PHASE 1 HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED NEW TRAIN REPEATER HIGH SITE WITHIN THE GREENPOINT LIGHTHOUSE SITE IN PORT SHEPSTONE, KWAZULU NATAL PROVINCE.



NOVEMBER 2013

Prepared For:

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EXECUTIVE SUMMARY

Nemai Consulting was appointed by Transnet Freight Rail as the independent Environmental Assessment Practitioner (EAP) to undertake the environmental assessment of the proposal for TRF Rail Network (Telecommunications) to develop a new Train Radio Repeater High Site in the vicinity of the Greenpoint Lighthouse on the KZN South Coast near Umzinto. Rail Network Telecommunications provide radio communications to the track site between Durban and Port Shepstone. The Greenpoint Lighthouse, due to its location has been an ideal site for this service. Presently the track side (track radio) equipment is installed in the base of the lighthouse tower including the antenna on the outside.

The physical structures will comprise the construction of a 30m steel lattice mast; 1x2.4m x 2.4m insulated equipment container and a 6m x 12m x 2.4m high steel palisade fence.

Two sites have been proposed and two technological alternatives have been considered. Site 1 is situated 65m south west of the lighthouse and Site 2 is situated 50m north west of the lighthouse, refer to figure 3.

Alternative 1: The preferred technology is MPT1327 Trunked radio. This technology serves the communication requirements between the Central Traffic Control centre, and Trains within the RF coverage area of the proposed site. This technology is used throughout the country and is an integral part of Train control in TFR. The linking of this site into the rest of the network will be achieved by Microwave radio link, into the rest of the Transmission network.

Alternative 2: An alternate solution will be to use one of the cellular network services. This is not a viable option as these commercially driven public networks are not suited to the operational requirements of the communication in TFR. The alternate technology of linking the site into the network is fibre optic cable. In this case it will require extensive trenching.



Part of the environmental assessment includes Phase 1 Heritage Impact Assessment (HIA), which serves to identify any cultural heritage resources occurring on site which may be impacted upon by the proposed construction. If any resources are found, mitigation measures and recommendations for the protection of such resources will be provided. The report will be submitted to the Provincial Heritage Resources Authority of KwaZulu Natal for comment as per the National Heritage Resources Act (Act No 25 of 1999).

The Greenpoint Lighthouse tower is a heritage landmark found within the proposed sites. It is therefore recommended that based on the findings that the construction may proceed provided a 10 metre buffer is placed around the Lighthouse during construction phase.

Site 1 is the recommended site given the fact that it is further away from the Lighthouse with 65m as compared to site 2 which is 50m. Furthermore, site 1 will have minimal visual impact on the Lighthouse as compared to site 2 which is situated next to the entrance.



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TERMINOLOGY

BP **Before Present** EIA **Early Iron Age** Middle Iron Age MIA LIA **Late Iron Age ESA Early Stone Age MSA Middle Stone Age** LSA **Late Stone Age South African National Resources Agency** SAHRA **National Heritage Resources Act NHRA SAPS South African Police Services** years ago ya



VERIFICATION OF QUALIFICATIONS

Verification	Name	Qualification	Professional Registration
Author	Ms Makhosazana	BSc (Hons)	Member of Association of
	Mngomezulu	Archaeology	South African Professional
		BSc (Hons)	Archaeologists
		Physical	Member of Cultural
		Anthropology	Resources Management
Co-Author & Reviewer	Jean Beater	MA Heritage Studies	Member of Association of South African Professional Archaeologists



TERMS OF REFERENCE (ToR)

The approach utilised for this report were:

- To undertake a Phase 1 HIA in accordance with the National Heritage Resources Act (Act no. 25 of 1999) and KwaZulu Natal Heritage Act (Act No.4 of 2008);
- To identify and map all heritage resources in the area affected, as defined in Section 3 of the National Heritage Resources Act (Act No. 25 of 1999), including archaeological and palaeontological sites on or close (within 100m) of the proposed sites;
- To assess the significance of such resources in terms of the heritage assessment criteria as set out in the SAHRA regulations;
- To evaluate the impacts of the construction on heritage resources relative to the sustainable social and economic benefits to be derived from the construction;
- To provide mitigation measures to safeguard heritage resources; and
- To comply with specific requirements and guidelines of the Provincial Heritage
 Resources Authority AMAFA aKwaZulu Natali.

LEGISLATIVE REQUIREMENTS

- National Heritage Resources Act (Act No. 25 of 1999)
- KwaZulu Natal Heritage Act (Act No.4 of 2008)
 - Section 3
 - Section 34
 - Section 38



1. BACKGROUND INFORMATION OF THE PROJECT

Nemai Consulting was appointed by Transnet Freight Rail as the independent Environmental Assessment Practitioner (EAP) to undertake the environmental assessment of the proposal for TRF Rail Network (Telecommunications) to develop a new Train Radio Repeater High Site in the vicinity of the Greenpoint Lighthouse on the KZN South Coast near Umzinto. Rail Network Telecommunications provide radio communications to the track site between Durban and Port Shepstone. The Greenpoint Lighthouse, due to its location has been an ideal site for this service. Presently the track side (track radio) equipment is installed in the base of the lighthouse tower including the antenna on the outside.

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Alternative 2: An alternate solution will be to use one of the cellular network services. This is not a viable option as these commercially driven public networks are not suited to the operational requirements of the communication in TFR. The alternate technology of linking the site into the network is fibre optic cable. In this case it will require extensive trenching.



The objective of the study was to identify any cultural heritage resources occurring on sites which may be impacted upon by the proposed construction. If any resources are found, mitigation measures and recommendations for the protection of such resources will be provided. This report was prepared according to the National Heritage Resources Act 1999 (Act No. 25 of 1999) (Appendix A).

2. LOCATION AND DESCRIPTION OF THE STUDY AREA

The study area is located in the vicinity of the Greenpoint Lighthouse at Clanstal near Umkomaas on the South Coast in the KwaZulu Natal Province (see figure 1-3). Photographs of the study area have been uploaded on the SAHRIS website.





Figure 1: Locality Map of the study area 1:50 000.



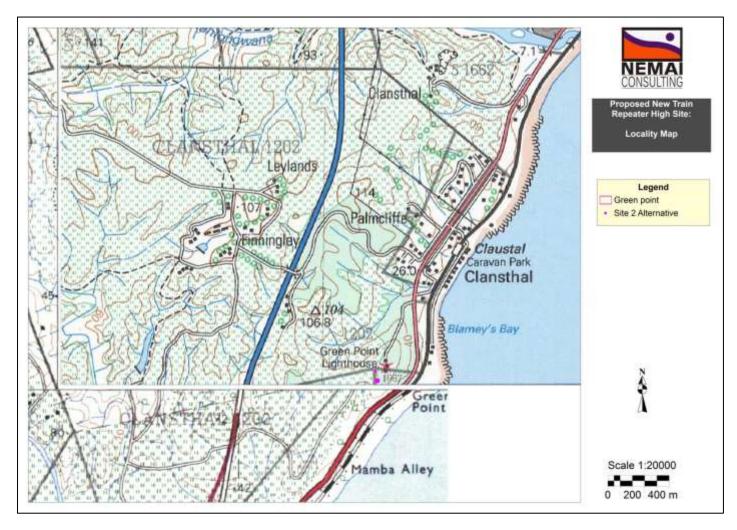


Figure 2: Locality Map of the study area 1:20 000.





Figure 3: Aerial View of the study area.



3. HISTORICAL BACKGROUND OF THE STUDY AREA

The relevance of providing historical background on human history is to allow the reader to have a better understanding of what is meant by archaeological and cultural/historical features of the proposed area irrespective of whether or not such heritage resources are found.

3.1 Archaeological

Stone Age

The Stone Age is a time period that dates between 2 million years ago (ya) to 2000 ya. Due to the vast character found within stone tools of this period, it was then divided into three phases; Early Stone Age (ESA), Middle Stone Age (MSA) and the Late Stone Age (LSA). ESA dates between 2 million ya and 2 00 000 Before Present (BP). Industries associated with this time period includes Oldowan, Acheulean and Fauresmith. ESA stone tools include hammer stones, flakes, cores, handaxses and cleavers (Pelser 2009). The more refined stone tools appeared during the MSA. MSA dates between 2 00 000 and 25 000 to 20 000 BP, this varies with location. Industries associated with this time period includes the Howieson's Poort. The stone tools which characterise this period include scrapers, blades, points and flake. Lastly is the LSA which dates between 25 000 and 20 000 to 2 000 BP. Stone tools of this period are characterised by their small size; this includes backed knives and borers (Pelser 2009).

Iron Age

According to Huffman (2007) Iron Age marks the early evidence of farming community in southern Africa. Animal husbandry, crop farming, pottery and metal working were introduced which in due time liberated hunter gatherers to change their way of life which is less mobile (Carruthers 1990). Due to vast technological discrepancies and settlement pattern within this period, it was divided into three. The Early Iron Age (EIA) dates to AD 200 – 900, Middle Iron Age (MIA) dates to AD 900 – 1300, and the Late Iron Age (LIA) dates to AD 1300 – 1840 (Huffman 2007).



Aliwal shoal is a rocky reef formed over thousands of years. It began as a bed of sand dunes. Heavy rainfalls caused sand and shell to dissolve forming a dune rock that now forms the shoal (Aliwalshoal.com).

3.2 Historical

The Green Point Lighthouse is a structure painted in red and white striped bands. It was built in 1905, automated in 1961 and powered by electricity instead of petroleum vapour. It flashes two white lights every 15 seconds to accompany its red subsidiary light, warning ships of the dangers of the Aliwal Shoal (Derwent 2006: 55). In 1849 a 3 mast vessel called the Aliwal nearly collided with the shoal; hence its name 'Aliwal Shoal'.

4. METHODOLOGY

A desktop study was conducted on the proposed site instead of a site visit. This was to identify any other heritage resources that may be impacted on due to the proposed construction apart from the Green Point Lighthouse.

Heritage resource means any place or object of cultural significance (NHRA No. 25 of 1999). National Heritage Resources Act 1999 (Act No. 25 of 1999) was utilised as a source of reference to identify what is known as a heritage resource.

The photographs were taken during a site visit conducted by Mr Phamphe during a fauna and flora survey.

5. RESULTS AND DISCUSSION

5.1 Site survey

Archaeological



The desktop study revealed no archaeological information regarding the site and no material was observed in the study area

Historical

The Greenpoint Lighthouse is in the vicinity of study area. It is a heritage landmark established in 1905.

5.2 Discussion

Based on the desktop survey and the photographs it is highly unlikely that there will be any other heritage material findings within the proposed sites apart from the Lighthouse due to the area being disturbed by the construction of existing buildings.

6. LEVEL OF SIGNIFICANCE

The level of significance of the site and the cultural resources varies between social, historical, spiritual, scientific and aesthetic value.

Social value embraces the qualities for which a place has become a focus of spiritual, political, national, or other cultural sentiments to a majority or minority group. This may be because the site is accessible and well known, rather than particularly well preserved or scientifically important (SAHRA Regulations); for instance community halls and parks. There appears not to be social value attached to the study area. The study area has no social value.

The proposed site has historic significance because of the lighthouse. There was no physical evidence of religious activities such as well-used areas where people worship; white-washed stones that designate areas of worship, *etc*. This means the site is not spiritually significant.



Scientific value refers to research purposes. The site has no scientific value. Aesthetic value refers to the unique beauty of the site. The Green Point Lighthouse is a structure with aesthetic value. It is one of the five lighthouses along the South Coast.

7. IMPACT ASSESSMENT

7.1 Impacts

The heritage assessment was undertaken to identify the impact (s) that the development may have on any heritage resources on the proposed area of development.

The proposed development has an economic impact. During construction tourists may be less interested in visiting the Lighthouse. Furthermore, the development may possibly have an impact on the Lighthouse tower itself provided mitigation measures are not taken into consideration.

7.2 Mitigation measures

- All staff involved in the construction phase should be advised of the nature of historical heritage resource material that may be found and informed of their obligation to report any items found during the construction process.
- For any chance finds, all work will cease in the area affected and the Contractor will immediately inform the Project Manager. A registered heritage specialist must be called to site for inspection. The Provincial Heritage Resources Authority-KwaZulu Natal Province (AMAFA) must be informed about the finding.
- Permits to be obtained from AMAFA if heritage resources are to be impacted upon.
- All heritage resources found in close proximity to the construction area, in this case the Lighthouse, to be protected by a 10m buffer in which no construction can take place. The buffer to be highly visible to construction crews.
- Under no circumstances may any heritage material be destroyed or removed from site.



- Should any remains be found on site that is potentially human remains, the South African Police Service should also be contacted.
- A provision should be made for tourists to access the site during construction and;
 the contractor to provide a safe environment for the tourists.

8. RECOMMENDATION AND CONCLUSION

This report must be submitted to the AMAFA AkwaZulu Natali for comment as per the National Heritage Resources Act (Act No. 25 of 1999) and KwaZulu Natal Heritage Act (Act No.4 of 2008).

In conclusion, the construction may proceed from a heritage perspective. Site 1 is the recommended site given the fact that it is further away from the Lighthouse with 65m as compared to site 2 which is 50m. Furthermore, site 1 will have minimal visual impact on the Lighthouse as compared to site 2 which is situated next to the entrance.

The contractor must ensure that a 10m buffer is placed around the lighthouse prior to construction to protect the Lighthouse. The buffer should make provision for tourists to access the building. If any heritage related resources are found during the construction phase, mitigation measures as recommended above must be taken.



9. REFERENCES

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APPENDIX A - LIST OF LEGISLATION APPLICABLE TO THE SITE



10. LEGISLATION

National Heritage Resources Act 25 of 1999

10.1 Section 3 of NHRA 25 of 1999

According to **Section 3** under **National Estate** of the National Heritage Act 25 of 1999 the heritage resources in South Africa includes the following:

- "(1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
- (2) Without limiting the generality of subsection (1), the national estate may include –
- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage; (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological 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 individuals designated by the Minister by notice in the Gazette;
- (v) historical graves and cemeteries; and
- (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) 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) objects to which oral traditions are attached or which are associated with living heritage;
- (iii) ethnographic art and objects;
- (iv) military objects;
- (v) objects of decorative or fine art;
- (vi) objects of scientific or technological interest; and
- (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).



- (3)Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of –
- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa".

10.2 Section 34 of NHRA 25 of 1999

According to **Section 34** under **Structures** of the National Heritage Act 25 of 1999 specific procedures need to be followed when building older than 60 years are identified in the development:

- "(1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
- (2) Within three months of the refusal of the provincial heritage resources authority to issue a permit, consideration must be given to the protection of the place concerned in terms of one of the formal designations provided for in Part 1 of this Chapter.
- (3) The provincial heritage resources authority may at its discretion, by notice in the Provincial Gazette, make an exemption from the requirements of subsection (1) within a defined geographical area, or for certain defined categories of site within a defined geographical area, provided that it is satisfied that heritage resources falling into the defined area or category have been identified and are adequately provided for in terms of the provisions of Part 1 of this Chapter.



(4) Should the provincial heritage resources authority believe it to be necessary it may, following a three-month notice period published in the Provincial Gazette, withdraw or amend a notice under subsection (3).

10.3 Section 38 of NHRA 25 of 1999

According to **Section 38** under **Heritage resources management** of the National Heritage Act 25 of 1999 the heritage resources in South Africa should be managed in the following:

- "(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised 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 50 m in length;
- (c) any development or other activity which will change the character of a site—
- (i) exceeding 5 000 m2 in extent; or
- (ii) involving three or more existing 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 heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at 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.
- (2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)—
- (a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
- (b) notify the person concerned that this section does not apply.
- (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:
- (a) The identification and mapping of all heritage resources in the area affected;



- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- (c) an assessment of the impact of the development on such heritage resources;
- (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;
- (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:
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.
- (4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide—
- (a) whether or not the development may proceed;
- (b) any limitations or conditions 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 is 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.
- (5) A provincial heritage resources authority shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level unless it has consulted SAHRA.
- (6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who—
- (a) must consider the views of both parties; and
- (b) may at his or her discretion—
- (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage authority; and
- (ii) consult SAHRA; and
- (c) must uphold, amend or overturn such decision.
- (7) The provisions of this section do not apply to a development described in subsection
- (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.
- (8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of



Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

- (9) The provincial heritage resources authority, with the approval of the MEC, may, by notice in the *Provincial Gazette*, exempt from the requirements of this section any place specified in the notice.
- (10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this Part, but any existing heritage agreements made in terms of section 42 must continue to apply.

