be recorded by means of tracing and photography.
Previous records: DAM4 (UCT Field School 2004)

Site Number: CDW56
Period: Historical
Category: Industrial
Site Description: Structures
Impact: Very high
Significance: Low
GPS co-ordinates: S 32°10' 42.8" E 18°52' 05.1" (CDW56A)
S 32°10' 44.1" E 18°52' 06.4" (CDW56B)
S 32°10' 45.1" E 18°52' 05.5" (CDW56C)
S 32°10' 44.9" E 18°52' 06.5" (CDW56D)
S 32°10' 45.8" E 18°52' 08.0" (CDW56E)
S 32°10' 46.7" E 18°52' 06.6" (CDW56F)
S 32°10' 48.0" E 18°52' 06.9" (CDW56G)
S 32°10' 47.8" E 18°52' 09.2" (CDW56H)
S 32°10' 47.2" E 18°52' 04.5" (CDW56I)
Description: This appears to be a compound of structures related to the 1930's dam construction site (CDW1). There are numerous cement building bases all showing a similar construction style. Bolts stick up from the edges of the floors, no doubt for the securing of other superstructure. The floors vary in shape and size and certainly in function. Some have stone retaining walls in front of them. CDW56I is probably safe from the road alignment but it probably belongs with the complex. One of the structures at CDWI may, however, be 19th century.
Comments:
Suggested mitigation: The structures should be surveyed and recorded photographically.
Previous records:

Site Number: CDW57
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Very high

Significance: Very low
GPS co-ordinates: S 32°10’ 52.2” E 18°52’ 11.7”
Description: This is a small access track with a crude dry stone wall along its lower edge. It runs up the slope away from the current N7.
Comments:
Suggested mitigation: No mitigation required.
Previous records:

Site Number: CDW58
Period: Historical
Category: Industrial
Site Description: Other structures
Impact: Very high
Significance: Very low
GPS co-ordinates: S 32°11’ 02.1” E 18°52’ 14.7”
Description: Here there are four round cement dams standing in a row.
Comments: These are probably related to CDW1 and CDW56.
Suggested mitigation: The dams should be surveyed in with CDW1 and CDW56 and recorded photographically.
Previous records:

Site Number: CDW59
Period: Historical
Category: Road infrastructure
Site Description: Road infrastructure
Impact: Very high
Significance: Low-medium
GPS co-ordinates: None taken as the road is clearly visible on aerial photographs.
Description: This is a small road with drystone retaining walls along its lower edge. It leads up from the N7 well north of the dam wall and proceeds up the side of the hill above CDW56 and CDW1.
Comments:
Suggested mitigation: Photographic and video recording.
Previous records:

Site Number: CDW60
Period: MSA, LSA
Category: Artefact scatter
Site Description: Open area
Impact: Medium
Significance: Very low
GPS co-ordinates: S 32°15’ 33.3” E 18°54’ 37.5”
Description: This site contains a moderate scatter of stone artefacts on an open rock and sandy terrace in front of some boulders. The artefacts have a clear MSA signature but there are almost certainly some LSA artefacts as well.
Comments:
Suggested mitigation: No mitigation required.
Previous records: DAM18 (UCT Field School 2004)

Site Number: CDW61
Period: LSA
Category: Artefact scatter, Deposit, Rock art
Site Description: Rock shelter
Impact: N/A, but potential impact is very high
Significance: N/A, but if impacted significance would be very high
GPS co-ordinates: S 32°11' 39.9" E 18°52' 03.2" (the cave)
S 32°11' 38.4" E 18°52' 05.0" (eastern extent of talus scatter)
Description: This site is a large cave site that has been excavated in the past (Anderson 1991). It also contains substantial rock art that is very well preserved. There is an extensive talus scatter extending away to the east of the site.
Comments: While no direct impact will occur on this site, the rerouting of the N7 just below the site may vastly increase the number of visitors to the site. This could have disastrous effects similar to those seen at other rock art sites that are freely open to the general public. For this reason the site has been included in this listing.
Suggested mitigation: No mitigation is required if the site and its talus scatter remain undisturbed but it is recommended that the new road be constructed in such a way as to prevent people from stopping anywhere within several hundred meters of the site.
Previous records: The site is widely known as "Andriesgrond Cave" and has been written up as an Honours Project at UCT (Anderson 1991).

Site Number: CDW62
Period: Historical
Category: Industrial
Site Description: Other structure
Impact: High
Significance: Low-medium
GPS co-ordinates: none taken.
Description: This is the Clanwilliam Dam wall and its related structures. It is built of concrete
Comments: CDW1 and CDW56 are related to the dam wall.
Suggested mitigation: The dam wall and related infrastructure should be accurately recorded by means of surveying and photography.
Previous records:

Site Number: CDW63
Period: MSA
Category: Artefact scatter
Site Description: Open area
Impact: Very high
Significance: Very low
GPS co-ordinates: S 32°11' 05.0" E 18°52' 18.0"
Description: This is a large, very ephemeral scatter of MSA artefacts occurring all over the hillside in this area. A few items were also seen in the area of CDW56.
Comments:
Suggested mitigation: No mitigation required.
Previous records: