

**PHASE 1 ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENT
SPECIALIST STUDY REPORT FOR THE
PROPOSED LINBRO SUBSTATION AND AN 88Kv LOOP
IN POWERLINE IN JOHANNESBURG METROPOLITAN
MUNICIPALITY, GAUTENG PROVINCE**

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1 REPORT DETAILS REPORT DETAILS

PROJECT NAME: PROPOSED LINBRO SUBSTATION AND A LOOP IN 88KV POWERLINE IN JOHANNESBURG METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE.

REPORT TITLE: ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENT SPECIALIST STUDY FOR PROPOSED CONSTRUCTION OF LINBRO SUBSTATION AND A 88kV LOOP IN POWERLINE IN JOHANNESBURG METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE.

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MANAGEMENT SUMMARY

Eskom Distribution Central Region appointed Shumani SHE Specialist (PTY) Ltd to conduct an Environmental Impact Assessment (EIA) for the proposed construction of Linbro substation and an 88kV powerline in the Johannesburg Metropolitan Municipality area of Gauteng Province. In turn Shumani SHE Specialist (PTY) Ltd commissioned Nzumbululo Heritage Solutions (HeSSA) to conduct an Archaeological Impact Assessment for the proposed Linbro Substation and a loop in 88kv powerline construction. The proposed development will include construction of a new substation and a loop in 88kv powerline in Johannesburg Metropolitan Municipality, Gauteng Province. Field studies were conducted in January 2010 under the direction of Principal Investigator, M. Murimbika (PhD). The study focuses on potential impacts on archaeological, and cultural heritage resources associated within the proposed construction's receiving environment. During the study, no archaeological or historic period sites were identified.

Summary Recommendations

In the absence of any archaeological or physical cultural property barriers, we have no objection to the proposed development. The preferred substation site and the powerline route may be approved for the proposed development, damage is unlikely, and we advise the heritage authority that we do not object to the development proceeding as proposed and clearance for the project to proceed is recommended.

TABLE OF CONTENTS

1 REPORT DETAILS REPORT DETAILS..... II

MANAGEMENT SUMMARY.....III

ABBREVIATIONS..... - 5 -

1. INTRODUCTION..... - 6 -

2. AIMS OF THE HIA STUDY - 6 -

3. STUDY METHODS - 7 -

4. BACKGROUND SUMMARY - 7 -

5. RESULTS OF THE AIA STUDY - 8 -

RESULTS OF ARCHAEOLOGICAL EXAMINATIONS FOR THE SUBSTATION SITES..... - 8 -

Location Details..... - 8 -

Archaeological and Cultural Sites..... - 11 -

Burial grounds and graves..... - 12 -

No graveyard was identified on the proposed substation site A and the proposed powerline route A. Although the possibility of encountering previously unidentified burial sites is limited on the affected project site, should such sites be identified, they are still protected by applicable legislations and they may not be disturbed. - 12 -

ALTERNATIVE SUBSTATION SITE B AND POWERLINE ROUTE B - 12 -

Archaeological and cultural site - 12 -

ALTERNATIVE SUBSTATION SITE C - 13 -

Archaeological and cultural site - 14 -

6. STATEMENT OF OVERALL IMPACTS - 14 -

7. OVERALL RECOMMENDATIONS - 15 -

8. CONCLUDING REMARKS..... - 16 -

9. BLIOGRAPHY - 16 -

APPENDIX 1: HUMAN REMAINS AND BURIALS IN DEVELOPMENT CONTEXT..... - 17 -

APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO PROJECT EMP..... - 20 -

ABBREVIATIONS

HIA	Heritage Impact Assessment
EIA	Environmental Impact Assessment
HeSSA	Nzumbululo Heritage Solutions (South Africa)
LIA	Late Iron Age
SAHRA	South African Heritage Resources Agency

1. INTRODUCTION

This Archaeological and Heritage Impact Assessment (HIA) study was conducted to fulfil the requirements of the National Heritage Resources Act, Act 25 of 1999 Section 38. It was conducted as part of the Environmental Impact Assessment (EIA) for the proposed Linbro Substation and a loop in 88kv powerline in Johannesburg Metropolitan Municipality, Gauteng Province (see Fig. 1). The impact assessment study focused on identifying and assessing potential impacts on archaeological resources as well as on other physical cultural properties including historical heritage resources associated with the proposed substation development project. The study was designed to ensure that any significant archaeological or cultural physical property or sites are located and recorded, and site significance is evaluated to assess the nature and extent of expected impacts from the substation development. The assessment includes recommendations to manage the expected impact of development on the site.

2. AIMS OF THE HIA STUDY

The objectives of this present study were to document any archaeological and historic sites relative to the proposed Eskom substation and associated infrastructure development, assess the potential for occurrence of additional currently unidentified heritage resource sites in the project area, and to complete an impact assessment of any sites identified. Specifically, the field program was designed to provide information on existing, disturbed and /or intact sites; determine site types, site nature and association; site context, and potential site values. These data were used to evaluate the impact of the proposed powerline development program on specific archaeological and other cultural heritage resource sites identified and on the regional database. Therefore, the study primarily seeks to address the applicable regulations in order to facilitate the approval process. This study seeks to:

- ❑ Fulfil the statutory requirements of the National Heritage Resources Act, Act 25 of 1999, section 38.
- ❑ To identify and describe, (in terms of their conservation and / or preservation importance) sites of cultural and archaeological importance that may be affected by the proposed Linbro Substation development project. This study should include the identification of gravesites.
- ❑ Assess the significance of the resources where they are identified.
- ❑ Evaluate the impact thereon with respect to the socio-economic opportunities and benefits that would be derived from the proposed development.
- ❑ Make recommendations on mitigation measures with the view to reduce specific adverse impacts and enhance specific positive impacts on the heritage resources.
- ❑ Take responsibility for communicating with the SAHRA and other authorities in order to obtain the relevant permits and authorization with reference to heritage aspects where applicable.

3. STUDY METHODS

In order to meet the objectives of the AIA, the following tasks were conducted: 1) site file search, 2) limited literature review, 3) completion of a field survey and assessment and 4) analysis of the acquired data and report production. This study was conducted as part of the field research for the proposed Linbro Substation and powerline construction project.

The study activities included:

- Identify and describe sites of archaeological and other physical cultural properties including historical or cultural interest affected by the proposed substation and associated infrastructure development.
- Identify, where possible, the gravesites affected by the substation development.
- Liaise with the local communities (if applicable) with regards to the impact of the development on the heritage resources.
- Describe the importance or significance of these sites and whether these sites need to be conserved, protected or relocated.
- Describe the procedures for mitigation or relocation of sites and provide an indication of time required for these management measures to be implemented.
- Document findings and recommendations.

The field survey did not include any form of subsurface inspection beyond the inspection of burrows, road cut sections, ploughed agricultural land and the river banks exposed by natural erosion forces. Some assumptions were made as part of the study and therefore some limitations, uncertainties and gaps in information apply.

- Since substantial portions of the project area have been disturbed over several decades of changing land use, it was anticipated that no significant archaeological materials were likely to be situated *in situ* within such previously disturbed area given the extensive nature of the disturbance to the vegetation and upper soil layers.
- No excavations or sampling were undertaken, since a permit from heritage authorities is required to disturb a heritage resource.

4. BACKGROUND SUMMARY

The proposed development consists of construction of a substation and a loop-in line in Johannesburg Metropolitan Municipality in Gauteng province (see Fig. 1). The proposed project development is located in mining and commercial agricultural landscape marked with built up areas, road networks, power and telecommunication lines, boundary fence lines, and road and rail construction activities (Plate 1 to 9).

Culture-historically, Gauteng area has yielded evidence of human settlement extending into hundreds of thousands of years of prehistory going back as far as the palaeontological human-evolutions through

Stone Age, Iron Age, Historical period to contemporary communities. The project area borders the palaeontological material rich region where the Cradle of Mankind World Heritage Site is found. Iron Age sites associated with the ancestors of the modern Sotho-Tswana and Ndebele speaking communities are wide spread in the region. In recent colonial history, the area played host to different competing local settler communities. The area was a scene of series of colonial wars. By the end of the 19th century, the region was placed under British rule and the local people displaced. Today most the land is used for mining, agricultural activities and grazing. It is within this cultural landscape that the project area is located.

From a culture geography and history perspective, Gauteng area, within which the project falls, is in the open veld with low lying mountain ranges in the Gauteng province. Archaeologically, the area is associated with Late Iron Age Sotho Tswana communities and has yielded four ceramic sequences of the Urehwe tradition: Ntsuanatsatsi (1450-1650), Olifantspoort (AD 1500 -1700) and Uitkomst (AD 1700-1850) and Buispoort (1700-1840) [Huffman 2007: 443]. This area was historically occupied by predominantly Sotho Tswana -speaking groups before it was briefly dominated by Mzilikazi's Ndebele during the Mfecane. Around the 1830s, the region also witnessed the massive movements associated with the *mfencane* (wandering hordes). The causes and consequences of the *mfencane* are well documented elsewhere (e.g. Hamilton 1995; Cobbing 1988). The area was partitioned into commercial settler farms during the colonial period.

Prior to the Gauteng region being incorporated into the colonial administration of the Transvaal, the region experienced several episodes of white settler migration and settler settlements as well as the associated colonial wars such as the Anglo-Boer War, which ended in 1902.

Today the project area is predominantly mining and commercial farming area.

5. RESULTS OF THE AIA STUDY

RESULTS OF ARCHAEOLOGICAL EXAMINATIONS FOR THE SUBSTATION SITES

Location Details

Province: Gauteng

Local Municipalities: Johannesburg Metropolitan Municipality

Name Properties affected: Modderfontein 35 IR, (Plot number 51) Modderfontein A/H (49)

Proposed development: Construction of a new substation and associated infrastructure.

1:50 000 map name: 2628 AA

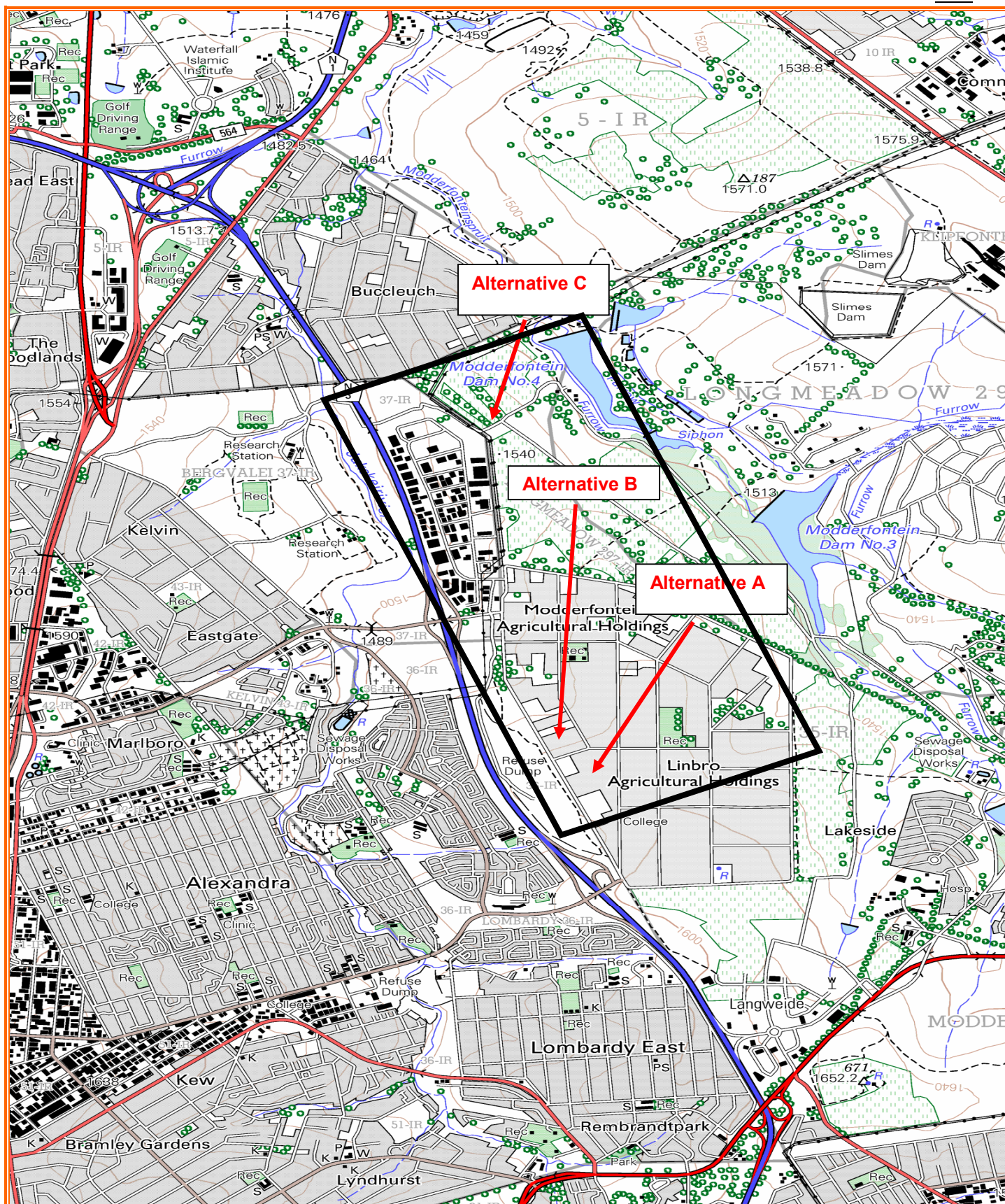
GPS Co-ordinates and description of proposed substation site:

- S26° 05'.15.9" E030° 18'21.7" (Mid point at the preferred substation site A)
- S24° 39' 22.6" E028° 07' 08.9"(disused contemporary house)
- S226° 05' 15.5" E028° 07'.08.5". (Second Avenue.)
- S26° 05'.15.4" E028 07'.08" (Telephone on the edge of the preferred site)
- S26° 05'15.5" E 028° 07' 07.9" (Boundary fence of Municipality dumping site)

- S26° 05'13.7" E028° 07'.12.0"(Main house on the northern edge of the preferred site A.)
- S26° 05'.18.5" E028 07'.13.1"(Disused contemporary Cottage on the northern edge of site A)
- S26° 05' 14.5" E 028° 07'11.8"(Disused building on the eastern edge of site A)
- S26° 05' 08.3"E028° 07'08.8"(Construction rubble stockpiles within proposed site B.)
- S26° 05' 09.7" E028 07'.09.3"(Gravel stockpiles within site B)
- S26° 05' 09.9" E028° 07'.10.6". (Large compost stockpile within site B)
- S26° 05'10.7" E028 07'11.0" (Fenced dumping site in site B)
- S26° 04' 36.1" E 028°07'10.9"(Large gravel stockpiles within the Gautrain construction zone on alternative site C)
- S26° 04' 37.5" E028° 07'.11.0". (Edge of new railway line within the alternative substation C.)

Refer to Appendix 1 for detailed substation survey data, coordinates and site plan.

Figure 1: Proposed Linbro substation sites and powerline routes. (Topographic map 2628 AA)





Plates 1 and 2: View of the proposed Linbro Substation preferred site A and powerline route A.

Archaeological and Cultural Sites

No archaeological sites were identified in course of field investigations for the substation site. The affected landscaped is within the Gautrain railway construction area and it is heavily degraded from previous and current land use patterns. As such the chances of recovering archaeological materials *in situ*, particularly for open sites, were seriously compromised and limited (see Plates 1A & 2). If such sites existed along the surveyed substation site, they may have been destroyed over the land use history of deep ploughing and other destructive land use patterns that have affected the project area prior to this proposed project.



Plates 3 and 4: View of contemporary buildings within the preferred substation site A



Plates 5 and 6: Abandoned buildings within the alternative site A.

Burial grounds and graves

No graveyard was identified on the proposed substation site A and the proposed powerline route A. Although the possibility of encountering previously unidentified burial sites is limited on the affected project site, should such sites be identified, they are still protected by applicable legislations and they may not be disturbed.

ALTERNATIVE SUBSTATION SITE B AND POWERLINE ROUTE B

In line with the National Environmental Management Act (NEMA, 2002) EIA regulations, Eskom identified alternative powerline routes and sites for the proposed substation development. The alternative substation site B and powerline route B were also assessed alongside the preferred site. The presented alternative substation site is located adjacent to alternative A on generally similar landscape to that of the preferred substation site, discussed above (also see Plates 7 & 8). The survey did not identify any archaeological sites or physical cultural resources such as graves, burial grounds and religious or sacred sites that may be affected by the proposed development of this alternative site B and alternative powerline route B.

Archaeological and cultural site

No archaeological sites were observed during the course of the field survey of Alternative site B. The alternative substation site B is equally disturbed as the preferred site.



Plate 7 & 8: Flower nursery and stockpiled gravel within alternative site B.



Plates 9 and 10: The general area marked as alternative substation B.

Historical Monuments

There is no listed monument in the area affected by the proposed substations, alternative site B and alternative powerline route B.

Cemeteries and Burial sites

No cemeteries or burial site were observed during the course of the field investigations of the alternative substation site B and powerline route B.

ALTERNATIVE SUBSTATION SITE C

In line with the National Environmental Management Act (NEMA, 2002) EIA regulations, Eskom identified alternative sites for the proposed substation and powerline development. The alternative substation site C and alternative powerline route C was assessed alongside the preferred site. The presented alternative substation site C is situated in generally similar landscape to that of the preferred substation site discussed above (also see Plates 5 & 6).

Archaeological and cultural site

No archaeological sites were observed during the course of the field survey of the proposed alternative substation site C. The alternative substation site C and powerline route C are equally as disturbed as the preferred site.



Plate 11 and 12: View of the proposed alternative substation site C

Historical Monuments

There is no listed monument in the area affected by the proposed substations, alternative site C and powerline route C.

Cemeteries and Burial sites

No grave site was observed during the course of the field investigations of the alternative substation site C and powerline route C.

Previously unidentified burial sites/graves

The project area is situated on a historic settlement site. In this same context, it is critical to note that there is always a possibility of encountering human remains anywhere on the landscape. Finds are made on construction sites from time to time, but again the chances are considered to be high for this development. Should there be such sites, there are high possibilities that previously unidentified burial sites will be encountered during subsurface construction work associated with the proposed substation construction development. Should such sites be identified, they are covered by applicable legislations and they should be protected (see Appendix 1).

6. STATEMENT OF OVERALL IMPACTS

The survey did not identify any archaeological or physical cultural properties on the proposed substation sites. In spite of this observation, it is important to note that in any given situation, archaeological resources are fixed in space. Any activity that threatens to alter the status quo is an immediate and direct threat to any archaeological resources in its direct path. The impact will be permanent in nature, extent and duration (Bickford and Sullivan, 1977). In principle, given the absence of any recorded heritage sites along

the proposed powerline routes and substation sites, the proposed development project will have no impact upon any archaeological resources on the preferred and alternative substation site B.

7. OVERALL RECOMMENDATIONS

The proposed substation and associated loop-in power lines development are situated on a historic cultural landscape. There is a possibility, although limited, of encountering grave sites that are no longer superficially visible. The anticipated impact from the proposed development on the historic landscape of the preferred site is limited. However, in practice, defining the optimum level of impact management is hindered by the fact that cultural heritage resource values and preservation benefits are not easily measured in economic terms in comparison to the proposed substation development. All the same, the overriding objectives in this impact study are to promote efficiency and equity, and ensure that the benefits of such measures exceed the costs. Be that as it may, the following recommendations are made for this specific Linbro Substation development:

- The preferred development site should be approved as the most suitable from a heritage perspective. Alternative site C is the least preferred because of its close proximity to the Gautrain railway line under construction.
- The foot print impact of substation development should be kept to minimal to limit the possibility of encountering chance finds. All construction activities including construction camp sites should be located within the surveyed project area.
- We recommend that, in the unlikely event of chance archaeological sites being encountered subsurface, the management of unavoidable and unanticipated adverse impacts thereon will be achieved through the implementation of mitigation, compensation, surveillance, monitoring and emergency impact management measures. These measures will only be implemented in situations where unavoidable conflicts are identified between archaeological resources and a proposed development.
- We recommend that a heritage monitoring plan be put in place as part of the project's Environmental Management Plan (EMP) to ensure that the proposed construction of substation and associated infrastructure will not interfere with chance archaeological sites that may be encountered subsurface during the development; especially during foundation construction activities (see Appendix 2).
- In situations where unpredicted impacts occur (such as accidentally disturbing a previously unknown grave), construction activities must be stopped and the heritage authority should be notified immediately. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological data. It may be necessary to implement emergency measures to mitigate unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites (also see Appendix 1 & 2).
- Furthermore, the construction team should be informed about the value of the cultural heritage resources in general so as to ensure that they do not destroy the chance archaeological sites they may encounter during working on the power-line route.

8. CONCLUDING REMARKS

- There are no heritage resources barriers to the proposed development on the preferred substation development site. Should chance archaeological material or previously unknown human remains being disturbed, the finds should be left *in situ* subject to further instruction from the project archaeologist and heritage authorities. In situations where unpredicted impacts occur, construction activities must be stopped and the heritage authority should be notified immediately. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological data. It may be necessary to implement emergency measures to mitigate unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites (Appendix 1).

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APPENDIX 1: HUMAN REMAINS AND BURIALS IN DEVELOPMENT CONTEXT

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Developers, land use planners and professional specialist service providers often encounter difficult situations with regards to burial grounds, cemeteries and graves that may be encountered in development contexts. This may be before or during a development project. There are different procedures that need to be followed when a development is considered on an area that will impact upon or destroy existing burial grounds, cemeteries or individual graves. In contexts where human remains are accidentally found during development work such as road construction or building construction, there are different sets of intervention regulations that should be instigated. This brief is an attempt to highlight the relevant regulations with emphasis on procedures to be followed when burial grounds, cemeteries and graves are found in development planning and development work contexts. The applicable regulations operate within the national heritage and local government legislations and ordinances passed in this regard. These guidelines assist you to follow the legal pathway.

1. First, establish the context of the burial:

A. Are the remains less than 60 years old? If so, they may be subject to provisions of the Human Tissue Act, Cemeteries Ordinance(s) and to local, regional, or municipal regulations, which vary from place to place. The finding of such remains must be reported to the police but are not automatically protected by the National Heritage Resources Act (Act 25 of 1999).

B. Is this the grave of a victim of conflict? If so, it is protected by the National Heritage Resources Act (Section 36(3a)). (Relevant extracts from the Act and Regulations are included below).

C. Is it a grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority? If so, it is protected by the National Heritage Resources Act (Section 36(3b)).

D. Are the human or hominid remains older than 100 years? If so, they are protected by the National Heritage Resources Act (Section 35(4), see also definition of *archaeological* in Section 2).

2. Second, refer to the terms of the National Heritage Resources Act most appropriate to the situation, or to other Acts and Ordinances:

A. Human remains that are NOT protected in terms of the National Heritage Resources Act (i.e. less than 60 years old and not a grave of a victim of conflict or of cultural significance) are subject to provisions of the Human Tissue Act and to local and regional regulations, for example Cemeteries

Ordinances applicable in different Provincial and local Authorities.

B). All finds of human remains must be reported to the nearest police station to ascertain whether or not a crime has been committed.

C). If there is no evidence for a crime having been committed, and if the person cannot be identified so that their relatives can be contacted, the remains may be kept in an institution where certain conditions are fulfilled. These conditions are laid down in the Human Tissue Act (Act No. 65 of 1983). In contexts where the local traditional authorities given their consent to the unknown remains to be re-buried in their area, such re-interment may be conducted under the same regulations as would apply for known human remains.

3. In the event that a graveyard is to be moved or developed for another purpose, it is incumbent on the local authority to publish a list of the names of all the persons buried in the graveyard if there are gravestones or simply a notification that graves in the relevant graveyard are to be disturbed. Such a list would have to be compiled from the names on the gravestones or from parish or other records. The published list would call on the relatives of the deceased to react within a certain period to claim the remains for re-interment. If the relatives do not react to the advertisement, the remains may be re-interred at the discretion of the local authority.

A. However, it is the responsibility of the developer to ensure that none of the affected graves within the cemetery are burials of victims of conflict. The applicant is also required in line with the heritage legislation to verify that the graves have no social significance to the local communities.

B. It is illegal in terms of the Human Tissue Act for individuals to keep human remains, even if they have a permit, and even if the material was found on their own land.

4. The Exhumations Ordinance (Ordinance No. 12 of 1980 and as amended) is also relevant. Its purpose is "To prohibit the desecration, destruction and damaging of graves in cemeteries and receptacles containing bodies; to regulate the exhumation, disturbance, removal and re-interment of bodies, and to provide for matters incidental thereto". This ordinance is supplemented and support by local authorities regulations, municipality by-laws and ordinances.

DEFINITIONS AND APPLICABLE REGULATIONS

1). A *Cemetery* is defined as any land, whether public or private, containing one or more graves.

2). A *grave* includes (a) any place, whether wholly or partly above or below the level of ground and whether public or private, in which a body is permanently interred or intended to be permanently interred, whether in a coffin or other receptacle or not, and (b) any monument, tombstone, cross, inscription, rail, fence, chain, erection or other

structure of whatsoever nature forming part of or appurtenant to a grave.

3). No person shall desecrate, destroy or damage any grave in a cemetery, or any coffin or urn without written approval of the Administrator.

4). No person shall exhume, disturb, remove or re-inter anybody in a cemetery, or any coffin or urn without written approval of the Administrator.

5). Application must be made for such approval in writing, together with:

a). A statement of where the body is to be re-interred.

b). Why it is to be exhumed.

c). The methods proposed for exhumation.

d). Written permission from local authorities, nearest available relatives and their religious body owning or managing the cemetery, and where all such permission cannot be obtained, the application must give reasons why not.

6). The Administrator has the power to vary any conditions and to impose additional conditions.

7). Anyone found guilty and convicted is liable for a maximum fine of R200 and maximum prison sentence of six months.

5. Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the National Heritage Resources Agency. They are administered by the Graves of Conflict Division at the SAHRA offices in Johannesburg.

Victims of Conflict are:

a). Those who died in this country as a result of any war or conflict but excluding those covered by the Commonwealth War Graves Act, 1992 (Act No. 8 of 1992).

b). Members of the forces of Great Britain and the former British Empire who died in active service before 4 August 1914.

c). Those who, during the Anglo Boer War (1899-1902) were removed from South Africa as prisoners and died outside South Africa, and,

d). Those people, as defined in the regulations, who died in the liberation struggle both within and outside South Africa.

6. Any burial that is older than 60 years, which is outside a formal cemetery administered by a local authority, is protected in terms of Section 36(3b) of the National Heritage Resources Act. No person shall destroy damage, alter, exhume or remove from its original position, remove from its original site or export from the Republic any such grave without a permit from the SAHRA.

There are some important new considerations applicable to B & C (above).

SAHRA may, for various reasons, issue a permit to disturb a burial that is known to be a grave of conflict or older than 65 years, or to use, at a burial ground, equipment for excavation or the detection or the recovery of metals.

(Permit applications must be made on the official form Application for Permit: Burial Grounds and Graves available from SAHRA or provincial heritage resources authorities.) Before doing so, however, SAHRA must be satisfied that the applicant:

a). Has made satisfactory arrangements for the exhumation and re-interment of the contents of such a grave at the cost of the applicant.

b). Has made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such a grave and,

c). Has reached an agreement with these communities and individuals regarding the future of such a grave or burial ground.

PROCEDURE FOR CONSULTATION

The regulations in the schedule describe the procedure of consultation regarding the burial grounds and graves. These apply to anyone who intends to apply for a permit to destroy damage, alter, remove from its original position or otherwise disturb any grave or burial ground older than 60 years that is situated outside a formal cemetery administered by a local authority. The applicant must make a concerted effort to identify the descendants and family members of the persons buried in and/or any other person or community by tradition concerned with such grave or burial ground by:

1). Archival and documentary research regarding the origin of the grave or burial ground;

2). Direct consultation with local community organizations and/or members;

3). The erection for at least 60 days of a notice at the grave or burial ground, displaying in all the official languages of the province concerned, information about the proposals affecting the site, the telephone number and address at which the applicant can be contacted by any interested person and the date by which contact must be made, which must be at least 7 days after the end of the period of erection of the notice; and

4). Advertising in the local press.

The applicant must keep records of the actions undertaken, including the names and contact details of all persons and organizations contacted and their response, and a copy of such records must be submitted to the provincial heritage resources authority with the application.

Unless otherwise agreed by the interested parties, the applicant is responsible for the cost of any remedial action required.

If the consultation fails to research in agreement, the applicant must submit records of the consultation and the comments of all interested parties as part of the application to the provincial heritage resources authority.

In the case of a burial discovered by accident, the regulations state that when a grave is discovered accidentally in the course of development or other activity:

a). SAHRA or the provincial heritage resources authority (or delegated representative) must, in co-operation with the Police, inspect the grave and decide whether it is likely to be older than 60 years

or otherwise protected in terms of the Act; and whether any further graves exist in the vicinity.

b). If the grave is likely to be so protected, no activity may be resumed in the immediate vicinity of the grave, without due investigation approved by SAHRA or the provincial heritage resources authority; and

c). SAHRA or the provincial heritage resources authority may at its discretion modify these provisions in order to expedite the satisfactory resolution of the matter.

d). Archaeological material, which includes human and hominid remains that are older than 100 years (see definition in section 2 of the Act), is protected by the National Heritage Resources Act (Section 35(4)), which states that no person may, without a permit issued by the responsible heritage resources authority - destroy, damage, excavate, alter or remove from its original site any archaeological or palaeontological material.

The implications are that anyone who has removed human remains of this description from the original site must have a permit to do so. If they do not have a permit, and if they are convicted of an offence in terms of the National Heritage Resources Act as a result, they must be liable to a maximum fine of R100 000 or five years imprisonment, or both.

TREAT HUMAN REMAINS WITH RESPECT

a). Every attempt should be made to conserve graves in situ. Graves should not be moved unless this is the only means of ensuring their conservation.

b). The removal of any grave or graveyard or the exhumation of any remains should be preceded by an historical and archaeological report and a complete recording of original location, layout, appearance and inscriptions by means of measured drawings and photographs. The report and recording should be placed in a permanent archive.

c). Where the site is to be re-used, it is essential that all human and other remains be properly exhumed and the site left completely clear.

d). Exhumations should be done under the supervision of an archaeologist, who would assist with the identification, classification, recording and preservation of the remains.

e). No buried artifacts should be removed from any protected grave or graveyard without the prior approval of SAHRA. All artifacts should be re-buried with the remains with which they are associated. If this is not possible, proper arrangements should be made for the storage of such relics with the approval of SAHRA.

f). The remains from each grave should be placed in individual caskets or other suitable containers, permanently marked for identification.

g). The site, layout and design of the area for re-interment should take into account the history and culture associated with, and the design of, the original grave or graveyard.

h). Re-burials in mass graves and the use of common vaults are not recommended.

i). Remains from each grave should be re-buried individually and marked with the original grave markers and surrounds.

j). Grouping of graves, e.g. in families, should be retained in the new layout.

k). Material from the original grave or graveyard such as chains, kerbstones, railing and should be re-used at the new site wherever possible.

l). A plaque recording the origin of the graves should be erected at the site of re-burial.

m). Individuals or groups related to the deceased who claim the return of human remains in museums and other institutions should be assisted to obtain documentary proof of their ancestry.

APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO PROJECT EMP

Objective	<ul style="list-style-type: none"> • Protection of archaeological sites and land considered to be of cultural value; • Protection of known physical cultural property sites against vandalism, destruction and theft; and • The preservation and appropriate management of new archaeological finds should these be discovered during construction. 							
No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-Construction Phase								
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan, and marked as no-go areas. No cultural, archaeological sites identified during the field survey phase.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM
Construction Phase								
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on site, a registered heritage specialist or LIHRA official must be called to site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM
		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed from site;		Throughout	C CECO	SM	ECO	EA EM PM
		Should remains and/or artefacts be discovered on the site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform LIHRA.		When necessary	C CECO	SM	ECO	EA EM PM
		Should any remains be found on site that is potentially human remains, the LIHRA and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation Phase								
		Same as construction phase.						
Operational Phase								
		Same as construction phase.						