



CTS HERITAGE

HERITAGE SCREENER

CTS Reference Number:	CTS20_018
SAHRIS Ref:	
Client:	Terreco
Date:	February 2022
Title:	Proposed improvements to the stormwater management system in the Inhlanza Catchment Area located in East London
Recommendation by CTS Heritage Specialists	RECOMMENDATION: Based on the information available, it is very unlikely that the proposed development will negatively impact on significant archaeological, built environment or cultural landscape heritage resources. As such, it is recommended that no further heritage studies are required in terms of section 38 of the NHRA. It is, however, recommended that the ECO responsible implement the attached Chance Fossil Finds Procedure.

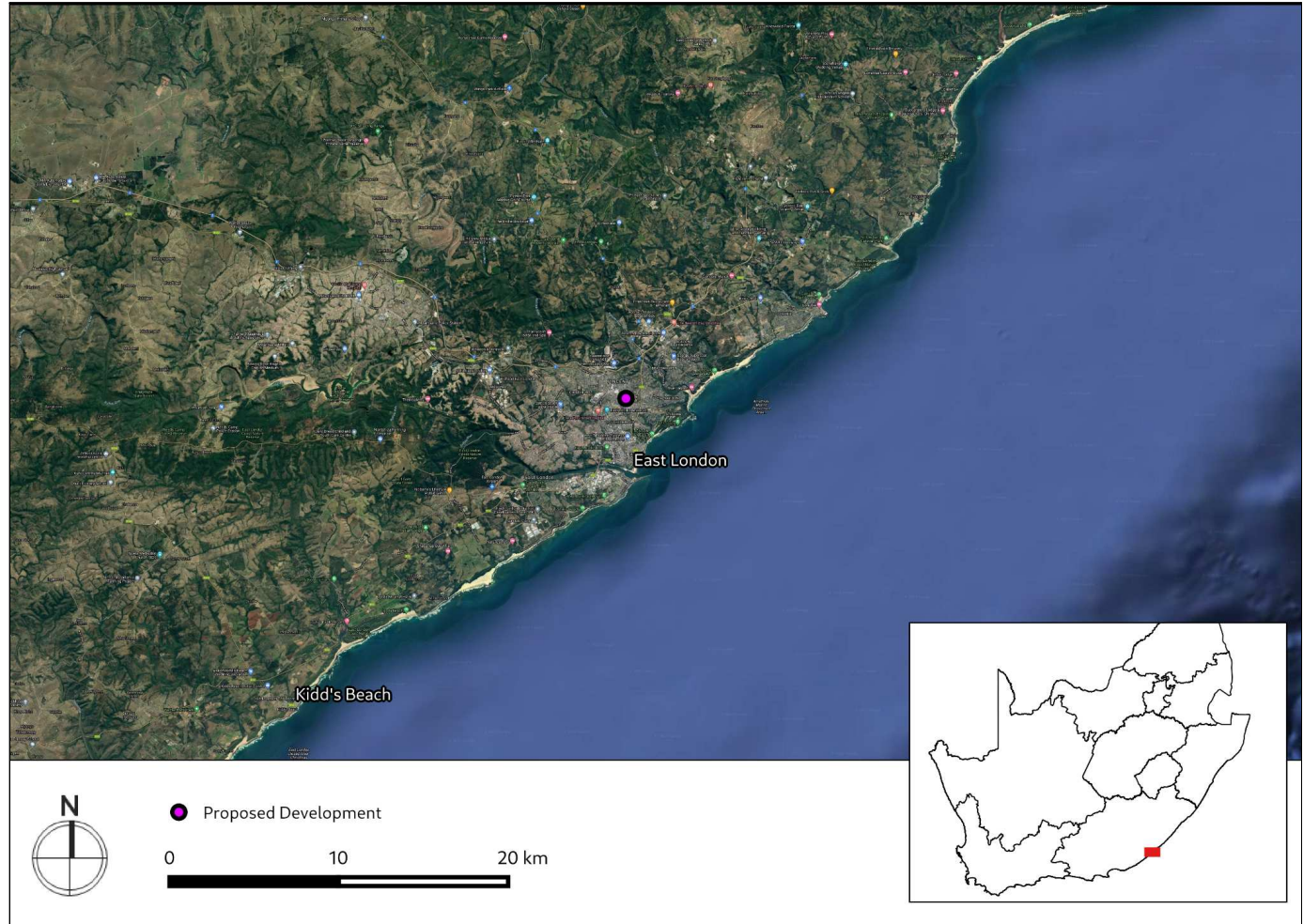


Figure 1a. Satellite map indicating the location of the proposed development in the Eastern Cape Province

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1. Proposed Development Summary

Buffalo City Metropolitan Municipality (BCMM) have developed proposals to improve the stormwater management in the Inhlanza Catchment Area located in East London, Eastern Cape. The Inhlanza River Catchment, which falls mostly within the residential suburbs of Vincent, Berea, Stirling, Woodleigh and Nahoon. It extends from approximately Frere Road in the North West to the sea outfall near the Nahoon River Mouth in the East. The sub-catchment area between Schultz Road and Galway Road is particularly prone to flooding under current conditions.

The proposed solution to alleviate the flooding experienced between Schultz Road and Galway Road is twofold:

- i. The installation of two stormwater detention ponds in the vegetated area of the Neale Road/Chamberlain Road intersection; and
- ii. The installation of grass-lined earth berms or gabion basket walls at the section immediately upstream of Schultz Road and along the length of the section between Schultz Road and Drake Road.

The peak flow for a 1:5 year storm event can be reduced from 26.8 m³/s to 18.7 m³/s by means of the detention ponds, which is a reduction of approximately 30%. The berm/gabion basket structures will act as a barrier and prevent flood water from entering the adjacent properties, and confining the flood waters to the channel and overbank area.

The following infrastructure is proposed:

Two stormwater detention ponds (5000m³ & 1800m³) upstream of Chamberlain Road (32°59'14.40"S, 27°54'34.37"E)

Grass-lined berm/gabion basket wall (40m) upstream of Schultz Road (32°59'20.40"S, 27°55'25.92"E)

Grass-lined berm/gabion basket wall (190m) between Schultz Road and Drake Road (32°59'19.11"S, 27°55'31.09"E)

2. Application References

Name of relevant heritage authority(s)	ECPHRA
Name of competent authority	DEDEAT Amathole Region

3. Property Information

Latitude / Longitude	32°59'14.40"S, 27°54'34.37"E
Erf number / Farm number	Land Parcel 9223, 11565 & 11578
Local Municipality	Buffalo City Metropolitan Municipality
Province	Eastern Cape
Current Use	Public open space
Current Zoning	Undefined

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4. Nature of the Proposed Development

Total Surface Area of development	<5000m ²
Depth of excavation (m)	Ponds: Pond 1 max depth 2m, Pond max depth 2,5m; Bems/gabion walls: N/A The site is already steep and excavation is limited as the bottom of the ponds need to tie in with the existing concrete stormwater channel
Height of development (m)	Ponds: NA; Bems/gabion walls: 1.5m

5. Category of Development

	Triggers: Section 38(8) of the National Heritage Resources Act
	Triggers: Section 38(1) of the National Heritage Resources Act
x	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 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):

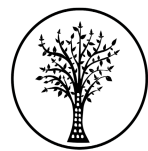
6. Additional Infrastructure Required for this Development

See project description and attached BID.

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



Figure 1b Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

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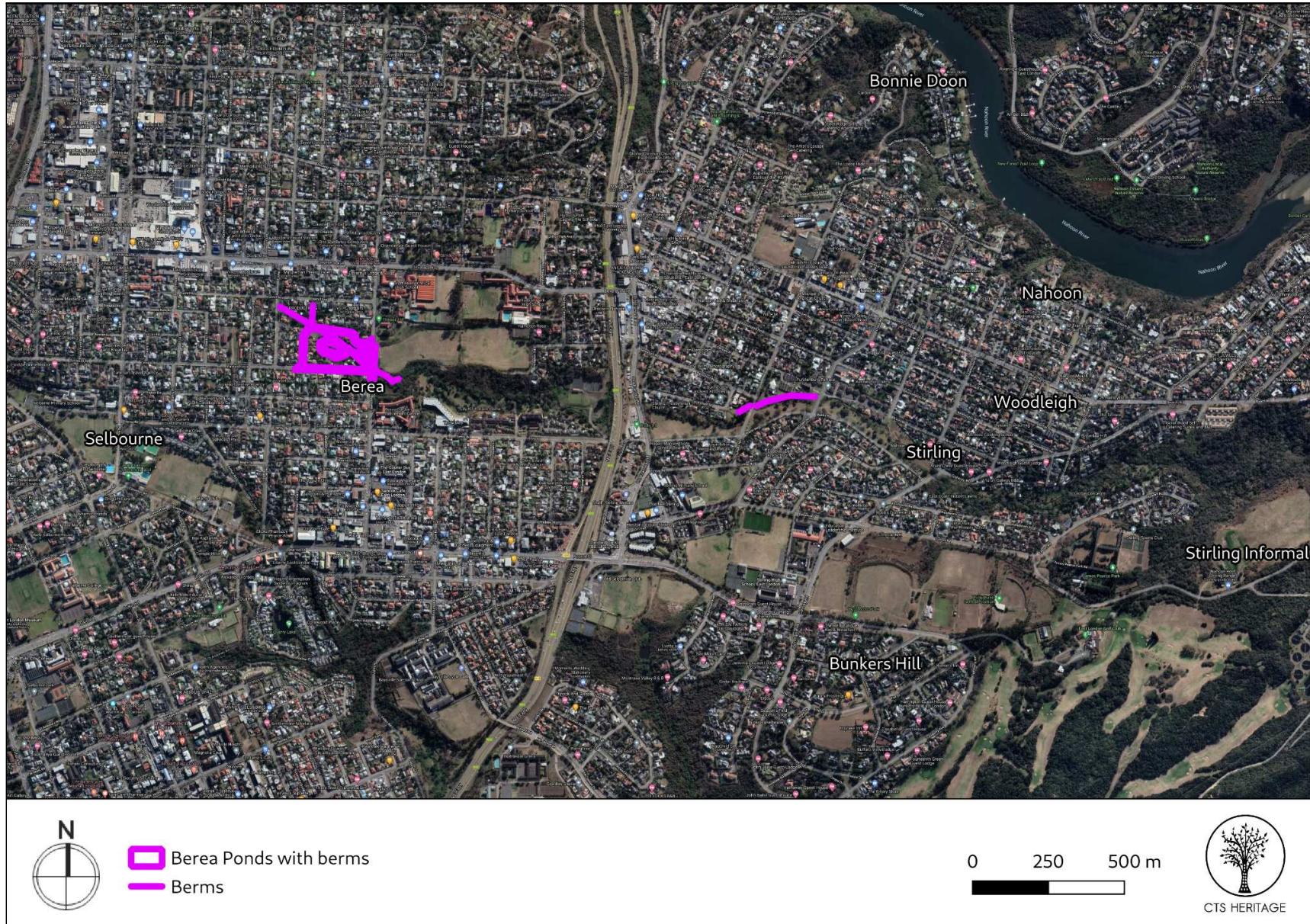


Figure 1c. Overview Map. Satellite image (2019) indicating the proposed development area at closer range.



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 Berea Ponds with berms
 Berms

0 100 200 m



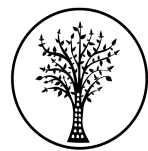
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Figure 1d. Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

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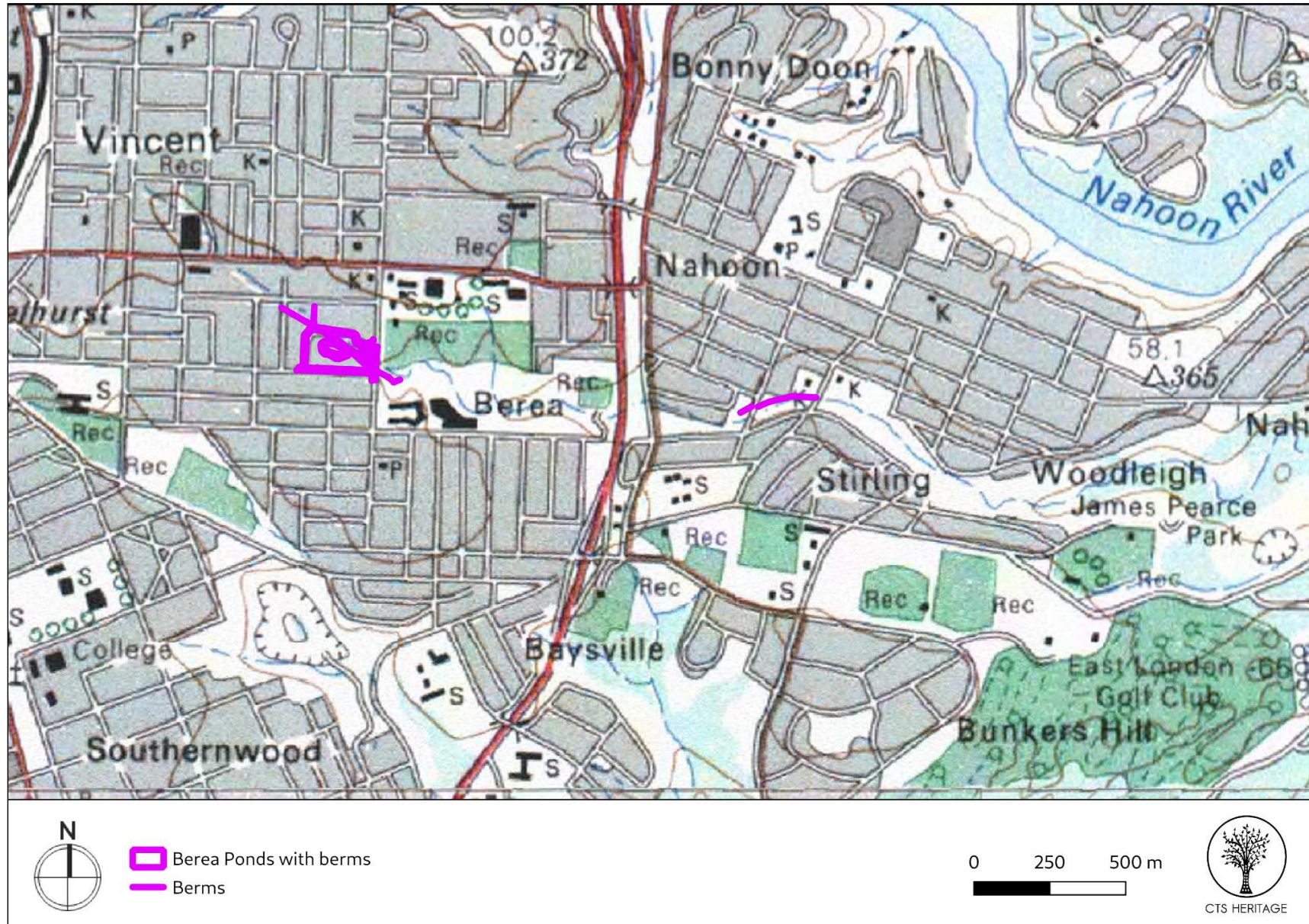


Figure 1e. Overview Map. Extract from the 1:50 000 topographic map of the development area

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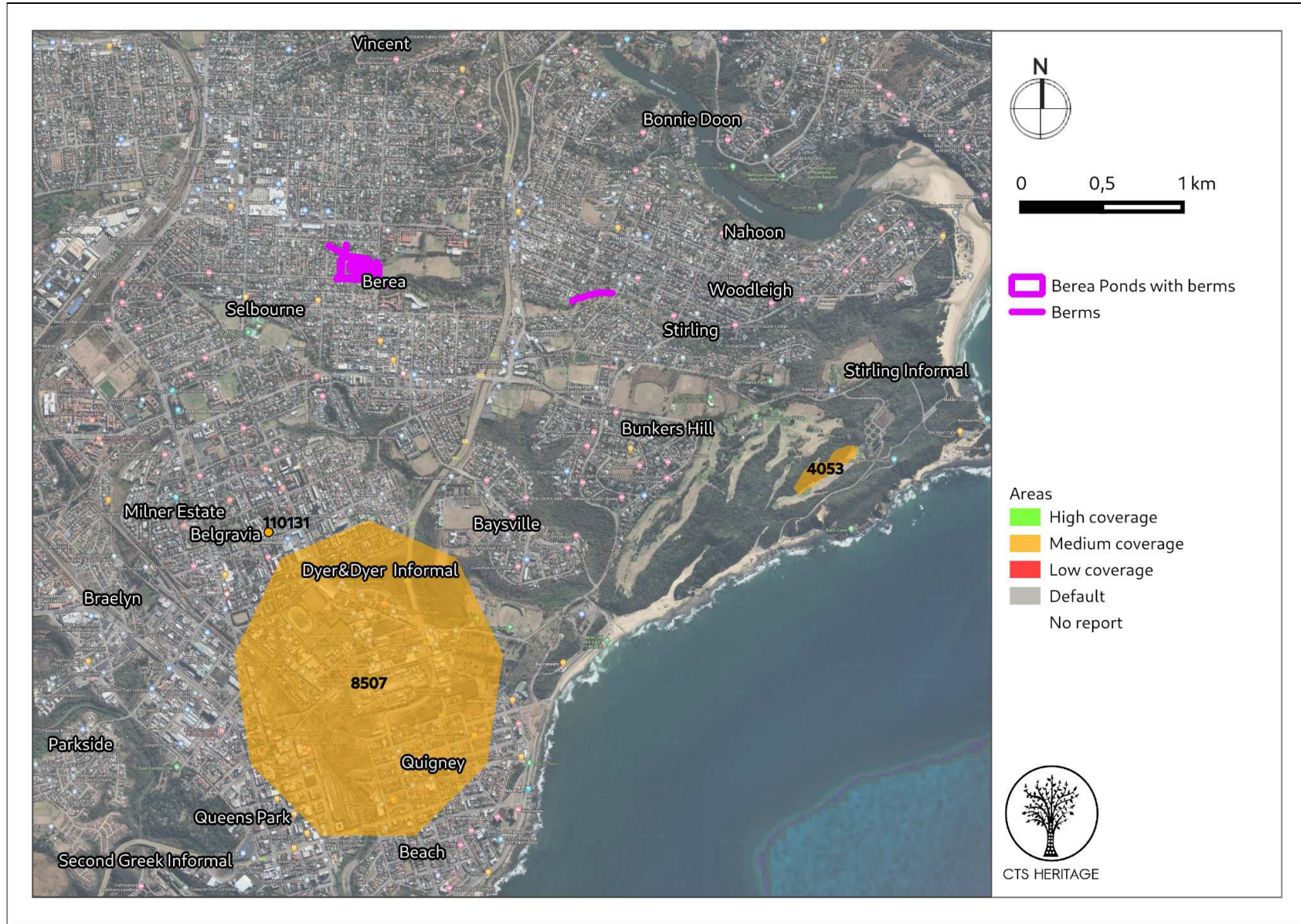


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 20km, with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.

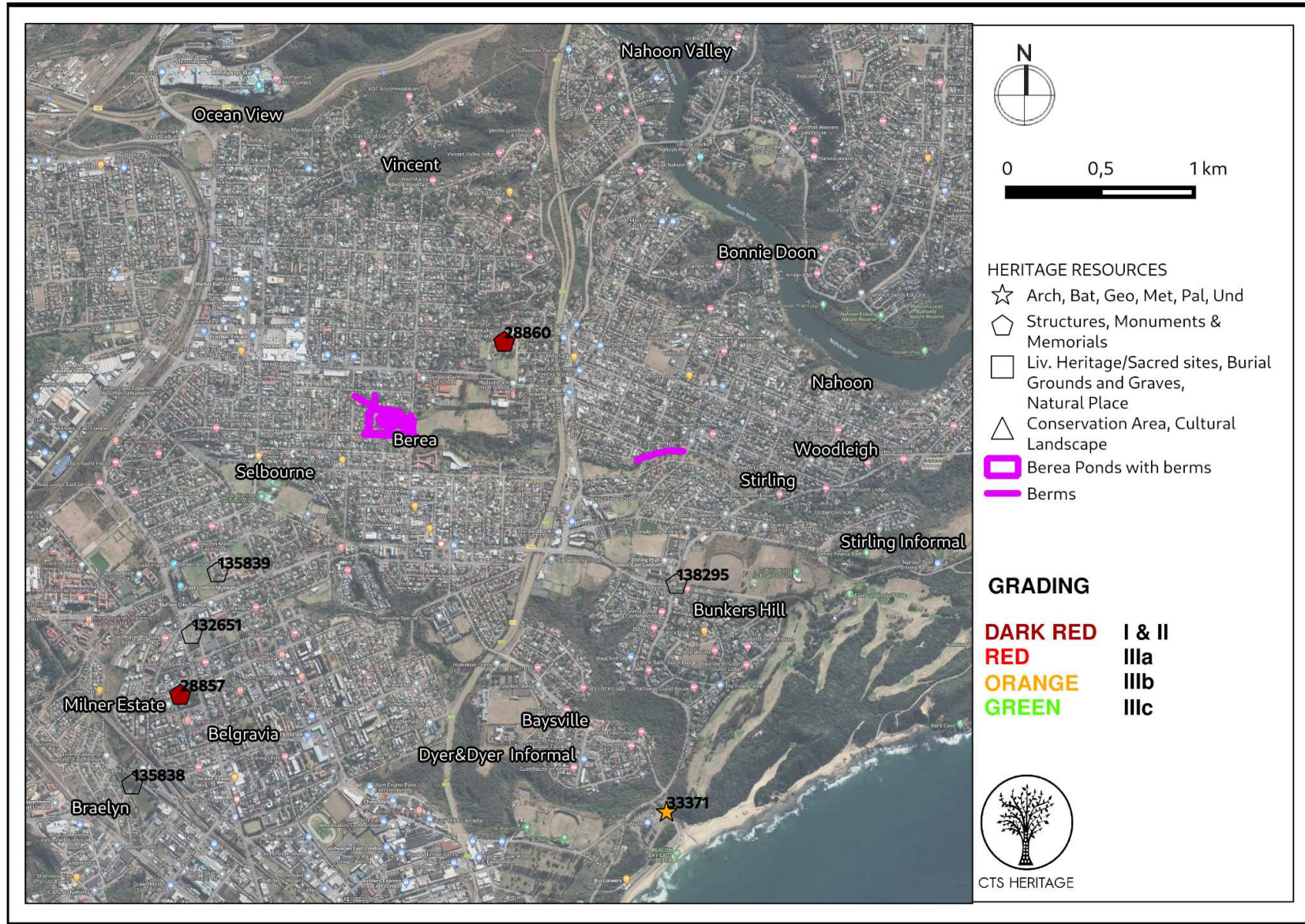


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for a full description of heritage resource types.



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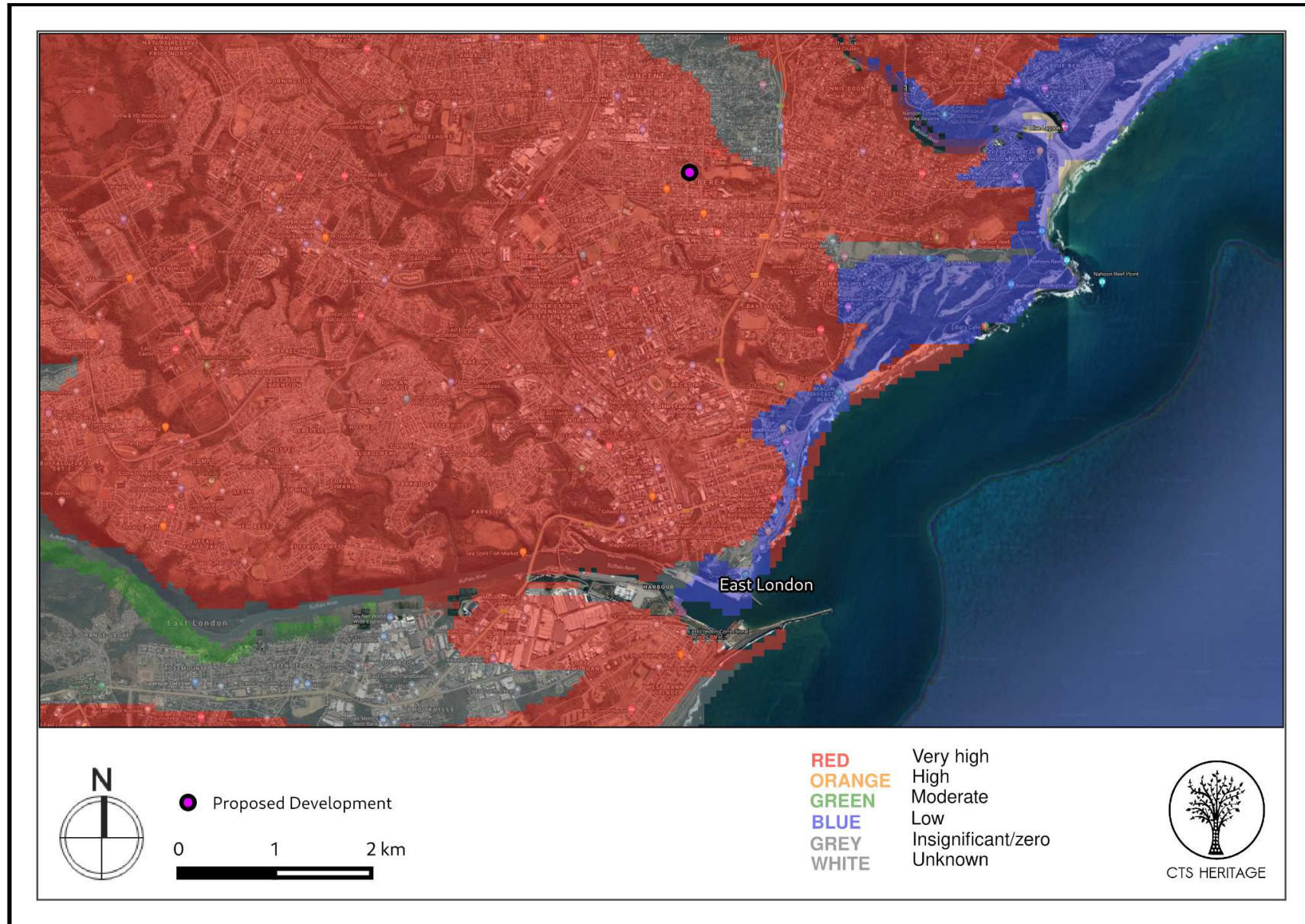


Figure 4. Palaeosensitivity Map. Indicating Very High fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

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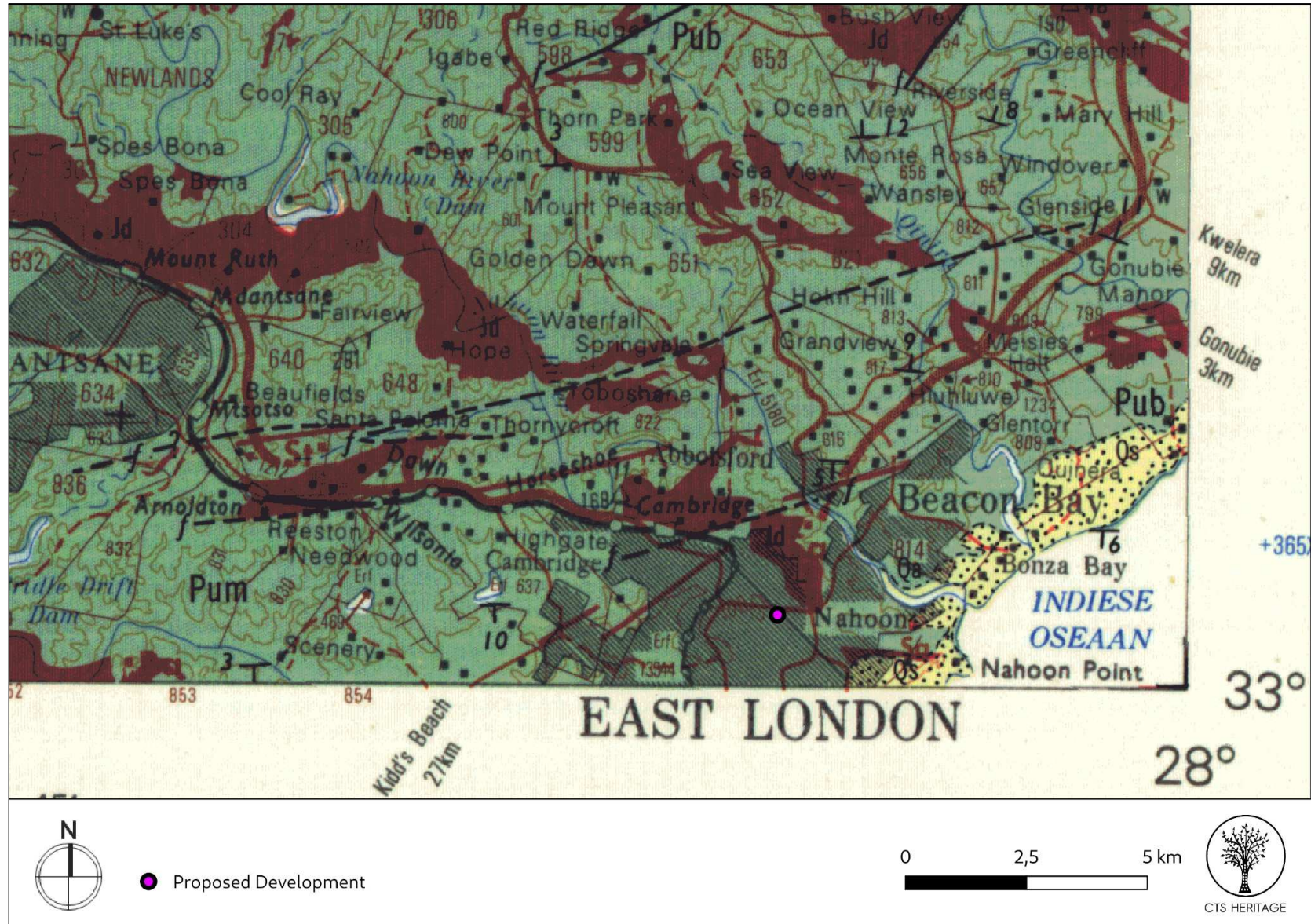
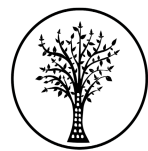


Figure 5. Geology Map. Indicating the underlying geology across the study area through overlaying the geology maps from the CGS series 3226 King Williams Town (Pum: Middleton Formation of the Adelaide Subgroup of the Beaufort Group)

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Figure 6a. Google Street View. Contextual Image over development area

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Figure 6b. Google Street View. Contextual Image over development area

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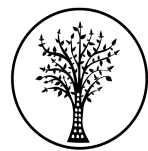


Figure 6c. Google Street View. Contextual Image over development area

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Figure 6d. Google Street View. Contextual Image over development area

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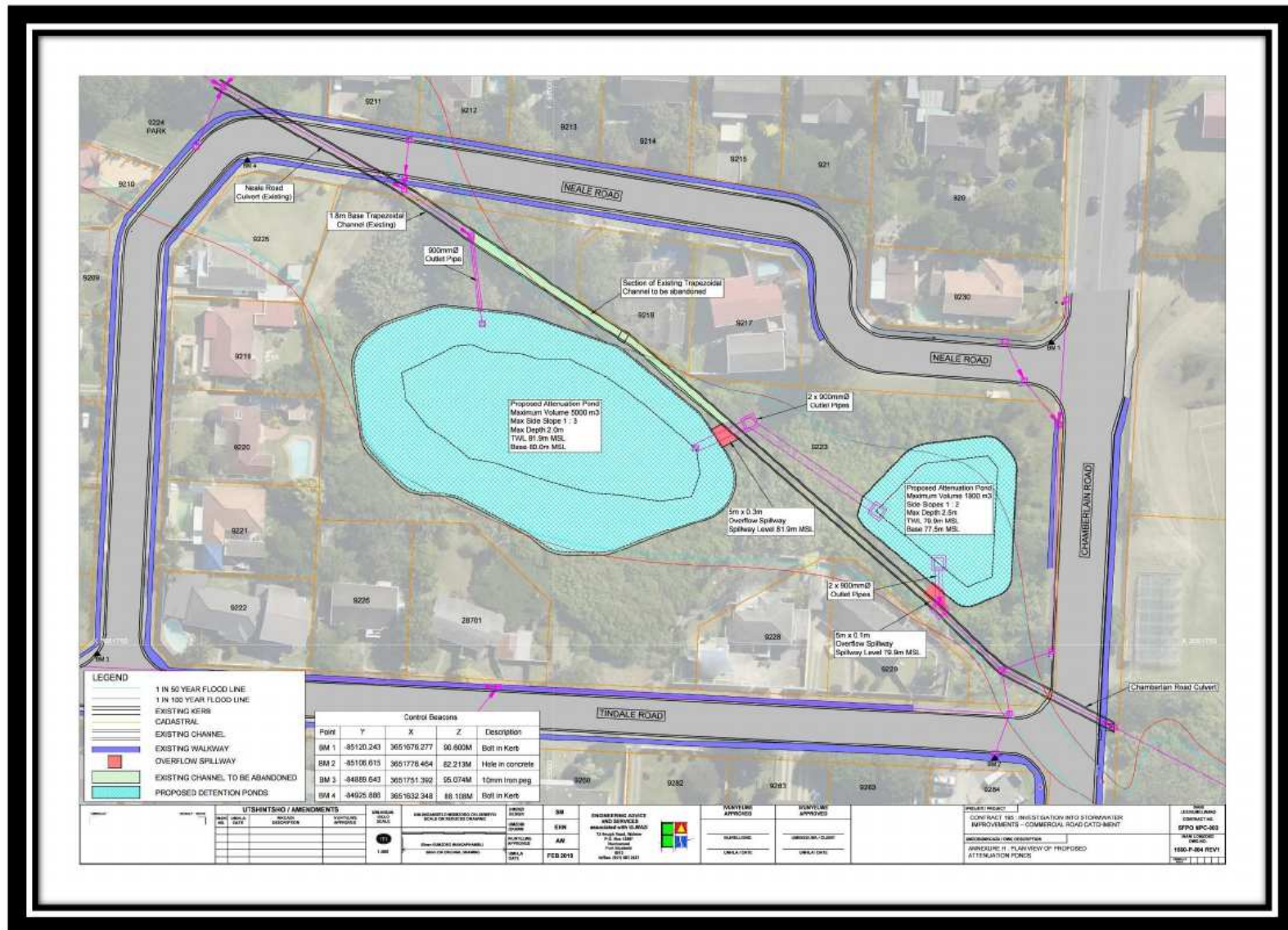


Figure 7. Layout Map



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8. Heritage statement and character of the area

East London was founded in 1836 by 1820 settlers. During the settler wars with the isiXhosa, East London served as a supply port for the military. The existing port at East London began operating in 1870. The area proposed for development is located in the suburb of Berea in East London and the area has been extensively developed previously. No cultural landscape of significance or structures of significance are known from this area and as such, no impacts to cultural landscape resources or built environment resources are anticipated.

Several Heritage Impact Assessments (HIAs) and Archaeological Impact Assessments (AIAs) have been conducted in the vicinity, dating back to 1996. No previous assessments have been conducted within this development location but an area located in the vicinity was assessed for the Bengal Heights development (2016 - SAHRIS NID 356764). The area proposed for development area may contain Stone Age material, although this is unlikely given the disturbed nature of the surrounding landscape. A few buildings and structures of provincial significance are located in the vicinity (Grade II), however none of these resources will be impacted by the development.

Van Ryneveld conducted a field assessment for the proposed Bengal Heights development (2016 - SAHRIS NID 356764) on a property located in a similar context nearby in which she identified Site BHR-S1, the possible remains of a Later Iron Age homestead which was initially graded IIIB. Mitigation was later carried out by PGS to establish whether significant archaeological material was hidden by dense vegetation after the screening and field assessment but they did not find any further material of significance (PGS Monitoring Report 2018.). In 2020, CTS Heritage completed an archaeological field assessment for the proposed Amalinda Downs development located in Circle Road just west of Fitchett Road, Amalinda, East London. No significant archaeological or other heritage resources were identified during the field assessment. Based on the available information, it is very unlikely that significant archaeological heritage resources will be impacted by this proposed development.

According to the SAHRIS Palaeosensitivity Map, the area proposed for development is underlain by sediments of very high palaeontological sensitivity (Figure 4). These sediments belong to the Middleton Formation sediments of the Adelaide Subgroup. According to the SAHRIS Fossil Heritage Browser, the Adelaide Formation is known to record a very rich palaeontological heritage including fish, amphibians, reptiles, therapsids and vertebrate burrows. In addition, the Adelaide Formation falls within the Dicynodon and Lystrosaurus assemblage zones. Diverse terrestrial and freshwater tetrapods are known from this formation including amphibians, true reptiles, synapsids – especially therapsids, palaeoniscoid fish, freshwater bivalves, trace fossils (including tetrapod trackways), sparse to rich assemblages of vascular plants (*Glossopteris* Flora, including spectacular petrified logs) as well as insects. This formation is known to record key evidence for the evolution of mammalian characteristics among therapsids and conserves a continental record of Late Permian Mass Extinction Events. The scientific significance of this palaeontologically rich formation cannot be overstated. The excavations anticipated for the proposed development will be shallow in nature and as such, it is not anticipated that they will impact the Adelaide Formation - it is unlikely that the excavations required for the development will impact on significant palaeontological resources. The being said, according to Groenewald (2015, SAHRIS NID 337396), “the potential for finding significant fossils in slightly weathered sandstone and mudstone of the Adelaide Subgroup is high”.

A Desktop Palaeontological Assessment was completed by Bamford (2021) for a development located within this formation but located some distance away. Bamford (2021) noted that “the very highly sensitive rocks of the Middleton Formation (Adelaide Subgroup, Beaufort Group, Karoo Supergroup)... could potentially preserve vertebrate fossils typical of the Endothiodon Assemblage Zone, or fossil plants of the *Glossopteris* flora. No fossils have been recorded from this site and fossils tend to be scattered in their distribution.” While the palaeontological sensitivity of this formation is very high, the footprint of the development and the anticipated excavations are very limited in their nature and as such, it is recommended only that the attached Chance Fossil Finds Procedure be implemented for the duration of construction activities.

RECOMMENDATION:

Based on the information available, it is very unlikely that the proposed development will negatively impact on significant archaeological, built environment or cultural landscape heritage resources. As such, it is recommended that no further heritage studies are required in terms of section 38 of the NHRA. It is, however, recommended that the ECO responsible implement the attached Chance Fossil Finds Procedure.

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APPENDIX 1

List of heritage resources within the 20km Inclusion Zone from SAHRIS

Site ID	Site no	Full Site Name	Site Type	Grading
28851	9/2/026/0032	Cambridge Primary School, Brabant Street, East London	Building	Grade IIIb
28857	9/2/026/0015	Ann Bryant Art Gallery, St Lukes Road, East London	Building	Grade II
28860	9/2/026/0028	Red House, Red House Avenue, East London	Building	Grade II
86373	BC002	Buffalo City 002	Building	Ungraded
33371	Blind River Site	Blind River Site, East London	Archaeological	Grade IIIb
2794	SHIPWRECKID2590	Santa Maria Madre de Deus	Shipwreck	
2896	SHIPWRECKID2694	Seafield	Shipwreck	
137965	9/2/026/0002-279	Town Hall, Mayfair Avenue, East London	Building	
138292	9/2/026/0039	Footprints in Calcareous Sandstone, Nahoon Point, East London District	Palaeontological	
138295	9/2/026/0002-694	Site of Kimmerling flight, East London	Monuments & Memorials	
135839	BUF/NAMM/0016	World War II Memorial, Dawson and Lukin Road, East London	Monuments & Memorials	
135838	BUF/NAMM/0015	Eastern Cape Workers Wall Of Remembrance, North End Stadium, East London	Monuments & Memorials	
130168	Nahoon Point Wreck	Unknown wreck near Nahoon River mouth	Shipwreck	
132651	9/2/026/0002-715	Cenotaph, Southernwood, East London	Monuments & Memorials	

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136540	BUF/NAMM/0034	Cambridge War Memorial, Mayfair Avenue, East London	Monuments & Memorials	
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Reference List from SAHRIS

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
104955	AIA Phase 1	Karen Van Ryneveld	05/11/2012	PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT - OXFORD HARBOUR VIEW DEVELOPMENT, ERVEN 15833, 15834, 15835 AND 33367, EAST LONDON, EASTERN CAPE, SOUTH AFRICA
104956	PIA Phase 1	Lloyd Rossouw	30/11/2012	Phase 1 Palaeontological Impact Assessment of a proposed new conference and development center near the Port of East London, EC Province.
321032	PIA Phase 1	Lloyd Rossouw	20/07/2015	Palaeontological Impact Assessment for the Proposed Rehabilitation and Refurbishment of the existing Latimer's Landing jetty at the Port of East London (Part 1 of HIA)
356763	Desktop Assessment	Mariagrazia Galimberti, Kyla Bluff, Nicholas Wiltshire	11/02/2016	CTS16_010 Terreco Bengal Heights East London
361011	AIA Phase 1	Karen Van Ryneveld	01/04/2016	Phase 1 Archaeological & Cultural Heritage Impact Assessment - Proposed Bengal Heights Residential Development, Erf RE/2368, Amalinda, East London, Buffalo City Metropolitan Municipality, Eastern Cape
4053	AIA Phase 1	Karen Van Ryneveld	28/09/2007	Phase 1 Archaeological Impact Assessment - Realignment of the 6Th Fairway, East London Golf Club, East London, Eastern Cape, South Africa
4071	AIA Phase 1	Karen Van Ryneveld	30/09/2008	Phase 1 Archaeological Impact Assessment: Residential Development, Portions 3, 4 & 18 of Farm 807, Quenera, East London, Eastern Cape, South Africa
8507	HIA Phase 1	Lita Webley, Gillian Vernon	30/01/2008	Phase 1 Heritage Impact Assessment: The Construction of a Dual Carriageway Linking Fitzpatrick Road and Currie Street on the "Sleeper Site", Erf 15835 Buffalo City, 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 (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.

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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

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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.

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