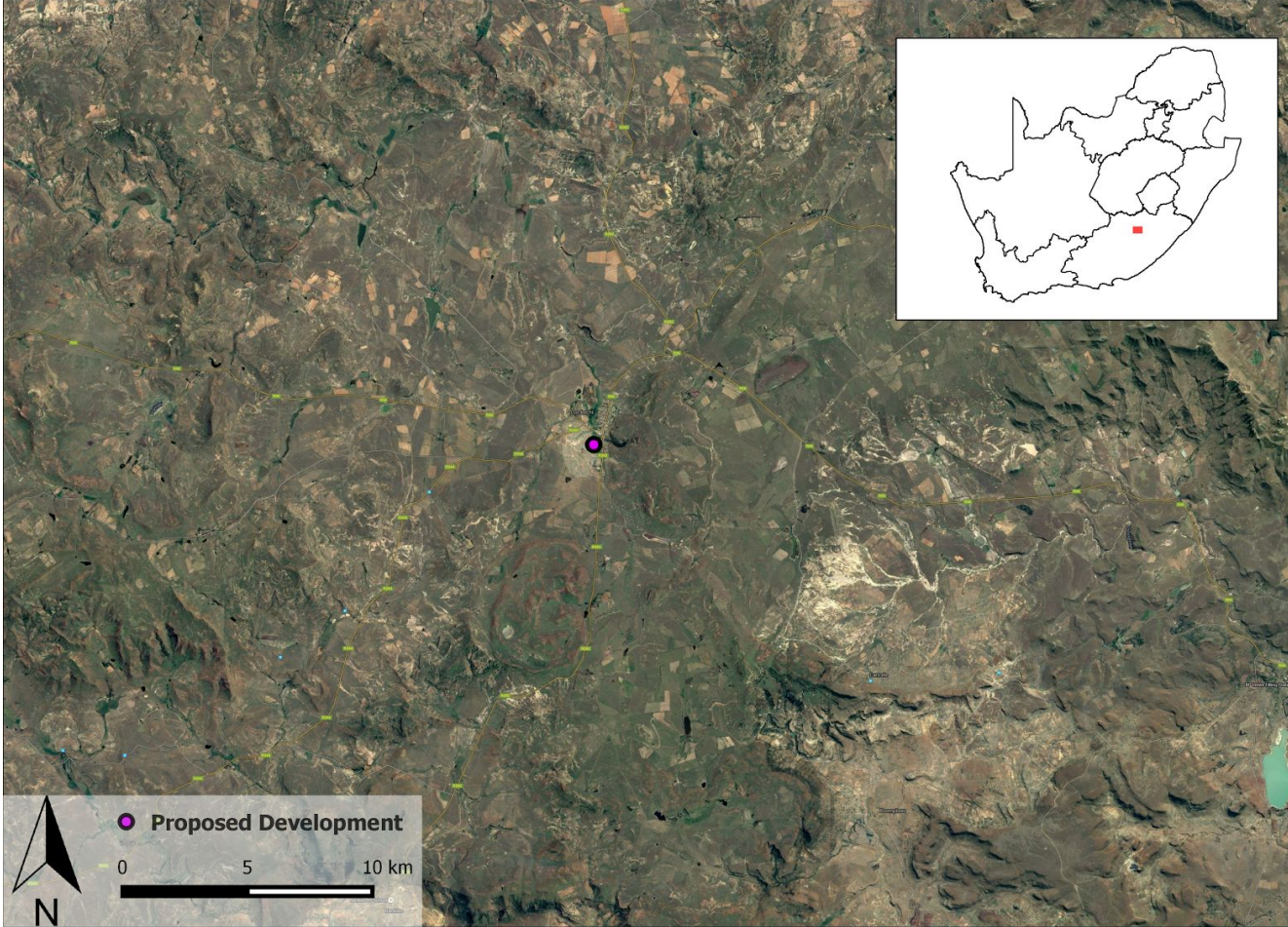




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HERITAGE SCREENER

CTS Reference Number:	CTS16_038
Client:	Aurecon
Date:	25 July 2016
Title:	DORDRECHT IMMEDIATE WATER SUPPLY UPGRADES; DORDRECHT, EASTERN CAPE
	
Figure 1a. Satellite image with proposed development area indicated in the Eastern Cape Province.	
Recommendation by CTS Heritage Specialists: (Type 2)	(2) The heritage resources and the area proposed for development are only partially recorded It is recommended that a Fossil Finds procedure be implemented for the duration of the construction phase. Should any human remains be disturbed during the course of development, work must cease immediately and SAPS and ECPHRA must be contacted.



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1. Proposed Development Summary

The town of Dordrecht in the Eastern Cape is currently experiencing critical water shortages. An increased level of service delivery to full waterborne sanitation for the entire town is planned for the near future which will put further strain on the water supply. A number of upgrade and additional water supply projects are thus being planned. Environmental authorisations will be required for some of these. Water will be sourced from boreholes.

There are 3 main components to the project:

1. Emergency supply:

The equipping of two boreholes situated to the south of town, the construction of pump houses for each of the two boreholes, connection to the existing supply pipeline

2. Immediate Water Supply Upgrades:

The equipping of two boreholes to the East of town, the construction of pump houses for each of the two boreholes, reticulation from the boreholes to the Water Treatment Works

3. Replacing the existing asbestos cement (AC) pipeline:

The replacement of the existing raw water supply AC pipeline with a new uPVC pipeline

2. Application References

Name of relevant heritage authority(s)	Eastern Cape Provincial Heritage Resources Authority (ECPHRA)
Name of decision making authority(s)	Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)

3. Property Information

Erf number / Farm number	Servitudes in the town of Dordrecht
Local Municipality	Emalahleni Local Municipality
District Municipality	Chris Hani District Municipality
Previous Magisterial District	Wodehouse
Province	Eastern Cape Province
Current Use	Servitude



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Current Zoning	Servitude
Total Extent	+/-10km

4. Nature of the Proposed Development

Surface area to be affected/destroyed	+/-10km
Depth of excavation (m)	<1m
Height of development (m)	NA
Expected years of operation before decommission	NA

5. Category of Development

Triggers: Section 38(8) of the National Heritage Resources Act	X
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.	X
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 000m ² 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):	



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7. Mapping

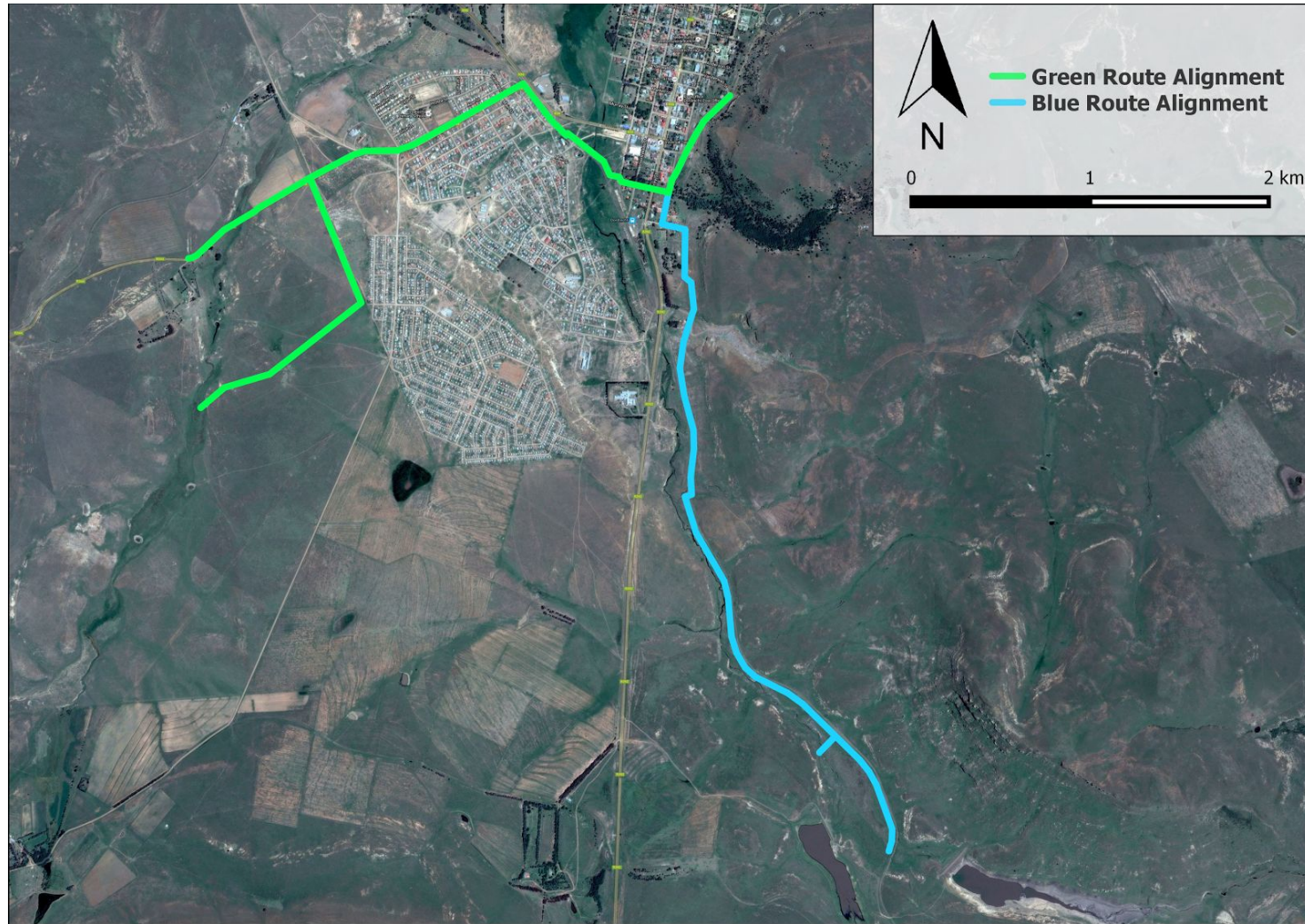


Figure 1b. Overview Map. Satellite image with proposed development area indicated.



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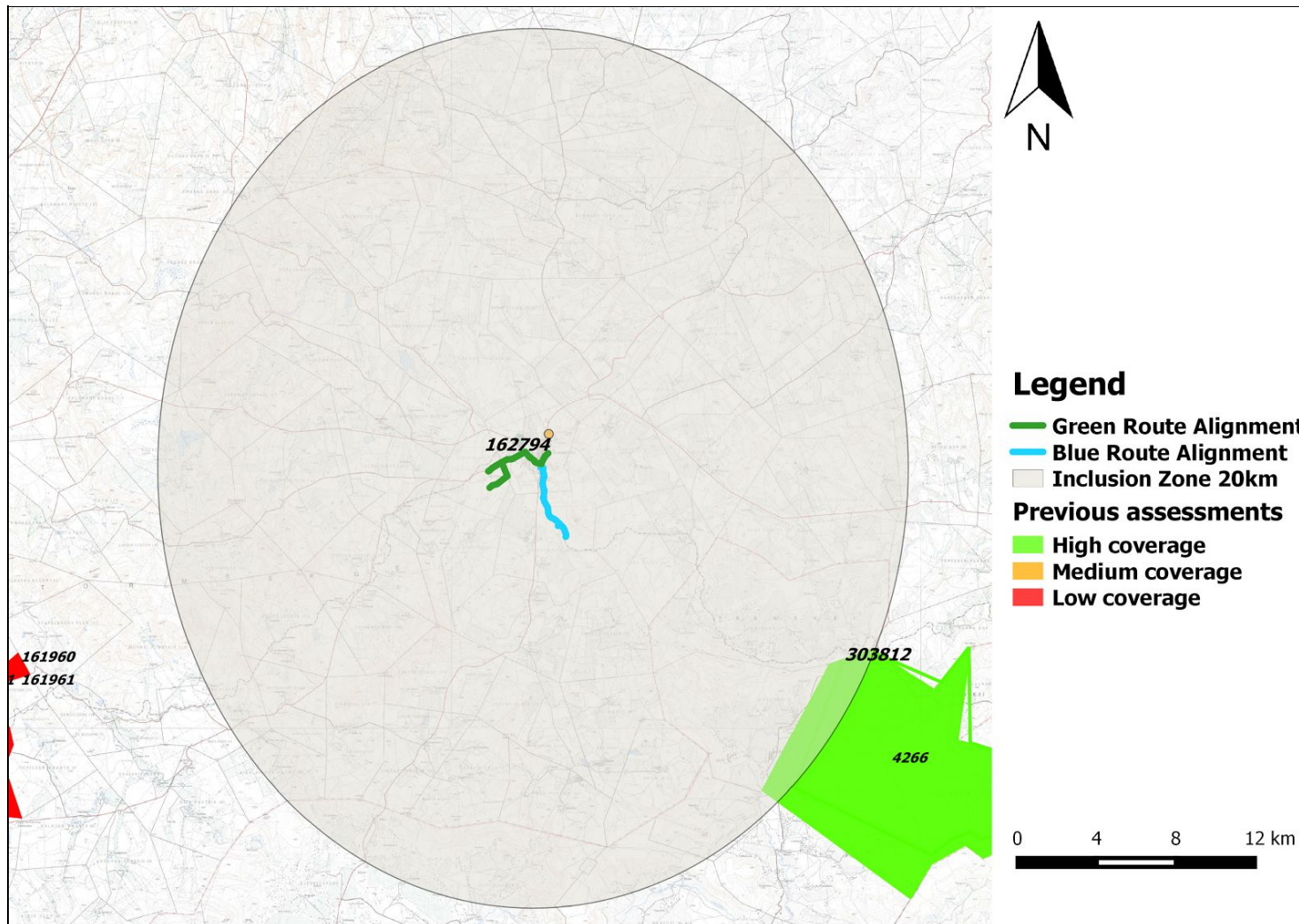


Figure 2. Previous surveys map. Previous research surveys done in and near the proposed development area with reference IDs indicated (please see Appendix 2 for full reference list).



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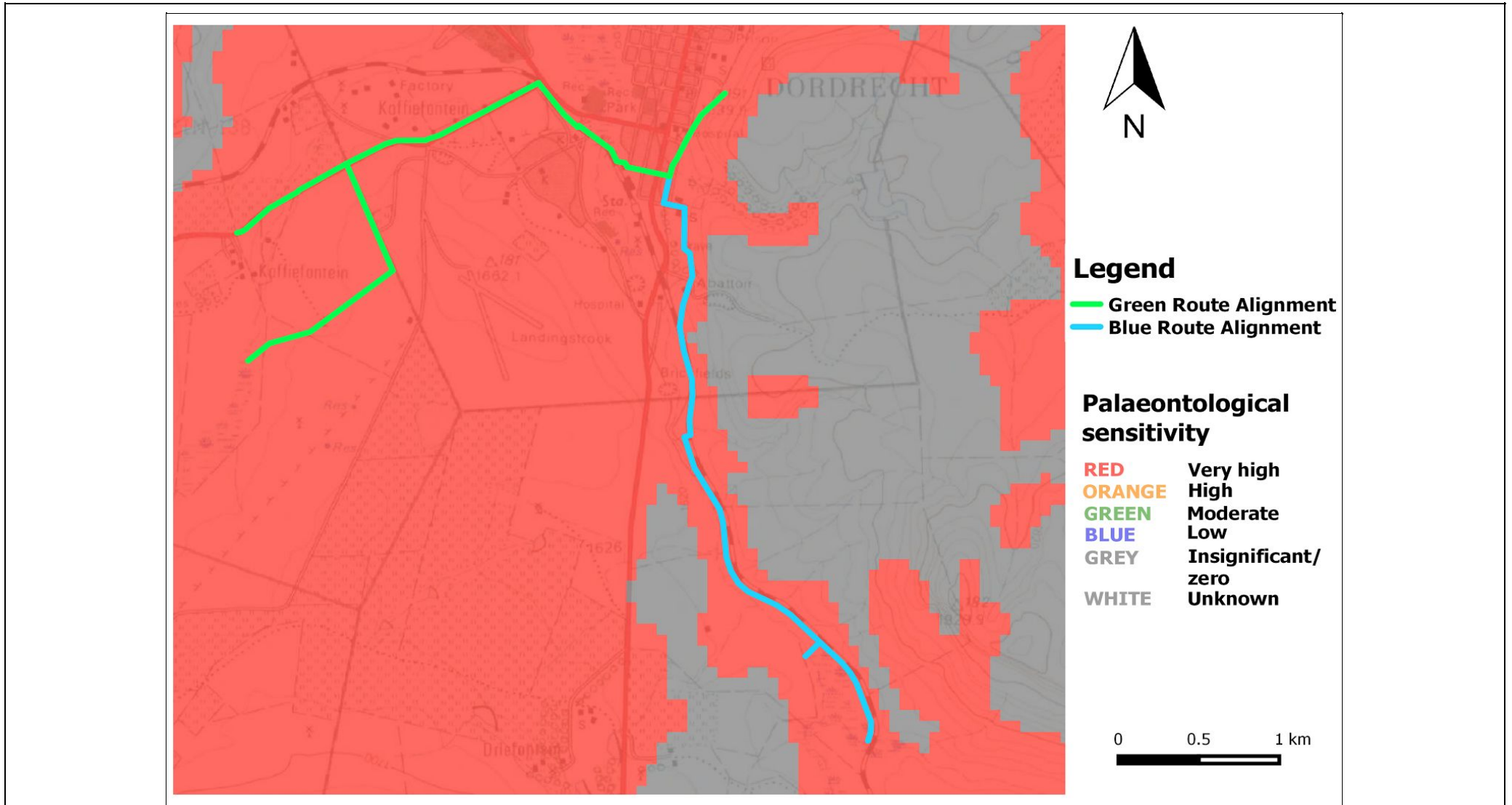
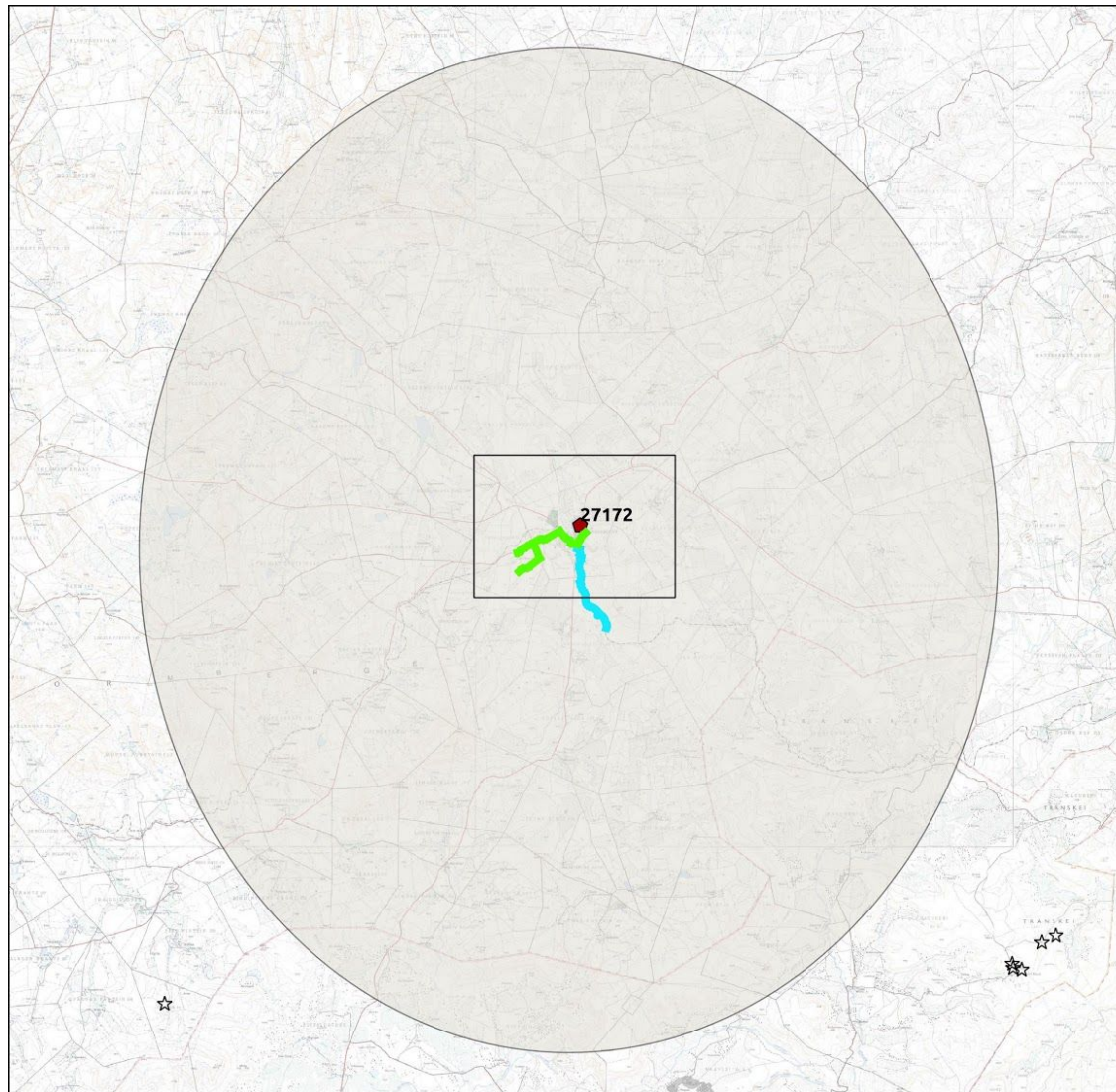


Figure 3. Palaeo Map. Palaeosensitivity of the study area. See Appendix 3 for full guide to the legend.



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● Proposed development
Type of heritage resources

- ☆ Arch, Bat, Geo, Met, Pal, Und
- ◇ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural, Place

Grading

- | | |
|----------|----------|
| DARK RED | I & II |
| RED | IIIa |
| ORANGE | IIIb |
| GREEN | IIIc |
| CLEAR | Ungraded |



Figure 4. Heritage Resources Map. Heritage resources previously identified in and near the study area with SAHRIS NID labels indicated. Please see details on inset in Figure 4a.



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8. Heritage statement and character of the area

The town of Dordrecht in the Eastern Cape is currently experiencing critical water shortages. An increased level of service delivery to full waterborne sanitation for the entire town is planned for the near future which will put further strain on the water supply. A number of upgrade and additional water supply projects are thus being planned. Environmental authorisations will be required for some of these. Water will be sourced from boreholes.

There are 3 main components to the project:

1. The equipping of two boreholes situated to the south of town, the construction of pump houses for each of the two boreholes, connection to the existing supply pipeline
2. The equipping of two boreholes to the East of town, the construction of pump houses for each of the two boreholes, reticulation from the boreholes to the Water Treatment Works
3. The replacement of the existing raw water supply AC pipeline with a new uPVC pipeline

The SAHRA palaeosensitivity map indicates that the area to be impacted by the proposed development is underlain by stratigraphy that has **very high sensitivity for potential impacts to palaeontological resources** as the entire area is underlain by rocks of the Molteno Formation. This formation is known for its very diverse vascular plant (*Dicroidium* flora, especially rich in gymnosperms) and insect biota, its dinosaur trackways, and its rare fish. It is extremely rich in fossil flora (ferns, horsetails, gymnosperm including conifers, ginkgophytes, cycads, seed ferns etc), silicified woods and palynormphs. Apart from important insect fauna, animal fossils tend to be very sparse in this formation, including rare fish, conchostracans, bivalves as well as invertebrate trace fossils and dinosaur tracks.

As the proposed development is anticipated to impact areas that have already been disturbed, it is unlikely that a palaeontological foot survey will identify significant palaeontological resources. **It is therefore recommended that a Fossil Finds procedure be implemented for the duration of the construction phase.**

There were no heritage resources recorded within the 20km Inclusion Zone for this proposed development other than the Dutch Reformed Church old National Monument, now Provincial Heritage Site (PHS), at 90 Grey Street, Dordrecht. Any impact to this PHS will require a permit from ECPHRA in terms of section 27(18) of the NHRA.

As the proposed development is anticipated to impact areas that have already been disturbed, it is unlikely that significant archaeological resources will be impacted by the proposed development. It must be noted that the Blue Route Alignment will pass very close to the boundary of a large cemetery. Unmarked burials may be located outside of the boundary of this cemetery. It is also possible that unmarked burials may be located along the Green Route Alignment. **As such, should any human remains be disturbed during the course of development, work must cease immediately and SAPS and ECPHRA must be contacted.**

(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. **It is recommended that a Fossil Finds procedure be implemented for the duration of the construction phase. Should any human remains be disturbed during the course of development, work must cease immediately and SAPS and ECPHRA must be contacted.**



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APPENDIX 1 - Sites within the 20km Inclusion Zone

NID	Site no	Full site name	Site type	Site Description	Protection
27172	9/2/109/0003	Dutch Reformed Church, 90 Grey Street, Dordrecht	Building	This rectangular stone church building, with its elegant stone tower of 154 feet, is one of the best examples of the Gothic renewal building style. The cornerstone was laid on 20 May 1882 and the building was officially inaugurated on 18 August 1883. The stone wall with iron trellis work was added in 1929.	Provincial Heritage Site

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APPENDIX 2 - Reference List

Previous heritage research surveys within and in proximity of the 20km Inclusion Zone

SAHRIS ID	Report Type	Author	Date	Title
4266	AIA	Gavin Anderson	16/08/2007	The Archaeological Survey of the Elitheni Mine, Indwe, Eastern Cape
161960	AIA	Jaco van der Walt	20/06/2013	Archaeological Scoping Report for the Proposed Stormberg Renewable Energy Project, Sterkstroom District, Eastern Cape
161961	PIA	Barry Millstead	04/06/2013	Desktop Palaeontological Heritage Impact Assessment Report on the Site of the Proposed Solar and Wind Energy Generation Facilities (Stormberg Project) to be location on various farms near Sterkstroom, Eastern Cape Province
162794	PIA	Rob Gess	29/04/2014	Palaeontological Heritage Impact Assessment for Dubeni River Crossing near Queenstown
303812	AIA	Gavin Anderson	16/08/2007	The Archaeological Survey of the Elitheni mine, Indwe, Eastern Cape



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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
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
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.



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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 PALAEOLOGICAL 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:



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- 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.

Note:

The responsibility for generating a response detailing the requirements for the development lies with the heritage authority. However, since the methodology utilised for the compilation of the Heritage Screeners is thorough and consistent, contradictory outcomes to the recommendations made by CTS should rarely occur. Should a discrepancy arise, CTS will immediately take up the matter with the heritage authority to clarify the dispute.

The compilation of the Heritage Screener will not include any field assessment. The Heritage Screener will be submitted to the applicant within 24 hours from receipt of full payment. **If the 24-hour deadline is not met by CTS, the applicant will be refunded in full.**

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