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ARCHAEOLOGICAL SPECIALIST REPORT
ASSESSMENT OF IMPACT OF THE PROPOSED
TELECOMMUNICATIONS PROJECT,
KIMBERLEY - DE AAR NETWORK,
NORTHERN CAPE

Prepared for
Telkom

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KIMBERLEY - DE AAR : TELKOM TOWER SITES

Final Report

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"It is a great and spectacular history when compared to any other place in the world."

- C.G. Sampson, archaeologist, 1985, with
reference to the Stone Age of the Karoo.

*"While we were at Davos, I received a letter from Professors Nicholas Conard and John
Parkington of the Universities of Tübingen and Cape Town respectively.*

They make the important observation that:

*'The archaeological record of South Africa, including human fossils, artefacts and organic
remains, has an international significance that extends far beyond the country's
borders...(Less well known) are the hominids that demonstrate the earliest signs of modern
people and the treasure trove of rock art sites.'*

*While correctly pointing to the need to protect this heritage, to which we must surely
respond, they also indicate the potential for job creation in the preservation and other
activities at the various archaeological sites. Needless to say, these can also be powerful
tourist attractions, thus emphasising the importance raised by the two professors with
regard to the challenge of looking after what we have inherited which is as old as the origins
of humanity."*

- President Thabo Mbeki,
State of the Nation Address, 4 Feb 2000

Introduction: project background, brief and summary of findings

The McGregor Museum archaeology department was approached by Telkom with respect to investigating possible impacts at 69 communications tower sites (repeater and terminal sites), from the network to be constructed between Kimberley and De Aar. The sites were visited in the company of Telkom personnel on 10-11 July, 31 July-8 August, and on 15 August 2000, to assess their archaeological sensitivity. Mrs Judy Odell accompanied the group on 11 July and 15 August to assess the sites from the perspective of Steamnet 2000, while Miss Fiona Barbour (military historian) and Mrs Elizabeth Voigt (archaeologist) joined the group on 15 August.

Where tower sites were found to be archaeologically sensitive, it was possible, in many instances, for the accompanying Telkom project team to adjust their location so as to reduce the impact. Where such adjustments were not possible and negative impacts were judged to be high, measures are recommended here for mitigation.

This final report presents archaeological observations and management recommendations, with a summary of the major findings being:

1. Some form of archaeological signature was noted at most of the 69 Telkom tower sites visited. In most cases these comprised low density surface scatters of Middle and Later Stone Age stone tools, with Achuelean material being found at a few sites, and material traces of the colonial era, the Anglo Boer South African War and the twentieth century, at others. Rock engravings were found at or near some of the sites. The negative impact of the Telkom project on heritage sites is expected to be generally low, but higher in a few instances as indicated in Table 3, below. In selected cases mitigation measures and the obtaining of SAHRA permits are recommended (see Tables 3 and 4).

Negative aesthetic impacts are hard to quantify, but would be greatest where towers are close to tourist routes such as the Steamnet 2000 and AB100 Battlefield routes.

Recommended mitigation measures include suggested minimisation of road scraping (see Table 3), and, where impacts are expected to be greater or more sensitive (Table 4), permits should be obtained: for construction within the bounds of two battlefields; and within the bounds of two rock art sites; two LSA sites; and one Achuelean site. Salvage excavation is recommended for the sites of Zand Plaats and Helderswater.

2. Training

A training programme should be developed to sensitise Telkom staff, contractors and sub-contractors concerning the nature and significance of heritage sites.

3. Education and tourism

Some of the information obtained during the survey may be suitable for educational and tourism purposes, and ways will be explored to disseminate the information appropriately.

Terms of reference

The assessment was carried out in order to:

1. Assess, by way of initial desktop study, the likelihood of archaeological traces existing at the range of sites identified by Telkom and its contractors. Some records existed at the museum for the region in question. The region was known to be rich in Stone Age traces - including rock art - in particular.
2. Identify archaeological and other heritage resources at the Telkom localities and access routes by means of field visits, and assess sensitivity/significance, and extent of likely impact. Possible impacts of power access development could not be assessed for lack of information - such impacts may be negligible.
3. Make recommendations for the management of archaeological and related resources, including steps for mitigation where negative impacts were expected to be high.

Archaeological background

The region in question is well known for its wealth of archaeological sites, particularly stone age and rock art occurrences (eg. Goodwin & van Riet Lowe 1929; Sampson 1985; Morris 1988; Beaumont & Morris 1990).

Stone Age material found in this area spans the Earlier, Middle and Later Stone Ages (ESA, MSA, LSA) through Pleistocene and Holocene times. Sites of Pleistocene age have been described along the banks of the major rivers and in pan-side settings near Kimberley and in the Karoo (eg. Butzer 1983; Sampson 1985; Beaumont & Morris 1990). Fauresmith material is common in the red Hutton Sands north of the Orange River; and huge spreads of late Acheulean or Fauresmith material are known from a vicinity north of De Aar. Later Stone Age (LSA) sites occur widely in the region. "Type R" pastoralist settlements (Maggs 1971; Humphreys 1972) are known within the valley of the Riet River.

A detailed study of a valley to the east of De Aar (where some 18 000 sites were documented) led Sampson to declare that "a brief comparison of surveys conducted elsewhere in the world reveals promptly and unambiguously that South Africa is richer in Stone Age remains than any other place on earth." Development projects can impact negatively on this heritage. In his plea for conservation and proper mitigation practice, Sampson reminds us that "what is being destroyed is the history of the South African people - written in surface sites rather than documents. The destruction of their sites is as effective as the burning of an official archives building. These ancient people were the first South Africans...it is a great and spectacular history when compared to any other place in the world" (Sampson 1985:107).

The vicinity of the railway line from Deelfontein, in the south, to Kimberley, is closely associated with the "Western Campaign" in the Anglo Boer South African War, particularly with reference to the Battles of Belmont, Graspan, Modder River and Magerfontein at the start of the war; the subsequent incursions into the Cape

Colony by De Wet, Hertzog and Naude; the development of British military bases and hospitals; and, latterly, the stringing out of block-house lines and forts. All of these events and activities impacted on the landscape, the material traces of which are to be seen to this day.

Legislation

The National Heritage Resources Act (No 25 of 1999) provides protection for archaeological resources, including sites of, or relating to, conflict that are 75 years old or more (hence, all Anglo Boer South African War sites), and structures that are 60 years old or more. This Act replaced the National Monuments Act on 1 April 2000.

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

Measuring archaeological significance

Assessment matrices adapted from models developed by Deacon (nd) and Whiteleaw (1997) were used in the initial desktop study and for estimating site significance.

1. Estimating site potential

Table 1 is a classification of landforms and visible archaeological traces for estimating the potential for archaeological sites (after J. Deacon, National Monuments Council). Type 3 sites tend to be those with higher archaeological potential. There are notable exceptions, such as the world renowned rock art site Driekopseiland, near Kimberley, which is on landform L1 Type 1. Generally, moreover, the older a site the poorer the preservation. Some acquaintance with the area and material in question is thus critical to estimates based on these parameters.

The initial desktop study indicated that most of the Telkom sites were likely to be on landform classes L1 and L3, with archaeological traces most likely to be of class A3 and/or A4. Because of the known wealth of sites in the region, it was important to investigate the full complement of sites.

A summary of observations is given in Table 3.

2. Assessing site significance by attribute

A matrix of parameters adapted from Whiteleaw (1997), originally developed to select sites meriting heritage recognition status in KwaZulu-Natal, is used in this survey (Table 2). It is a means of judging a site's archaeological significance by ranking the relative strengths of a range of attributes. While aspects of this matrix are qualitative, attribute assessment is a good indicator of the general archaeological

significance of a site, with Type 3 attributes being those of highest significance.
Sites where mitigation actions are recommended are characterised against this matrix in Table 4, below.

Table 1. Classification of landforms and visible archaeological traces for estimating the potential for archaeological sites (after J. Deacon, National Monuments Council).

Class	Landform	Type 1	Type 2	Type 3
L1	Rocky surface	Bedrock exposed	Some soil patches	Sandy/grassy patches
L2	Ploughed land	Far from water	In floodplain	On old river terrace
L3	Sandy ground, inland	Far from water	In floodplain or near feature such as hill	On old river terrace
L4	Sandy ground, coastal	>1 km from sea	Inland of dune cordon	Near rocky shore
L5	Water-logged deposit	Heavily vegetated	Running water	Sedimentary basin
L6	Developed urban	Heavily built-up with no known record of early settlement	Known early settlement, but buildings have basements	Buildings without extensive basements over known historical sites
L7	Lime/dolomite	>5 myrs	<5000 yrs	Between 5000 yrs and 5 myrs
L8	Rock shelter	Rocky floor	Sloping floor or small area	Flat floor, high ceiling
Class	Archaeological traces	Type 1	Type 2	Type 3
A1	Area previously excavated (archaeological)	Little deposit remaining	More than half deposit remaining	High profile site
A2	Shell or bones visible at surface	Dispersed scatter	Deposit <0.5 m thick	Deposit >0.5 m thick; shell and bone dense
A3	Stone artefacts or stone walling or other feature visible at surface	Dispersed scatter	Deposit <0.5 m thick/ medium-high density surface traces	Deposit >0.5 m thick
A4	Rock surfaces or faces with markings, paintings or engravings	Some markings	Small rock art site	Large rock art site or site with noteworthy individual engravings or paintings

Table 2. Site attributes and value assessment (adapted from Whitelaw 1997)

Class	Attribute	Type 1	Type 2	Type 3
1	Length of sequence/context	No sequence Poor context Dispersed distribution	Limited sequence	Long sequence Favourable context High density of artefacts

2	Presence of exceptional elements (eg rock art)	None	Limited	Major significance
3	Degree of organic preservation	None	Limited	Major
4	Potential for future archaeological investigation	Low	Medium	High
5	Potential for public display	Low	Medium	High
6	Aesthetic appeal	Low	Medium	High
7	Potential for implementation of a long-term management plan	Low	Medium	High

Archaeological observations: general comments

In a few instances tower construction is expected to have a HIGH negative impact on archaeological remains, and mitigation measures are recommended for each case. Not many of the other sites, however, were found to be entirely devoid of surface artefact traces, although these were usually found in low density or poor context. In these latter instances the likely archaeological impact has been characterised as LOW. But where construction would require sub-surface foundations (for example where the surface comprises aeolian sand over shale or calcrete) it is possible that higher densities of archaeological remains, not visible at the surface, may be disturbed. These could consist, typically, of a layer of stone artefacts within a particular sub-surface soil horizon. Stone tools of Fauresmith type, for instance, often occur at the base of the red Hutton sands in the Kimberley area, immediately overlying calcrete. It is also possible that precolonial burials, not always marked by surface cairns, may be disturbed, particularly in settings where superficial sand is thick. Other archaeological features that could be revealed below ground include ostrich eggshell caches, which, in the form of water containers, were frequently buried by hunter-gatherers (eg Henderson, in press, for an example at Belmont).

In the event that such sub-surface sites are discovered during construction, work should cease and an archaeologist be alerted immediately to assess the find and suggest appropriate mitigation.

Table 3 provides a summary of observations under the following headings: Site name (as given by Telkom together with Topo Cadastral property designation as used by the Archaeological Data Recording Centre at the McGregor Museum); Geographical co-ordinates as supplied by Telkom, who verified these in the field (Telkom's readings are rounded off to the nearest second; the revised co-ordinates have not been verified against the maps in this report); Map sheet number (1:50 000 topographical); Description of the site and archaeological traces, including details of access roads where these need to be constructed (power access routes have not been assessed); and, finally, management recommendations and requirements.

The sites found during this survey span - though by no means comprehensively - the entire archaeological record of the region, from Acheulean times to the twentieth century. The most common sites relate to the Middle and Later Stone Age, mainly represented by usually fairly dispersed surface stone tool scatters, mostly in the form of flaked hornfels (lydianite). At a small number of sites flakes on quartz, quartzite and banded ironstone reflected proximity to alternative raw material sources and/or exchange of such raw materials from further afield. At one site a locally outcropping silcrete was utilised. In a few instances LSA scatters included organic remains such as bone and ostrich eggshell. Pottery was noted at one site well clear of the Telkom tower at Potfontein. Rock engravings in the form of hairline, pecked and scraped engravings were found at some sites. Remains relating to the Anglo Boer South African War, such as forts and associated debris, as well as graffiti, were located. Much farm-associated stone walling and many refuse middens were noted en route, with two such middens occurring near Telkom tower positions.

Field notes, maps and other documentation relating to this survey are archived at the McGregor Museum Archaeology Department.

Table 3. Summary of observations				
Site (As named by Telkom plus Topo Cadastral designation)	Lat Long	Map Sheet	Description of site and archaeological traces	Comments: management recommendations and requirements
Droogfontein	283441 243944	2824DA	Beside railway, Hutton sands. Mound of disturbed material near railway appeared to contain no artefacts.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Secretarius" Secretaris	284245 243044	2824DA	Near road, Hutton sands. Very low density of artefacts of Wilton, Fauresmith.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: MEDIUM
"Laat Waai" Jockey	284349 245050	2824DB	Near road. Area has been ploughed in recent past. Clayey sand. Very low density of artefacts Fauresmith.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Jonkershoek" Smithrust	283147 244644	2824DB	Beside road and homestead. Hutton sands. No artefacts at surface.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Flamingo" Garau 2PC19 Roode Pan	283856 244612	2824DB	On pan margin. Hutton sands overlying calcrete. Exposures near the site contained no artefacts. Some potential for Fauresmith below present surface.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
Niekerkshoop	283710 245805	2824DB	On hill. The final position for this site was not visited, but the general environs were examined. No artefacts or rock art were noted on the portions of the hill visited.	Likely impact on archaeological resources: LOW Possibility of surface and subsurface material being encountered: MEDIUM (See description of site)
Zoutpanfontein	282927 244401	2824BC	Hutton sands away from river. Potential for sub-surface material. No artefacts noted at surface.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: MEDIUM
"Quintus" Langverwacht	284318 242446	2824CB	Near road - Shallow topsoil, very low density of MSA/Fauresmith.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Rooipoort" Randt Plaats " Twee Koppies"	283727 241854	2824CB	Stony hill but lacking smooth andesite rocks suitable for engravings. No artefacts noted. Exiting communications mast.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW

Zand Plaats	284241 240607	2824CA	On eastern slope of hill. High density of amorphous flaked chert industry of MSA. Site will be damaged by both tower site and access road construction.	Likely impact on archaeological resources: HIGH Possibility of subsurface material being encountered: MEDIUM SAHRA permit requirement: McGregor Museum to carry out salvage before destruction of archaeological site.
"Schoemansrus , Schoeman's Rust	285645 244926	2824DD	Homestead area. Site was to have been positioned directly on an historical and presently active midden. Some items probably greater than 60 years.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: LOW Recommend move tower site 30 m west.
Vooruitzicht	284525 245655	2824DD	Near road - Hutton sands. Expect low density subsurface Fauresmith, exposed in road cuttings nearby.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: MEDIUM
"Deville" Weltevrede	284730 243311	2824DC	Site on plain adjacent to ploughed land. Low density Fauresmith/MSA in the vicinity	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Spytfontein" Spijtfontein	285053 244200	2824DC	Beside N12, spur of dolerite hill, close proximity of railway. Possible Boer War activity in area. No archaeological material on surface, no engravings. Access road to be built (50 m).	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW No evidence of Anglo Boer South African War activities on site.
"Langberg" Langeberg	285530 243950	2824DC	Between N12 and railway. Low density LSA, Fauresmith artefacts at surface. Shallow covering of sand. Rusted metal - some may be >60 years. Site is within the bounds of the extended Magersfontein Battlefield.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: MEDIUM Visual impact on Battlefield area, but in area of similar Eskom and Spoornet impacts. SAHRA permit requirement: Construction on Battlefield.
"Erfdeel" Zandheuwel	285457 241900	2824CD	On Hutton sands on plain overlooking Riet River. Artefacts of Fauresmith exposed overlying calcrete in cutting at road. Access road required.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: MEDIUM
"Holpan" Spitz Kop	285117 242949	2824CD	On calcrete flats with low density of Fauresmith/MSA artefacts exposed at the surface.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: LOW
Rooddam	290051 244430	2924BA	Above bank of Modder River on stony eroded ground (virtually no topsoil), no artefacts noted.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW

"Little Hut" ^s Modder River" Dooms	290141 243807	2924BA	Up river bank, shallow topsoil (sand) with exposures of calccrete where a low density of heavily weathered hornfels ?MSA artefacts were noted. Site is within the bounds of the Battle of Modder River - but no debris attributable to the period was seen on site.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW SAHRA permit requirement: Construction on Battlefield.
Knoffel Fontein	290134 242853	2924AB	At beacon - Hutton sands, no archaeological traces at surface.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
Kolkop	291421 242700	2924AB	On hill - at existing tower. Access road to be upgraded. MSA artefacts found at already disturbed tower site.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
Nooitgedacht	291009 242544	2924AB	On rocky rise. Alleged portion of unfinished kraal is probably anti-erosion measure. No archaeological traces or engravings in immediate vicinity.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Vrolikheid" Scholtz Fontein North	291437 241411	2924AA	Adjacent to farm and shop on plain above pan margin. A few quartzite flakes, cf MSA.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Strypoort" Kareelaagte	292053 243053	2924BC	On hill with hairline and pecked engravings. Mast position moved 15 m. Engravings either side of intended access road (to be constructed). Site is beyond the Graspan Battlefield (no associated features on site).	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: MEDIUM SAHRA permit requirement: Construction near rock engravings.
Gruisdam	292235 243629	2924BC	Plan, near canal, a single stone flake found.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Luiperdskop" Swinks Pan	292535 242635	2924AD	On hill. The original site was situated close to Anglo Boer South African War skanse (Boer positions), and contemporary graffiti. Rearguard action was fought here by retreating Boers, 23 Nov 1899. Site moved to adjacent hill. Access road to be built. On margins of Belmont Battlefield	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW Sensitive Anglo Boer South African War sites in vicinity.
"Lekkerwater" Breehin	292829 241523	2924AD	At base of small hill where late 19 th /early 20 th century inscriptions were found. Sparse of LSA artefacts.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW

Mooiplaat	292444 234736	2923BD	Near road on flat plain, shallow soil, very sporadic MSA flakes, quartzite (from Dwyka tillite).	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Klipfontein" Eskdale	292605 235848	2923BD	Plateau above river. On edge of ?Acheulean site, quartzite flakes, cores.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
Annie's Rust	293029 243330	2924DA	On ridge overlooking vast pan. Outcrop of dolerite south of the site has hairline engravings, and surface of aeolian sand has medium to high density of MSA artefacts (increases southwards, with lowest density at tower site)	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: MEDIUM No scraping of road. Sensitive site nearby.
Soupanstuf	294426 242124	2924CB	On plain, near road, with very weathered MSA and Albany artefacts	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Suffolk" Norfolk	293623 241412	2924CA	On raised ground overlooking disturbed cultivated land - a single chalcedony flake, LSA.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Hartebeeshoek" Hartebeest Hoek	294317 240344	2924CA	On gradual slope below ridge - a single flake found.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Doornbult" Farm 275		2924CA	On silo.	Site not visited - no additional land disturbance expected.
Zoet Gat	293422 240135	2924CA	In disturbed agricultural land - no archaeological traces found.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Waalveld" Dolf's Doring	293351 235038	2923DB	On deep Kalahari sand on featureless plain - no archaeological traces found.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Periskedam" Limitskop	294242 235046	2923DB	On plain below dolerite ridge. Dispersed surface scatter of LSA material including an item based on quartz and on banded ironstone. More sensitive sites likely in nearby hills.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Witpan" Witte Pan	294118 234137	2923DA	Deep Kalahari sand downslope from dolerite hills, with very sparse surface scatter of LSA and older material on horfels.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW

"Leenberg" Verlaten Dam	293306 233710	2923DA	The approach to this site, requiring access construction, is via a valley north of the dolerite hills. Fairly high density surface scatters of MSA/Fauresmith material in the valley and near the preferred (new) tower site. No engravings noted.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: MEDIUM Avoid scraping where possible.
Kranspan	293105 232712	2923CB	On gradual sand-covered slope in slightly undulating landscape. No surface traces of archaeological material. Kranspan was where Plumer's Column sighted De Wet on 18 Feb 1901, his horses being exhausted, Plumer bivouacked here. No traces relating to the Anglo Boer South African War found.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Biesieput" Biesje Put	295858 235759	2923DD	At homestead - on featureless plain. Very sparse MSA at surface; shallow soil over calcrete.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Bannockburn" Blackheath	292353 241201	2924AC	On gradual rocky slope on eastern side of dolerite ridge, requiring access construction. No engravings; very sparse LSA.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Rooipan" Rooipan/Annex Vuijtes Kraal	295235 242247	2924CD	On low rise with deep Kalahari sand - no archaeological traces.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
Taay Bosch Draai	295012 242856	2924CD	On high dolerite ridge south from Orange River. Original site has high sensitivity in terms of hairline and other engravings and considerable distance for access construction. Site repositioned southwards. No engravings observed on new site and access route. Some MSA artefacts.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: LOW
Zeerust	294649 240741	2924CC	On rise on featureless plain - very sparse artefact (cf MSA) scatter on shallow soil over shale.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
Fransville	295503 240456	2924CC	On plain near homestead with shallow sand over calcrete - very sparse MSA at surface.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Kraankuil" Kraankuilsdam	295254 241040	2924CC	On partly disturbed area near station. Low density MSA on surface including one quartzite flake.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW

"Poupan" Pauw Pan (Platkop)	300342 241121	3024AA	Site is between dolerite hills. Sparse MSA artefacts: a possible Anglo Boer South African War fort on the nearby ridge. J.M.B. Hertzog crossed the line near Pauw Pan on 24 Feb 1901.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Witpan 2" Tafel Kop	300841 241431	3024AA	Deep Kalahari sand near homestead. Cf Fauresmith material exposed by nearby trenching.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: MEDIUM
"Biesiepan" alias "Bossiepan" Roode Dam	300704 240648	3024AA	Site is in the saddle between dolerite ridges, with access route construction necessary across deep Kalahari sand. A LSA site including lower grindstone and lithics in the path of the access road. On the hill are engravings and rock gongs.	Likely impact on archaeological resources: HIGH Possibility of subsurface material being encountered: HIGH DO NOT scrape road access; remove vegetation by hand. SAHRA permit requirement: possible disturbance of LSA site and proximity to rock engravings.
"Koensdraai" Roode Fountain	301256 240527	3024AA	Gradual slope immediately adjacent to dolerite ridge where LSA, lower grindstones and rock gongs were noted. An erosion feature at the tower site exposes LSA and older material.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: MEDIUM Focus activity east of tower position rather than in erosion feature immediately west thereof.
Doom Kuil	302802 233858	3023BC	On low dolerite ridge adjacent to farm worker cottages near homestead. Historical refuse midden near tower site.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW Avoid scraping through rubbish dump.
" Renoster-fontei n" Rhenoster Fontein	301934 235427	3023BD	Beside road on flat plain, with sparse LSA and MSA surface scatter.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Blaauwbosch" Blaauwbosch Dam	302345 235743	3023BD	On plain with low density MSA.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW

"Renosterberg"	302744 235838	3023BD	On high berg - access to top exists, but access route to tower site along the south west edge of the berg to be constructed. Very low archaeological visibility (few MSA & LSA flakes over a circa 1 km stretch). Old stone dam walling occurs at the head of a kloof, which must not be disturbed.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW Do not disturb old dam walling.
"Houtkraal" Houd Kraal	302212 240527	3024AC	On western side of low dolerite ridge. Anglo Boer South African War activity known in the area, but no remains ascribable to it on this site - except perhaps a single horse shoe. Some graffiti on rocks - 20 th century, a few hornfels flakes mainly LSA. C.R. de Wet broke across the line (which he destroyed) north of Houd Kraal on 15 Feb 1901. Later, on 29 Nov 1901, C.D. Naude crossed near here.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Tafelkop" Nuwe de Kalk	302950 240750	3024AC	Near beacon on top of hill. Access route to be constructed up north slope through dense and very extensive hornfels workshop spread with rare handaxes. This hornfels exposure measures up to several square km in extent. The steep slope which will suffer the greatest impact is perhaps the least significant part of the spread from an archaeological perspective.	Likely impact on archaeological resources: HIGH Possibility of subsurface material being encountered: HIGH Avoid scraping wherever possible. SAHRA permit requirement: Construction of access road through extensive Acheulean workshop site.
"Renosterpoort"	304022 235107	3023DB	On flat area adjacent to dolerite ridge with nearby surface scatters of LSA and high probability of engravings in the vicinity. Tower position moved slightly to reduce local impact.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Boomplaas" Spreeuws Fountain	303516 234920	3023DB	On shallow soil over shale near beacon. Sparse MSA incl a Levallois core.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW

Slingers Hoek	303704 241231	3024CA	In saddle between dolerite hill and ridge - LSA and earlier material on slope. A collapsed rectangular stone structures nearby at base of hill, with associated glass.	Likely impact on archaeological resources: MEDIUM (access route - avoid scraping as far as possible) Possibility of subsurface material being encountered: LOW
"Eskom" now on		3024CA	Use to be made of existing tower	Existing
Heider Water	304413 242302	3024CB	At top of hill, with small LSA sites, one with locally unusual raw material use, namely a silcrete which outcrops on the hill. Further LSA spreads on platform areas on the hill. Suggested relocation of tower to less sensitive part of hill was not technically feasible. Access route to be constructed.	Likely impact on archaeological resources: HIGH Possibility of subsurface material being encountered: HIGH SAHRA permit requirement: McGregor Museum to carry out salvage before destruction of archaeological site.
Bloemhof	304132 241555	3024CB	Tower site moved from top of hill to platform area overlooking vlei. Site position adjusted to avoid artefact spread (LSA). Access route to be scraped from east and south east.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: LOW Avoid scraping where possible.
"Gifkop" Krommeriviers Mond	305315 234342	3023DC	On ridge below Gifkop - on rocky surface with minimal archaeological traces (Acheulean at windmill downslope, incl Victoria West core).	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Smouspoort" Smauspoort	304630 234911	3023DD	At foot of Leeukop, behind homestead. A few ?early Holocene flakes.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW
"Platberg" Nieuwejaars Fountain	305238 235817	3023DD	At eastern end of Platberg, with nearby small spread of LSA late Holocene including organic material (ostrich eggshell, bone). Site repositioned here from more sensitive western end where hairline engravings occur. Possible access routes up northern and southern slopes. Engravings (hairline and scraped) occur around the foot of the hill.	Likely impact on archaeological resources: HIGH Possibility of subsurface material being encountered: LOW Engravings potentially in way of access route. Archaeologist to be present when access route planned. SAHRA permit requirement: Construction near rock engravings.
"Deelfontein"	305817 234951	3023DD	West of saddle between dolerite ridges, with engravings (scraped), LSA and Anglo Boer South African War forts. Site repositioned from saddle to a point some 50 m downslope to lessen impact.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW Avoid any impacts on sites in saddle area.

"Sliffontein" Hartebeest Fountain	305743 240321	3024CC	On platform half way up dolerite hill, with LSA and MSA material on platform areas and in path of access route. No artefacts on exact location of tower.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: LOW Avoid scraping where possible.
"Wonderboom" Blaauw Bank	310311 234302	3123BA	On side of hill north east of homestead - with LSA and earlier material in vicinity. Moved tower position to lessen localised impact. Small stone circle with late Holocene LSA including organics on nearby ridge.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: LOW
"Slagberg" Orange Valley	310205 235456	3123BB	On northern portion of Slagberg, near beacon, with steep access route to be constructed. High density of cf. Fauresmith material at base of hill where access to be built. Suggested alternative route up eastern side of valley to avoid major artefact concentrations. Minimal MSA at top of Slagberg.	Likely impact on archaeological resources: MEDIUM Possibility of subsurface material being encountered: MEDIUM Avoid scraping where possible.
Rosendal	311124 240323	3124AA	On high dolerite hill, very sparse artefact distribution at base, and even fewer at the top. Access route to be repositioned to avoid cutting into southern face.	Likely impact on archaeological resources: LOW Possibility of subsurface material being encountered: LOW Impact of possible alternative access route unknown.

Summary

Some form of archaeological signature was noted at most of the 69 Telkom tower sites visited. In most cases these comprised low density surface scatters of Middle and Later Stone Age stone tools, with Acheulean material being found at a few sites, and material traces of the colonial era, the Anglo Boer South African War and the twentieth century, at others. Rock engravings were found at or near some of the sites. The negative impact of the Telkom project on heritage sites is expected to be generally low, but higher in a few instances as indicated above. In selected cases mitigation measures and the obtaining of SAHRA permits are recommended.

Negative aesthetic impacts are hard to quantify, but would be greatest where towers are close to tourist routes such as the Steamnet 2000 and AB100 Battlefield routes.

Recommended mitigation measures include suggested minimisation of road scraping (see Table 3), and, where impacts are expected to be greater or more sensitive (Table 4), SAHRA permits should be obtained: for construction within the bounds of two battlefields; and within the bounds of two rock art sites; two LSA sites; and one Acheulean site. Salvage excavation is recommended for the sites of Zand Plaats and Heldenvater.

Training

A training programme should be developed to sensitise Telkom staff, contractors and sub-contractors concerning the nature and significance of heritage sites.

Education and tourism

Some of the information obtained during the survey may be suitable for educational and tourism purposes, and ways will be explored to disseminate the information appropriately.

Table 4. Assessment of site potential and significance by attribute (with reference to matrices given in Table 1 and 2): sites for which SAHRA permits should be sought.

Site	Landform	Archaeological Traces	Attribute types* (T1-3)				Comments
			1	2	3	4	
Zand Plaats	L1 Type 2	A3 Type 2	T3	.... T2	.... T1	.... .... T2	Medium density of artefacts Regional rarity No organics Medium research potential as material not well represented in museum collections. NB salvage recommended
Helder-water	L1 Type 3	A3 Type 2	T3	.... T2	.... T2	.... .... T2	High density of artefacts Regional rarity Some organics Medium research potential: NB salvage recommended
Strypoort	L1 Type 3	A4 Type 2	T2	.... T2	.... T1	.... .... T2	Small number of engravings Engravings No organics Medium research potential Within bounds of the site: Manage impacts during construction
Platberg	L1 Type 3	A4 Type 3	T2	.... T3	.... T1	.... .... T2	Engravings, hairline and scraped Some noteworthy engravings No organics Medium research potential Within bounds of the site: Manage impacts during construction
Biesiepan	L3 Type 2	A3 & A4 Type 2	T3	.... T3	.... T1	.... .... T2	LSA late Holocene and engravings LSA, engravings, rock gong Possible organic preservation Medium research potential Within bounds of the site: Manage impacts during construction
Tafelkop	L1 Type 2	A3 Type 2	T3	.... T2	.... T1	.... .... T1	High density of artefacts Acheulean sites locally not common No organics Other parts of site better suited for research Within bounds of the site: Manage impacts during construction
Langberg	L3 Type1	Battlefield					Within bounds of battlefield No battlefield features or debris on Telkom tower site
Modder River	L3 Type1	Battlefield					Within bounds of battlefield No battlefield features or debris on Telkom tower site

* Attribute classes 5-7 (Table 2) presuppose a situation of preservation. The development of Telkom towers impacts negatively on display potential and aesthetic appeal in particular.

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KIMBERLEY - DE AAR: TELKOM TOWER SITES
Supplementary report to that of David Morris

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Introduction

The McGregor Museum was contacted by Telkom with respect to towers to be erected between Kimberley and De Aar. Having been concerned for many years with the military history of the area, and recently with the project for electrification of the Kimberley-De Aar railway line, I was asked by Mr Morris and Mrs Anderson to assist. This was necessary, as under the National Heritage Resources Act of 1999, all battlefields and any related material older than 75 years is automatically protected, and may not be disturbed without a permit from the South African Heritage Resources Agency. Before leaving for overseas I discussed the project and the proposed tower sites in detail with Mr Morris, with whom I had already twice given presentations to Spoornet and Eskom contractors and personnel. On my return we discussed the sites individually and visited some problematic areas.

Background

The Northern Cape and adjacent Free State have frequently been the scene of military conflict, most dramatically during the Anglo Boer South African War of 1899-1902. During those three years there were few areas unaffected by the war, whether by major battles, garrison camps, laagers, concentration camps, burials, blockhouses, fortifications and defences, or by the skirmishes and movement of mounted men during the guerilla war phase.

The railway line was vital from the outset for British troop movement, and as the main supply and communication link from the coast to the interior. Hence the major battles fought along it, and the increasingly dense line of defences and fortifications constructed both to protect the railway and in an attempt to reduce Boer mobility.

With the centenary of the South African War (1999-2002), much attention has been given to upgrading the historical sites, for reasons of research and conservation but also tourism and job creation, with over R4.5 million contributed by the Diamantveld District Council towards the N12 Battlefield Route. A particular attraction for visitors is the comparatively unspoilt nature of the battlefields, with much material evidence remaining on the ground. Concern over the siting of Telkom towers has therefore been both the risk of physical disturbance of sites, and the potential visual impact of towers on tourist attractions.

Sites of military history concern in the Kimberley-De Aar area

1. Vicinity of the railway

Kimberley was besieged for four months by Boer forces, and the resultant British relief column assembled at De Aar and Orange River Station before marching north along the railway line. Major battles ensued at Belmont, Graspan/Enslin, Modder River and Magerfontein. At each of these sites, and along the line of march, evidence remains on the ground (camps, monuments, defences, fortifications, graffiti on the rocks, "battlefield debris" such as ration tins, ammunition, shell fragments, etc). Numbers involved were considerable: over 25 000 men contested Magerfontein along a 16 km front; encamped at Modder River in February 1900 were some 30 000 British troops with Black support personnel, plus guns, wagons, horses, oxen and mules.

Large military hospitals were established at Deelfontein, Orange River, Modder River and Kimberley; linked inevitably with these and with the fighting were graves and cemeteries.

The Northern Cape had many pro-Boer supporters, so as the British gained control of the railway line garrisons and camps were positioned along it as at Houtkraal, Potfontein, Pauw Pan, Enslin and Spyfontein, among many others.

Blockhouses were built initially to protect major strategic points - the bridges at Orange River and Modder River; 24 blockhouses around Kimberley, 9 at Douglas, etc. Later these were supplemented by a line of prefabricated corrugated iron blockhouses, placed along the railway and still traceable from Kimberley to De Aar.

Several attempts were made by the Boers to invade south into the Cape Colony. Commandos reached the south west coast at Lamberts Bay, while in early 1901 De Wet, Hertzog and Kritzinger, pursued by British mounted columns, criss-crossed the area between Orange River and De Aar.

2. Throughout the region

At outset of the war Griqualand West was proclaimed as Republican territory, and Boer forces roamed throughout the area and the adjacent Free State. British troops gradually established control but evidence of the conflict remains widespread. Many high points were fortified or used as signalling stations; good water supplies attracted both British camps and Boer laagers; drifts were protected, and garrisons dotted throughout the area.

Impact of proposed Telkom towers

Fortunately most of the towers avoid particularly sensitive areas. Mr Morris in his site visits checked for evidence of military activity, and we researched the literature and discussed his findings before they were incorporated in his reports. I am satisfied that his recommendations take the military history of the area adequately

into account and are in line with the relevant South African Heritage Resources legislation.

I would reiterate Mr Morris's caution, however, that where the construction of towers reveals archaeological evidence or military activity, whether surface or sub-surface, work should cease and an appropriate person be alerted immediately to assess the find and suggest the right course of action.

Three sites immediately south of Kimberley were, however, personally visited at Mr Morris's request (see "A first report on sites in the Kimberley area" by David Morris).

1. **Modder River** ("Little Hut"): The site is in the Modder River battlefield and camp area, although not the scene of actual fighting. It has however been extensively disturbed by subsequent human activity, and there is already considerable "visual pollution" to which Eskom and Spoornet masts will shortly contribute. No period debris exists on the surface, but subsurface material may well be found, as has happened elsewhere in the area. (The battle was 28 November 1899, but British troops occupied the area from 29 November until the end of the war). SAHRA permit recommended, in view of new legislation.

2. **Spyfontein**: No surface evidence of military activity, and any blockhouse was likely to have been closer to the line and probably east of it. Likely impact on military resources and possibility of subsurface finds: LOW. SAHRA permit not felt necessary.

3. **Langberg**: This site is visually the most sensitive of those proposed, as the area was part of the Boer defence line for Magersfontein, an internationally significant battle, fought 11 December 1899. There is no clearly attributable surface material nor was it the scene of actual fighting, but there was a Boer field gun and a "pomport" (37 mm QF) close by, and Boer positions are still evident to north west and south east. A car park, information panel and replica "gun", all part of the M12 Battlefield Route, are sited a few hundred metres south. SAHRA permit recommended (new legislation).

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