HERITAGE IMPACT ASSESSMENT OF KWANGQATHU RESIDENTIAL DEVELOPMENT, NTSHONGWENI, KWAZULU-NATAL, SOUTH AFRICA

Assessment and report by

For Balanced Environment
Telephone Sue George 082 961 5750

30 November 2007
Management summary

eThembeni Cultural Heritage was appointed by Balanced Environment to undertake a heritage impact assessment of a proposed residential development in Ntshongweni, in terms of the KwaZulu-Natal Heritage Act No 10 of 1997. Two eThembeni staff members inspected the area on 22 November 2007 and completed a controlled-exclusive surface survey, as well as a database and literature search.

At least two places with heritage significance are located within the proposed development area. A Shembe Church site is demarcated with white stones, while the precinct of the Ntshangwe Catholic Church, established in 1938, includes buildings that are older than sixty years. Neither place, nor any structures older than sixty years, may be altered in any way without a permit from Amafaka.

Both places of worship identified above are associated with living heritage, while the Catholic Church precinct could be considered as a historical settlement. The same restrictions in terms of alteration apply.

The proposed development area comprises semi-rural scattered settlement with mostly informal dwellings interspersed by tuck shops, an informal taxi rank, the existing church precinct and school site, an abandoned satellite police station and open grassland, some of which is disturbed by historic farming, building or borrow pit activities. The proposed housing development will alter this landscape permanently, but will be in keeping with similar projects throughout the country.

Graves occur within homestead precincts and are known to and valued by local residents, therefore there is little chance that they will be damaged during construction. However, all graves have high heritage significance at all levels for their social value and we remind the developer that a grave may not be altered in any way without a permit from Amafaka.

We recommend that this project may proceed with the proposed heritage resource mitigation and have submitted this report to Amafaka in fulfilment of the requirements of the KwaZulu-Natal Heritage Act. The client may contact Ms Wesiwe Tshabalala at Amafaka’s Pietermaritzburg office (telephone 033 3946 543) in due course to enquire about the Council’s decision.

If permission is granted for the development to proceed, the client is reminded that the Act requires that a developer cease all work immediately and notify Amafaka should any heritage resources, as defined in the Act, be discovered during the course of development activities.
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Introduction and legislation

eThembeni Cultural Heritage was appointed by Balanced Environment to undertake a heritage impact assessment of a proposed residential development in Ntshongweni, in terms of the KwaZulu-Natal Heritage Act No 10 of 1997. Section 27(1) of the Act requires such an assessment in case of:

(a) construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
(b) construction of a bridge or similar structure exceeding 50 m in length; and
(c) any development, or other activity which will change the character of an area of land, or water –
   (i) exceeding 10 000 m² in extent;
   (ii) involving three or more existing erven or subdivisions thereof; or
   (iii) involving three or more erven, or subdivisions thereof, which have been consolidated within the past five years; or
(d) the costs of which will exceed a sum set in terms of regulations; or
(e) any other category of development provided for in regulations.

A heritage impact assessment is not limited to archaeological artefacts, historical buildings and graves. It is far more encompassing and includes intangible and invisible resources such as places, oral traditions and rituals. In the KwaZulu-Natal Heritage Act 1997 a heritage resource is defined any place or object of cultural significance i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes the following wide range of places and objects:

(a) places, buildings, structures and equipment;
(b) places to which oral traditions are attached or which are associated with living heritage;
(c) historical settlements and townscape;
(d) landscapes and natural features;
(e) geological sites of scientific or cultural importance;
(f) archaeological and palaeontological sites;
(g) graves and burial grounds, including -
   (i) ancestral graves,
   (ii) royal graves and graves of traditional leaders,
   (iii) graves of victims of conflict,
   (iv) graves of important individuals,
   (v) historical graves and cemeteries older than 60 years, and
   (vi) other human remains which are not covered under the Human Tissues Act, 1983 (Act No.65 of 1983 as amended);
(h) movable objects, including -
   (i) objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
   (ii) ethnographic art and objects;
   (iii) military objects;
   (iv) objects of decorative art;
   (v) objects of fine art;
   (vi) objects of scientific or technological interest;
   (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings; and
   (viii) any other prescribed categories,
   but excluding any object made by a living person;
(i) battlefields;
(j) traditional building techniques.

A ‘place’ is defined as:
(a) a site, area or region;
(b) a building or other structure (which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure);
(c) a group of buildings or other structures (which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures); and

(d) an open space, including a public square, street or park; and in relation to the management of a place, includes the immediate surroundings of a place.

‘Structures’ means any building, works, device, or other facility made by people and which is fixed to land and any fixtures, fittings and equipment associated therewith older than 60 years.

‘Archaeological’ means -

(a) material remains resulting from human activity which are in a state of disuse and are in or on land and are older than 100 years, including artefacts, human and hominin remains and artificial features and structures;

(b) rock art, being a form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and is older than 100 years including any area within 10 m of such representation; and

(c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land or in the maritime cultural zone referred to in section 5 of the Maritime Zones Act 1994 (Act 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which are older than 60 years or which in terms of national legislation are considered to be worthy of conservation;

(d) features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found.

‘Palaeontological’ means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

‘Grave’ means a place of interment and includes the contents, headstone or other marker of and any other structures on or associated with such place. Amafa aKwaZulu-Natali will only issue a permit for the alteration of a grave if it is satisfied that every reasonable effort has been made to contact and obtain permission from the families concerned. Since Amafa has not yet formulated guidelines or regulations for the removal of human remains, eThembeni adheres to the following procedures, compiled in discussion with the South African Heritage Resources Agency and used by professional colleagues:

- Notification of the impending removals (using English and Zulu language media and notices at the grave site);
- Consultation with individuals or communities related or known to the deceased;
- Satisfactory arrangements for the curation of human remains and / or headstones in a museum, where applicable;
- Procurement of a permit from Amafa aKwaZulu-Natali;
- Appropriate arrangements for the exhumation (preferably by a suitably trained archaeologist) and re-interment (sometimes by a registered undertaker, in a formally proclaimed cemetery);
- Observation of rituals or ceremonies required by the families.
Nature and description of proposed activities

The development initiative proposed by the eThekwin i Municipality comprises the delivery of approximately 500 housing units with associated infrastructure utilising the provincial housing subsidy, supplemented by municipal funding to provide formal housing for existing beneficiaries already residing informally in the area.

A large number of the beneficiaries are flood relief victims awaiting the provision of housing since 2003 when the need was first identified. Land acquisition problems have delayed delivery for a considerable period of time. In addition the Rural Area Based Management unit has been making provision to formalise and establish a Community Facility node on the Archdiocese land below the existing school. The node will include the upgrade and formalisation of the existing taxi-rank, the formalisation of existing shops into a commercial node, the redevelopment of a multi-purpose sports field, and the upgrade of a multipurpose centre/hall over a five year period.

Balanced Environment has been appointed as the independent Environmental Assessment Practitioner by eThekwini Municipality Housing Department to undertake a Scoping and Environmental Impact Assessment (EIA) as required by the National Environmental Management Act (NEMA) No 107 of 1998 as amended and the Regulations and listed activities published in terms of Government Notices R385, R386, R387 dated 21 April 2006 and effective 3 July 2006.

The proposed development requires approval from the Department of Agriculture and Environmental Affairs for the undertaking of the following activities:

<table>
<thead>
<tr>
<th>Activity No(s) in terms of the relevant Govt Notice</th>
<th>Describe each listed activity as in the relevant Government Notice</th>
</tr>
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<tbody>
<tr>
<td>1(p)</td>
<td>The construction of facilities or infrastructure, including associated structure or infrastructure, for the treatment of effluent, wastewater or sewage with an annual throughput capacity of 15 000 cubic metres or more;</td>
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<tr>
<td>1(r)</td>
<td>The construction of facilities or infrastructure, including associated structure or infrastructure, for the microbial deactivation, chemical sterilisation or non-thermal treatment of waste or effluent;</td>
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<td>2</td>
<td>Any development activity, including associated structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more</td>
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<td>1(e)</td>
<td>The construction of facilities or infrastructure, including associated structure or infrastructure, for any purpose where lawns, playing fields or sports tracks covering an area of more than three hectares, but less than 10 hectares, will be established;</td>
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<td>1(k)</td>
<td>The construction of facilities or infrastructure, including associated structure or infrastructure, for the bulk transportation of sewage and water, including storm water, in Pipelines with (i) an internal diameter of 0,36 metres or more; or (ii) a peak throughput of 120 litres per second or more;</td>
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<tr>
<td>1(s)</td>
<td>The construction of facilities or infrastructure, including associated structure or infrastructure, for the treatment of effluent, wastewater or sewage with an annual throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres;</td>
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<td>15</td>
<td>The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long.</td>
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<td>16</td>
<td>The transformation of developed vacant or derelict land to (a) establish infill development covering an area of 5 hectares or more, but less than 20 hectares. Or (b) residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare.</td>
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<td>17</td>
<td>Phased activities where any one phase of the activity may be below a threshold specified in this Schedule but where a combination of the phases, including expansions or extensions, will exceed a specified threshold</td>
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<td>18</td>
<td>The subdivision of portions of land 9 hectares or larger into portions of 5 hectares or less.</td>
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The anticipated benefits of the development proposal include:

- Provision of long awaited homes to impoverished beneficiaries
- Temporary job creation during construction and skills transfer to local artisans
- Social upliftment of the local community
- Upgrading of existing services.

The EIA process is required to consider alternatives to any proposal which must include the ‘no-go’ option (i.e. the status quo remains as is), and may consider alternative layouts, land uses and/or servicing options. The development described throughout this document is known as the ‘preferred’ option.

Land suitable for housing in this area is scarce, being in private ownership encumbered by deceased estates etc, hence the extended delay in providing houses for the beneficiaries on the waiting list. Accordingly, no other site alternatives can be considered. In addition to the ‘no-go’ option, alternative servicing options will be examined.

**Site access, description and environmental issues**

Road access to the site is good, via tarred roads namely the D210, P551 and P454 (Kassia Road extension) off the N3 (Exit 32) Access to the site can also be gained via the Mpumalanga road, ZD615, from the north west.

The applicant site is located on the crest of the hill at Ntshongweni, about 30 kilometres west of Durban, immediately north east of the provincial road D210. The site falls within the boundary of the eThekwini Municipal area, under the jurisdiction of the Western Region of eThekwini Municipality. The site is located in Ward 7 where Councillor Fanie Moyo is the councillor.

The four properties comprising the applicant site are described as Portions 15, 16 and 52 of the Farm Zig Zag 9064 and Erf 7226 of the Farm Lot AH Sterkspruit – FT, with a total extent of about 236 hectares. With the exception of Erf 52 which is owned by Albini School under the auspices of the Roman Catholic Archdiocese of Durban, the land is owned by the Ebrahim Cassim Paruk Estate. Both the Archdiocese and the shareholders of the Estate have provided consent for the application to proceed. The eThekwini Municipality are finalising the land availability/sale agreements with the respective parties.

A large portion of the site falls into the eThekwini Environmental Management Services Plan (EESMP) traditionally known as D’MOSS (Durban Metropolitan Open Space System) as it comprises cliff faces and over-steep land falling away to the Ntshongweni / Sterkspruit River, forming the north eastern cadastral boundary.

In general the developable area is of a rural nature characterised by numerous settled pockets of informal dwellings interspersed by ‘spaza’ shops, an informal taxi rank, the existing school site, an abandoned satellite police station and open grassland, some of which is disturbed by historic farming, building or borrow pit activities. Local cattle graze freely throughout the settled area and along the roadside.

The eThekwini Municipality Water and Sanitation programme has begun the installation of Urine Diversion sanitation provision in the area, their contractor’s camp being located adjacent the disused satellite police station adjacent the D210.

In March 2007 a Habitat for Humanity initiative, with international funding, to provide homes for HIV/AIDS orphans identified the first fifteen beneficiary families, and the construction their homes is underway. Regularisation of title will be undertaken during the course of the current housing project delivery, subject to its authorisation.

The climate exhibits temperatures averaging 18º to 19ºC with frost restricting the growing season. Rainfall ranges between 651mm and 800mm per annum. The preliminary geotechnical assessment undertaken by Davies Lynn and Partners indicates that the site is stable and suitable for development, subject to some
rehabilitation taking place in the south eastern sector of the site. The soils comprise colluvial sandy soils overlying Natal Group Sandstone bedrock.

The topography is generally fairly steep and rolling, characterised by the cliffs and precipices bordering the site and common to the area. Developable areas have been limited to slopes with a gradient flatter than 1:3. The natural vegetation type of the site falls into two categories – Eastern Valley Bushveld (SVs6 - Mucina and Rutherford 2006:512) and Ngongoni Veld (SVs4 - Mucina and Rutherford 2006:510), locally referred to as Dry Coastal Hinterland Ngongoni Veld (Camp 1999), with some remaining patches of good grassland occurring. Portions of the site are transformed. In some areas formerly transformed, secondary grassland has established.

The Ezemvelo KwaZulu-Natal Wildlife Conservation Plan shows the site to have an irreplaceability index of >0 -0.2 which is very low, totally irreplaceable having a 1 rating. The C-Plan lists some species including the rough haired golden mole, the green giant earthworm and several insects worthy of conservation as having the potential to occur in the vicinity of the site. However, since the habitat is largely disturbed no observations of the listed species were made during the vegetation assessment undertaken by INDIflora cc.

The cliffs and precipices as well as the over-steep land have been included in the eThekwini Metropolitan Open Space System resulting in at least two thirds of the acquired land being designated Conservation.

The existing community are engaged in a poverty relief programme called Working-4-Ecosystems, initiated by eThekwini Metro Council’s Environmental Management Unit, funded by the Department of Environment and Tourism and implemented by the Wildlife and Environment Society of South Africa: KwaZulu Natal. The programme creates jobs to alleviate poverty by the training of the community to identify and remove alien invasive vegetation, plant indigenous trees along roads and at households, and generally manage and protect important open space resources.

The agricultural potential mapping supplied by the Department of Agriculture shows the site falling into Bioresource Units Vb15 and TUa4 which in general terms records a relatively good to moderately good climate potential, good to very poor land potential and good to very poor soil potential, respectively for the two mapping units. However the soils are highly erodible, and in some cases rocky and in many areas the slope is steep making good farming practice difficult.

Potential environmental impacts of the development include:

- Increased storm water runoff from additional roofs and hardened areas and associated increased erosion potential;
- Increased risk for general environmental damage during construction phase (including risks associated with temporary fuel storage, heavy machinery movement, increased human traffic, trench digging for infrastructure etc);
- Groundwater pollution;
- Visual impact on adjacent land;
- Change to sense of place at Shongweni; and
- Increased security risk to surrounding properties during construction phase.
Methodology

Two eThembeni staff members inspected the area on 22 November 2007. We completed a controlled-exclusive surface survey, where ‘sufficient information exists on an area to make solid and defensible assumptions and judgements about where [heritage resource] sites may and may not be’ and ‘an inspection of the surface of the ground, wherever this surface is visible, is made, with no substantial attempt to clear brush, turf, deadfall, leaves or other material that may cover the surface and with no attempt to look beneath the surface beyond the inspection of rodent burrows, cut banks and other exposures that are observed by accident’ (King 1978).

We consulted various provincial databases, including historical, archaeological and geological sources and undertook a limited literature review, included as Appendix A. We assessed the value and significance of heritage resources, as defined in the KwaZulu-Natal Heritage Act 1997 and the criteria contained in Appendix B. Culturally significant landscapes were assessed according to the criteria in Appendix C.

The client has provided a map of the area, submitted to Amafa separately. Geographic coordinates were obtained with a handheld Garmin GPS72 global positioning unit. Photographs were taken with a Hulett Packard digital camera and submitted to Amafa on compact disc. Appendix D contains a statement of independence and a summary of our ability to undertake this heritage impact assessment.

The assumptions and limitations of this heritage impact assessment are as follows:

- We have assumed that the description of the proposed project, provided by Balanced Environment, is accurate.
- We have assumed that the public consultation process undertaken as part of the Environmental Impact Assessment is sufficient and adequate and does not require repetition as part of the heritage impact assessment.
- Soil surface visibility was good in places, but non-existent within areas of dense vegetation. It is possible that heritage resources, including marked or unmarked ancestral graves, could be present and we remind the client that the Act requires that a developer cease all work immediately and notify Amafa should any heritage resources, as defined in the Act, be discovered during the course of development activities.
- No subsurface investigations (including excavations or sampling) were undertaken, since a permit from Amafa aKwaZulu-Natali is required to disturb a heritage resource.
Observations and recommendations

No construction activities associated with the proposed project had begun prior to our visit, in accordance with provincial heritage legislation.

⇒ Places, buildings, structures and equipment

At least two places with heritage significance are located within the proposed development area. A Shembe Church site is located at S29 50 18.00; E30 41 73.00 and demarcated with white stones, while the precinct of the Ntshangwe Catholic Church (located at S29 50 10.00; E30 41 14.00 and pictured below), established in 1938, includes buildings that are older than sixty years (see the final section of Appendix A).

The Shembe Church has high heritage significance at the local level for its social and spiritual values. The Catholic Church precinct has high heritage significance at local, regional and provincial levels for its historic, architectural, aesthetic, social and spiritual values, with low to medium significance at other levels. Neither place, nor any structures older than sixty years, may be altered in any way without a permit from Amafa aKwaZulu-Natali.

⇒ Places to which oral traditions are attached or which are associated with living heritage

Both places of worship identified above are associated with living heritage. The same restrictions in terms of alteration apply.

⇒ Historical settlements and townscapes

The Ntshangwe Catholic Church precinct could be considered as a historical settlement, although neither the place in its entirety nor any individual buildings are protected formally in terms of the Heritage Act. The same restrictions in terms of alteration apply.

⇒ Landscapes and natural features

The proposed development area comprises semi-rural scattered settlement with mostly informal dwellings interspersed by tuck shops, an informal taxi rank, the existing church precinct and school site, an abandoned satellite police station and open grassland, some of which is disturbed by historic farming, building or borrow pit activities. The proposed housing development will alter this landscape permanently, but will be in keeping with similar projects throughout the country.

⇒ Geological sites of scientific or cultural importance

None were identified within the proposed development area.
None were identified within the proposed development area.

- **Archaeological and palaeontological sites**

None were identified within the proposed development area.

- **Graves and burial grounds**

Graves occur within homestead precincts and are known to and valued by local residents, therefore there is little chance that such heritage resources will be damaged during construction. However, all graves have high heritage significance at all levels for their social value and we remind the developer that a grave may not be altered in any way without a permit from Amafa.

- **Movable objects excluding any object made by a living person**

None were identified within the proposed development area.

- **Battlefields**

None were identified within the proposed development area.

- **Traditional building techniques**

None were identified within the proposed development area.
Summary of findings in terms of the KwaZulu-Natal Heritage Act 1997 Section 27(3)

(a) the identification and mapping of all heritage resources in the area affected

A Shembe Church site – place of heritage significance and place associated with living heritage.
Ntshangwe Catholic Church precinct – place of heritage significance including buildings that are older than sixty years; place associated with living heritage; historical settlement.

(b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in regulations

The Shembe Church has high heritage significance at the local level for its social and spiritual values.
The Catholic Church precinct has high heritage significance at local, regional and provincial levels for its historic, architectural, aesthetic, social and spiritual values, with low to medium significance at other levels.
Ancestral graves have high heritage significance at all levels for their social value.

(c) an assessment of the impact of development on such heritage resources

Neither place of worship should be affected directly.
Ancestral graves occur within homestead precincts and are known to and valued by local residents, therefore there is little chance that they will be damaged during construction.

(d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development

Not applicable.

(e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources

The client has undertaken such consultation in terms of statutory requirements and retains the relevant documentation.

(f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives

Neither the Shembe Church nor the Catholic Church precinct may be altered in any way without a permit from Amafa aKwaZulu-Natali.
Ancestral graves may not be altered in any way without a permit from Amafa.

(g) plans for mitigation of any adverse effects during and after completion of the proposed development

If permission is granted for development to proceed, the client is reminded that the Act requires that a developer cease all work immediately and notify Amafa should any heritage resources, as defined in the Act, be discovered during the course of development activities.
Conclusion

We recommend that this project may proceed with the proposed further heritage resource mitigation and have submitted this report to Amafa aKwaZulu-Natali in fulfilment of the requirements of the KwaZulu-Natal Heritage Act. According to Section 27(4) of the Act:

The report shall be considered timeously by the Council which shall, after consultation with the person proposing the development, decide -

(a) whether or not the development may proceed;
(b) any limitations or conditions are to be applied to the development;
(c) what general protections in terms of this Act apply, and what formal protections may be applied to such heritage resources;
(d) whether compensatory action shall be required in respect of any heritage resources damaged or destroyed as a result of the development; and
(e) whether the appointment of specialists is required as a condition of approval of the proposal.

The client may contact Ms Wesiwe Tshabalala at Amafa’s Pietermaritzburg office (telephone 033 3946 543) in due course to enquire about the Council’s decision.

References


APPENDIX A

BACKGROUND AND LITERATURE REVIEW

The following tables provide a brief summary of archaeological time periods, enabling the reader to understand the relative ages of Stone and Iron Age sites:

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<tr>
<th>Time Period</th>
<th>Early: 1.5 million to 180 000 years ago</th>
<th>Middle: 180 000 to 35 000 years ago</th>
<th>Later: 35 000 years ago to the time of European settlement</th>
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<tbody>
<tr>
<td>Stone Age</td>
<td>Only stone artefacts remain from this time period, including large choppers, cleavers and hand axes</td>
<td>Stone tools smaller than in ESA; include blades and flakes; human and animal remains also found</td>
<td>Variety of artefacts made from organic and inorganic materials; human remains, shell middens etc</td>
</tr>
<tr>
<td>Iron Age</td>
<td>Early: 400 – 500 AD Mzonjani phase</td>
<td>Middle: 500 – 700 AD Msuluzi phase</td>
<td>700 – 900 AD Ndondondwane phase</td>
</tr>
<tr>
<td></td>
<td>Late: 900 – 1200 AD</td>
<td></td>
<td>1200 – 1500 AD Settlement by Nguni speakers</td>
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<tr>
<td></td>
<td>Iron: 1500 – 1700 AD</td>
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<td></td>
<td>1850 AD to present</td>
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<td></td>
<td>Historical</td>
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Numerous Stone and Iron Age sites have been recorded in the general area (Maggs 1989, Mazel 1989). Early Stone Age stone scatters occur in raised beach gravels, eroded areas and ancient coastal dunes. No information is available on the foods eaten by the Early Stone Age people in Natal, but it can be assumed on the basis of evidence on Early Stone Age people elsewhere that their diet consisted primarily of animals and plant foods. It was also during this period that people learnt to control fire’ (Mazel 1989: 3-5).

‘Clear technological differences separate the Middle Stone Age from the Early Stone Age. Whereas Early Stone Age tools were generally core tools [choppers, handaxes, cleavers], Middle Stone Age tools were made of flakes and blades detached from the core [trapezoids, segments, scrapers, points, flakes, blades]. Handaxes and cleavers were absent…

‘Relatively little is known about the particular types of food that the Middle Stone Age hunter-gatherers ate. Border Cave [situated in the Lebombo Mountains on the border between South Africa and Swaziland] is the only site from which information is at present available…Small quantities of a wide variety of animals were found in the Border Cave excavations. These included honey badger, dassie, Burchell’s zebra, bushpig, warthog, hippopotamus, steenbok, oribi, mountain reedbuck, waterbuck, roan / sable, impala, blesbok, hartebeest / tsessebe, blue wildebeest, springbok, greater kudu, nyala, bushbuck, eland, Cape buffalo and possibly an extinct giant Cape horse (Equus capensis).

‘A handful of seeds was also found at Border Cave, while grindstones, which may have been used in the processing of plant foods, have been recovered from the Middle Stone Age layers at Umhlautzana Shelter [located between Durban and Pietermaritzburg]…

‘Evidence of the manufacture of cultural articles from materials other than stone first appears during the Middle Stone Age. So also does evidence concerning religious practices, the final Middle Stone Age stage at Border Cave producing the earliest known burial so far attributed to the Middle Stone Age’ (Mazel 1989: 6-8).
Recent excavations at Sibhudu Shelter, a near-coastal site located between the Mvoti and uMngeni rivers, promise to shed more light on the Middle Stone Age of KwaZulu-Natal.

Later Stone Age sites occur throughout the province, with high concentrations in places such as the uKhahlamba mountains where rock shelters suitable for occupation are plentiful.

'Stone artefacts are overwhelmingly the most common cultural item recovered from the excavations that have been carried out, followed by pottery (belonging to the last 2 000 years), ground, polished and shaved bone, beads and ostrich eggshell...[Stone] scrapers were probably used for removing the fat from animal skins before these were pegged out to dry. Adzes were probably used for shaving wood and, to a lesser extent, bone; while backed pieces, of which there are different types, were probably employed in hunting and cutting up carcasses.

'A great deal of information about the foods Later Stone Age hunter-gatherers ate has been obtained from animal, plant and marine and freshwater shell remains. In some cases, it has been possible to identify the remains of individual species. As small animals in particular are sensitive to environmental fluctuations, these remains can also tell us much about past environments. Botanical remains are also very useful, for seeds can indicate which fruits and berries Later Stone Age people ate. And, because fruits and berries are seasonal, they can also provide information about the months during the year when sites were occupied' (Mazel 1989: 11-12).

'One of the main themes of Later Stone Age research in South Africa, including Natal, has been that of seasonality. It has been hypothesized, on the basis of the analysis of the seasonal movements of large antelope, that the food resources of southern Natal would have been exploited on a seasonal basis by hunter-gatherers. According to this hypothesis, they would have occupied the Drakensberg in summer and the Thornveld and coastal areas during winter, traversing the Midlands along ridges rather than in the valleys.

'Recent field-work based on this hypothesis has suggested that in southern Natal during the last 3 500 years, hunter-gatherers would have occupied the Drakensberg in spring and summer (October to March), the coastal zone in winter (April / May to August), and the Midlands in autumn and late winter (March / April to September). This seasonal hypothesis...has given rise to the speculation that while they were in the Drakensberg, the hunter-gatherers would have lived in large groups and would have operated from large home-base sites.

'One of the results of the formation of these larger social units could have been an increase in ritual activity. Social organisation in the Midlands, however, would have been characterized by the small mobile groups that traversed the zone, while in the coastal zones larger groups, but not as large as those in the Drakensberg, would have been found' (Mazel 1989: 17).

'The advent of the Iron Age saw not only the introduction of metallurgy. Of even greater significance was the introduction of agriculture, necessitating a settled, village way of life instead of the nomadic patterns of the Stone Age. It also provided for an appreciable increase in population density, as well as a more complex life-style. Richly decorated pottery is a hallmark of these early settlements. Domestic animals including cattle, sheep, goats and dogs were also a feature of the Iron Age, although current information indicates that they had already reached parts of South Africa, but apparently not Natal, during the Late Stone Age, through the agency of Khoisan herders...

'...the earliest Iron Age sites in South Africa, including Natal, relate to an eastern coastal and lowland cultural tradition with links as far north as the Kwale sites of eastern Kenya. This tradition has been named 'Matola', after a site in southern Mozambique, which provided close typological links between the Natal and eastern Transvaal sites...[In KwaZulu-Natal] almost all of them are on the belt of ancient dunes, which would have been covered by coastal forest at the time' (Maggs 1989: 29-31).

'Most Early Iron Age sites in Natal are later than the [Mzonjani] period and are classified according to ceramic styles [refer to the table above]...By this time villages, often about eight hectares in size and probably containing a hundred or more people, had become common in the lower-lying and savannah areas, below an altitude of 1 000 metres. They were most common along the major rivers and in the coastal belt, where there was good, deep soil, sweet year-round grazing, and timber for building and fuel...

'Diet was based on agriculture and pastoralism, with a little supplementary hunting, fishing and gathering of wild plants and shellfish. Crops identified from seeds include several grains (bulrush millet, finger millet and probably sorghum), and probably the African melon... Most villages had one or more iron smelting areas and therefore produced their own requirements' (Maggs 1989: 31-32).

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1 This tradition is now known as Mzonjani in KwaZulu-Natal.
The beginning of the Late Iron Age marked a period of significant change in pottery styles, attributable to both socio-political and demographic factors (Maggs 1989). Settlements were no longer located in river valleys, but were built on higher ground where homesteads would benefit from cooling breezes and good views for strategic purposes.

Steep slopes, wetlands and marshy areas were used for grazing domestic animals and gathering wild food and medicinal plants. Settlements appear to have been much smaller, implying that ‘society underwent a change away from the large Early Iron Age villages and towards the individual family homesteads of the historic Nguni-speaking peoples (Maggs 1989: 35).

Artefacts on Iron Age homestead sites include ceramic sherds, upper and lower grindstones and human and animal bones. Metalworking sites are often located in areas where iron ore is available and associated debris includes furnace remains, slag, bloom and ceramic sherds. The Late Iron Age sites around Richards Bay are located along the dune cordon and often include large quantities of marine shell, evidence of the importance of shellfish, particularly brown mussels, in human diets at the time.

'‘The evidence or written sources [from shipwrecked Portuguese and other European mariners, who traversed lowland and coastal Natal on their way northwards to Mozambique] shows that, by the 1550s, while the coastal sourveld of Pondoland was thinly inhabited, coastal Natal from the Mtamvuna northwards was already well populated. A settlement of twenty hemispherical huts built of poles and thatch is described as being typical of the coast at that time. A later report confirms that such ‘small villages’ were the homes of kinship groups, each under the authority of a senior man. There can have been little difference between these homesteads and those of the nineteenth century in Natal and Zululand.

‘The agro-pastoral economy of the Iron Age prevailed throughout the coastal regions, with cultivation typically a combination of grains, legumes and vegetables of the pumpkin-melon family. There were three types of grains, one being sorghum and another a smaller-seeded millet, specific identification being difficult to establish from the old Portuguese documents. Vegetables included beans, African groundnuts (both legumes), gourds, watermelons and pumpkins, while sorghum was cultivated for its sweet pith as well as for its seeds... There is evidence to show that tobacco was being cultivated and smoked by 1686. Cattle, sheep and goats were seen in quantities, as were chicken from southern Natal northwards.

Balanced Environment provided a link to http://www.icon.co.za/~host/shrines/index.htm, which includes the following information, since the housing and community facility node are proposed to be located on and at the bottom of the hill and stretching along the access road.

Ntshongweni is about thirty kilometres from Durban in Natal, South Africa. The name Ntshongweni was taken from the mountain found there, it is surrounded by precipices and a thick forest. At the foot of the mountain curls Ntshongweni River which feeds the Ntshongweni Dam. The place and the river together with the dam are called Shongweni because many white people could not pronounce Ntshongweni. It is said that King Shaka used to sit on this mountain in order to view the land and the enemies.

The famous places and parishes around Ntshongweni are Ntshangwe which has a Catholic church, high school, clinic, and a school for the deaf called Kwa Thintwa; Hammersdale township with an industrial area and Catholic parish. The church of Ntshongweni was built in 1938. Father Wagner was parish priest when in 1939 he was called home by his French government to join their army for the Second World War. Father Wagner said the war was very bad and in order to be safe he had to hide himself among the dead soldiers and pretend to be dead also. It was at this time that Father Wagner made his promise to Mary that if she could save him from that war he would thank her and her son Jesus by making this festival we now celebrate at Ntshongweni annually. Somewhere around that time, the Church had established a day of honouring Our Lady for her thankful deed of having agreed to be the mother of Jesus through whom we are all saved. Father Wagner decided to have this magnificent festival on the same day. After the war, on the day of honouring Our Lady, it is said the faithful came from Hammersdale in processional pilgrimage to Ntshongweni and returned in the same manner.

Father Wagner told the faithful about his promise to Our Lady and the desire he had about the pilgrimage of Ntshongweni. Father Wagner's Ntshongweni Pilgrimage promise was warmly and enthusiastically welcomed by the faithful who said the pilgrimage should not be delayed. Hence, the faithful of Hammersdale started the processional pilgrimage from their church carrying the statue of Our Lady the Mediatrix of grace. Hence the faithful of Hammersdale initiated the Ntshongweni Pilgrimage on the 31 May 1953.
It is said there were no roads at Ntshongweni at that time, Father Wagner rode either a horse or a bicycle. People who came from far afield used a train and ascended to Ntshongweni on foot. It was a long and strenuous walk. The effort to make a road to Ntshongweni took place in 1953 on the anniversary of the Ntshongweni Pilgrimage. The girls high school presently at Ntshongweni which is also a boarding school was built by Father Wagner who also introduced a clinic whose doctor came from Mariannhill Hospital. The convent of the order of Mary Immaculate, Mediatrix of Grace is one of Father Wagner's initiatives. Father Wagner died and was buried at Ntshongweni in 1970.
The following guidelines for determining site significance were developed by the South African Heritage Resources Agency in 2003. We use them in conjunction with tables of our own formulation (see that for the Southern African Iron Age, below) when considering intrinsic site significance and significance relative to development activities, as well as when recommending mitigatory action.

### Type of Resource
- Place
- Structure
- Archaeological Site
- Palaeontological Site
- Geological Feature
- Grave

### Type of Significance
1. **Historical Value**
   - It is important in the community, or pattern of history
     - Importance in the evolution of cultural landscapes and settlement patterns
     - Importance in exhibiting density, richness or diversity of cultural features illustrating the human occupation and evolution of the nation, Province, region or locality.
     - Importance for association with events, developments or cultural phases that have had a significant role in the human occupation and evolution of the nation, Province, region or community.
     - Importance as an example for technical, creative, design or artistic excellence, innovation or achievement in a particular period

   It has strong or special association with the life or work of a person, group or organisation of importance in history
   - Importance for close associations with individuals, groups or organisations whose life, works or activities have been significant within the history of the nation, Province, region or community.

   It has significance relating to the history of slavery
   - Importance for a direct link to the history of slavery in South Africa.

2. **Aesthetic Value**
   - It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group
     - Importance to a community for aesthetic characteristics held in high esteem or otherwise valued by the community.
     - Importance for its creative, design or artistic excellence, innovation or achievement.
     - Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located.
     - In the case of a historic precinct, importance for the aesthetic character created by the individual components which collectively form a significant streetscape, townscape or cultural environment.

3. **Scientific Value**
   - It has potential to yield information that will contribute to an understanding of natural or cultural heritage
     - Importance for information contributing to a wider understanding of natural or cultural history by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.
     - Importance for information contributing to a wider understanding of the origin of the universe or of the development of the earth.
     - Importance for information contributing to a wider understanding of the origin of life; the development of plant or animal species, or the biological or cultural development of hominid or human species.
     - Importance for its potential to yield information contributing to a wider understanding of the history of human occupation of the nation, Province, region or locality.

   It is important in demonstrating a high degree of creative or technical achievement at a particular period
   - Importance for its technical innovation or achievement.
4. Social Value

It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- Importance as a place highly valued by a community or cultural group for reasons of social, cultural, religious, spiritual, symbolic, aesthetic or educational associations.
- Importance in contributing to a community's sense of place.

Degrees of Significance
Rarity

It possesses uncommon, rare or endangered aspects of natural or cultural heritage
- Importance for rare, endangered or uncommon structures, landscapes or phenomena.

Representivity

It is important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class.
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, Province, region or locality.

<table>
<thead>
<tr>
<th>Sphere of Significance</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provincial</td>
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<td></td>
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<tr>
<td>Regional</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Community</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What other similar sites may be compared to this site?

.............................................................................................
.............................................................................................
.............................................................................................
.............................................................................................
.............................................................................................
**Southern African Iron Age**

<table>
<thead>
<tr>
<th>Significance</th>
<th>- low</th>
<th>- medium</th>
<th>- high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique or type site</td>
<td>Yes</td>
<td>Yes</td>
<td>?Yes</td>
</tr>
<tr>
<td>Formal protection</td>
<td>Yes</td>
<td>Yes</td>
<td>?Yes</td>
</tr>
<tr>
<td>Spatial patterning</td>
<td>Yes</td>
<td>Yes</td>
<td>?Yes</td>
</tr>
<tr>
<td>Degree of disturbance</td>
<td>75 – 100%</td>
<td>25 – 74%</td>
<td>0 – 24%</td>
</tr>
<tr>
<td>Organic remains (list types)</td>
<td>0 – 5 / m²</td>
<td>6 – 10 / m²</td>
<td>11 + / m²</td>
</tr>
<tr>
<td>Inorganic remains (list types)</td>
<td>0 – 5 / m²</td>
<td>6 – 10 / m²</td>
<td>11 + / m²</td>
</tr>
<tr>
<td>Ancestral graves</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
</tr>
<tr>
<td>Horizontal extent of site</td>
<td>&lt; 100m²</td>
<td>101 – 1000m²</td>
<td>1000 + m²</td>
</tr>
<tr>
<td>Depth of deposit</td>
<td>&lt; 20cm</td>
<td>21 – 50cm</td>
<td>51 + cm</td>
</tr>
<tr>
<td>Spiritual association</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oral history association</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Research potential</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Educational potential</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

Please note that this table is a tool to be used by qualified cultural heritage managers who are also experienced site assessors.
The American National Parks Services sets out various criteria for the identification and management of cultural landscapes:

‘Cultural landscapes are complex resources that range from large rural tracts covering several thousand acres to formal gardens of less than an acre. Natural features such as landforms, soils and vegetation are not only part of the cultural landscape, they provide the framework within which it evolves. In the broadest sense, a cultural landscape is a reflection of human adaptation and use of settlement, land use, systems of circulation and the natural resources and is often expressed in the way land is organised and divided, patterns of types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls and vegetation, and by use reflecting cultural values and traditions.

‘Identifying the character-defining features in a landscape and understanding them in relation to each other and to significant historic events, trends and persons allows us to read the landscape as a cultural resource. In many cases, these features are dynamic and change over time. In many cases, too, historical significance may be ascribed to more than one period in a landscape’s physical and cultural evolution.

‘Cultural landscape management involves identifying the type and degree of change that can occur while maintaining the character-defining features. The identification and management of an appropriate level of change in a cultural landscape is closely related to its significance. In a landscape significant for its association with a specific style, individual, trend or event, change may diminish its integrity and needs to be carefully monitored and controlled. In a landscape significant for the pattern of use that has evolved, physical change may be essential to the continuation of the use. In the latter case, the focus should be on perpetuating the use while maintaining the general character and feeling of the historic period(s), rather than on preserving a specific appearance.

‘A cultural landscape is a geographic area, including both natural and cultural resources, associated with a historic event, activity or person. The National Park Services recognises four cultural landscape categories: historic designed landscapes, historic vernacular landscapes, historic sites and ethnographic landscapes. These categories are helpful in distinguishing the values that make landscapes cultural resources and in determining how they should be treated, managed and interpreted…

‘The four cultural landscape categories are not mutually exclusive. A landscape may be associated with a significant event, include designed or vernacular characteristics and be significant to a specific cultural group.’
We declare that Len van Schalkwyk, Beth Wahl and eThembeni Cultural Heritage have no financial or personal interest in the proposed development, nor its developers or any of its subsidiaries, apart from in the provision of heritage assessment and management consulting services.

Len van Schalkwyk and Beth Wahl are equal partners in eThembeni Cultural Heritage and the following synopsis of our respective qualifications and experience demonstrates our ability to complete heritage impact assessments. We are accredited by Amafa aKwaZulu-Natali to complete heritage impact assessments in KwaZulu-Natal, and by the Cultural Resources Management section of the Association of South African Professional Archaeologists to do so in the rest of South Africa.

Len has a master’s degree in archaeology (specialising in the history of early farmers in southern Africa) from the University of Cape Town and sixteen years’ experience in cultural heritage management. He left his position as assistant director of Amafa aKwaZulu-Natali, the provincial cultural heritage authority, to start eThembeni. Len has worked on projects as diverse as the establishment of the Ondini Cultural Museum in Ulundi, the cultural management of Chobe National Park in Botswana and various archaeological excavations and oral history recording projects. He was part of the writing team that produced the KwaZulu-Natal Heritage Act, 1997. Len has worked with many rural communities to establish integrated heritage and land use plans and speaks good Zulu.

Beth has an honours degree in African studies (majoring in archaeology and sociology) from the University of Cape Town and is completing her masters in heritage and tourism at the University of KwaZulu-Natal. Most recently she was employed by Amafa aKwaZulu-Natali as head of archaeology, which position she left to start eThembeni. Beth was a co-developer of the cultural heritage management plan for the uKhahlamba Drakensberg Park World Heritage Site and has developed and implemented training programmes for community guides and members of the public. Much of this training has focussed on the rock paintings of the uKhahlamba (Drakensberg) mountains.

Heritage impact assessments

Such assessments are required as part of Environmental Impact Assessments by the KwaZulu-Natal Heritage Act 1997, the South African Heritage Resources Management Act 1999 and all national and provincial environmental legislation. We have completed numerous projects and Amafa aKwaZulu-Natali and the South African Heritage Resources Agency have supported our recommendations, without exception. The following projects are a sample of our work during 2005 and 2006:

- **Eskom power lines**
  - Braamhoek integrated power supply for PBA International
  - Obanjeni, Mtunzini substation and power lines for SiVEST Environment and Planning
  - Majuba Mfolozi power lines for BKS Environmental Management Division
  - Idwala Carbonates for Stemele Bosch Africa
  - Braamhoek power lines for Ludloko Developments

- **Housing, office and game estate developments**
  - Shakaskraal residential and commercial estate for ACER (Africa)
  - Bird Valley Estate, Cradock; Camdeboo, Hilton and Sundara Estate, Oliviershoek for Allleton Ecologicals
  - Muluja Heights, uKhahlamba Drakensberg for Brousse-James & Associates
  - Lot 938 Port Edward for Buk’Indalo Consultancy cc
  - Uitvlugt equestrian and wildlife estate, Pietermaritzburg for DR A’Bear & Associates
  - New Forest, Dargle for Environmental Assessments cc
  - Burlington Greenfield, Queensburgh; Hillary, Durban; Umkhumbaan, Cato Manor; Rem of Lot 125 Ifafa; Lot 6417 Tongaat, Westbrook Beach
  - Erf 121 Bazley Beach and Rem of Lot 1 Umzumbe for Environmental Solutions
  - Intathakusa Retreat, Inanda for futureWORKS!
  - Alverstone, Assagay for Gary van Wyk and Scott Gelder
  - Bishopstowe; Brookdales, Howick; Himeville; Kamberg; Northington, Mooi River; Phinda Game Reserve; Rietvallei equestrian estate, Lidgetton; Rietvlei, Craigieburn; Riversdale, Himeville; Spring Grove, Nottingham Road;
o Inhluzani, Dargle / Impendle; Umdloti; Lot 535 Kloof; Meycol Farm, uThukela Mouth; New Guelderland, Blythedale Beach; Simbithi eco-estate, Shakas Rock
o Zinkwazi Lagoon Lodge and forest estate for Indiflora cc Environmental Services
o Umbogintwini golf course for Kerry Seppings Environmental Management Services
o Zwelisha, Bergville for McFerran & Associates
o Executive Village, Umhlanga Triangle and Umhlanga New Town Centre for Moreland Developments (Pty) Ltd
o Cherry Farm, Port Shepstone; Kingthorpe equestrian estate, Pietermaritzburg; San Marina estate, Marina Beach; Shelly Ridge, Marburg Commonage; Sunrise Bay eco-estate; The Plantation agri eco-estate, Ramsgate; Uplands, Margate for NMH Consulting
o Buffelskloof, Winterton for Peter Jewell Consulting Services
o Umdloti Lagoon Valley and KwaDabeka C, Durban for SiVEST Environment and Planning
o Garden Park residential and commercial development for Spencer Gore Construction
o Manzengwenya dive camp for Strategic Environmental Focus (Pty) Ltd
o Balcomb, Munzini; Braeside Farm, Umhlati; Hillside farm, Umhlali; Helmsley Farm, Umhlati; Lot 617 Sheffield Beach; Mitikini, Umlundi; Palm Lakes, Umhlali; Tara Estate, Salt Rock for Sustainable Development Projects
o Allemans Drift and Waterford, Howick for WSP Environmental
o Almond Bank, Pietermaritzburg for Afzelia Environmental Consultants cc
o Nducugu and Cele-Nhlangweni for CHS Developments
o Eendvogel Vley and Gordon Hill, Ladysmith for DEK Simpson Professional Land Surveyors
o Mhlumayo housing for Inkonjane Developments

Road upgrades
- Road 1B Mkhaseni, Mgai farm road, Esifubeni road and Sani Pass Phase 1 for ACER (Africa)
- Ncengeni road, Tugela Ferry for J Mitchell & Associates
- Vukani Phase 2, Inanda for Pravin Amar Development Planners
- P230 road, Empangeni / Eshowe and Zwelimbomvu road for Terratest Incorporated
- Hillcrest roads for WSP Environmental

Bridge construction
- Bridge 1 Batshe and Bridge 18 Diki for ACER (Africa)
- Mfule River bridge, Nkwaliini for Eyethu Engineers

Water supply projects
- Fairbreeze mine and Simdlangentsha for ACER (Africa)
- Makhabeleni, Mashambisane and Ntanz for Saunders & Wium Trust
- Ozwathini / Mathulini and Wosiyan, Emalangeni and Cibane for SiVEST Environment and Planning
- KwaDeyi / St Faiths, KwaFodo and Stuartville for Stemele Bosch Africa
- KwaGqugquma for Terratest Incorporated
- Albert Falls and south coast water supply system, Amanzimtoti to Umzinto / Scottburgh for Umgeni Water Amanzi

Dams
- Nsami, Molepo and Acornhoek dams, Limpopo Province for Cave Klapwijk & Associates
- Sundara, Oliviershoek for Allerton Ecologicals

Virgin soil assessments
- Ideal View and Mid-Selbourne farms, Underberg for Allerton Ecologists

Other
- Gautrain tunnel and portal variants, Johannesburg for Bohlweki Environmental
- Gautrain route variants, Tshwane for Feleheatsa Environmental (Pty) Ltd
- Ernmo Majuba rail realignments for Cave Klapwijk & Associates
- Nondabuya and Welcome agricultural development programmes for ACER (Africa) and Institute for Natural Resources
- Ntingwe tea estate, N11 and N12 borrow pits for ACER (Africa)
- Ashburton quarry, Pietermaritzburg and Idwala mining, Port Shepstone for Council for Geoscience
- King Matiwane cultural village for NDG Africa
- Alton North ferrochrome smelter, Richards Bay for CSIR Environmentetk
- Chieveley, KwaDlamini, Injasuthi and Elandskaal base stations for David Totman & Associates
- Msukeni and Lugalweni ecotourism developments, Eastern Cape for Environmental and Rural Solutions
- KwaBulawayo tourism development for ZAI Consultants
- Avon and Georgedale peaking power plants for Environmental Impact Management Services (Pty) Ltd
- Riverside industrial park, Durban for Environmental Planning & Design
- Port Shepstone commercial development for Environmental Solutions
- Nquthu artefact collection for Ernst Cloete & Associates
- Braamhoek Pumped Storage Scheme impact assessment and monitoring for Eskom
- Erf 50 Cato Ridge and Westway commercial developments for Guy Nicolson Consulting cc
- Wellington wine estate, Rosetta for Harbour Rocks Properties (Pty) Ltd
- Enyokeni, KwaKhangel for SiVEST Environment and Planning
- Nanxing mining, Wartburg for Terratest Incorporated
- Sappi Saccirom Amakhulu expansion, Umkomaas and underground cable installation, Richards Bay for WSP Environmental
- 10 000BC filming location, Garden Castle for Brousse-James & Associates
- Heritage resources component of the KwaDukuza Strategic Environmental Assessment for SiVEST
  Selatile Moloi