

HERITAGE SCREENER

CTS Reference Number:	CTS22_090
SAHRIS Ref:	
Client:	ACRM
Date:	April 2022
Title:	Proposed construction and operation of a new cementitious plant located on Portion 192 of Farm Daggafontein 125, Springs, Johannesburg, City of Ekurhuleni local Municipality (Ward 76)

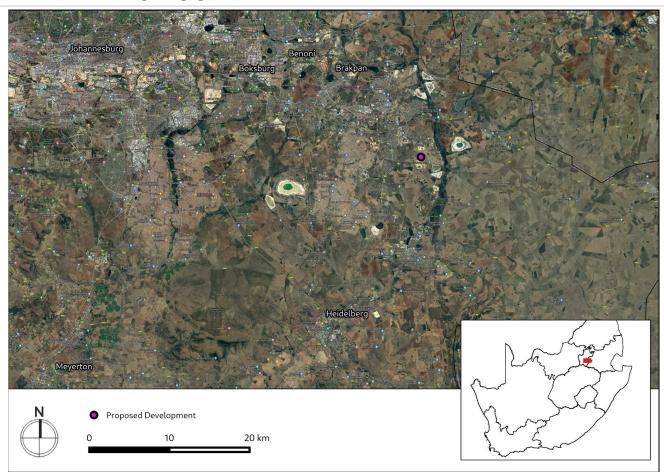


Figure 1a. Satellite map indicating the location of the proposed development in the Eastern Cape Province

RECOMMENDATION:

Recommendation by CTS Heritage Specialists Based on the available information, it is unlikely that the proposed development will impact on significant heritage resources. As such it is recommended that no further studies are required in terms of section 38 of the NHRA however the attached Chance Fossil Finds Procedure must be implemented for the duration of construction activities. Should any heritage resources such as archaeological material, unmarked burials or fossil material be unearthed during excavations, work must cease in this area and SAHRA must be contacted regarding an appropriate way forward.



1. Proposed Development Summary

The applicant, Opsibuzz (Pty) Ltd proposes the construction and operation of a new cementitious plant located on Portion 192 of Farm Daggafontein 125, Springs, Johannesburg, City of Ekurhuleni local Municipality (Ward 76).

The site extends over 4.2 hectares and will have a design capacity of 1,314,000 tons per annum, the facility will include the following:

- A grinding facility inclusive of a vertical roller mill that will operate at 150tph
- A blending Plant
- 50 000-ton Raw material Storage Facility
- 4 x mill hoppers (2 x 600 ton and 2 x 300 ton)
- 6 x cement silos (2000 ton)
- 1 x fly ash silo (1500 ton)
- Laboratory
- Workshop,
- · Weighbridges,
- General buildings,
- Bagging and Palletising Shed, and
- A pollution control dam if necessary

Process description:

Raw Material handling -

- Raw materials are received via road and ship and stockpiled in the shed.
- Raw materials include Clinker, GBFS, Limestone and Gypsum.
- The plant will not produce clinker. Clinker is to be purchased from an external source and then crushed at the facility. The variation in the grades of cement is based on the mixing of clinker in different proportions with extenders such as slag, fly ash, limestone, etc. The main extender in our process is Granulated Blast Furnace Slag (GBFS) which is a non-hazardous by-product sourced locally from the steel making industry.
- Materials are to be transferred to the milling / drying area via a conveyor system.

Cement milling / drying -

- Materials are extracted from their respective feed bins using weigh feeders. The weights are proportioned according to the pre-programmed recipes.
- Larger particles of GBFS are separated by use of a belt magnet and metal detectors which is removed for recycling.
- The grinding system employed by Cemza is among the most modern and energy efficient vertical roller mills.
- Materials are grinded in the mill via a rotary feeder
- Water and grinding aid is dosed into the mills in accurate dosages.
- The ground material is passed through the classifier via the hot gas generator. Partially ground material is trapped as it passes through the classifier these particles are recycled through the mill.



The ground product in powder form is the final product.

Cement storage -

- Product is separated via a baghouse filter system.
- The product from the filters is lifted to the product storage silos by bucket elevator, air slide and distributor system and material is conveyed into the four storage silos.

Packaging and palletising -

• Product is extracted from the silos and is packed with an automated dual packer and palletiser configuration.

2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	GDARD

3. Property Information

Latitude / Longitude	26°18'44.37"S 28°29'0.29"E			
Erf number / Farm number	Portion 192 of Farm Daggafontein 125			
Local Municipality	City of Ekurhuleni Metropolitan Municipality			
District Municipality	City of Ekurhuleni Metropolitan Municipality			
Province	Gauteng			
Current Use	Existing industry/foundry			
Current Zoning	Industrial			

4. Nature of the Proposed Development

Total Surface Area of development	Approximately 4.2ha
Depth of excavation (m)	Depth to be determined by the geotechnical investigation - expected depths of 5 - 7m.



Height of development (m)	Height expected to be maximum 45m
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5. Category of Development

X	Triggers: Section 38(8) of the National Heritage Resources Act
	Triggers: Section 38(1) of the National Heritage Resources Act
	1. Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.
	2. Construction of a bridge or similar structure exceeding 50m in length.
	3. Any development or activity that will change the character of a site-
	a) exceeding 5 000m² in extent
	b) involving three or more existing erven or subdivisions thereof
	c) involving three or more erven or divisions thereof which have been consolidated within the past five years
	4. Rezoning of a site exceeding 10 000m ²
	5. Other (state):

6. Additional Infrastructure Required for this Development

The faciltiy will utilize existing municipal services and existing access roads



7. Mapping (please see Appendix 3 and 4 for a full description of our methodology and map legends)



Figure 1b Overview Map. Satellite image (2021) indicating the proposed development area at closer range.



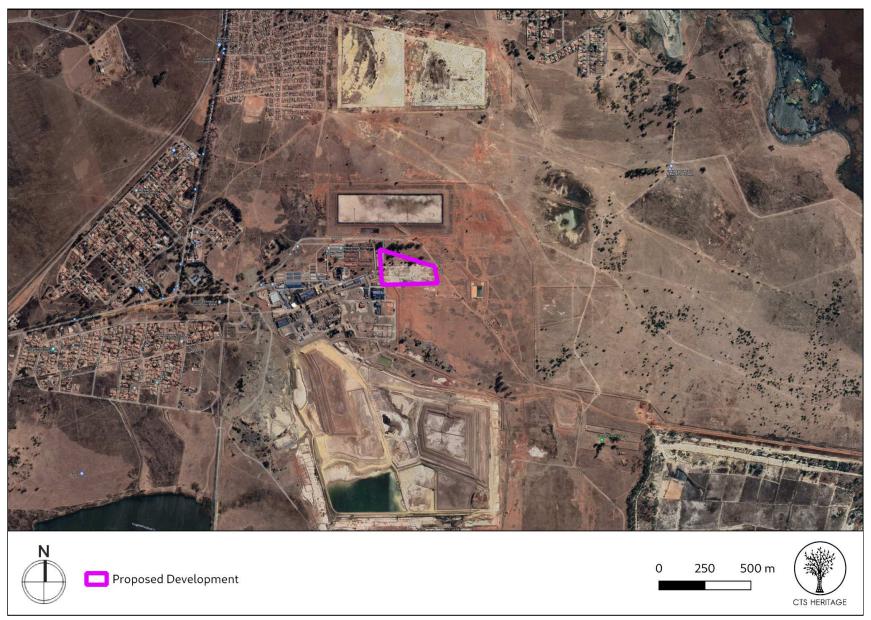


Figure 1c. Overview Map. Satellite image (2021) indicating the proposed development area at closer range.



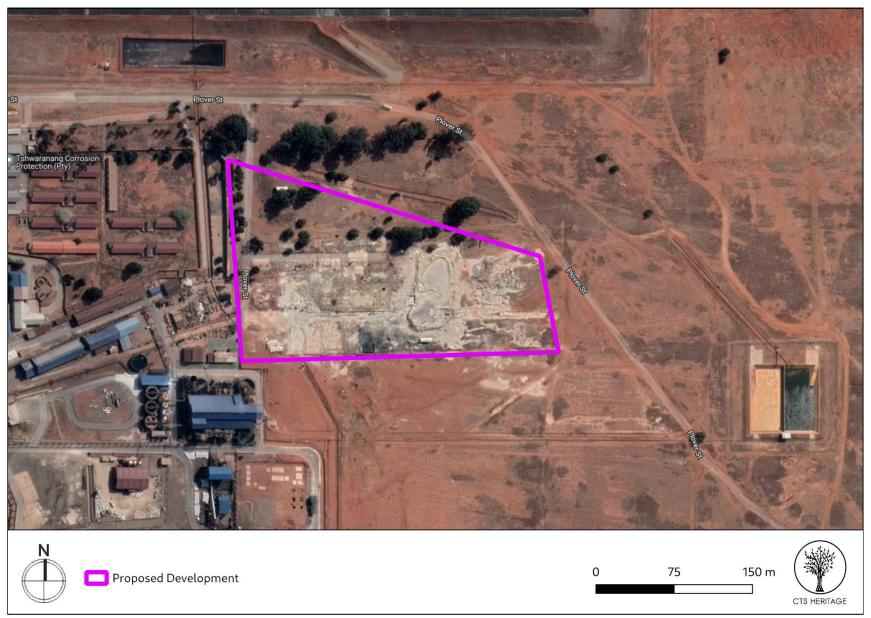


Figure 1d. Overview Map. Satellite image (2021) indicating the proposed development area at closer range.



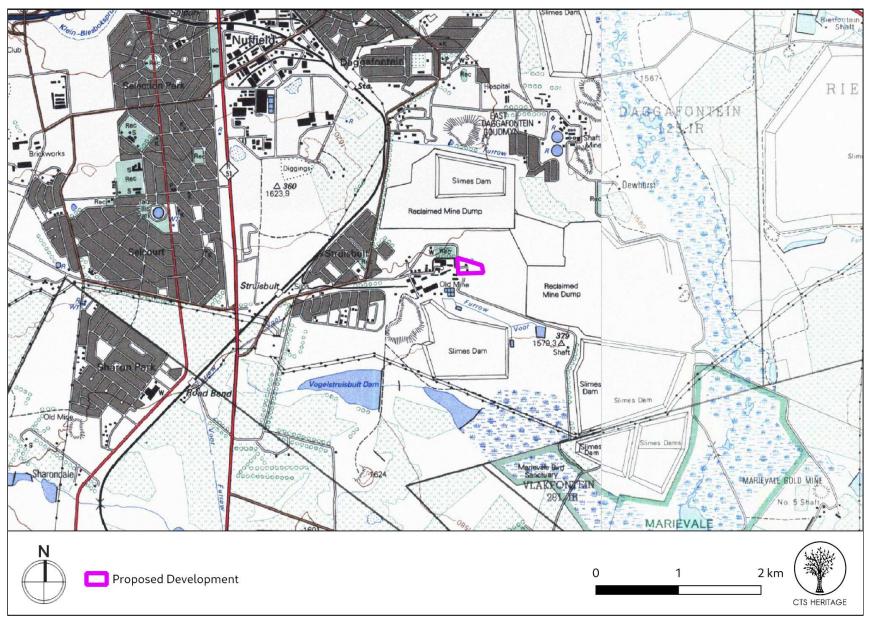


Figure 1c. Overview Map. 1:50 000 Topo Map indicating the proposed development area



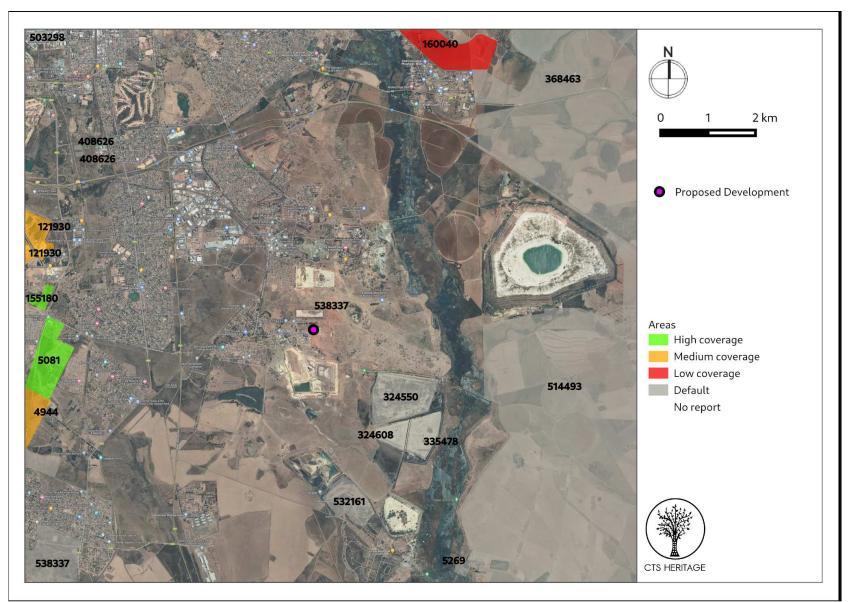


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area, with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.



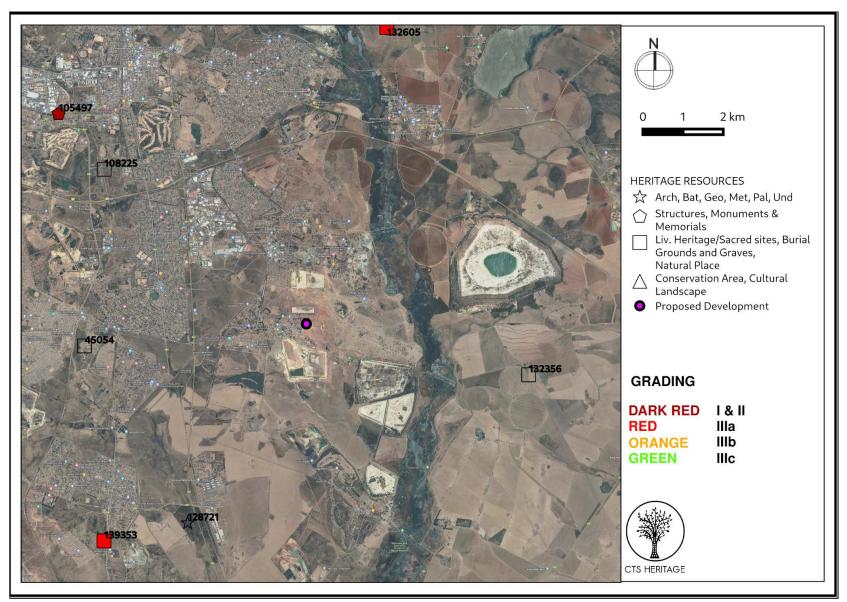


Figure 3a. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for a full description of heritage resource types.



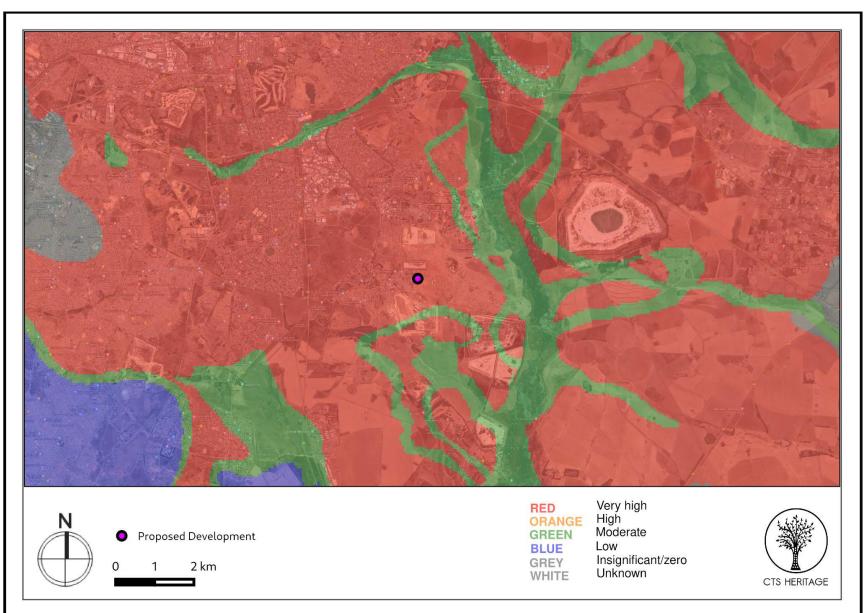


Figure 4. Palaeosensitivity Map. Indicating Zer, Moderate and High fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.



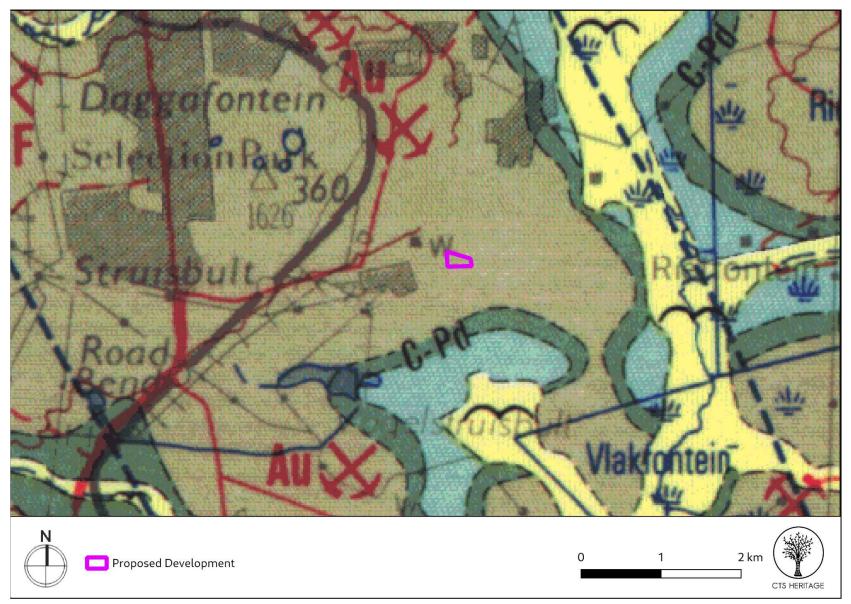


Figure 5. Geology Map. Indicating the underlying geology across the study area through overlaying the geology maps from the CGS series 2628 East Rand - Pv: Vryheid Formation of the Ecca Group



8. Heritage statement and character of the area

Background

This application is for the proposed development of a grinding facility within an already disturbed erf located in the industrial area of Springs in Gauteng.

Built Environment Heritage and Cultural Landscape

Springs was founded as a coal and gold mining town in 1904, but its history can be traced back to the second half of the 19th century. From about 1840 farmers moved into the area and declared farms for themselves, especially after the Zuid-Afrikaansche Republiek (South African Republic, later Transvaal) became an independent republic with the signing of the Sand River Convention in 1852. On 16 September 1884 the official map of The Springs was registered in Pretoria, the Republic's capital. The coal discovered in The Springs was of a good quality and in 1888 the first contract was signed to mine coal there. Initially mining was on a small scale, but rose when the Great Eastern mine was established. Springs is currently one of the industrial centres of the Witwatersrand and as such, the proposed development fits very comfortably within this context.

From the extract from the 1:50 000 Topographic Map (Figure 1c), it is clear that the area proposed for development is located within a reclaimed mine area. Furthermore, satellite imagery reveals that the area proposed for development has been extensively previously disturbed. As such, it is unlikely that significant built environment or cultural landscape heritage will be negatively impacted by the proposed development.

Archaeology

Van Ryneveld (2015) has drafted a summary of the archaeological heritage known from the broader area. She notes that "Stone Age records seem to have a secondary presence in archaeological CRM reports despite the fact that the range of broad temporal Industries have been reported on. Fourie (2006) reported on a lag Earlier (ESA) and Middle Stone Age (MSA) deposit at Albertsdal, Palmietfontein, while Huffman (2000) commented on the widespread presence of surface MSA occurrences at Roodekop, Germiston, with at least 1 significant MSA site with fairly substantial stratigraphic depth recorded. In addition the Roodekop survey yielded 2 ESA sites as well as mixed MSA / Later Stone Age (LSA) occurrences. MSA and LSA lithic occurrences were also reported on from the Klipriviersberg Nature Reserve (Van Schalkwyk & Pelser 1999).

Iron Age records are limited to the Later Iron Age (LIA), with the vast number of reported sites further defining LIA activity and specifically indigenous socio-political complexity of the greater terrain. Huffman (1999, 2002) identified 3 basic types of LIA sites, all being Stone Settlement type sites of the Central Cattle Pattern (CCP). According to Huffman (1999, 2002) Type III sites dominate the Klipriviersberg Nature Reserve area, with a few Group II sites identified. Many a Group I site have been identified, but largely impacted on by later LIA cultural overlay, mainly by Group III sites. Both Group II and Group III sites are inferred to have been abandoned in the 1820's when Mzilikazi conquered the area. Records of Group II and Group III Stone Settlement sites are complemented by single homestead and cattle outpost sites. At least 3 additional cattle outpost sites, also situated in the Klipriviersberg Nature Reserve were reported on by Coetzee (2006)." Impact assessments completed on other properties located within the Springs area have identified no heritage resources of significance (Van der Walt, 2008 (1) and (2); Kruger, 2018).

Based on the already transformed nature of the area proposed for development, it is not expected that any significant archaeological heritage will be impacted by the proposed development.

Palaeontology

According to the SAHRIS Palaeosensitivity Map, the area proposed for development is underlain by sediments of very high palaeontological sensitivity. According to the extract from the Council of GeoScience Geology Map of the area, the property is underlain by sediments of the Vryheid Formation of the Ecca Group. According to a report from Durand (2018) completed for a property also located in Springs and on the same geological formation, "The study site falls within the Ecca Group which is renowned for its fossil leaf imprints, especially the Permian plant Glossopteris. No major finds of leaf imprints or fossil wood have been reported for... this part of the East Rand. One of the reasons for the paucity of



fossils is probably that fossils are not ubiquitously distributed in the Ecca Group of the Karoo Supergroup. Other factors such as the degree of weathering the sedimentary rock in this region has been exposed to and the depth of the soil cover could also play a role. Large and well-described collections of fossil material from the Ecca Group which are housed at the Council for Geoscience, the Bernard Price Institute for Palaeontology at the University of the Witwatersrand and the Botanical Research Institute. In spite of this, the discovery of a new plant fossil locality will contribute to our knowledge of the distribution of fossiliferous material in this part of the Karoo Basin which has until now been unproductive."

Based on the information available, it is not expected that any significant palaeontological heritage will be impacted by the proposed development; however it is recommended that the attached Chance Fossil Finds Procedure be implemented for the duration of construction activities.

RECOMMENDATION:

Based on the available information, it is unlikely that the proposed development will impact on significant heritage resources. As such it is recommended that no further studies are required in terms of section 38 of the NHRA however the attached Chance Fossil Finds Procedure must be implemented for the duration of construction activities. Should any heritage resources such as archaeological material, unmarked burials or fossil material be unearthed during excavations, work must cease in this area and SAHRA must be contacted regarding an appropriate way forward.



9. Impact Table

Development Proposal - Proposed development of the Grinding Facility					
CONSTRUCTION, DECOMMISSIONING & CLOSURE PHASE					
Potential impact and risk:	Impact on historical / cultural / heritage resource				
Nature of impact:	Destruction of or negative impact to significant heritage resources				
Extent and duration of impact:	Low (limited to the site boundary) with and without mitigation. Permanent with and without mitigation.				
Intensity / severity / magnitude	Low with and without mitigation				
Consequence of impact or risk:	Low with and without mitigation				
Probability of occurrence:	Low with and without mitigation				
Degree to which the impact may cause irreplaceable loss of resources:	High				
Degree to which the impact can be reversed:	Low				
Indirect impacts:	No indirect impacts to heritage anticipated				
Cumulative impact prior to mitigation:	No cumulative impacts to heritage anticipated				
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low				
Degree to which the impact can be avoided:	High				
Degree to which the impact can be managed:	High				
Degree to which the impact can be mitigated:	High				
Proposed mitigation:	Probability of impact is low				
Residual impacts:	Minor; acceptable				



Cumulative impact post mitigation:	Low	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	



APPENDIX 1

List of heritage resources within close proximity to the development area from SAHRIS

Site ID	Site no	Full Site Name	Site Type	Grading
24530	AMAFA3414	ST DOMINIC	Building	Grade IIIb
105497	NZASM_RT_001	Culvert Springs Geduld	Transport infrastructure	Grade II
45054	VLAK01	Vlakfontein 103 IR 01	Burial Grounds & Graves	
108225	Portion of the Remainder of Portion 93 of the Farm Rietfontein 128-IR	Portion of the Remainder of Portion 93 of the Farm Rietfontein 128-IR	Place	
132356	BCM006	Bloemendal Coal Mine	Burial Grounds & Graves	
128721	Kwathema to Grundlingh WWTW Bulk Outfall Sewer		Archaeological	



APPENDIX 2

Reference List from SAHRIS

	Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title	
121930			08/04/2013	DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED NEW TONK METER ROAD GLB+ / CLASS B WASTE DISPOSAL FACILITY AT RIETFONTEIN, SPRINGS	
121932			08/04/2013	DEIAR FOR THE PROPOSED NEW TONK METER ROAD GLB+ / CLASS B WASTE DISPOSAL FACILITY AT RIETFONTEIN, SPRINGS	
155180	Heritage Impact Assessment Specialist Reports	Anton van Vollenhoven	01/11/2013	REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR A PROPOSED SHOPPING MALL DEVELOPMENT CLOSE TO SPRINGS, GAUTENG PROVINCE	
160040	Heritage Statement	Justin du Piesanie	25/03/2014	Notification of Intent to Develop - Authorisation of Sludge Disposal Facility and Pipelines Associated with Treatment of Acid Mine Drainage in the Eastern Basin of the Witwatersrand, Gauteng Province	
324550	Heritage Impact Assessment Specialist Reports	Natasha Higgitt, Johan Nel	13/08/2015	Notification of Intent to Develop for the Prospecting Right and Environmental Authorisation Application for the 7L4 Slimes Dam on Vogelstruisbult 127 IR and Daggafontein 125 IR	
324608	Heritage Impact Assessment Specialist Reports	Natasha Higgitt, Johan Nel	13/08/2015	Notification of Intent to Develop for the Prospecting Right and Environmental Authorisation Application for the 7L5 and 7L6 Slimes Dam on Vlakfontein 281 IR	
326085				Heritage Impact Assessment for the Proposed Vlakfontein Township Development	



335478	Heritage Impact Assessment Specialist Reports	Natasha Higgitt	29/09/2015	Addendum Memo regarding the 7L5 and 7L6 Slimes Dams Prospecting Application, Ekurhuleni Metropolitan Municipality
368463	Heritage Scoping	Justin du Piesanie, Johan Nel	18/08/2016	Heritage Scoping Report: Application for a Mining Right and Environmental Authorisation of the proposed Palmietkuilen Mining Project, Gauteng Province
4944	AIA Phase 1	Johnny Van Schalkwyk, M Naude	01/04/1995	A Survey of Cultural Resources Along the proposed Pwv 16 Road Corridor, Brakpan District
5081	AIA Phase 1	Polke Birkholtz	14/01/2008	Heritage Impact Assessment Proposed Selcourt Ext 5 Residential Development on Portion 3 of the Farm Vlakfontein 103 IR, Ekurhuleni Metropolitan Municipality, Gauteng Province



APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (KwaZulu-Natal)
DEA	Department of Environmental Affairs (National)
DEADP	Department of Environmental Affairs and Development Planning (Western Cape)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
DEDECT	Department of Economic Development, Environment, Conservation and Tourism (North West)
DEDT	Department of Economic Development and Tourism (Mpumalanga)
DEDTEA	Department of economic Development, Tourism and Environmental Affairs (Free State)
DENC	Department of Environment and Nature Conservation (Northern Cape)
DMR	Department of Mineral Resources (National)
GDARD	Gauteng Department of Agriculture and Rural Development (Gauteng)
HIA	Heritage Impact Assessment
LEDET	Department of Economic Development, Environment and Tourism (Limpopo)
MPRDA	Mineral and Petroleum Resources Development Act, no 28 of 2002
NEMA	National Environmental Management Act, no 107 of 1998
NHRA	National Heritage Resources Act, no 25 of 1999
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VIA	Visual Impact Assessment

Full guide to Palaeosensitivity Map legend

RED:	VERY HIGH - field assessment and protocol for finds is required
ORANGE/YELLOW:	HIGH - desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN:	MODERATE - desktop study is required
BLUE/PURPLE:	LOW - no palaeontological studies are required however a protocol for chance finds is required
GREY:	INSIGNIFICANT/ZERO - no palaeontological studies are required
WHITE/CLEAR:	UNKNOWN - these areas will require a minimum of a desktop study.



APPENDIX 4 - Methodology

The Heritage Screener summarises the heritage impact assessments and studies previously undertaken within the area of the proposed development and its surroundings. Heritage resources identified in these reports are assessed by our team during the screening process.

The heritage resources will be described both in terms of **type**:

- Group 1: Archaeological, Underwater, Palaeontological and Geological sites, Meteorites, and Battlefields
- Group 2: Structures, Monuments and Memorials
- Group 3: Burial Grounds and Graves, Living Heritage, Sacred and Natural sites
- Group 4: Cultural Landscapes, Conservation Areas and Scenic routes

and **significance** (Grade I, II, IIIa, b or c, ungraded), as determined by the author of the original heritage impact assessment report or by formal grading and/or protection by the heritage authorities.

Sites identified and mapped during research projects will also be considered.

DETERMINATION OF THE EXTENT OF THE INCLUSION ZONE TO BE TAKEN INTO CONSIDERATION

The extent of the inclusion zone to be considered for the Heritage Screener will be determined by CTS based on:

- the size of the development,
- the number and outcome of previous surveys existing in the area
- the potential cumulative impact of the application.

The inclusion zone will be considered as the region within a maximum distance of 50 km from the boundary of the proposed development.

DETERMINATION OF THE PALAEONTOLOGICAL SENSITIVITY

The possible impact of the proposed development on palaeontological resources is gauged by:

- reviewing the fossil sensitivity maps available on the South African Heritage Resources Information System (SAHRIS)
- considering the nature of the proposed development
- when available, taking information provided by the applicant related to the geological background of the area into account

DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON



Each report assessed for the compilation of the Heritage Screener is colour-coded according to the level of coverage accomplished. The extent of the surveyed coverage is labeled in three categories, namely low, medium and high. In most instances the extent of the map corresponds to the extent of the development for which the specific report was undertaken.

Low coverage will be used for:

- desktop studies where no field assessment of the area was undertaken;
- reports where the sites are listed and described but no GPS coordinates were provided.
- older reports with GPS coordinates with low accuracy ratings;
- reports where the entire property was mapped, but only a small/limited area was surveyed.
- uploads on the National Inventory which are not properly mapped.

Medium coverage will be used for

- reports for which a field survey was undertaken but the area was not extensively covered. This may apply to instances where some impediments did not allow for full coverage such as thick vegetation, etc.
- reports for which the entire property was mapped, but only a specific area was surveyed thoroughly. This is differentiated from low ratings listed above when these surveys cover up to around 50% of the property.

High coverage will be used for

• reports where the area highlighted in the map was extensively surveyed as shown by the GPS track coordinates. This category will also apply to permit reports.

RECOMMENDATION GUIDE

The Heritage Screener includes a set of recommendations to the applicant based on whether an impact on heritage resources is anticipated. One of three possible recommendations is formulated:

(1) The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

This recommendation is made when:

- enough work has been undertaken in the area
- it is the professional opinion of CTS that the area has already been assessed adequately from a heritage perspective for the type of development proposed
- (2) The heritage resources and the area proposed for development are only partially recorded The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for the proposed development.

This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:



- improvement on some components of the heritage assessments already undertaken, for instance with a renewed field survey and/or with a specific specialist for the type of heritage resources expected in the area
 - compilation of a report for a component of a heritage impact assessment not already undertaken in the area
 - undertaking mitigation measures requested in previous assessments/records of decision.

(3) The heritage resources within the area proposed for the development have not been adequately surveyed yet - Few or no surveys have been undertaken in the area proposed for development. A full Heritage Impact Assessment with a detailed field component is recommended for the proposed development.