

A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED
COEGA RIDGE NU-WAY HOUSING DEVELOPMENT, FARMS WELBADACHTSFONTEIN
300, COEGA KOP 313, COEGAS KOP 316, COEGAS KOP 314, NELSON MANDELA
METROPOLITAN MUNICIPALITY, PORT ELIZABETH, EASTERN CAPE PROVINCE

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A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED COEGA RIDGE NU-WAY HOUSING DEVELOPMENT, FARMS WELBADACHTSFONTEIN 300, COEGA KOP 313, COEGAS KOP 316, COEGAS KOP 314, NELSON MANDELA METROPOLITAN MUNICIPALITY, PORT ELIZABETH, EASTERN CAPE PROVINCE

Note: This report follows the minimum standard guidelines required by the South African Heritage Resources Agency for compiling Phase 1 Archaeological Impact Assessment (AIA).

EXECUTIVE SUMMARY

Purpose of the Study

The purpose of the study was to conduct a phase 1 archaeological impact assessment (AIA) of the proposed Coega Ridge NU-WAY housing development situated on farms Welbedachtsfontein 300, Coega 313, Coegas Kop 316 and Coegas Kop 314, Nelson Mandela Metropolitan Municipality, Port Elizabeth, Eastern Cape Province. The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological heritage materials and features, the potential impact of the development and, to make recommendations to minimize possible damage to these sites.

Brief Summary of Findings

The proposed area for development is situated about 20 km north of the Port Elizabeth city centre between the Swartkops and Coega River valleys, and lies approximately 4.5 km north of the lower Swartkops estuary and 9 km from the coastline. The proposed area is bordered by the MR460/R334 Uitenhage-Addo road in the south and the R355 PE-Addo road to the east. Amanzi Quarries is situated on the adjacent property approximately 5 km to the west of the proposed area for development. The proposed area is majorly covered in thick dense bush vegetation making archaeological visibility difficult. The area has previously been highly disturbed by the construction of both tar and gravel roads, informal footpaths, power lines and underground pipelines, industrial zones and farming activities. The central and northern portions of the proposed area are existing and active farms whilst informal housing settlements are situated mainly in the southern areas. Portions of the proposed area are currently being used as informal dumping sites by members of the local community.

Few Early Stone Age (ESA) stone artefacts were documented. Occasional surface scatters of predominantly Middle Stone Age (MSA) stone artefacts were documented over the entire area proposed for development. It is highly unlikely that the stone tool scatters are *in situ* and are, therefore, considered to be in a secondary context. No sites containing any depth of deposit or other archaeological material associated with the stone tool artefacts were observed within the area. Three graveyards were documented within the area dating within the last 60 years, although two of the graveyards contained graves dating over 60 years. The proposed area for development is considered as having a medium-low cultural significance, although the following recommendations must be taken into consideration prior to the construction activities.

Recommendations

The area is of a medium-low cultural sensitivity and development may proceed as planned, although the following recommendations must be considered:

1. Portions of the proposed area for development are covered in dense vegetation and sites/features may be covered by soil and vegetation and will only be located once this has been removed. Other areas have been disturbed in past and currently, therefore, it is unlikely that any *in situ* archaeological sites/remains, and human remains would be uncovered during construction. However, if concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the South African Heritage Resources Agency (SAHRA) (021 642 4502) so that systematic and professional investigation/excavation can be undertaken
2. A professional archaeologist should be appointed during the vegetation removal and construction phases of the development.
3. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
4. The graveyards must be avoided. Development must not occur within a 100m radius of the graves/burials.
5. A historian must be appointed to assess the significance of the built-environment and graveyard heritage.

BACKGROUND INFORMATION

The phase 1 archaeological impact assessment (AIA) report required for the environmental impact assessment (EIA).

The proposed Coega Ridge NU-WAY mixed-use residential development is approximately 3 200 ha in extent and will contain a total of 36 545 mixed-use residential units, which will consist of housing units, such as row units, residential walk-ups, two to four storey flats in the high density area, and semi-detached units and townhouses in the medium density precincts. In addition to the residential component, associated infrastructure such as roads, stormwater drainage, water supply, electricity as well as schools, churches, health facilities, commercial and industrial nodes will also be included in the development. Provision has also been made for an upmarket golf and equestrian estate to the south of the Coega River. The development concept, therefore, provides a gradient from high density residential and commercial features north of the existing township of Motherwell, to low density recreational and natural areas to the north of the proposed development area.

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Terms of Reference

To conduct a survey of possible archaeological heritage sites within the area of the proposed Coega Ridge NU-WAY mixed-use residential housing development, on farms Welbedachtsfontein 300, Coega 313, Coegas Kop 316 and Coegas Kop 314, Nelson Mandela Metropolitan Municipality, Port Elizabeth, Eastern Cape Province. The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological heritage materials and features, the potential impact of the development and, to make recommendations to minimize possible damage to these sites.

Brief legislative requirements

Parts of sections 35(4), 36(3) and 38(1) (8) of the National Heritage Resources Act 25 of 1999 apply:

Archaeology, palaeontology and meteorites

35 (4) No person may, without a permit issued by the responsible heritage resources authority—

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

Burial grounds and graves

36. (3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

Heritage resources management

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as -

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of the site -
 - (i) exceeding 5000m² in extent, or
 - (ii) involving three or more erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;
- (d) the re-zoning of a site exceeding 10 000m² in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

BRIEF ARCHAEOLOGICAL BACKGROUND

Literature review

Little is known about the archaeology of the immediate area, mainly because no systematic research has been conducted there. The gravels of old river terraces which line most of the Coega River and estuary contain archaeological remains in the form of stone tools. Early Stone Age (ESA) (approximately 1.4 million - 250 000 years old) stone tools are found throughout the area. Large handaxes were reported from Coega Kop and were also collected from the banks and gravels of the Coega River as well as between the N2 national road and the salt works (Albany Museum collections). One of South Africa's most important Earlier Stone Age sites, Amanzi Springs, was excavated by H.J. Deacon during the 1970's (Deacon 1970) is situated a few kilometres north-west of the surveyed area. In a series of spring deposits a large number of stone tools were found *in situ* to a depth of 3-4 metres. Wood and seed material preserved remarkably very well within the spring deposits, and possibly date to between 800 000 to 250 000 years old.

Middle Stone Age (MSA) (250 000 - 30 000 years ago) and Later Stone Age (LSA) (30 000 years ago to historical times) stone tool artefacts are also found in the gravels and along the banks of the Coega River. These stone artefacts, like the Earlier Stone Age handaxes are in secondary context with no other associated archaeological material.

Occurrences of fossil bone remains and Middle Stone Age stone tools were also reported south of Coega Kop (Gess 1969). The remains were found in the surface limestone during excavations, but the bulk of the bone remains were found some 1-

1.5 metres below the surface. The excavations exposed a large number and variety of bones, teeth and horn cores strongly suggesting that they were deposited there by early humans. The bone remains included warthog, leopard, hyena, rhinoceros and ten different antelope species. A radiocarbon date of greater than 37 000 years was obtained for the site.

The proposed area for development is situated approximately 9 km from the coast and falls outside of the 5 km maximum distance shell middens are expected to be found from the beach. A large number of shell middens were also situated east of Coega River Mouth. Several of the middens were sampled and excavated just before the harbour was constructed. Many middens, ceramic pot sherds (from Later Stone Age Khoekhoen pastoralist origin - last 2 000 years) and other archaeological material, are situated between the Coega and Sunday's River Mouths. These remains date mainly from Holocene Later Stone Age (last 10 000 years). Human remains have also been found in the dunes along the coast.

The majority of archaeological sites found in the area date from the past 10 000 years (called the Later Stone Age) and are associated with the campsites of San hunter-gatherers and Khoi pastoralists. These sites are difficult to find because they are in the open veld and often covered by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone. The preservation of these sites is poor and it is not always possible to date them Africa (Deacon & Deacon 1999). There are many San hunter-gatherers sites in the nearby Elandsberg and Groot Winterhoekberg Mountains. Here caves and rock shelters were occupied by the San during the Later Stone Age and contain paintings along the walls. The last San/KhoiSan group was killed by Commandos in the Groendal area in the 1880s.

The most common archaeological sites along the nearby coast are shell middens (relatively large piles of marine shell) found usually concentrated opposite rocky coasts, but also along sandy beaches (people refer to these as 'Strandloper middens') (Rudner 1968). These were campsites of San hunter-gatherers, Khoi herders and KhoiSan peoples who lived along the immediate coast (up to 5 km) and collected marine foods. Mixed with the shell are other food remains, cultural material and often human remains are found in the middens. In general, middens date from the past 6 000 years. Also associated with middens are large stone floors which were probably used as cooking platforms (Binneman 2001, 2005).

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Relevant archaeological impact assessments:

A few relevant archaeological impact assessments have been conducted within the Coega and the Coega Industrial Development Zone areas. These archaeological impact assessments are currently stored at the Department of Archaeology, Albany Museum, Grahamstown, Eastern Cape Province

DESCRIPTION OF THE PROPERTY

Area surveyed

Location data

The proposed area for development is situated about 20 km north of the Port Elizabeth city centre between the Swartkops and Coega River valleys, and lies approximately 4.5 km north of the lower Swartkops estuary and 9 km from the coastline. The proposed area is bordered by the MR460/R334 Uitenhage-Addo road in the south and the R355 PE-Addo road to the east. Amanzi Quarries is situated on the adjacent property approximately 5 km to the west of the proposed area for development. The proposed area is majorly covered in thick dense bush vegetation making archaeological visibility difficult. The area has previously been highly disturbed by the construction of both tar and gravel roads, informal footpaths, power lines and underground pipelines, industrial zones and farming activities. The central and northern portions of the proposed area are comprised of existing and active farms whilst informal housing settlements are situated mainly in the southern areas. Portions of the proposed area are currently being used as informal dumping sites by members of the local community.

Map

1:50 000 Maps: 3325CD & DD & 3425BA Port Elizabeth and 3325DA Addo (Map 1).

ARCHAEOLOGICAL INVESTIGATION

Methodology

The survey was conducted by two people conducting spot checks from a vehicle following the existing service gravel roads within the area and walking the open veld areas. GPS readings were taken using a Garmin Plus II. The GPS readings have been plotted on Maps 2 and 3.

Most of the area proposed for development is covered in impenetrable dense thicket vegetation which on the whole made archaeological visibility difficult. The open veld areas and service roads were followed and investigated for any indication of archaeological material remains (Figs 1-4). Mainly Early Stone Age (ESA) and Middle Stone Age (MSA) stone artefacts made predominantly on medium-grained quartzite were observed within the proposed area with the stone artefacts occurring more densely within the south-eastern half of the proposed area. The ESA stone artefacts comprised mainly of characteristic Acheulian handaxes and cleavers, whilst the MSA stone artefacts included flakes, blades and cores. The characteristic prepared core technique for stone artefact manufacture could be identified by the

faceted platforms of some of the flakes and blades. It is highly unlikely that the stone artefacts occur *in situ* owing to previous and present disturbances within the area.



Figs. 1-4: Views of the landscape showing the dense vegetation and open areas viable for archaeological investigation.

Early Stone Age (ESA) stone artefacts were observed around the area marked GPS1 (Figs 5-8), which occurred within and next to the service road that leads towards the mining area situated to the south of the proposed area for development. The stone artefacts are mainly in secondary context owing to the disturbances caused by the construction of manholes and service roads, although it is possible that occasional occurrences of ESA stone artefacts may be covered by the thick dense vegetation. MSA stone artefacts occur sporadically within the service roads between GPS points marked GPS1 ($33^{\circ}45'59.04''S$; $25^{\circ}36'26.64''E$) and GPS12 ($33^{\circ}46'40.84''S$; $25^{\circ}35'54.06''E$) (Fig. 6). A possible lower grindstone was observed at GPS6 ($33^{\circ}45'57.12''S$; $25^{\circ}36'23.94''E$). A calcrete quarry, situated at the area marked GPS10 ($33^{\circ}46'26.22''S$; $25^{\circ}36'19.86''E$), was investigated for possible archaeological deposit, although no archaeological materials were documented. Informal dwellings with makeshift stock kraals occur within the area marked between GPS11 ($33^{\circ}46'36.12''S$; $25^{\circ}36'2.4''E$) and GPS12, the dwellings become more dense to the north and north-east of the salt pan. Ruins of a possible historic dwelling occur to the south of the salt pan. Occasional stone artefacts were documented within and adjacent to the service road followed. Modern buildings occur between the service road and the R355 PE-Addo road.



Figs 5-8. Examples of stone artefacts observed throughout the area.

A small unfenced family graveyard (Map 3) approximately 30 m x 20 m in extent is situated 100 m to the east from the R355 PE-Addo and the Motherwell informal settlement at and is highlighted at the area marked GPS13 (33°46'21.66"S; 25°35'34.8"E). The graveyard contains both formal graves and informal burials. There are 25 formal graves most of which bear the surname "Mattheus" and range between 1904 and 1973. The remaining 25 are informal burials that can be identified in the manner that stones have been packed and an informal headstone with no engravings at the one end packed stone. Over time the formal graves and headstones have been vandalised (Figs 9-12).

The area between GPS14 (33°46'1.98"S; 25°35'35.28"E) and GPS22 (33°45'56.04"S; 25°36'3.42"E), is also covered in dense thicket vegetation which making archaeological visibility difficult. The gravel service roads were followed and the open veld areas were investigated for the occurrence of archaeological material. Surface scatters of MSA stone artefacts, made predominantly with medium-grained quartzite were observed over most of the area. These are, however, in secondary context as they had over time been washed down the slopes of the hills on which they occurred. The tops of the hills were investigated for any possible *in situ* archaeological material, however, no other archaeological material was found to be associated with the stone artefact scatters.

Remnants of a possibly historical farmhouse were observed at the area marked GPS16 (33°46'0.06"S; 25°35'46.92"E) (Map 3). It was observed that sun-dried bricks

and concrete were used to construct the building. Foundations of previous building were also observed to the east of the above-mentioned remains.



Figs 9-12. Views of the formal graves and informal burials, and extent of vandalism (red arrows indicate the formal graves and yellow arrows indicate the informal burials).



Figs 13-14. Remains of a possibly historical farmhouse (left) and a close-up of the bricks (right).

MSA stone artefacts that had been washed down the slope into a small quarried area situated at the area marked GPS18 (33°45'58.58"S; 25°36'12.52"E) were documented and the quarry was investigated for possible archaeological deposit. Stratigraphically the exposed side of the quarry showed approximately 30 cm of MSA stone artefacts, although the artefacts were clearly in a disturbed secondary context, identified by the positioning of the artefacts, as well as a quarry with 30 cm of deposit.

A major portion of the area between GPS23 (33°43'18.72"S; 25°35'40.56"E) and GPS31 (31°43'43.50"S; 25°34'29.34"E) is covered in dense thicket vegetation. Most of the area was impenetrable. A few MSA stone artefacts made on medium-grained quartzite were observed in the service roads around the thick vegetation area and it is possible that more stone artefacts may occur under the vegetation cover. Farmhouses and an industrial zone (which falls outside the boundary of the area proposed for development) occur around the area marked GPS27 (33°43'56.40"S; 25°35'30.78"E). The area has been previously disturbed by the construction of underground pipelines, gravel service roads, telephone and electricity poles, fences and general farming activities such as grazing and ploughing (Figs 15-16).



Figs 15-16. Views of the thick vegetation covering over a major portion of the area and disturbances caused by the construction of fences, powerlines and service roads.

The area between GPS32 (33°44'11.09"S; 25°34'35.24"E) and GPS38 (33°44'45.30"S; 25°35'10.20"E) is mainly comprised of existing and working farms. The area has previously been heavily disturbed by the construction of farmhouses and other related buildings, fences, farm roads as well as associated farming activities such as ploughing lands and grazing.

Two graveyards (Map 3) were observed within this portion of the area proposed for development. One enclosed formal graveyard, located at GPS32, is approximately 10 m x 20 m in extent and consists of four graves that date between an unclear date and 1981. Only one of the graves bears the surname "Nortier" (Figs 17-18). The second graveyard documented is situated at the area marked GPS35 (33°44'45"S; 25°35'7.62"E) and contains both formal graves with engraved headstones and informal burials with no headstones and that are packed with stone. The informal burials are more difficult to observe as some have been covered by trees. Approximately twenty-three graves were observed of which five were packed with stones. The remnants of three sun-dried brick houses were observed at GPS 36

(33°44'43.38"S; 25°35'8.46"E); GPS 37 (33°44'45.55"S; 25°35'9.01"E) and GPS 38 (Fig. 29). The area around the possible labourers cottages were investigated for possible midden accumulations. Middens were documented at each of the three cottages, however, no evidence could be found that could indicate a definite date for occupation (Figs 19-20).



Figs 17-18. Views of the enclosed formal graveyard.



Figs 19-20. Views of the formal graves and informal graves situated at GPS38 (left) and remnants of labourers cottages nearby (right).

The area between GPS39 (33°44'58.8"S; 25°35'37.5"E) and GPS42 (33°46'14.35"S; 25°34'46.20"E) has been heavily disturbed by the construction of powerlines and the gravel road. Although most of the area is covered in dense thicket vegetation, some areas have been cleared for the construction of informal housing, especially from the area marked GPS40 (33°45'18.96"S; 25°35'34.14"E).

The area between GPS42 and GPS43 (33°45'46.44"S; 25°33'20.34"E) has also been heavily disturbed by the construction of powerlines, the gravel road, the MR460/R334 Uitenhage-Addo road. The extent of the informal housing is approximately 2.5 km x 2.5 km. It is highly unlikely that any possible *in situ* archaeological material would be documented within the area marked GPS39 and GPS43 (Figs 21-22).



Figs 21-22. View of the disturbances (left) and extent of the vegetation and informal housing (red circle indicates extent of informal settlement).

The area between GPS43 and GPS49 (33°45'4.86"S; 25°31'19.86"E) is mainly covered in dense thicket vegetation, although the gravel service road and open veld areas were investigated for possible occurrences of archaeological material. Isolated scatters of MSA stone artefacts were documented, and it is possible that further occurrences of stone artefacts may occur underneath the thick vegetation cover. Occasional stone crosses were observed adjacent to the gravel road followed with numbers inscribed on them. A few rectangular 1 m x 1.5 m pits were also observed adjacent to the gravel service road, these were inspected for possible occurrences of archaeological material, however, none were observed (Figs 23-24).



Figs 23-24. Examples of the stone cross and rectangle pit.

The majority of the area proposed for development is either covered in dense thicket vegetation or has been disturbed by the construction of roads, buildings, powerlines and telephone lines, industry, informal settlements and dumping. Some ESA stone artefacts occur within the area, although predominantly surfaces scatters of MSA stone artefacts made on medium-grained quartzite were documented. It is, however, unlikely that the stone artefacts would occur in an *in situ* primary context owing to the area being heavily disturbed and having being washed out of context down slopes over the years. No other archaeological materials have been observed in association with the stone tool artefact occurrences, nor has any depth of possible archaeological deposit.

Survey/Description of sites

Some Early Stone Age (ESA) stone artefacts occur within the area, although predominantly surface scatters of Middle Stone Age (MSA) stone artefacts made on medium-grained quartzite were documented. It is, however, unlikely that the stone artefacts would occur in an *in situ* primary context owing to the area being heavily disturbed and having been washed out of context down the hill slopes over the years. No other archaeological materials have been observed in association with the stone tool artefact occurrences, nor has any depth of possible archaeological deposit.

Most of the buildings may be older than 60 years and are protected by the National Heritage Resources Act (25 of 1999). These buildings should be assessed to determine the historical value. Permits must be obtained from SAHRA if any of these buildings must be demolished.

Three graveyards were observed during the investigations (GPS 13, GPS 32 and GPS 35). Two of these graveyards contain graves older than 60 years and are protected by the National Heritage Resources Act (25 of 1999). Graveyards and graves younger than 60 years are protected by local and provincial legislation.

RECOMMENDATIONS

The area is of a low cultural sensitivity and development may proceed as planned, although the following recommendations must be considered:

1. Portions of the proposed area for development are covered in dense vegetation and sites/features may be covered by soil and vegetation and will only be located once this has been removed. Other areas have been disturbed in past and currently, therefore, it is unlikely that any *in situ* archaeological sites/remains, and human remains would be uncovered during construction. However, if concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the South African Heritage Resources Agency (SAHRA) (021 642 4502) so that systematic and professional investigation/excavation can be undertaken (see Appendix A for a list of possible archaeological sites that may be found in the area).
2. A professional archaeologist should be appointed by the developer during the vegetation removal and construction phases of the development.
3. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
- 4.1. Graveyards, burial grounds and graves older than 60 years are protected by the National Heritage Resources Act (Act No. 25 Of 1999) (Section 36). Those younger than 60 years are protected by the Human Tissue Act and by regional and municipal regulations. Human remains from the graves of victims of conflict (including those who died in the 'liberation struggle') and any other graves that are deemed to be of cultural significance are also protected by

legislation and are administrated by the Graves of Conflict Division at the SAHRA offices in Pretoria. None of these above mentioned features may be disturbed, exhumed or destroyed without the necessary proceedings and permits from SAHRA.

- 4.2. If relocation of the graves is considered, then all the correct procedures, especially the public participation process must be followed. Permits must be obtained from SAHRA for any work on graves, burials and graveyards. It is recommended that a graves relocation specialist be consulted should any further work be required on the graveyard.
- 4.3. The graveyards must be avoided. It is recommended that development must not occur within a 100 m radius of the graves/burials. They should be protected during the development, for example by fencing it off and that a long term maintenance plan be implemented.
- 5.1. Buildings older than 60 years are protected by the National Heritage Resources Act (25 of 1999) and may not be disturbed or destroy without a permit from the South African Heritage Resources Agency (SAHRA).
- 5.2. A historian must be appointed by the developer to assess the significance of the built-environment heritage.

GENERAL REMARKS AND CONDITIONS

Note: This report is a phase 1 archaeological heritage impact assessment/ investigation only and does not include or exempt other required heritage impact assessments (see below).

The National Heritage Resources Act (Act No. 25 of 1999, section 35) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources, that is, all places or objects of aesthetics, architectural, historic, scientific, social, spiritual linguistic or technological value or significance are protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

It must be emphasized that the conclusions and recommendations expressed in this archaeological heritage sensitivity investigation are based on the visibility of archaeological sites/features and may not therefore, reflect the true state of affairs. Many sites/features may be covered by soil and vegetation and will only be located once this has been removed. In the event of such finds being uncovered, (such as during any phase of construction work), archaeologists must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed. The onus is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Act No. 25 of 1999.

It must also be clear that Archaeological Specialist Reports (AIAs) will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which may grant a permit or a formal letter of permission for the destruction of any cultural sites.

APPENDIX A: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM INLAND AREAS: guidelines and procedures for developers

1. Human Skeletal material

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping and developers are requested to be on the alert for this.

2. Freshwater mussel middens

Freshwater mussels are found in the muddy banks of rivers and streams and were collected by people in the past as a food resource. Freshwater mussel shell middens are accumulations of mussel shell and are usually found close to rivers and streams. These shell middens frequently contain stone tools, pottery, bone, and occasionally human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m² in extent, should be reported to an archaeologist.

3. Stone artefacts

These are difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified

4. Fossil bone

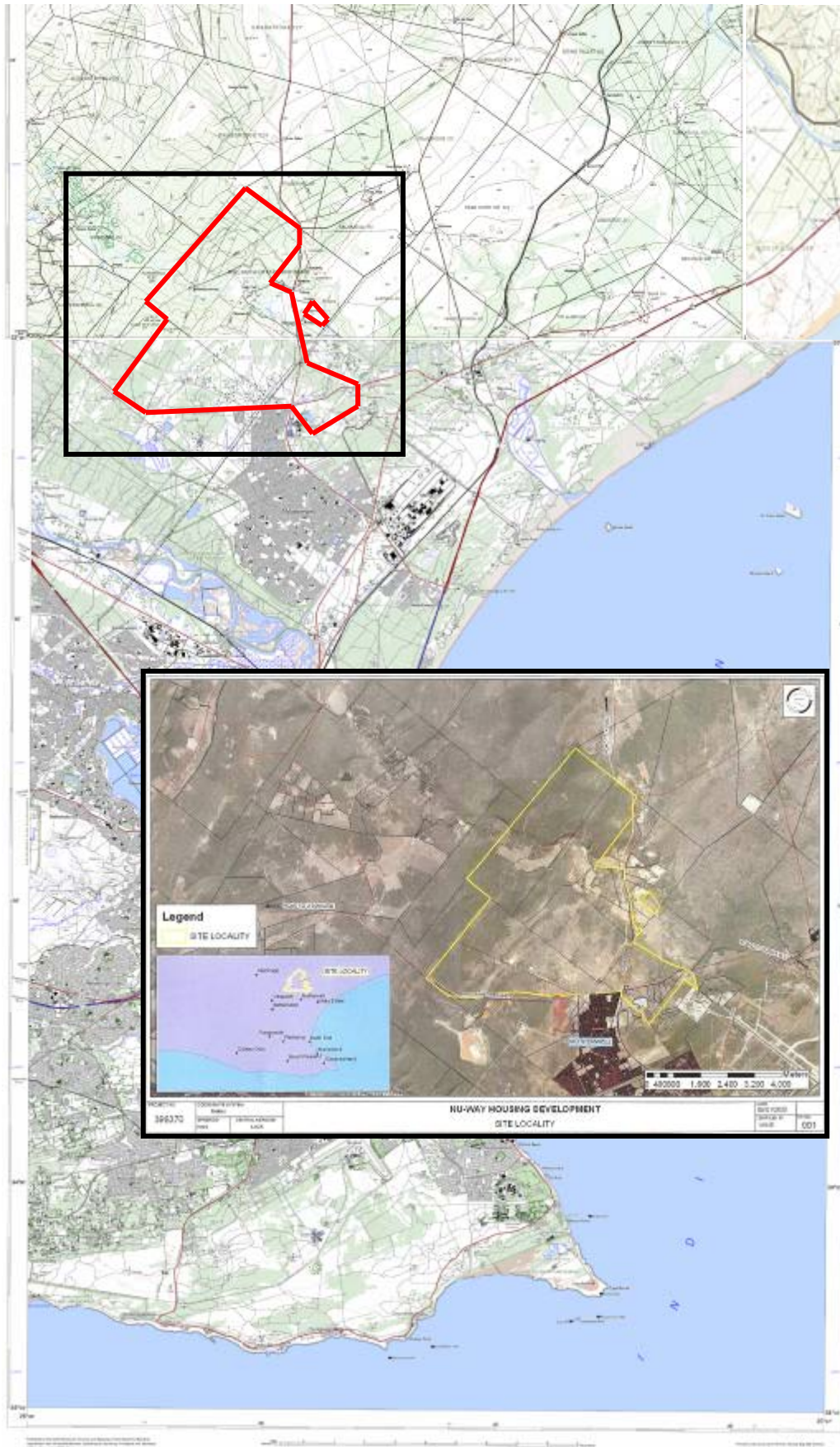
Fossil bones may be found embedded in geological deposits. Any concentrations of bones, whether fossilized or not, should be reported.

5. Large stone features

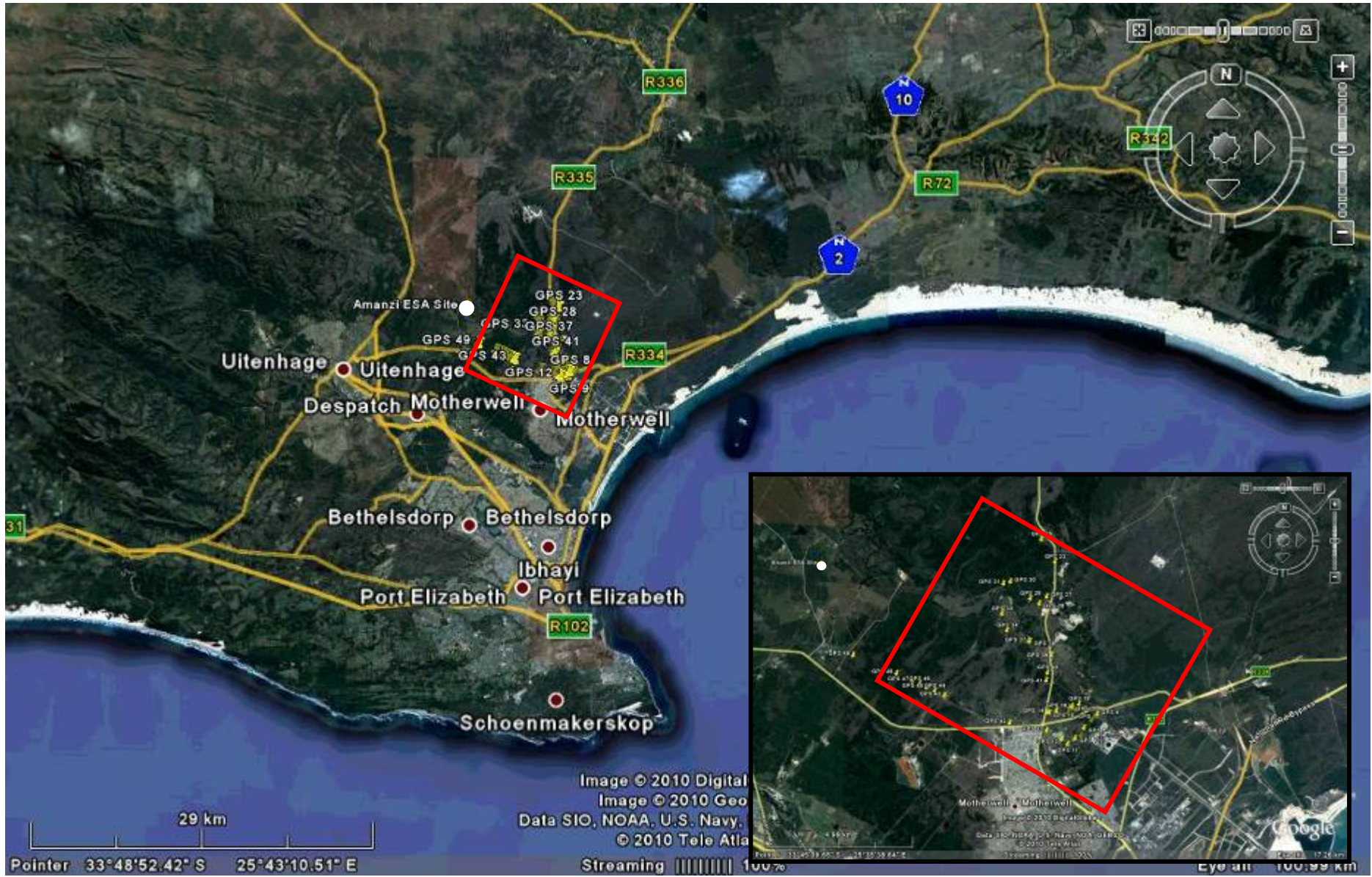
They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning is not fully understood, however, some are thought to represent burial cairns while others may have symbolic value.

6. Historical artefacts or features

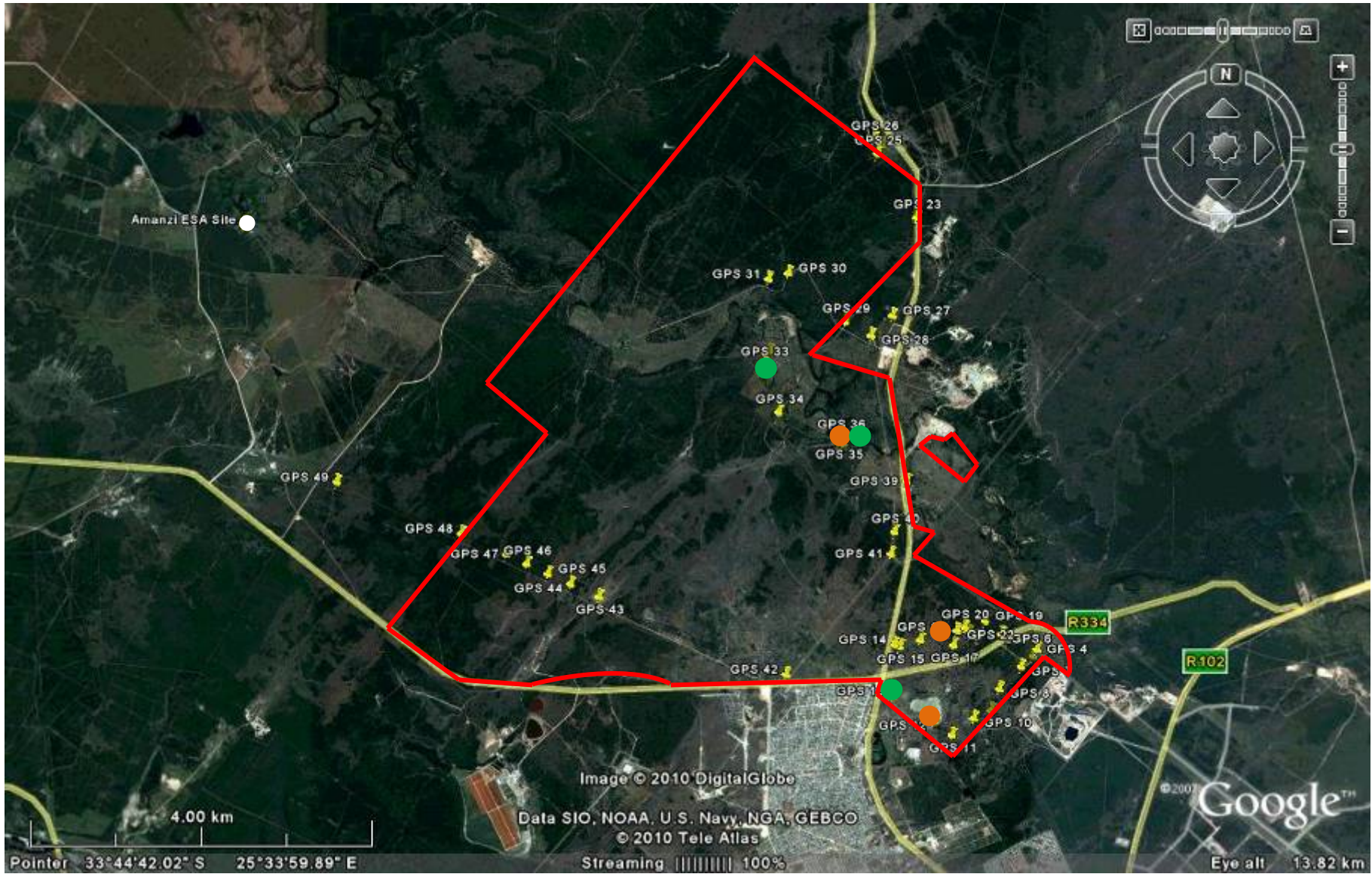
These are easy to identified and include foundations of buildings or other construction features and items from domestic and military activities.



Map 1. 1:50 000 Map indicating the area proposed for development (Insert map courtesy of SRK Consulting).



Map 2. Aerial views of the proposed area for development.



Map 3. Aerial view of proposed area for development showing GPS points (green dots: graveyards; orange dots: remains of buildings)