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CONSULTING

Task 9: Final Project Report

ISP012 – Developing the Cultural Heritage Indicators for the Gladstone Healthy Harbour Partnership

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Acronyms

The following terms and acronyms are utilised throughout the report. Definitions are provided below for reference.

Term / Abbreviation	Definition
ATSCHRD	Aboriginal and Torres Strait Islander Cultural Heritage Register and Database
ACH Act	<i>Aboriginal Cultural Heritage Act 2003 (Qld)</i>
AHA	<i>Aboriginal Heritage Act (Vic)</i>
ATSIHP Act	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)</i>
CHIMS	Cultural Heritage Information Management System managed by DERM; a list of those places that might be of historical heritage interest throughout Queensland.
CHMP	Cultural Heritage Management Plan negotiated between a sponsor and endorsed parties pursuant to provision of Part 7 of the ACH Act
CHS	Cultural Heritage Studies
CIF	Cultural Indicators Form
Cultural Record Act 1987	<i>Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987</i>
CSIRO	<i>Commonwealth Scientific and Industrial Research Organisation</i>
DERM	Department of Environment and Resource Management (Qld)
DATSIP	<i>The Department of Aboriginal and Torres Strait Islander Partnerships</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
GHHP	Gladstone Healthy Harbour Partnership
Gidarjil	Gidarjil Development Corporation
GBR	Great Barrier Reef
GBRMPA	Great Barrier Reef Marine Park Authority
GBRWHA	Great Barrier Reef World Heritage Area
HPRF	Site Recording Form
ICHD	Indigenous Cultural Heritage Database
ILUA	Indigenous Land Use Agreement negotiated between native title claimants and development proponents to secure land access rights for a project under

	provisions of the Native Title Act 1998.
ISP	Independent Science Panel
NHL	National Heritage List
PCCC	Port Curtis Coral Coast Native Title claim
PLOS	Public Library of Science
Registered Place	A place that has been entered on to the Queensland Heritage Register created under provisions of the Queensland Heritage Act 1992.
RFAs	Regional Forestry Agreements
RNE	Register of the National Estate
QH	<i>Queensland Heritage Act 1992</i>
QHR	Queensland Heritage Register
Terra Rosa	Terra Rosa Consulting
TUMRAs	Traditional Use of Marine Resource Agreements
UNESCO	The United Nations Educational, Scientific and Cultural Organization

Citation

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Coordinate Capture

The authors advise that all coordinates quoted in this document were initially obtained with a Garmin hand held GPS and a Panasonic FZ-A1 ToughPad, using the GDA datum. All grid references are projected in MGA Zone 55, unless otherwise stated. Dependent on external conditions, these units afford an optimal spatial accuracy of ± 5 m.

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Project Summary

This report relates to the Year 1 Gladstone Harbour Report Card which details the results of the Indigenous Cultural Heritage Health¹ of Gladstone Harbour and more specifically five zones (The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island) within the wider Gladstone Harbour area. The overall grade for the Cultural Heritage Health of Gladstone Harbour is a C (0.53). A breakdown of these scores is shown in Table 1 and Figure 1 below².

A guiding principle of the project is to acknowledge the mutable nature of the cultural heritage record and landscapes, and to work with the sites in the area as they exist now, not at some stage in the past. While this may prove problematic to some, it has led to a pragmatic scoring system that is also a pathway to better management of the cultural heritage within the Gladstone Harbour. Consultation with landholders, interested parties and development proponents is critical to the future planning of the project.

Table 1: Cultural heritage scores for Gladstone Harbour Year 1

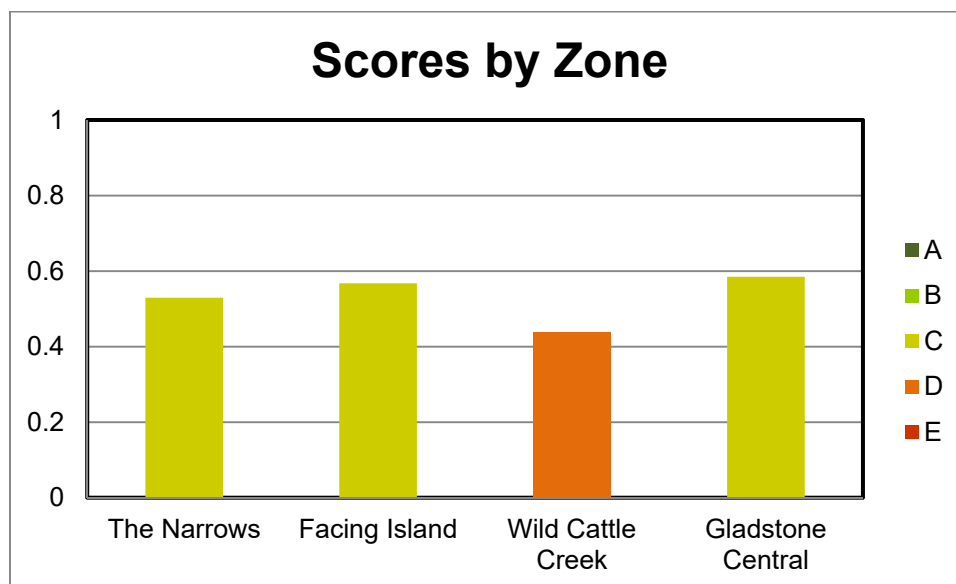
Zone	Year 1 zone score	Year 1 Zone Grade
The Narrows	0.53	C
Facing Island	0.57	C
Wild Cattle Creek	0.44	D
Gladstone Central	0.59	C
Hummock Hill Island	NA ³	NA
Average	0.53	C
Cultural heritage grade for Gladstone Harbour		C

¹ Indigenous Cultural Heritage Health is referred to throughout this report as Cultural Heritage Health

² Given the nature of the project, and the ongoing development and restructuring of the framework and scores, scores and grades varied across the reports. For example, the grades and scores outlined in the Milestone 2 report (see appendix 3) are somewhat different to those of this final report.

³ Note that the Hummock Hill Project Area was not assessed during the course of the field work due to problematic access. It has been suggested as a target for Year 2.

Figure 1: Cultural heritage scores by zone for Gladstone Harbour Year 1



The development of this report card has involved: extensive consultations between Terra Rosa, GHHP, Gidarjil and the PCCC; desktop research; field work; method development and implementation; and indicator development and implementation. This development took place between August 2015 and June 2016.

The Cultural Heritage Health report card results were developed and attained by assigning scores to twenty-one measures (n=21) and six sub-indicators (n=6) within the Indicators of Cultural health of sites and Management Strategies. The Cultural health of sites in each zone is assessed by considering the Scientific Value, Spiritual / Social Values and Physical Condition of the heritage features and elements within a monitoring station or site (as appropriate). To assess the effective Management Strategies by zone, three Sub-indicators were established: Protection; Land use; and Cultural maintenance.

In order to produce a final score for the Cultural Health of sites within each zone, it was necessary to consider sites within their localised landscape, as this reflects traditional land use (a sense of place). Once the cultural locus was established for each zone, its condition formed a localised baseline on which comparisons with other sites were made. This allowed the sites to become self-referencing within each zone. Weightings have been applied to the cultural locus site within each zone, which during Year 1, in the absence of ethnographic interviews, saw the allocation of a 50 % score weighting to the appropriate site. This method allowed for the individuality of each zone to be represented in its separate score which is then combined to ascertain an overall Cultural Health score for Gladstone Harbour. For a detailed explanation on how the cultural locus for each zone was identified, please refer to appendix 2 (Milestone 2 report), section 2.2.3 (Identification of a cultural locus).

Measures, Indicators and Sub-Indicators were all initially assessed with a grade result from 'A' through to 'E', after which scores were generated for each by assigning numerical equivalent value of between 0 and 1, in accordance with GHHP grading scheme. Following final numerical analysis, the final grades for Indicators and the Indicator Group are provided

on an 'A' to 'E' scale, this process is demonstrated in Table 2 below. Associated scoring issues are reviewed in more detail in ISP020 (Pascoe and Venables 2016).

Table 2: Scoring grades

Score	Grade	
0.85 – 1.00	A	Very good
0.65 - 0.84	B	Good
0.50 – 0.64	C	Satisfactory
0.25 – 0.49	D	Poor
0.00 – 0.24	E	Very poor

As noted above, the Year 1 result for the Cultural Heritage Health of Gladstone Harbour is a C (0.53). A breakdown of the results per zone allows for an insight into which zones are considered more or less culturally healthy (see section 1.7 score card results, and ISP020 (Pascoe and Venables 2016)).

In Year 1, the study focused on five zones across the region, and took into account the impacts of ongoing development on the Indigenous heritage resource. However, the study was designed so this was not wholly what would inform the cultural heritage health of a zone. The program also acknowledged the mutable nature of the cultural landscape over time, and was pragmatic, focusing on management and implementation strategies to mitigate some of the primary impacts seen throughout the five zones.

To compensate for the fragmented archaeological record and the history of development, we designed a reflexive set of indicators that we believe will be able to address this issue. The key to this is the concept of self-referencing groups within the zones. This was critical as consultation with Gidarjil pointed to the fact that Police Creek was a significant part of the cultural landscape in the area, but is clearly a heavily developed landscape, not necessarily detracting from its contemporary cultural values.

This focus has adequately compensated for this legacy issue; and has also caused the spike in the scoring for Gladstone Central (due to the presence of interpretation signage and active management). Conversely, Wild Cattle Creek scored quite low as the record of cultural heritage in this area is largely inaccurate and unknown. Access is severely limited to coastal fringes and impacts from recreational and environmental processes and activities are very high.

Due to limited access, it was not possible to access the Cultural Health of Hummock Hill Island during Year 1. There are no scores or grades from this zone to add to the overall results for the Cultural Heritage Health of Gladstone Harbour.

It is assumed that scores will be adjusted in future years as the record is completed. There are several known ethnographic sites within the zones that would add to the positive scores, especially as Gidarjil begin to implement management and develop interpretation of their cultural heritage estate. Also, the expansion of the sample data in key areas (e.g. Gladstone

Central; n=3) will influence this balance of scoring across the area. In total across the four zones, 26 sites were assessed during the year 1 field work. These were located as follows in Table 3.

Table 3: Cultural heritage sites assessed across the five zones

Zone	Number of sites assessed
The Narrows	6
Facing Island	6
Wild Cattle Creek	11
Gladstone Central	3
Hummock Hill Island	NA
Total amount of sites assessed	26

Overall, the health result is highest in the Gladstone Central zone which, as mentioned above, is largely due to the management and interpretation of the area. This is followed by Facing Island, The Narrows and Wild Cattle Creek, respectively. As such, it can be broadly seen that this initial process has provided a tangible way to engage with current available data. This enabled the development of a clear method for improving cultural health over time, through encouraging active management and engagement with the cultural resource in the area. At this stage we have not weighted the individual zones themselves, but this is something that may be informed by ethnographic consultation in Year 2.

For detailed information of the places assessed, the method and the results, please review the cultural landscape map that was generated as a part of the project. This has been developed as an online repository for the information generated in the project, to both showcase the heritage of the area, and to allow the rangers to be able to monitor change visually over time.

1 Cultural Heritage Health Report Card Development

1.1 Introduction

The Gladstone Healthy Harbour Partnership (GHHP) is a forum that brings together numerous parties to maintain, and where necessary, improve the health of Gladstone Harbour. The GHHP is advised by an Independent Science Panel (ISP) and actions are based on rigorous science and strong stakeholder engagement to ensure the ongoing and continuous improvement of the health of Gladstone Harbour.

The GHHP has undertaken a project to develop a report card system to track the cultural health of Aboriginal heritage sites within the harbour including important issues such as the Cultural Health of Sites and Management Strategies of zones. This component of the GHHP report card draws on the development of cultural indicators which are used to make annual assessments of the condition of the Cultural Heritage Health of Gladstone Harbour. GHHP's overall objective is to create a system that could track changes to the cultural health of the region over time, and engage Gidarjil Indigenous Land and Sea Rangers and heritage professionals to supply annual monitoring, preservation and recording of Aboriginal sites.

1.2 Cultural Heritage Health score development – Year 1

Terra Rosa Consulting (Terra Rosa) was engaged by GHHP to develop and pilot indicators and reference condition values to inform the cultural heritage score of the cultural component within the GHHP report card. Terra Rosa has worked collaboratively with the Port Curtis Coral Coast Native Title claim (PCCC) and Gidarjil Development Corporation (Gidarjil) to develop an Indigenous Cultural Heritage Database (ICHHD) and indicator options to assess the health of cultural heritage sites and fulfil GHHP's vision and objectives.

1.3 Project aims

The project was to design a robust, flexible and detailed framework for the assessment of the Cultural Heritage Health of the Gladstone Harbour and its constituent cultural landscapes. It is guided by the best practice examples and references as set out in the Milestone 1 Report (see appendix 2). This project has, at all times, aimed to design a practical program that in the longer term will assist in the growth of capacity of the local ranger program, and help it expand the skills set of its staff working in an area that is of great value to the community.

A key principle of the design that was not met was for the program to be guided by both a rigorous desktop review (this was conducted, but the record is problematic) and ethnographic consultation in regard to identifying sites of importance and significance in the design phase, and weighting the importance and significance of places once recorded.

While we were successful in identifying focus areas and applying the proposed frameworks and methods in The Narrows, Facing Island and Gladstone Central; Wild Cattle Creek and Hummock Hill were compromised severely by the complete inaccuracy of the record, as well as limited access.

Throughout the project, the method that was applied was tested and adapted (this kind of framework has not been applied before in Australia). This resulted in a change in frameworks between the Milestone 1 and 2 reports (see attachments 2 and 3).

Year 1 was successful as both a proof of concept and an exercise in baselining the values of the places that the record indicates should be the focus of monitoring exercises. Monitoring stations to record and document the heritage values of the landscape were established in each of the areas, and this has meant that we are in a position to build on this information in coming years.

This project was a successful application of a theoretical framework that has been developed to meet multiple needs from a variety of stakeholders and real world conditions. The project needed to adapt to suit conditions on the ground, while at the same time been driven by the best practice framework established in the Milestone 1 Report (see appendix 2). This created at times an inherent tension that we think can be resolved in Year 2's proposed restructure of grading frameworks (see recommendations section).

Given the limitations and the pioneering nature of the work, the author has a moderate – high level of confidence that the final result reflects the on-ground conditions and cultural values of Gladstone Harbour.

1.4 Limitations of the project

As outlined in detail in the Milestone 2 report (see appendix 3), a number of limitations were encountered by the Project Team during the course of Year 1 of the project, including:

- Inaccuracy of the previously recorded sites, particularly at Wild Cattle Creek and on Curtis Island;
- Minimal consultation with PCCC elders;
- The absence of documentation from the PCCC elders relating to the Spiritual / Social Values for each zone;
- The testing of new theoretical frameworks that are lacking a precedent in this context;
- The revealed need for a practical focus to the weighting structures;
- Time and access restrictions including tides, locked gates, dense vegetation, ferry timetables and private property access;
- The inability to access Hummock Hill Island; and
- Minimal training for Gidarjil Indigenous rangers.

1.5 Fieldwork methodology

After the submission of the Milestone 1 Report (see appendix 2) for the project in October 2015, and the subsequent approval of the draft indicator options and zones, Terra Rosa and Gidarjil rangers conducted fieldwork between 21 November and 8 December 2015. Five zones of interest were established for the fieldwork (The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island). The fieldwork methodology accounted for: the geographical vastness of Gladstone Harbour; the scoped timeframes for the project (17 days over a three week period); and the physical accessibility to zones and sites (see appendix 3).

Cultural heritage data on visited sites was captured to inform the ICHD, the report card scores and the online cultural landscape map. As outlined above, the progress and outcomes of the fieldwork were impacted by a number of limitations; however, at the completion of fieldwork, a total of 45 monitoring stations were established across 26 sites.

In light of the logistical challenges, the incomplete record, the lack of the spatial accuracy of existing data and the lack of access to key knowledge holders, a responsive and agile method was employed throughout the fieldwork that focussed on rapid 'snap shots' of sites utilising digital technology on the ground (see Plate 1). This method was essential so as to increase the sample size for Year 1. It primarily involved an assessment of the physical condition of sites and their constituent features. This allowed for a 'baseline' of the wider area. As a result, the structure of the relationships between the indicators focused on the data that was collected, leaving some of the theoretical structures in place to be informed by future works.

Plate 1: Site recording at NAR15-01 (The Narrows Quarry)



1.6 Grades and Scores

This Cultural Health report card uses the common terminology developed by GHHP to describe the hierarchy of scores for the Cultural component. This includes all five levels of aggregation: component, indicator group, indicator, sub-indicator and measure. Each indicator has a baseline and five ranges ('A' to 'E') that determine the grade for each measure. Each threshold is a decimal value of between 0.00 and 1.00 (see Table 4).

Table 4: Grade ranges

Score	Grade	
0.85 – 1.00	A	Very good
0.65 - 0.84	B	Good
0.50 – 0.64	C	Satisfactory
0.25 – 0.49	D	Poor
0.00 – 0.24	E	Very poor

Throughout Year 1 of the assessment of the Cultural Heritage Health of Gladstone Harbour, the levels of aggregation were examined and developed. Within the five established zones, all sites were assessed by twelve Measures and three Sub-indicators relating to the Cultural Health of each site. The zones were then assessed by combining the cultural health of the sites with the Management Strategies of that zone. These Management Strategies are assessed by nine Measures and three Sub-indicators. This framework is summarised in Table 5. Individual site recording forms by zone have been supplied in Appendix 2 of this report.

Table 5: Year 1 Measures, Sub-indicators and Indicators for assessing the Cultural Heritage Health of Gladstone Harbour

Level 1: Component	Level 2: Indicator Group	Level 3: Indicator	Level 4: Sub-indicator	Level 5: Measure
Cultural	Cultural heritage	Cultural health of sites e.g. NAR15-01	Spiritual / Social Values (by site) <i>Requires Traditional Owner consultation</i>	Ethnographic and historical information
				Connection to the cultural landscape
				Contemporary use
			Scientific Values (by site; includes an aggregation of monitoring station results when necessary)	Diversity
				Density
				Representativeness
				Uniqueness
				Excavation potential
				Artefacts <i>in situ</i>
		Physical Condition (by site)	Ground surface disturbance	
			Impacts on heritage values	
			Threats and controls	
		Management strategies by zone e.g. The Narrows	Protection	Monitoring
				Registration of sites
				Management of threats
			Land use	Accessibility
				Developmental pressure
			Cultural maintenance	Identification and research of sites
Cultural resources				
Cultural management activities				
Stakeholder engagement				

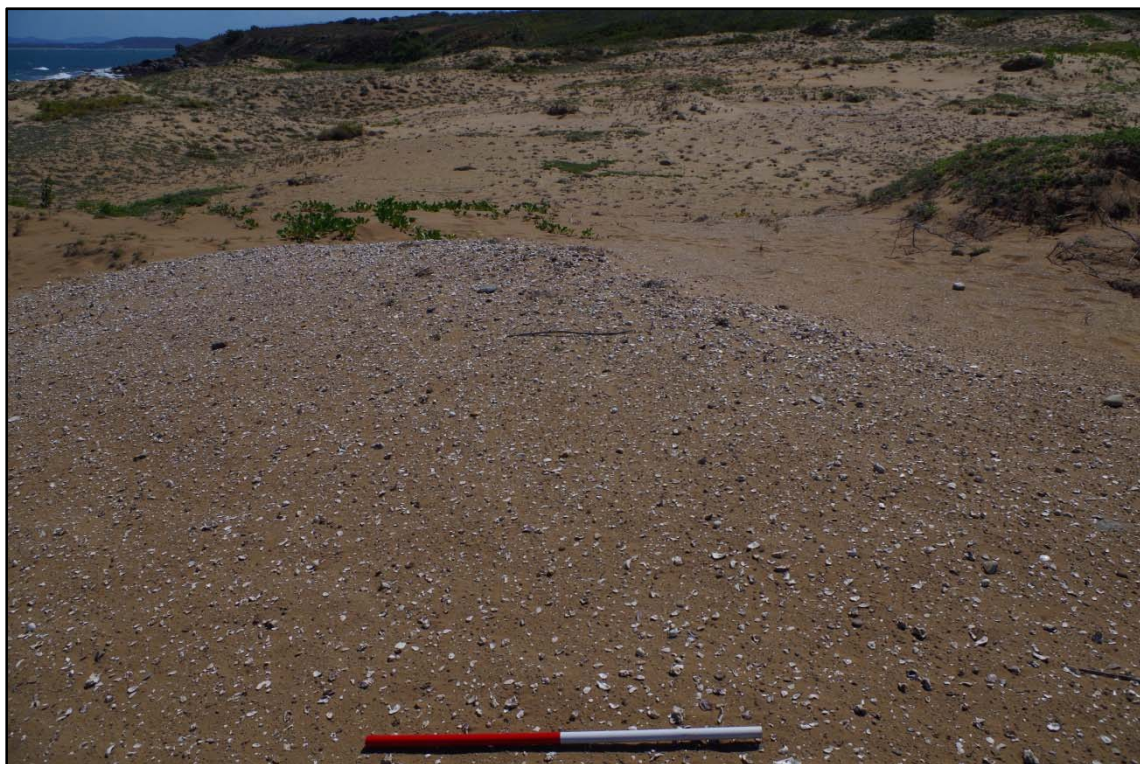
1.6.1 Cultural loci and bench-marking

During discussions with Gidarjil, it was established that from an ethnographic perspective, heritage places should be considered within their localised landscapes, as this reflects traditional land use. Gidarjil suggested and in the case of The Narrows, a highly significant quarry site had been identified as a cultural locus of activity, the condition of which should form a localised baseline upon which comparisons with other heritage places are made. In other words, the sites within the zone become self-referencing to this quarry site. When measuring the cultural health of sites within the zone, the values of an individual site are referenced against the benchmark that is the identified locus, which itself is assessed against the frameworks established independently.

Following a comprehensive review of the desktop research and available data, fieldwork results and consultations with the PCCC and Gidarjil, a cultural locus site was identified within four of the five zones within Gladstone Harbour. Due to the inaccessibility to Hummock Hill Island, as well as the unconfirmed reliability of the desktop research for this area, a cultural locus site has not yet been identified for this zone.

The cultural locus for each zone was determined by reviewing the available data and extrapolating the likely areas of intensive occupation within each zone. Initially this site was rated independently against all the levels of aggregation and was then used to benchmark subsequent sites within the appropriate zone. Plate 2 below is an example of the cultural locus site from Facing Island, an extremely dense, large and uniquely largely undisturbed midden site.

Plate 2: Midden site within FAC15-06 Cultural locus within Facing Island Group



This allows for sites to be compared with all surrounding sites and develops an accurate cultural narrative of traditional land use (a sense of place) which informs the cultural heritage record for that zone. It also allows for the self-referencing of individual zones which was inherent to the application of the subjective grading methods, across the various landscapes and numerous differing sites within Gladstone Harbour.

The development of a bench-marking a cultural locus site within a specific zone resonates with the archaeological best-practice approach of using representativeness to inform a better understanding of place and consequent management recommendations. The Cultural Locus sites are listed in Table 6 below.

Table 6: Cultural locus sites within Gladstone Harbour

Zone	Cultural locus site
The Narrows	NAR15-01 (The Narrows Quarry)
Facing Island	FAC15-06
Wild Cattle Creek	WCC15-10
Gladstone Central	GLA15-03 (Police Creek)
Hummocks Hill Island	N/A

1.6.2 Cultural locus weighting

The final scores for each zone were developed in conjunction with an applied weighting for the cultural locus site within each zone. Weightings were intended to be assigned by ethnographic consultation; however, in the absence of such interviews in Year 1, a 50 % score weighting was given to the cultural locus site within each zone. It is anticipated that in subsequent years of this project, the weighting will be informed by more detailed consultations with the PCCC elders who will deem the cultural significance of cultural locus sites. This is an arbitrary assignation of significance but it does parance with the anecdotal ethnographic input to date. This was conducted by informal consultation with elders during the field period, but also at the community discussion after the field work. Unfortunately this was not well attended and we only had a sample of two opinions to draw on, and the project was not discussed in meaningful detail. It is suggested that these frameworks be established into year 2, but that increased co-operation from Gidarjil will be critical to the success of the frameworks broadly, but the weightings specifically. This weighting applies only to the Cultural Heritage Sites sub-indicator.

1.6.3 Sub-indicator weighting

With the ongoing development of the ICHD, it became apparent that Protection and Cultural Maintenance were stronger indicators of the effectiveness of Management Strategies than Land Use. It is still important to consider Land Use in assessing Management Strategies, though the Sub-indicator could unintentionally skew the overall management strategy score. This is partly due to the reality that there was a stated aim to develop frameworks that measured the cultural record and health as at now, and not as at some idealised point in

history. This is consistent with the philosophy underpinning the reference sites within the area, and also an attempt to not make the frameworks subject to forces that are largely outside of the control of Gidarjil, the partnership and other factors. We suggest that in future years the weighting of these factors is developed through a similar community perceptions and values questionnaire as conducted by the other social indicator teams (see recommendations below).

In the absence of available data, it is suggested that in future years of the project, a weighting be developed that minimises the impact of the land usage (typically a negative variable) and emphasises the Protection and Cultural Maintenance (generally a positive value where it is available). This can be underpinned by some anecdotal and assumption based evidence from the field trips.

1.6.4 ICHD development

Another outcome of this project was the development of an ICHD which could hold detailed information on individual Aboriginal sites visited and monitored, and would track their scoring against the indicators of cultural health. The Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) is responsible for administering a cultural heritage database and cultural heritage register which have been established under Part 5 of the Aboriginal Cultural Heritage Act 2003 and the Torres Strait Islander Cultural Heritage Act 2003. Using the available resources of this database and register, as well as the data obtained during the Year 1 fieldwork, Terra Rosa developed an ICHD using Microsoft Excel and ArcGIS. The use of this format was guided by the accessibility of Microsoft Excel allowing the ICHD to be easily reviewed and updated as required. ArcGIS has been used to incorporate the ICHD data into a spatial format for inclusion in the cultural landscape map.

1.6.5 ICHD and DIMS

Upon the finalisation of the 2015 ICHD all data was incorporated into the GHHP Data and Information Management System (DIMS). The raw scores data has been separated into the three components from which the final scores are calculated (Pascoe and Venables 2016; ISP020) for inclusion in DIMS.

- Management strategies for each zone;
- Spiritual and social value and physical condition of heritage sites; and
- Scientific value of monitoring stations within the heritage sites.

The grading framework has been designed so that any of the measures can be excluded from assessment and grading (see appendix 3). These absent values have been coded as 'absent' for the purpose of the ICHD.

In addition to the 2015 ICHD, the previously developed draft ICHD has been added to DIMS along with the compiled 2015 assessment data and calculated scores.

1.6.6 Monitoring Stations and cultural landscape map

As outlined in appendix 3 (Milestone 2 Report), a fieldwork requirement of this project involved the establishment of one or more monitoring stations within a site. At each monitoring station, a series of 360° photos were taking using Panoramic Imaging Equipment. This imagery is used to create a visual record of each monitoring station and has been

incorporated into a cultural landscape map. It is used to effectively assess the physical health of sites over time.

The panoramic image elements of the cultural landscape map have been developed in a virtual tour software suite with the aid of geo-referencing all panoramic image points from GPS data. Elements, Features and other Points of Interest are then extrapolated from GPS data within the panoramic image to accurately display their positions with respect to the monitoring station (see Plate 3). This process results in a seamless, content rich, description of each monitoring station.

The cultural landscape map has been created with the aid of ESRI ArcMap which provides a web based interface with the ability to link the Panoramic Image Elements to the underlying GIS data of the monitoring stations. Other topographic data and/or background datasets can be added to this to provide more contextual information.

The cultural landscape map also features audio visual content of a more general nature based on each zone. This has been incorporated into more of a general website, with the 'mapping' portion to be viewed alongside.

Plate 3: Establishing a monitoring station at GLA15-01 (Barney Point)



1.7 Score card results

Following the inclusion of the fieldwork data into the ICHD, the final scores for each site, zone and the whole of the Gladstone Harbour were generated. The following series of graphs (figure 2-5) outlines a breakdown of the scores for the inaugural year of the cultural component of the GHHP report card. As this is the first year of applying and testing the cultural heritage health report card method, it is anticipated that in subsequent years of this report card, the program will be reviewed and refined.

Figure 2: Cultural heritage scores by zone for Gladstone Harbour Year 1

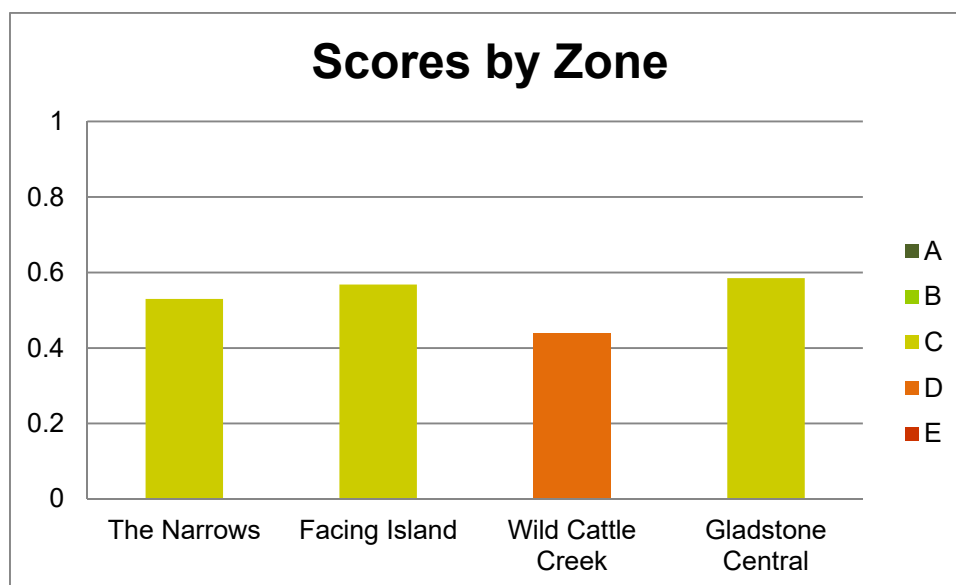


Table 7: Cultural heritage scores for Gladstone Harbour Year 1

Zone	Year 1 zone score	Year 1 Zone Grade
The Narrows	0.53	C
Facing Island	0.57	C
Wild Cattle Creek	0.44	D
Gladstone Central	0.59	C
Hummock Hill Island	NA ⁴	NA
Average	0.53	C
Cultural heritage grade for Gladstone Harbour		C

⁴ Note that the Hummock Hill Project Area was not assessed during the course of the field work due to problematic access. It has been suggested as a target for Year 2.

The zones overall scored reasonably with the current grading structures, with the average grade of the areas a C. Wild Cattle Creek saw a reduction in this overall average as the area is poorly understood, managed or researched. The lack of data from Hummock Hill island (where was located several sites that according to the record were of high potential scientific value may have compromised this area.

Figure 3: Zone score breakdown

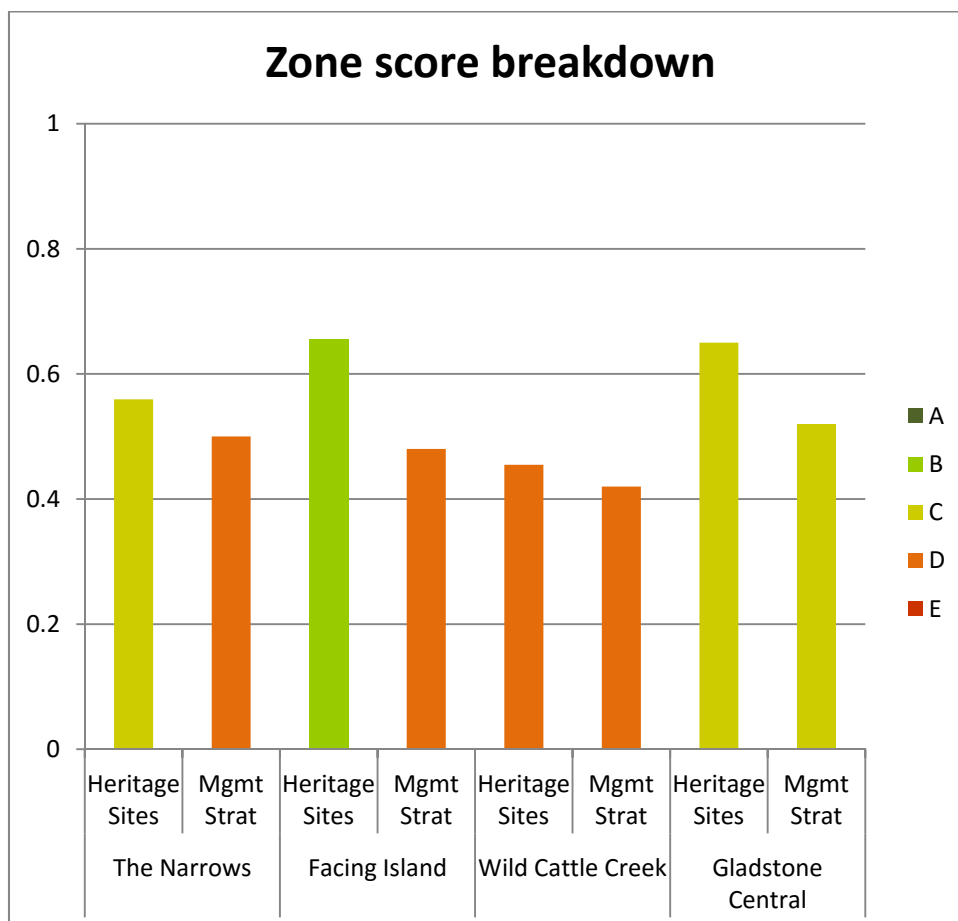


Table 8: Zone score breakdown

Zone	Heritage Sites	Management Strategies
The Narrows	0.56	0.50
Facing Island	0.66	0.48
Wild Cattle Creek	0.45	0.42
Gladstone Central	0.65	0.52
Hummock Hill Island	NA	NA

Figure 3 and Table 8 shows that the management of sites across the board could improve, again with Wild Cattle Creek dragging down the aggregate score. Both Gladstone Central and Facing Island have had management strategies implemented that have benefitted the cultural heritage health of the place, but these measures are absent in the Narrows and Wild Cattle Creek.

Figure 4: Cultural heritage scores by site for Gladstone Harbour Year 1

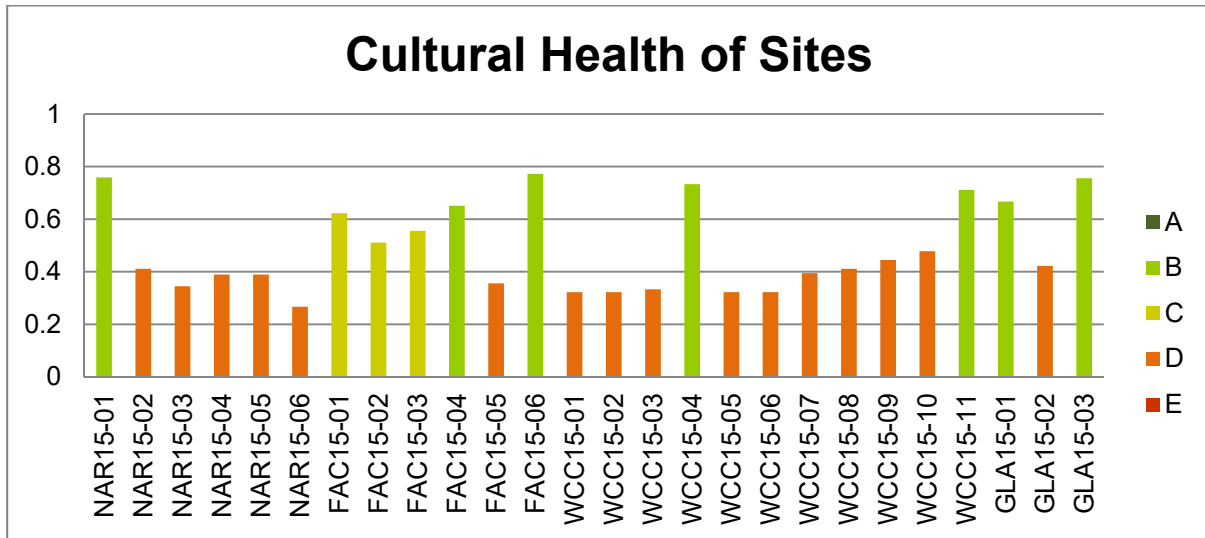


Table 9: Cultural Health of Sites

Site	Score
NAR15-01	0.76
NAR15-02	0.41
NAR15-03	0.34
NAR15-04	0.39
NAR15-05	0.39
NAR15-06	0.27
FAC15-01	0.62
FAC15-02	0.51
FAC15-03	0.56
FAC15-04	0.65
FAC15-05	0.36
FAC15-06	0.77
WCC15-01	0.32

WCC15-02	0.32
WCC15-03	0.33
WCC15-04	0.73
WCC15-05	0.32
WCC15-06	0.32
WCC15-07	0.39
WCC15-08	0.41
WCC15-09	0.44
WCC15-10	0.48
WCC15-11	0.71
GLA15-01	0.67
GLA15-02	0.42
GLA15-03	0.76

Figure 4 and Table 9 offers a comprehensive overview of the cultural heritage health of each of the individual sites within the Zones themselves. In this baseline year it is evident that the Narrows Quarry site is highly significant and in good health, while the rest of The Narrows is not so healthy. Facing Island and Gladstone Central have a good average health of the sites present, with Facing Island containing a spread of scores in this regards. Wild Cattle Creek again, has reduced the aggregate score in this area.

Figure 5: Management Strategies scores by zone

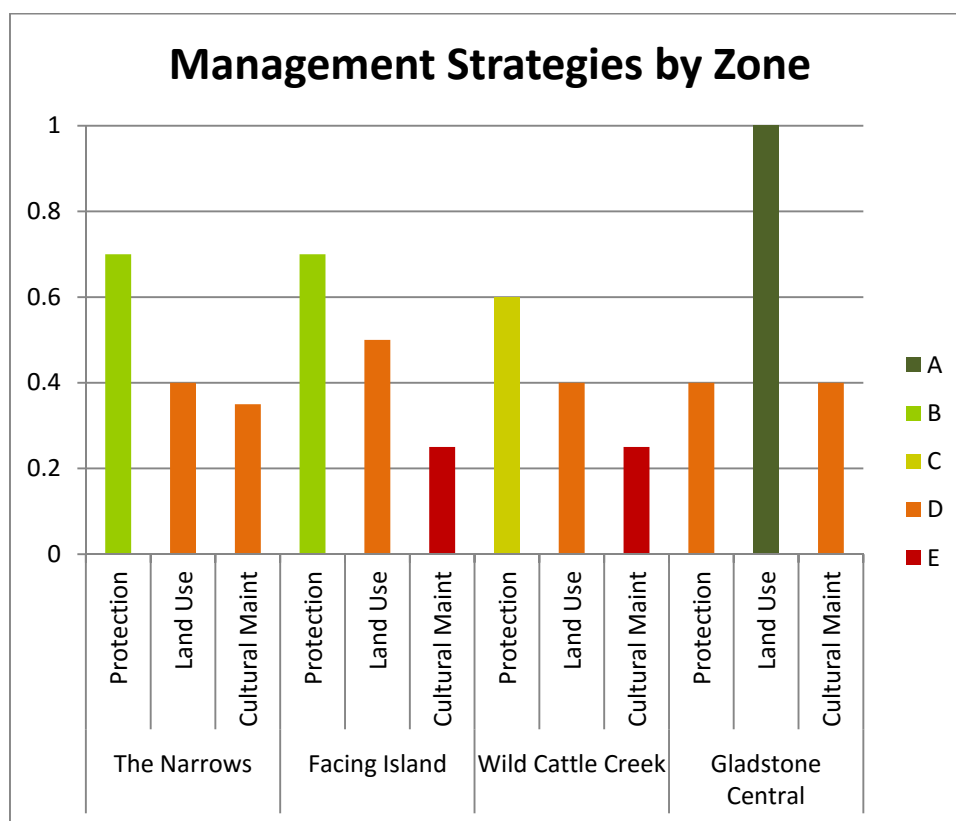


Table 10: Management Strategies by Zone

Zone	Protection	Land Use	Cultural Maintenance
The Narrows	0.70	0.40	0.35
Facing Island	0.70	0.50	0.25
Wild Cattle Creek	0.60	0.40	0.25
Gladstone Central	0.40	1.00	0.40
Hummock Hill Island	NA	NA	NA

A breakdown of the management strategies per zone is provided in Figure 5 and Table 10. These scores are indicative of some protection and management measures, but very little cultural maintenance (due largely to inhibited access). Access is particularly difficult for sites on the off shore islands, and also The Narrows Quarry, as it is on a private lease. Gladstone Central scores highly here, as the sites are largely within parks and reserves and as such, while largely only containing remnant cultural values and having been disturbed, they are protected into the future.

2 Discussion and recommendations

Following the completion of fieldwork and data analysis, the final score for the 2015 Cultural Health of Gladstone Harbour was generated. This score demonstrates the current fragility of sites around Gladstone Harbour. It also reflects the potential for an improvement in the scores through ongoing monitoring and practical heritage management activities, ideally completed through a ranger monitoring program on a yearly basis.

2.1 What does a 'C' score reflect?

The scoring of the cultural component of Gladstone Harbour as a C (0.53) does not necessarily reflect a blanket 'satisfactory' or reasonable condition of cultural heritage in the incorporated zones.

Across the zones, a variety of threats and impacts to the cultural heritage health of the area were identified, effectively constituted by the cumulative impacts of:

- Land use pressures – industrial development and interests, residential expansion and ongoing cumulative impacts of activities such as agriculture;
- Erosion of coastal foreshore and dune systems. The nature of the sites in the areas (mostly habitation areas along coastal belts) along high energy coastlines means many of them are critically at risk from environmental factors such as storm surges, erosion and a reduction in vegetation; and
- Recreational vehicle access along areas that are largely already impacted by the above. This access has potentially the highest individual effect in the region, as it is not necessarily confined to areas that have been utilised historically, and is evident up and down the coastline.

The scoring also largely reflects that there are little to no active management and interpretive activities throughout the Gladstone region. While this is difficult per se to implement in sites such as The Narrows Quarry (NAR15-01), some efforts can go a long way to mitigating the impact of the above. Specifically, Gladstone Harbour scored lowly typically because:

- Only one current and very few historic efforts have been made to systematically record or understand the area;
- The record, such that it exists, of cultural heritage sites in the zones is fragmentary at best, with the DATSIP register and database inaccurate, and most ethnographic sites are not documented;
- Gladstone Central is the only zone where interpretative activities had been undertaken;
- While Facing Island has had some fencing of one site undertaken at some point in the past, Gladstone Central is the only zone with active management strategies in place; and
- Little agency has existed to date to manage or undertake these management and interpretive activities.

We believe that while the project was obviously targeted to zones sampled, the above deductions apply broadly across the wider Gladstone area, and an average or 'satisfactory' C grade is reflective of the 2015 cultural health of Gladstone Harbour.

Extensive work has been completed to consolidate the final scores into a framework suitable for the GHHP's requirements. Please refer to ISP020 (Pascoe and Venables 2016) for further information.

2.2 How can Gladstone Harbour improve on this score?

Within the Indicators developed by Terra Rosa and Gidarjil, there is much scope to improve the cultural health of Gladstone Harbour. A few of the strategies are discussed below:

2.2.1 Improving the physical condition of sites

The overall health of the harbour and surrounds is under pressure from cumulative impact over time, ongoing developmental pressures, storm surge weather events, and the impact of continued recreational access along very fragile coastal margins.

The best way to raise the overall score would be to focus on implementing management strategies at the sites of the greatest importance and significance within each of the study areas, been the locus sites and any known places of ethnographic significance. In Year 1, throughout the four study areas we are confident that we have identified the areas that are of highest known heritage significance to reference as cultural locus sites, with the information that we have available to us. The authors are highly confident that the identified cultural locus sites, which are highly representative of other sites in their zone and form a benchmark against which to assess other sites of that zone are accurate and true for the Narrows, Facing Island and Gladstone Central zones, but may need to be adapted if future work at Wild Cattle Creek is conducted and more complex sites identified. Further, It is anticipated given that what is known of the areas there may be additional sites of ethnographic significance in some areas, however, the known places such as this (which are not yet part of the study) are known to be within the narrows, and are known to be too sensitive to be utilised as a baseline site of this sort. They are critical however to the long term analysis and implementation of these frameworks.

As the most important sites hold a greater weighting (in Year 1, cultural locus sites were given an arbitrary 50% weighting), improving the physical condition and management of these sites will have the largest effect on raising the zone score. Cultural management strategies for improving the physical condition of sites include activities such as:

- Waste removal;
- Site flagging, fencing and signage; and
- Environmental restoration.

These activities can be incorporated into the activities of the Gidarjil rangers, whereby the ranger teams and the Green Army are harnessed to provide labour and resourcing. Given the lack of any such activities in the region, this should be considered a priority for future work. The Narrows Quarry (NAR15-01) and Facing Island specifically should, at this stage, be considered a priority for these tasks.

The following management recommendations to improve the physical condition are provided for specific sites and zones following Year 1:

- NAR15-01 (The Narrows Quarry) should be fenced as soon as possible, with appropriate signage installed. Such works should be carried out with the permission and understanding of the landowner;
- Sites on Facing Island which currently face disturbance due to light vehicle tracks should be fenced and appropriate signage installed; and
- Sites at Wild Cattle Creek which currently have extensive disturbance from vehicle tracks and refuse disposal should be fenced and all refuse collected, with the area regularly monitored.

2.2.2 Improving the scientific and spiritual value of sites

Heritage management activities can also work to improve the scientific and spiritual value of sites through:

- Return to country activities;
- Increased traditional cultural practice (e.g. the reintroduction of cultural burning);
- Knowledge preservation projects with senior Traditional Owners; and
- Detailed site recording and archaeological and ethnographic research projects.

A healthy heritage resource is one that is well understood through both the scientific and spiritual lens, by Traditional Owners, heritage professionals and the wider community. There is great potential to create opportunities for senior and junior Traditional Owners to reconnect with sites through annual visitations, reinforcing a site's spiritual value to those for whom the site is most significant. Intergenerational mentoring programs could contribute to the holistic upskilling of junior rangers whilst maintaining accountability to senior Traditional Owners.

2.2.3 Increasing cultural heritage management strategies within each zone

The indicator group of Management Strategies by zone also gives GHHP and Gidarjil the potential to raise the score for Gladstone Harbour by:

- Conducting further research into previously identified sites;
- Conducting surveys to identify new sites; and
- Raising public awareness of Aboriginal heritage in the wider Gladstone Harbour area.

It is recommended that Year 2 of this project should include, at the program inception stage, a scoping and planning outcome with Gidarjil to identify pathways to incorporate these activities into training and participatory development activities. This should also include identification of funding opportunities to further enhance these outcomes. This will necessitate consultation with GHHP partner organisations for support where land access is an issue, and also involve negotiation with local stakeholders for access to areas.

2.3 Improving the project in subsequent years

2.3.1 Traditional Owner Consultation

As outlined in the Milestone 2 report (see appendix 3), it was not possible to conduct extensive consultations with the PCCC elders during Year 1. However, in the future years of

the project, it is anticipated that PCCC elder consultation will be more inclusive. This will be achieved in a number of ways, including:

- Engaging Gidarjil personnel to liaise with the PCCC elders so as to make them fully aware of the project and their essential participation and consultation for the success of the project;
- Engage Gidarjil personnel to keep the PCCC elders fully informed of project dates and consultation meetings and timelines. Costs for this should be incorporated into the scope for Year 2;
- Ideally, and as a minimum, PCCC elders should visit the cultural locus sites within each zone and participate in ethnographic consultation relating to that site specifically, as well as to the zone more broadly. PCCC elders should be facilitated to visit as many sites as possible within each zone, as well as with the opportunity to visit previously unrecorded sites or sites that may not be currently be known about to the wider heritage community;
- Participation of the PCCC elders throughout the whole of the project process; from the initial meetings for Year 2 through to final consultations and delivery of results; and
- Virtual site visitations for PCCC elders who cannot physically go on-country to visit sites. This will be achieved by making the panoramic tours readily available to people, either through the use of the online cultural landscape map or with a presentation of findings in a report or digital format. Terra Rosa recommends regular meetings and consultations with PCCC elders, where the online cultural landscape map is displayed, or an open day at the PCCC or Gidarjil offices where the cultural map is available on a number of computers, for use by the PCCC elders and the wider Aboriginal community.

This future PCCC elder engagement will allow for:

- A verification of the current available desktop research and gathered anecdotal information;
- Confirmation of cultural locus sites and traditional land use within each zone;
- Identification of sites known to the PCCC but not currently on the DATSIP database and register;
- Identification of sites which hold heritage value for the Traditional Owners. This allows for adherence to the Burra Charter guidelines relating to sites, whereby the heritage values of a place are tied to cultural significance, which means: “aesthetic, historic, scientific, spiritual or social value for past, present or future generations”. (The Burra Charter; ICOMOS, Australia; see appendix 1);
- On-country consultation for each zone so as to discuss the threats and management recommendations for specific zones, and for Gladstone Harbour as a whole. Ideally, ethnographic consultations should take place during fieldwork. However, if this is not possible or unlikely to materialise, then the rangers will be consulted initially during fieldwork with the heritage team identifying any threats and providing suggested management recommendations for each site and zone. These should then be relayed (both digitally and descriptively) to the PCCC elders who will discuss and

verify them. This will allow for the greater interpretation of site threats and provide further management recommendations for zones and the whole of Gladstone Harbour from a broader group within the PCCC community; and

- Consultations regarding the allocation of weightings to sites of significance to the PCCC elders. These weightings will have a direct relationship with the heritage management plans for each zone.

2.3.2 Capacity building for Gidarjil Rangers

With regard to ranger training and capacity building, Year 1 highlighted the need for a more practical approach to be adopted so as to allow the recording and management frameworks to be replicated and transferable to the rangers in the long term. Also, rather than an interpretative basis and expert and informed opinion style of site recording (gained through experience over a period of time at a variety of site types), some recording completed by the rangers will require metric data to be gathered during fieldwork.

In order to achieve the objective of training Gidarjil rangers in subsequent years of this project, the following approaches are recommended:

- Reduce individual numbers of rangers on the ground and increasing training outcomes. During Year 1, there were up to ten rangers and trainees participating in fieldwork; a smaller team would ensure a heightened level of knowledge transfer;
- Rangers undertake and complete a Certificate III in Aboriginal sites work. This is a unique opportunity to conduct on-country training with the rangers which will allow them to gain a detailed understanding of the techniques and skills required to complete ethnographic and archaeological site recording.

Specifically, this formalised course will allow the rangers to have a more detailed understanding and knowledge of:

- Sites monitoring - particularly in the continued use of 3D panoramic imagery to compare monitoring stations from year to year;
- Assessing site threats and controls; and
- Performing heritage management activities to control threats without damaging the often fragile condition of sites.

This program could be delivered as a part of the ongoing project, subject to sourcing external funding; and

- Infrastructure within Gidarjil should be developed to host the project in the long term, and begin assembling their equipment needed to conduct the works.

2.3.3 Grading frameworks and weighting structure

While the Scientific and Spiritual/Social significance of sites needs to be incorporated into any assessment of the health of a place, these values are more fixed than the Physical Condition and Management of zones. Also, any activities within a highly significant site that are focussed on conservation, interpretation and management should benefit the overall cultural health of Gladstone Harbour more than similar activities in sites of lesser significance. This paradigm is quite common in heritage management and could easily be incorporated into the future design of the project by:

- Making the scientific and spiritual/social factors responsible for the weighting of the sites and zones, depending on the importance of the places within the zone. This would essentially mean that two indicators would be assessed:
 - o The physical condition of places; and
 - o The management and interpretation of places at a group level.
- The weighting of these factors would then be developed collaboratively with the PCCC elders and subject matter experts once the field portion of the trip had been completed;
- This would allow for a simplified framework that while being scientifically robust would be adaptable to suit the ranger program, and allow for continuous data collection by the rangers during the year that could be further fed into the grading frameworks; and
- This would also decrease the weakness in the current model of not knowing the full scope of the cultural resource but developing definitions for the grades from what is known.

2.3.4 Year 2 logistical recommendations

During Year 1 of the project, a number of logistical roadblocks were encountered. As a result, the heritage team has developed the following recommendations to assist with the future implementation and running of the project:

- The timing of fieldwork should be influenced by tide timetables. Ideally, a low tide in the morning and into the afternoon will greatly assist access to coastal sites;
- Private boat hire to access the islands would allow for longer days of fieldwork on the islands. Ideally, the heritage team would work in conjunction with the Queensland National Parks to make use of any available facilities;
- Facing Island is considered to be a contained cultural landscape that would benefit from further detailed study and should be a priority for Gidarjil as there is a potential for the ranger program to actively co-manage part of the area. This will enable ongoing monitoring and assessment and is considered a high priority for future health assessments;
- Curtis Island contains a National Park that has been largely undeveloped outside of cattle production activities. It is projected to be a diverse cultural landscape that contains anecdotally some of the only rock art identified in the region. There is also a potential for the Gidarjil ranger program to actively co-manage some of the island. This will enabling ongoing monitoring and assessment and is considered a high priority for future health assessments;
- Revisiting the cultural loci is considered to be an annual activity, and should be incorporated in the next year's activities. In the case of Wild Cattle Creek this should also potential involve re-assessment of other potential cultural locus candidates within the zone; and
- The remaining sites in the area, it is anticipated, could be reviewed on a bi- or tri-yearly schedule. This is dependent on both timeframes and resourcing.

It is recommended that GHHP liaise with Gidarjil, firstly to obtain a list of suitable PCCC elders that should be consulted with in regard to the project, and secondly to facilitate a staged program of engagement and consultation with this group. This could entail the establishment of a reference group for the project from nominated

families. This will ensure inclusiveness across the PCCC community. This reference group would work collaboratively in the first stage of the project to identify focus areas for Year 2 and subsequent years, and help to target the management activities of the ranger program. It would also allow for intergenerational knowledge transfer throughout the process, with this enshrined in the scoping stage of the program.

It is recommended that further funding, as per the application submitted in 2015 by Terra Rosa and Gidarjil, is sought to enable the implementation of training and capacity outcomes. This will assist in the transition of the program in future years to the rangers themselves and increase the future sustainability of the project.

It is recommended that the Year 2 program design should include modules of the Certificate III in Aboriginal Sites Work to be delivered as a part of the program.

It is recommended, at a minimum, that future project scopes include training Gidarjil personnel in the ICHD and the DATSIP register.

It is recommended that in future years, the Scientific and Spiritual/Social Values for sites be utilised to weight the grades of Physical Condition and Management Strategies.

It is recommended that in Year 2, a community perceptions survey of the PCCC community is undertaken in order to establish the importance and weightings of key issues in the project (weighting of sub indicators and management strategies).

It is recommended that a detailed work plan is developed one month in advance of fieldwork. This needs to be such that it can be adapted to suit the on-the-ground conditions and should incorporate access, tide times and any logistical support required.

It is recommended that the documenting of new sites is limited to Facing and Curtis Islands. These areas are subject to pending co-management aspirations by Gidarjil and offer the program ability to document places that have sustained significantly less impact than the remainder of the project area. Further, Hummock Hill Island is under direct developmental pressure. The focus on these areas, plus the remainder of the cultural locus sites identified to date, will generate a much more robust data set.

It is recommended that the focus for Year 2 should be on ensuring that the training of the Gidarjil rangers is implemented, community consultation is conducted and known ethnographic places and cultural landscape concepts are documented and scored.

2.4 Application of the framework to other cultural heritage places

Within the Gladstone Harbour project area, there are numerous non-Indigenous heritage places, both terrestrial and maritime. It would appear that this framework would offer a great opportunity to extend the frameworks used in one area of cultural resource management across the whole of the area's cultural resource. This would enable a holistic history and understanding of the background of the region to be promoted and also contribute to a more nuanced and sensitive understanding of the importance, significance and value of the cultural resource in its totality.

This is seen as a valuable mechanism to enfranchise local people in the approach taken with regard to the Indigenous heritage register, and to generate a common interest in preserving

these spaces. As any increase in the cultural heritage grading of the area will need to rely heavily on education of the broader population, this could be a valuable outreach opportunity to further multiple ends. It would also transition this grading from a static value, based on the review of the known register, to a dynamic and interactive grading system that will develop further over time.

It is recommended that GHHP and the ISP consider applying the grading frameworks developed for the Indigenous cultural heritage indicators to the historic and maritime heritage resources in the region for the 2017 report card.

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Aboriginal Lands Rights Act 1976 (NT)
Australian Heritage Commission Act 1975 (Cth)
Australian Heritage Council Act 2003 (Cwth)
Commonwealth's Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth).
Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987 (QLD)
Environment Protection and Biodiversity Conservation Act 1999 (Cth)
Environment Protection and Biodiversity Conservation Regulations 2000 (Cth)
Fisheries Management Act 1994 (NSW)
Fisheries Management Act 2007 (SA)
Heritage Act 1977 (NSW)
Heritage Act 2004 (ACT)
Historical Cultural Heritage Act 1995 (Tas)
National Parks and Wildlife Amendment (Aboriginal Ownership) Act 1996 (NSW)
Native Title Act 1993 (Cth)
Northern Territory Aboriginal Sacred Sites Act 1979 (NT)
Northern Territory Aboriginal Sacred Sites Act 1989 (NT)
Queensland Heritage Act 1992 (QLD)
The Federal Environment Protection and Biodiversity Conservation Act 1999 (Cth)
The Great Barrier Reef Marine Park Act 1975 (QLD)
The Heritage Act 1977 (NSW)
The Heritage Act 2012 (NT)
Treaty of Waitangi Act 1975

International agreements

International Covenant on Civil and Political Rights
International Covenant on Economic, Social and Cultural Rights
International Labor Organisation Convention Regarding Indigenous and Tribal Peoples in Independent Countries (ILO 169)
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation of the Convention on Biological Diversity
UNESCO Convention on the Safeguarding of the Intangible Cultural Heritage
United Nations Convention on Elimination of all forms of discrimination against women (1983)
United Nations Convention on the Rights of the Child (1987)
United Nations Declaration on the Rights of Indigenous Peoples
United National Educational, Scientific and Cultural Organisation Convention on the Protection and Promotion of the Diversity of Cultural Expressions
United Nations Universal Declaration of Human Rights (1948)

Appendix 1 Report card terminology

Indicator group

- The cultural heritage of Gladstone Harbour.

Zone

- One of five geographical locations considered for the project: The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island.

Cultural locus

- Focal or key site identified within each zone and considered to be the most important for ongoing monitoring and management of that zone.
- In the first year of the project, a 50 % score weighting will be attributed to this site.

Site

- A concentrated group of heritage features within a landscape.

Monitoring station (MS)

- A location within a site from which the heritage features, heritage elements and non-heritage features are monitored.

Heritage element

- A single stone tool e.g. flake, chopper tool.
- Often a component part in a larger heritage feature within a site. But can also be an isolated artefact.

Heritage feature

- A group of interrelated heritage elements e.g. knapping floor, reduction sequence.
- A single element worthy of consideration as a feature e.g. backed blade, stone arrangement.
- Cultural, archaeological and ethnographic features e.g. signage, monuments, gravestones.

Non-heritage features

- Disturbance e.g. refuse, tracks, animal impact.
- Other features that are not archaeological but are useful in the overall assessment of cultural heritage.

Appendix 2 Milestone 1 Report



TERRA ROSA
CONSULTING

Project ISP012: Milestone 1 Report

**, ¥ £' ¥ " ' by Terra Rosa Consulting for Gladstone
Healthy Harbour Partnership**

Acronyms

The following terms and acronyms are utilised throughout the report. Definitions are provided below for reference.

Term / Abbreviation	Definition
ATSCHRD	Aboriginal and Torres Strait Islander Cultural Heritage Register and Database
ACH Act	<i>Aboriginal Cultural Heritage Act 2003 (Qld)</i>
AHA	<i>Aboriginal Heritage Act (Vic)</i>
ATSIHP Act	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)</i>
BBN	Bayesian Belief Network
CHIMS	Cultural Heritage Information Management System managed by DERM; a list of those places that might be of historical heritage interest throughout Queensland.
CHMP	Cultural Heritage Management Plan negotiated between a sponsor and endorsed parties pursuant to provision of Part 7 of the ACH Act
CHS	Cultural Heritage Studies
CIF	Cultural Indicators Form
Cultural Record Act 1987	<i>Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987</i>
CSIRO	<i>Commonwealth Scientific and Industrial Research Organisation</i>
DERM	Department of Environment and Resource Management (Qld)
DATSIP	<i>The Department of Aboriginal and Torres Strait Islander Partnerships</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
GHHP	Gladstone Healthy Harbour Partnership
Gidarjil	Gidarjil Development Corporation
GBR	Great Barrier Reef
GBRMPA	Great Barrier Reef Marine Park Authority
GBRWHA	Great Barrier Reef World Heritage Area
HPRF	Heritage Place Recording Form
ILUA	Indigenous Land Use Agreement negotiated between native title claimants and development proponents to secure land access rights for a project under

	provisions of the Native Title Act 1998.
ISP	Independent Science Panel
NHL	National Heritage List
PCCC	Port Curtis Coral Coast Native Title claim
PLOS	Public Library of Science
Registered Place	A place that has been entered on to the Queensland Heritage Register created under provisions of the Queensland Heritage Act 1992.
RFAs	Regional Forestry Agreements
RNE	Register of the National Estate
QH	<i>Queensland Heritage Act 1992</i>
QHR	Queensland Heritage Register
Terra Rosa	Terra Rosa Consulting
TUMRAs	Traditional Use of Marine Resource Agreements
UNESCO	The United Nations Educational, Scientific and Cultural Organization

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1 Introduction – project background

The Gladstone Healthy Harbour Partnership (GHHP), advised by an Independent Science Panel (ISP), intends to define and track the health of Gladstone Harbour and enable effort prioritisation towards identified improvement activities by developing a whole-of system report card to expand on the 2014 Pilot Report Card.

The GHHP is a forum to bring together parties (including community, industry, science, government, statutory bodies and management) with a vision to maintain, and where necessary, improve the health of Gladstone Harbour. The guiding principles of the partnership are open, honest and accountable management, annual reporting of the health of Gladstone Harbour and management recommendations and action to be based on rigorous science and strong stakeholder engagement.

The role of the ISP is to provide independent scientific advice, and review and direct research to ensure that the environmental, social and economic challenges of policy, planning and action to achieve the GHHP vision and are supported by credible science.

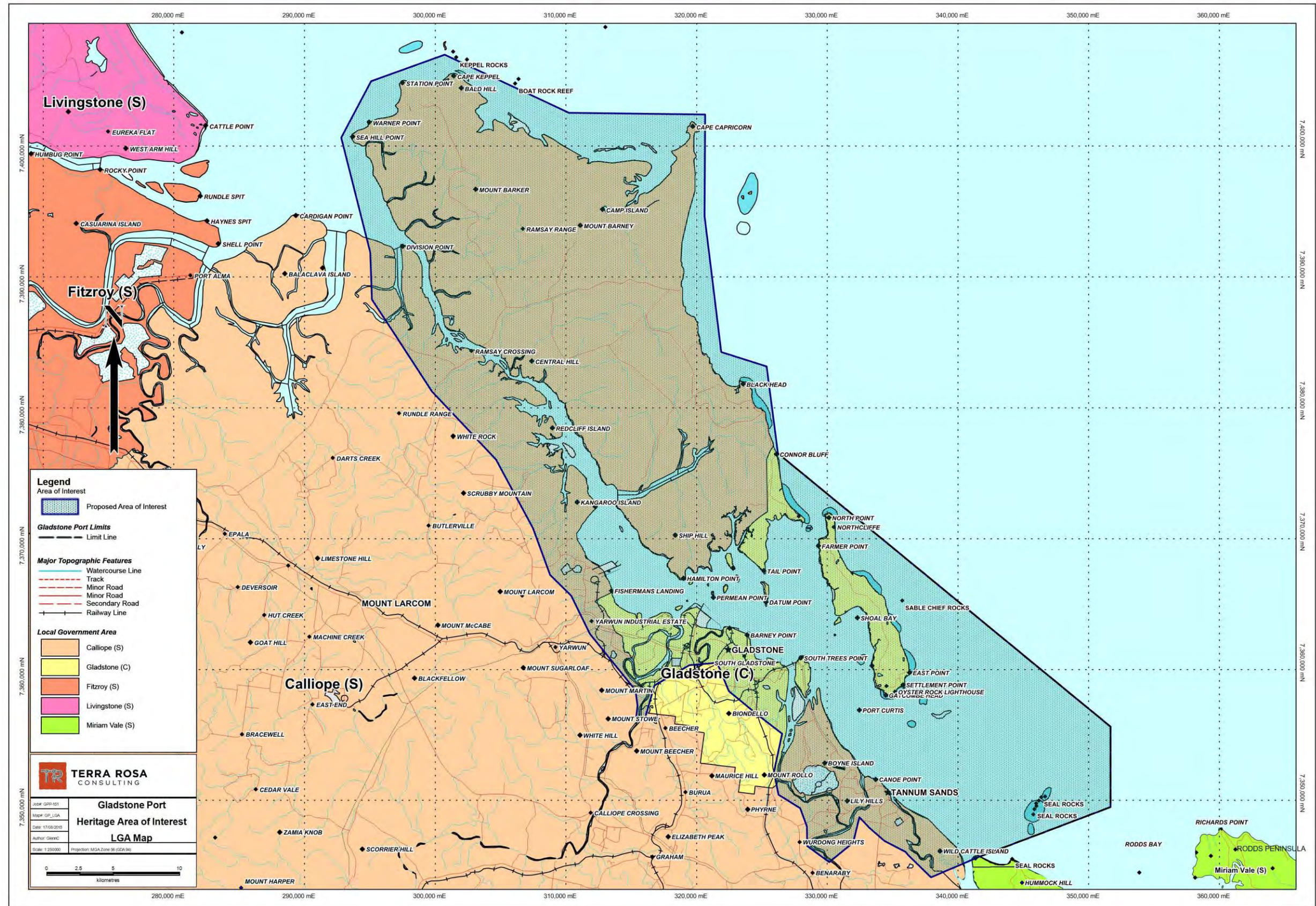
In 2014, the GHHP decided upon a framework for the Gladstone Harbour Report Card (Report Card Framework). This framework outlines the four components of the report card; environmental, cultural, economic and social aspects of harbour health. The report card was piloted in 2014 and the first Gladstone Harbour Report Card will be released in late 2015 and annually thereafter.

Terra Rosa Consulting (Terra Rosa) has been engaged by GHHP to develop and pilot indicators and reference condition values to inform the cultural heritage score of the cultural component within the GHHP Report Card. Terra Rosa will work collaboratively with Gidarjil Development Corporation (Gidarjil) to develop an Indigenous Cultural Heritage Database (ICHD) and indicator options to assess the number of registered cultural heritage sites protected along the waterways and harbour. The initial scope developed to inform the project is shown in map 1 below. The cultural heritage indicator results will be made available to the public with the release of the report card.

In summary, this report includes:

1. A summation of the work conducted to date;
2. A review of best practice cultural heritage management;
3. A summary of regional research into the cultural heritage of the area;
4. A summary of consultation with stake holders;
5. Development of proposed draft indicators;
6. Development of the Indigenous Cultural Heritage Database; and
7. Proposed work program (including timeline and detailed methods).

Map 1: Initial proposed Gladstone Port Heritage Area of Interest used to inform the study



2 Application of best practice

As a part of the initial phase of the project, a comprehensive review of best practice cultural heritage management and legislative frameworks will be utilised to inform further works. We have attached the full review of best practice materials in Appendix 1, and have summated the key learnings below and how they can be applied to the project.

Drawing from best-practice frameworks of heritage management, the approach and methodology for developing the cultural heritage indicators for the Gladstone Healthy Harbour Partnership (the project) will be based on the key guiding principles:

1. Indigenous people as primary stakeholders;
2. A holistic understanding of heritage values; and
3. Adopting a cultural landscape approach.

As representatives of the Port Curtis Coral Coast (PCCC) Native Title Claimants, Gidarjil are considered to be primary stakeholders for this project. Therefore, there is an understanding that Gidarjil are the primary source of information on the value of their heritage in the Gladstone region and the key decision-makers in how it should be best conserved. Gidarjil will have an active role in all stages of the project's heritage management process through:

- Consultations with Gidarjil around the agreed scope of the project, agreed frameworks and logistics for the fieldwork, and their involvement in the review process;
- An initial consultation meeting with the broader community including PCCC elders to discuss the aims and methods of fieldwork including specific cultural landscapes and place which will be investigated as part of the project;
- The active involvement of the Gidarjil rangers in the fieldwork aspect of the project which will include capacity building in identification and heritage management practices; and
- Providing the project with expert knowledge of the environment and cultural landscape, and the logistics of access.

Indigenous Cultural and Intellectual Property (ICIP) will be collected and protected through the development of an ICHD for the region, which will be controlled by Gidarjil and shared with appropriate project partners. The established partnership with GHHP, Terra Rosa and Gidarjil will allow for joint decision-making and power sharing, and an approach to cultural heritage management that prioritises collaboration and co-management.

A holistic understanding of heritage values will be achieved in the project through consultation with, and active participation by Gidarjil rangers and PCCC representatives that ensures the spiritual / social significance of heritage places is well documented. The involvement of qualified archaeologists and anthropologists guarantees that the scientific and aesthetic significance of heritage places is thoroughly investigated through a best-practice approach to heritage identification and recording. A host-guest relationship between Gidarjil (as hosts) and Terra Rosa heritage consultants (as guests) will ensure that holistic understanding, management and awareness of both tangible and intangible heritage values in the Gladstone region is achieved.

It is also important to build an understanding of the regionally specific definition of what previously and currently constitutes an Aboriginal heritage place as defined by both scientific (archaeological) and Aboriginal viewpoints. This has involved a thorough review of previous archaeological studies in the Gladstone region and has led to discussions with Gidarjil that resulted in an understanding of what constitutes an Aboriginal place in the Gladstone region, and a consequent selection of priority heritage places for this project.

Importantly, significance assessment of Aboriginal heritage places will be sensitive to the recent Indigenous history of the region, and which takes into consideration the continued contribution that Aboriginal heritage places can have for contemporary Indigenous cultural identity and sense of place. A cultural landscape approach to the project will be best-achieved through considering separate geographical areas as different cultural landscapes because of environmental features, previous archaeological research, contemporary land use and the sense of connectedness and ethnographic interrelation of places.

This facilitates the recommended best-practice process of assessing heritage places within each cultural landscape and defining specific research questions. Each cultural landscape could form a self-referencing indicator group, and the heritage places within it are representative of the area. Each cultural landscape can then be compared with one another to achieve an understanding of the interconnectedness of cultural heritage within the broader Gladstone area. Furthermore this will enable management and monitoring that contributes to continued enquiry into specific research questions, allows for mitigation of common threats across the cultural landscape, and assists in tracking the progress and change of cultural heritage health within the specific areas.

Through the review of key international and national documents relating to best-practice approaches to heritage management, Terra Rosa has considered the above Guiding Principles as essential for best-practice in general heritage management in Australia. This methodology enhances the minimum-level heritage management legislative standards to ensure that:

1. The understanding of Aboriginal heritage places in the Gladstone region is improved through fieldwork concentrating on baseline identification and recording;
2. The management needs of cultural landscapes are documented and the rangers have the tools and capacity to monitor sites over time; and
3. The awareness of cultural heritage is increased through increasing the information available to the public about Aboriginal heritage in the Gladstone region.

Through the development of heritage indicators moulded around these themes, conservation and maintenance of Indigenous heritage and the adoption of the guiding principles within the project will form a strong foundation for a baseline study, and its long term aims in improving the score card for the health of cultural heritage in the Gladstone region.

3 Regional Background

Once the initial regional study area was defined as per Map 1, Terra Rosa set about conducting a review of the cultural heritage sites within the geographical scope of the project.

Information on the Aboriginal cultural heritage of each indicator group within the Gladstone Harbour was acquired when Terra Rosa accessed the Aboriginal and Torres Strait Islander Cultural Heritage Register and Database (ATSCHRD). Initially Terra Rosa accessed the site data for the general Gladstone Harbour area and this allowed for a determination of which Aboriginal group had claim of the specified area. The area of interest falls under the Port Curtis Coral Coast Native Title Claim (QC2001/029) and the PCCC is the representative body for this claim group which comprises Gooreng Gooreng, Gurang, Tarebilang Bunda and Bailai People. Gidarjil is an indigenous owned enterprise, based in Bundaberg and Gladstone and is made up of representatives of the Gooreng Gooreng and Gurang peoples.

An analysis of data relating to the entire PCCC area has allowed for a broader understanding and greater interpretation of the cultural heritage of the wider Gladstone Harbour area, including Aboriginal cultural heritage sites, areas, objects and values of the locality.

When Terra Rosa accessed the ATSCHRD, the following information relating to the chosen search area was returned (where available):

- Cultural heritage site points;
- Cultural heritage site polygons;
- The relevant cultural heritage party contact details;
- The relevant cultural heritage body contact details;
- A list of the Cultural Heritage Management Plans (CHMP) and Cultural Heritage Studies (CHS) for the search area;
- Designated Landscape Areas recorded in the search area;
- Registered Cultural Heritage Study Areas in the search area; and
- Contact details for relevant Regional Coordinator.

A search of the ATSCHRD has returned the following information for sites registered in the database and includes (where available):

- Site Identification Number;
- Site Name;
- Location (Latitude and Longitude);
- Date recorded;
- Site Type (attribute);
- The relevant Aboriginal party; and
- The associated report references.

Aside from the ATSCHRD, Terra Rosa conducted detailed research to acquire any available reports relating to Gladstone Harbour. This includes but is not limited to academic journals and papers, publications, detailed research projects, site specific reports, cultural heritage investigations and any associated impact assessments. Further material relating to the cultural heritage of Gladstone Harbour was made available to Terra Rosa by Peter Brockhurst of Gidarjil who supplied reports and any available site specific descriptions and photos.

In addition to the Aboriginal cultural heritage of Gladstone Harbour, Terra Rosa has also accessed the Queensland Heritage Register (QHR). This register is primarily concerned with non-indigenous historic sites (often with an Aboriginal heritage value association) and has provided Terra Rosa with a list and detailed description of such sites in Gladstone Harbour area.

With regards ethnographic knowledge of Aboriginal sites in the Gladstone Port, it is Terra Rosa's intention to conduct a community briefing immediately prior to the fieldwork component of this project. This briefing will allow for a detailed consultation with the PCCC elders, who it is anticipated will provide information relating to a number of heritage places within each of the four indicator groups.

Additional information sources available in relation to the cultural heritage of Gladstone Harbour and used during the initial regional background research for this project include:

- Cultural Heritage Information Management Systems (CHIMS)
 - o CHIMS is Queensland's Environmental Protection Agency's (EPA) corporate information management system for the recording, registration and reporting of historical cultural heritage places in Queensland. It is a central repository for the EPA's information on reported places of potential cultural heritage significance, cultural heritage grant projects and programs, and a catalogue of documentation held by the EPA;
- National Heritage List
 - o This is Australia's list of natural, historic and Indigenous places of outstanding significance to the nation. In Queensland, the Great Barrier Reef (GNR; which has direct associations with this project) is on this list. The GBR is the largest, richest and most diverse coral reef ecosystem on earth and one of the best managed marine areas in the world;
- Commonwealth Heritage List
 - o This is a list of natural, Indigenous and historic heritage places owned or controlled by the Australian Government. These include places connected to defence, communications, customs and other government activities that also reflect Australia's development as a nation;
- Register of the National Estate
 - o This was originally established under the Australian Heritage Commission Act 1975 (repealed). Under that Act, the former Australian Heritage Commission entered more than 13,000 places in the register, including many places of local or state significance. This is now an archive of information about more than 13,000 places throughout Australia; and

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List
 - o A World Heritage Site is a place (building, city, complex, desert, forest, island, lake, monument, or mountain) that is listed by the UNESCO as being of special cultural or physical significance. The list is maintained by the international World Heritage Programme administered by the UNESCO World Heritage Committee. In Queensland, the GBR (which has direct associations with this project) is on this list.

Prior to the 1990s, the knowledge of the archaeological record in the Gladstone Harbour area was extremely limited, particularly in comparison to archaeological investigations conducted in the Central Queensland Highlands, the Keppel and Whitsunday Islands, areas along the coast to the north of Gladstone Harbour and the Great Sandy Region and Moreton Bay to the south (Ulm 2006, p.25).

Despite the identification and acquiring of various Aboriginal artefacts throughout the late nineteenth and twentieth centuries, many of these were not documented appropriately. Throughout the 1970s a number of sites were being recorded from the region by State Government staff and the mid to late 1980s saw the number of sites recorded in the area increase dramatically, primarily due to the an increase in the number of cultural heritage impact studies being carries out in the area by independent archaeological consultants. These impact studies mainly focused on the geographical limitations of the development areas and investigations were discovery orientated rather than predictive site modelling (Ulm 2006, p.26). Surveys locations have been predominately coastal resulting in a bias in the archaeological record. Many of these surveys reported sparse archaeological material, despite the salvage of or limited analysis of archaeological material (Alfredton 1987). As a result, interpretations in the 1990s (Spencer 1995) suggested that despite the resources, a limited number of people lived in this area and stone tools were not a significant part of Aboriginal subsistence activities. However, it was noted that more archaeological research would need to be conducted to develop this theory.

A number of studies conducted in the region in the following decade highlighted the abundance of Aboriginal material. Of particular note were localised studies on Facing Island and Eurimbula National Park and a report in 1993 by Burke on selected surveys of the coast between Raglan Creek and Agnes Water, in which she reports 93 sites.

Since 1993, the Gooreng Gooreng Cultural Heritage Project has undertaken archaeological surveys and excavations on the Curtis Coast. This work, along with ongoing cultural heritage impact studies, have significantly increased the Aboriginal archaeological knowledge of the area, in particular in relation to human occupation of the coastal region and whether the concentration of sites in estuaries and near absence of material on ocean beaches reflected past Aboriginal behaviour, recent geological processes or patterns of archaeological research. This work focuses on the geographical region between Wreck Rock and Hummock Hill Island, to the south of Gladstone. As a result, the majority of the area in this study falls outside the GHHP's Gladstone Harbour area being assessed as part of this project.

From the desktop research, it is apparent that Burke's work from 1993 is directly relevant to GHHP's Gladstone Harbour area and as well as providing site specific information, Burke's report has a detailed methodology and site prediction model which Terra Rosa can draw upon and further develop for the GHHP's Gladstone Harbour area.

Burke's heritage study was carried out in conjunction with the Curtis coast scan; a study by Queensland Department of Environment and Heritage and Gladstone Port Authority to identify and document the natural and cultural resources of the coastline. The heritage component of the study was designed to enable further management of cultural resources in the area, with an objective of developing a predictive model suitable for use as a management tool. This study's area of focus was from between Raglan Creek at Port Alma to Round Hill Head and The Town of 1770.

This is contrast to the contemporary Cultural Resource Management surveys conducted that have considered individual parcels of land to be impacted by development largely in isolation from the broader context of the area, and are considered to be of little use to understanding the broader potential of the places that we are considering within the study, and contrary to the best practice guiding principles discussed above. In developing the frameworks for this study these reports will largely be ignored unless they contain site specific information that can help us relocate or manage places within the landscape.

Burke provides a detailed description of the environment, including geology, climate, flora, fauna and paleoenvironment of the Curtis Coast, describing how much of the coastal formations present today were formed as a result of the Holocene changes in sea level. She highlights how islands such as Hummock Hill and Wild Cattle formed during the Holocene, while Facing and Curtis Island would have been part of the mainland during the Pleistocene. Burke suggests that the coastline sites are not more than 6, 000 years old, but that sites dating to the Pleistocene maybe located on Curtis or Facing Island. Targeted sampling of these places is considered to be a priority in understanding the broader context of past occupation of the area.

Burke also provides a summation of the limited Aboriginal historical documentation available for the Curtis Coast region and suggests how the archaeological record including utilisation of food resources, coastal occupation and cultural heritage material may further this limited information. However, Burke does reference a siting by O' Connell in 1855 of a group of Aboriginal people at Barney Point in Gladstone. This and contemporary ethnographic and anecdotal accounts, suggests Barney Point as an important heritage place for Aboriginal people, and one which will be visited and considered as part of the fieldwork methodology.

Burke's research design and survey methodology was guided by the need to survey portions of all environmental zones identified, as well as the need to examine areas that were considered a priority by the Curtis coast team, the Gurang Land Council and the heritage division of the Queensland Department of Environment and Heritage. Terra Rosa adopted a similar method of collaborative consultation with all involved parties, with the intention of assessing heritage places of importance to Gidarjil. In a similar style to Burke's division of the coastline into zones to aid sampling, Terra Rosa, assigned areas of highlighted importance into indicator groups.

In Burke's work, she defines a site as "any locus of past Aboriginal activity" and "where archaeological material was recorded regardless of its location on the ground surface" (Burke 1993, p. 24). When sites were 30 m or more apart, Burke recorded them as separate sites but was mindful that the sites may be part of a single complex. Burke also defined an artefact scatter as an area containing one or more artefact, and shell middens as sites containing cultural deposits of shell and areas that are not natural accumulations of shell. To

get a general idea of the site contents, Burke often conducted a count in a 1 m x 1 m square within artefact scatter and shell midden sites.

From Burke's work, Terra Rosa was able to develop a greater understanding of site types in the Curtis Coast area. Burke outlines that most of the sites found during the survey were found on mainland coastal salt flat, with the greatest percentage of sites located on sand dunes and mudflats. Water sources and its distance from sites were difficult to determine and sites were generally found on flats or gently inclined ground. Sites were mainly found in Quaternary deposits, coastal tidal flats or on Agnes Water Volcanic sediments, with sites most frequently located on sand. Burke also noted the visibility of and disturbance to sites visited within the Curtis Coast. The main sites types identified in this area include shell mounds, artefact scatters and quarry sites, with lesser numbers of scarred trees, fish traps and earthen circles.

Using Burke's work as a baseline for research on the Curtis Coast allowed Terra Rosa to progress a method for approaching fieldwork. Burke's work provides an insight into site management, predictive site modelling and subsistence patterns on the Curtis Coast. She describes the predicted locations for both dense shell home based camps (Curtis, Facing, Wild Cattle and Hummock Hill Island) and sparse shell dinner time camps (coastal salt flats) and through this predictive site modelling suggests that further investigations, including excavation, should be conducted on the islands to learn more about island occupation by Aboriginal people.

Using the predictive model created by Burke and informed by the background research of the area, we have developed a number of key principles to inform further works on the ground:

- Facing and Curtis Island are both poorly understood and potentially rich cultural landscapes that can inform further works moving forward;
- The deposition of sites along the coast occurs in highly energetic environments that will necessitate particular management recommendations;
- Sites appear to either be large scale and dense or extremely sparse – given the depositional environment it may be unlikely that small scale artefact scatters can be relocated;
- The record as it stands is not clear on how many sites may have been subsequently salvaged or impacted post recording;
- The access to areas of interest will be difficult and surface visibility low;
- Site visibility along the margins of mangrove and coastal areas is however high;
- Little targeted excavation has been documented within the area. This has the potential to add understanding to the site formation processes within the region that will assist with management plans in addition to generating new knowledge;
- Previous studies have used narrow concepts of what constitutes a site (materials more than 30 m apart) that do not account for any possible intangible links between the areas; and
- No record of the ethnographic background of the landscape has been accessed or research to date. This information and any contemporary views are noticeably absent from the record.

4 Consultation undertaken with GHHP, Gidarjil and stakeholders

Once Terra Rosa had completed a review of the information available from the desktop research, a series of consultations were undertaken with the project stakeholders. This took the form of phone discussions and conferences, and culminated in a consultation trip to Queensland by Terra Rosa's project personnel where consultation was conducted with Gidarjil, GHHP, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), members of the ISP and DIMS team.

4.1 Consultation with Gidarjil and the site reconnaissance trip

From the 29th of September to the 1st of October 2015, Terra Rosa project personnel Scott Chisholm and Anne Golden met with members and representatives of Gidarjil and discussed the project outcomes, the goals of Gidarjil within it, the capability of the ranger team and the logistics involved in accessing and recording the places within the study area. Meetings were conducted at the Gidarjil office with the Gidarjil management team and on-country with the Gidarjil ranger team.

During this period various aspects of the project were discussed and agreement sought on the progress of the work, how to best target the field assessments, the technology to be used to record the heritage places and landscapes, and the general run sheet of the program.

Photo 1: Terra Rosa briefing the Gidarjil rangers on access into the Wild Cattle Creek area



Access into two main areas was assessed, based on priorities within the desktop and background material. During the process the Gidarjil rangers guided Terra Rosa to suitable tracks and access points and the team discussed the environment and site formation processes within the areas.

Photo 2: The team discussing the mangrove environment and its influence on heritage places



Further targeted assessment of individual heritage places was undertaken within The Narrows, with the team relocating three of the seven places on the existing register (see photos 3 and 4). Access throughout most of the area is provided by pre-existing meandering tracks that will enable the formal field assessment of these places to proceed relatively swiftly. The rangers also volunteered to ground truth some of the known access points in more restricted areas and to investigate any land access requirements needed prior to the commencement of fieldwork.

It was proposed that during this consultation trip, the team meet with several of the senior custodians for the Gladstone region, but they were unable to make it to the specified meeting time.

Photo 3: Site JF D91 facing south



Photo 4: Stone artefact identified within JF D91 – scale not provided.



4.1.1 Key findings

As a result of the consultation the following key findings were developed to inform the forward progress of the project:

- The Traditional Owners view the connectedness of the heritage places within the landscape as an inherent value that needs to be accounted for in any frameworks developed;
- Relatively intangible cultural values within areas such as Police Creek and Barney Point will need to be a key concept within the assessment of significance of the broader Gladstone heritage area;
- The Gidarjil rangers have the enthusiasm and capacity for the knowledge transference that is a cornerstone of the project to be highly successful;
- The cultural health of the various areas within Gladstone Harbour contain differing developmental pressures and appear to reflect differing material records;
- The cultural landscape of the region is rich and multi-faceted despite the impact of significant industrial development;
- The Narrows Quarry site within The Narrows is of extremely high cultural heritage significance;
- Gidarjil have endorsed Terra Rosa's proposed technological suite as a highly suitable tool for the ongoing monitoring of the heritage places in the area;
- The ICHD that is developed will be a key tool for the ranger program and Gidarjil moving forward;
- The fieldwork should be preceded by a community level consultation with the PCCC elders to discuss the project, how it works and the involvement of the community and Gidarjil moving forward;
- The access to some areas will mean that the heritage team will need to account for increased time on the ground in some areas, and the team will look to camp on both Curtis and Facing Island to increase project efficiencies;
- The practicality of relocating previously identified heritage places that consist of single artefacts or a low concentration of artefacts means that they are best considered as a part of broader landscape features rather than individual sites in and of themselves;
- The ability to monitor over time heritage places that consist of single or low concentrations of artefacts is considered to be negligible in terms of rating the cultural health of Gladstone Harbour;
- Ground visibility within the area is poor;
- Site visibility within coastal margins is relatively high;
- The development of four zones as areas of interest for the purpose of the 2015 study will enable the results to be targeted effectively as per the best practice and cultural landscape understanding to the area; and
- The four zones which reflect the 2015 area of interest within Gladstone Harbour could naturally be expanded into the future, to baseline and document other regions within the broader Gladstone harbour environment.

4.2 Consultation with GHHP in Gladstone

Following on from the Gidarjil consultations, Terra Rosa project personnel met with GHHP representative Uthpala Pinto along with Gidarjil TUMRA Project Coordinator Peter Brockhurst. Discussions centred on how the key findings from the consultations would influence the progress of the project.

4.2.1 Key findings

- Both Gidarjil and GHHP support in principle the key findings of the consultations, the background research and the guiding principles from the best practice review which shape the development of the cultural heritage indicators.

4.3 Consultation with GHHP and Cultural Indicators Team in Brisbane

The final stage of the consultation trip involved a meeting in Brisbane between Terra Rosa's project personnel, the GHHP Science Team's John Kirkwood and Uthpala Pinto and CSIRO's Toni Cannard and Sean Pascoe.

This consultation allowed for a discussion of the project to date and recapped on the key findings of the program. Terra Rosa personnel put forward that the current indicator groups for cultural heritage may not be the most suitable method to reflect the frameworks established to date. The Bayesian Belief Network (BBN) that forms the basis of the cultural indicators was discussed and workshopped, with the conclusion being reached by the team that the BBN would in fact be a very good fit to the multi-faceted frameworks and subjective data that was being collated.

4.3.1 Key findings

- The BBN system will inform the drafting of the cultural heritage indicators;
- The GHHP would like the indicators to be able to potentially improve over time; and
- GHHP personnel will be invited to attend the community consultation along with representatives of the partnership agencies.

5 Development of Proposed Draft Indicators

Based on the process followed during the project, and the data gathered during each of the previous phases, Terra Rosa has designed an indicator framework that we believe allows the incorporation of the key findings from the consultation while retaining best practice integrity and outputting results that would feed into a BBN system.

The end result is that Terra Rosa believes the best incorporation of this framework would be the establishment of indicator groups that are tied directly to the zones of interest that were identified during the consultation. This enables us to measure the effects of changes over time within each of these places, and enable places that are already severely degraded to still improve over time due to proactive management strategies.

Given the scale of the Gladstone Harbour project area, any activities, for instance to interpret and preserve Police Creek, would otherwise be lost in the general low level of site management activities at this scale and would not reflect the considerable impact that some relatively small inputs could have on the whole of the harbour health, and general awareness of Aboriginal cultural heritage.

We believe that we have established a system that enables us to effectively gather information, present it and manage places on a macro scale that is a new paradigm in heritage place management and will be an effective tool for all stakeholders moving forward.

5.1 Self-referencing representativeness within the groups

The initial scope developed to inform the project as shown in map 1 constitutes a large area which is very diverse in terms of land forms, land use, heritage site types and identified potential threats, for example environmental degradation on the islands compared with human induced impacts within the city of Gladstone.

Considering this diversity, a comparative study of heritage condition within this broad area was considered to be cumbersome and would pose challenges for the ongoing management and monitoring of individual sites. The desktop research and establishment of the baseline database further revealed a diversity of site conditions largely relating to the environment they were situated in.

During discussions with Gidarjil, it was established that from an ethnographic perspective, heritage places should be considered within their localised landscapes, as this reflects traditional land use. Gidarjil suggested and in the case of The Narrows, a highly significant quarry site had been identified as a cultural locus of activity, the condition of which should form a localised baseline upon which comparisons with other heritage places are made. In other words, the heritage places within the zone becomes self-referencing to this quarry site, with each of the criteria for recording the understanding of the place assessed against the benchmark that is the identified locus.

This proposal by Gidarjil resonates with the archaeological best-practice approach of using representativeness to define area specific research questions (Bowdler 1981, 1983), which can then inform a better understanding of place and consequent management recommendations. For instance, Burke (1993) suggests that the coastline sites are not more than 6, 000 years old, but that sites dating to the Pleistocene maybe located on the islands

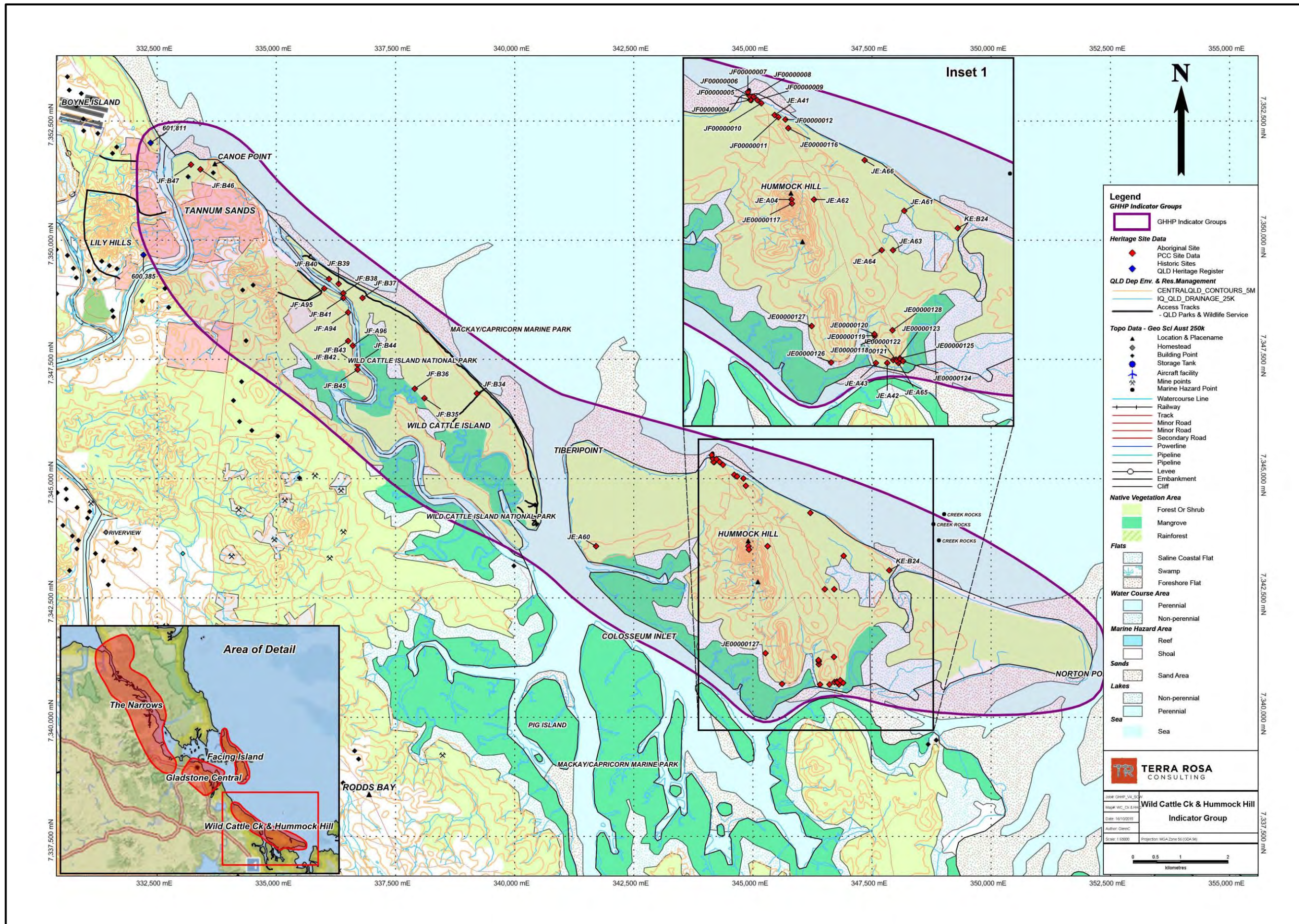
off the coast. This means that the education potential and temporal context of a site that's 6,000 years old on the coastline would have to be considered differently to a site of the same age identified in an island context. Therefore, the scientific measures of rarity and uniqueness must be tied to geographical context.

Identifying a key heritage place as a benchmarked cultural locus within a localised cultural landscape allows for comparison with all surrounding heritage places and develops an accurate cultural narrative of traditional land use (a sense of place) which informs the cultural heritage record for that area.

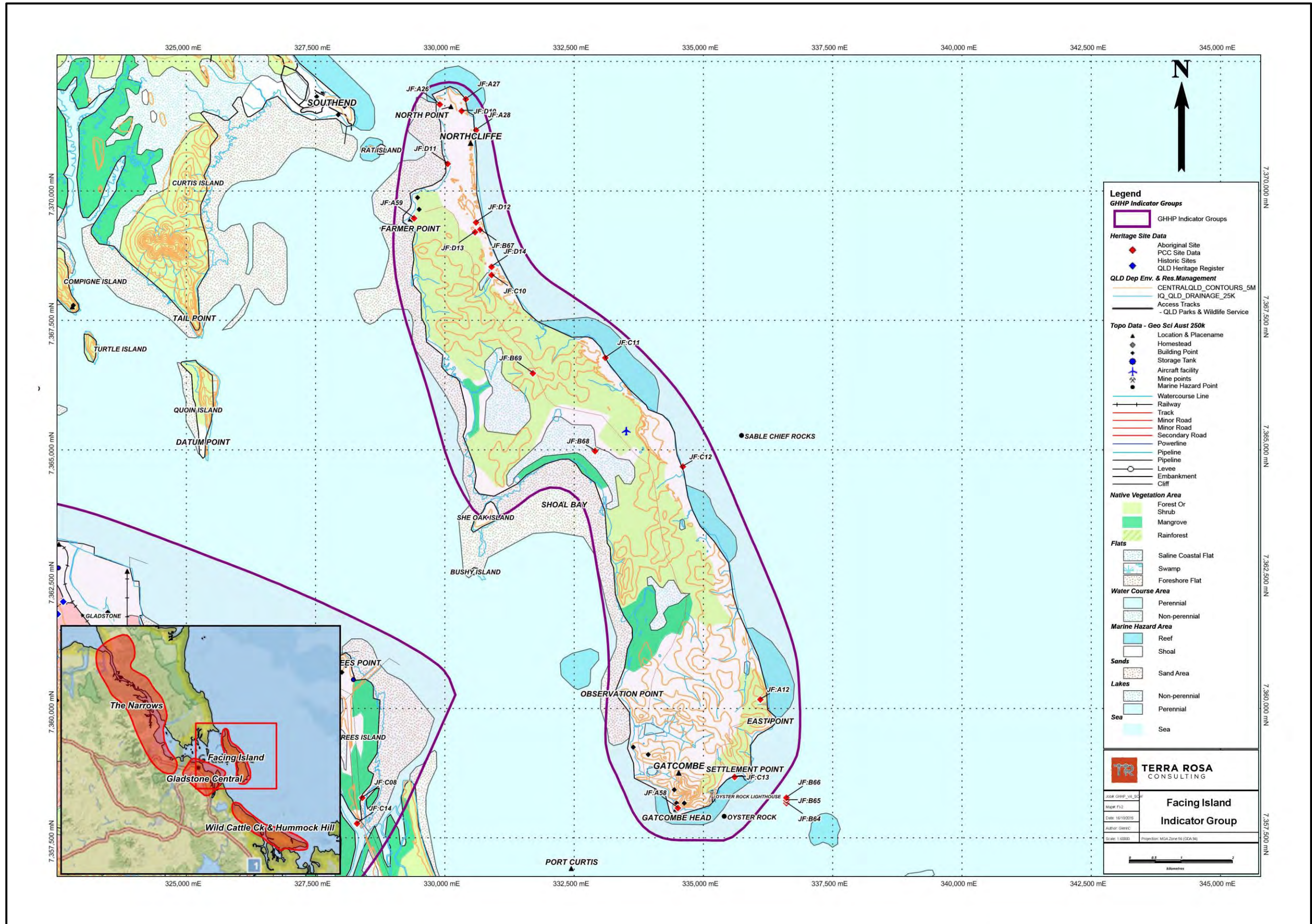
Using this framework enables management recommendations to be tailored to specific identified threats within each zone. For example, The Narrows Quarry is in need of further recording, registration and protection, whereas important places within Gladstone Central such as Barney Point would benefit from consultation and interpretative educational material that build community awareness. What works well for improving the cultural heritage health of one zone may be vastly different from another. Through assigning higher or lower weightings to appropriate indicators for each zone, the GHHP will receive an accurate score card result for each of the four zones and will be able to easily improve the zone specific cultural health.

The four zones that have been chosen for this project, in consultation with Gidarjil are Wild Cattle Creek and Hummock Hill Island, Facing Island, The Narrows and Gladstone Central (see maps 2-5). Having these four zones represented as indicator groups within the BBN allows for the uniqueness and diversity of each zone to be represented in its separate score which can then be compiled to ascertain an over score for the cultural health of Gladstone Harbour.

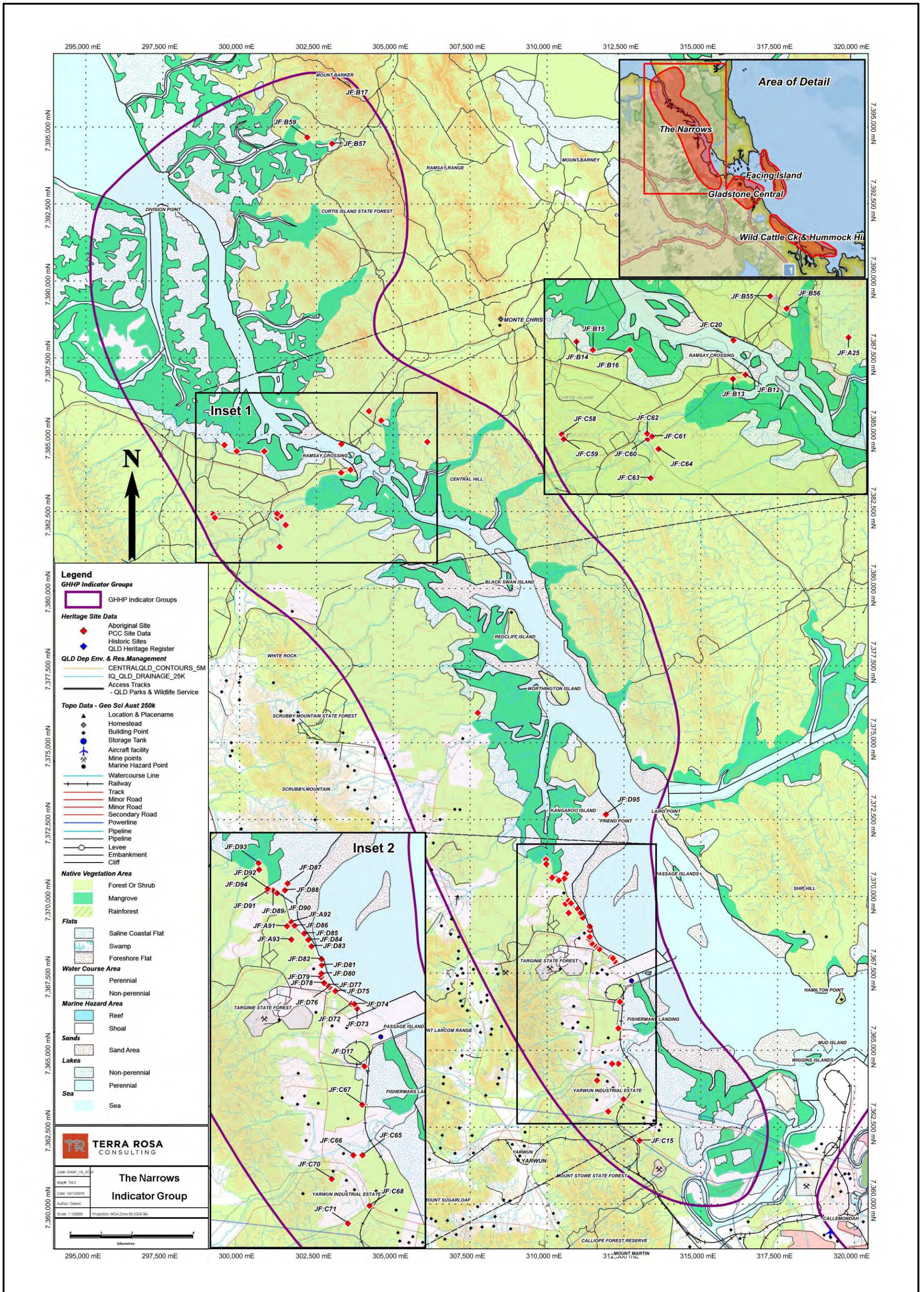
Map 2: Wild Cattle Creek and Hummock Hill indicator group



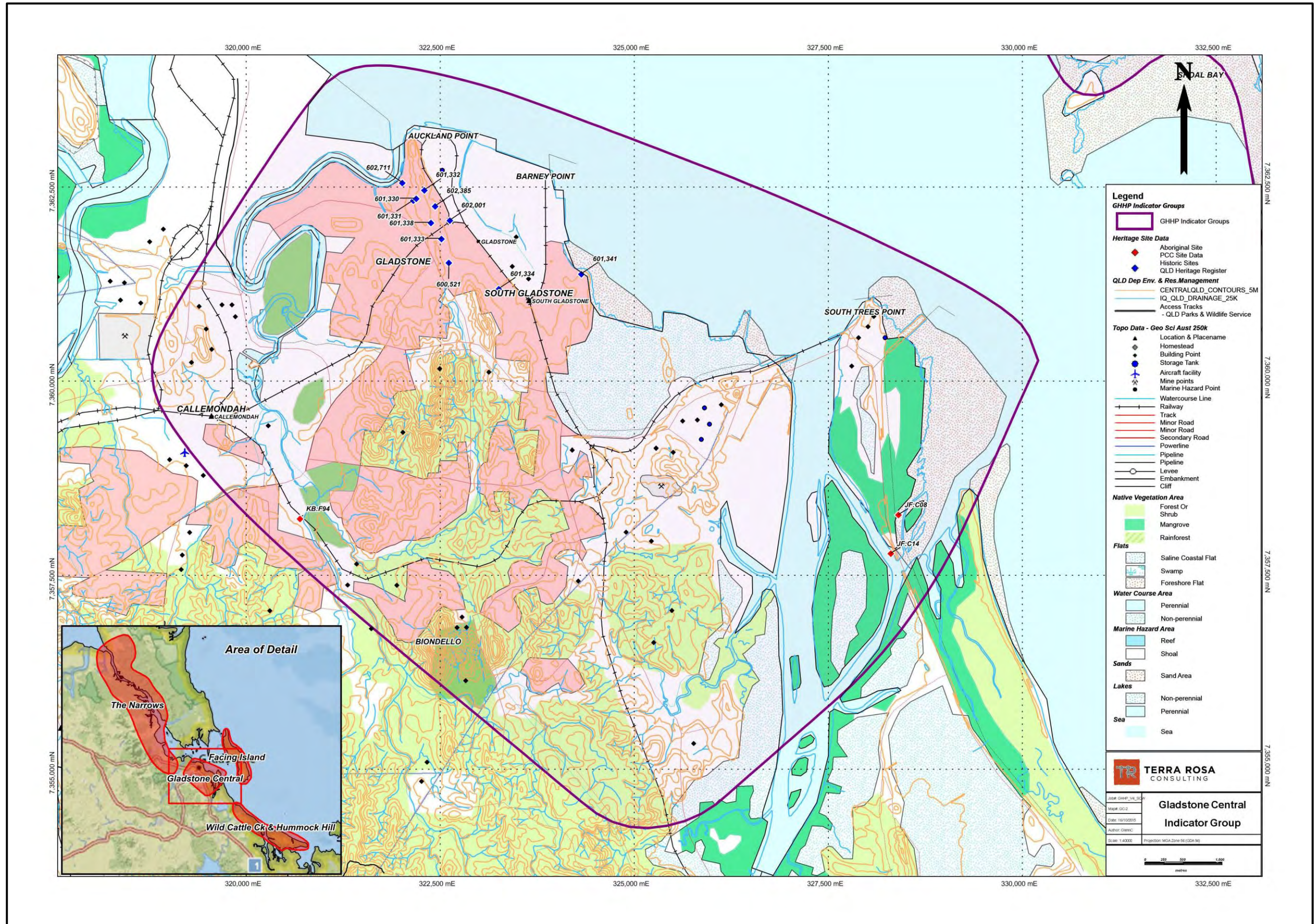
Map 3: Facing Island indicator group



Map 4: The Narrows indicator group



Map 5: Gladstone Central indicator group



5.2 Rationale for draft cultural heritage indicators

A healthy cultural heritage resource is one that is well understood and well managed, ideally by those for whom it is significant, with a good level of broader community awareness.

Through this process we have arrived at three key indicators of measuring the cultural health of each indicator group:

- The **Understanding** of individual places within the landscape. This is site specific indicator that is an aggregate of the Scientific Values, Social and Spiritual Values and Physical Condition of the place.
- The **Management** of the Cultural Landscape Zone. This reflects the ongoing management of the land use pressures upon the areas, the protective frameworks implemented and cultural and social maintenance of place.
- The **Awareness** of the values present within the Cultural Landscape Zone. This is an aggregate score of interpretation and education programs, resources and funding sourced and allocated to the ongoing cultural research program and the ongoing generation of knowledge of the heritage resource.

The measures and sub measures that are present within Figure 1 and Table 1 are draft in format and have not being fully developed.

The field forms and method to date have assumed that the data generated for the **Understanding** of place will be consistent but may alter slightly with weighting (particularly on ethnographic importance), and further consultation is needed with Gidarjil and the wider Traditional Owner community to discuss how to weight some of the **Management** and **Awareness** indicators based on community values and priorities.

Figure 1: Linkages between sub-measures, measures, sub-indicators and indicators within an indicator group (Example – Cultural health of The Narrows)

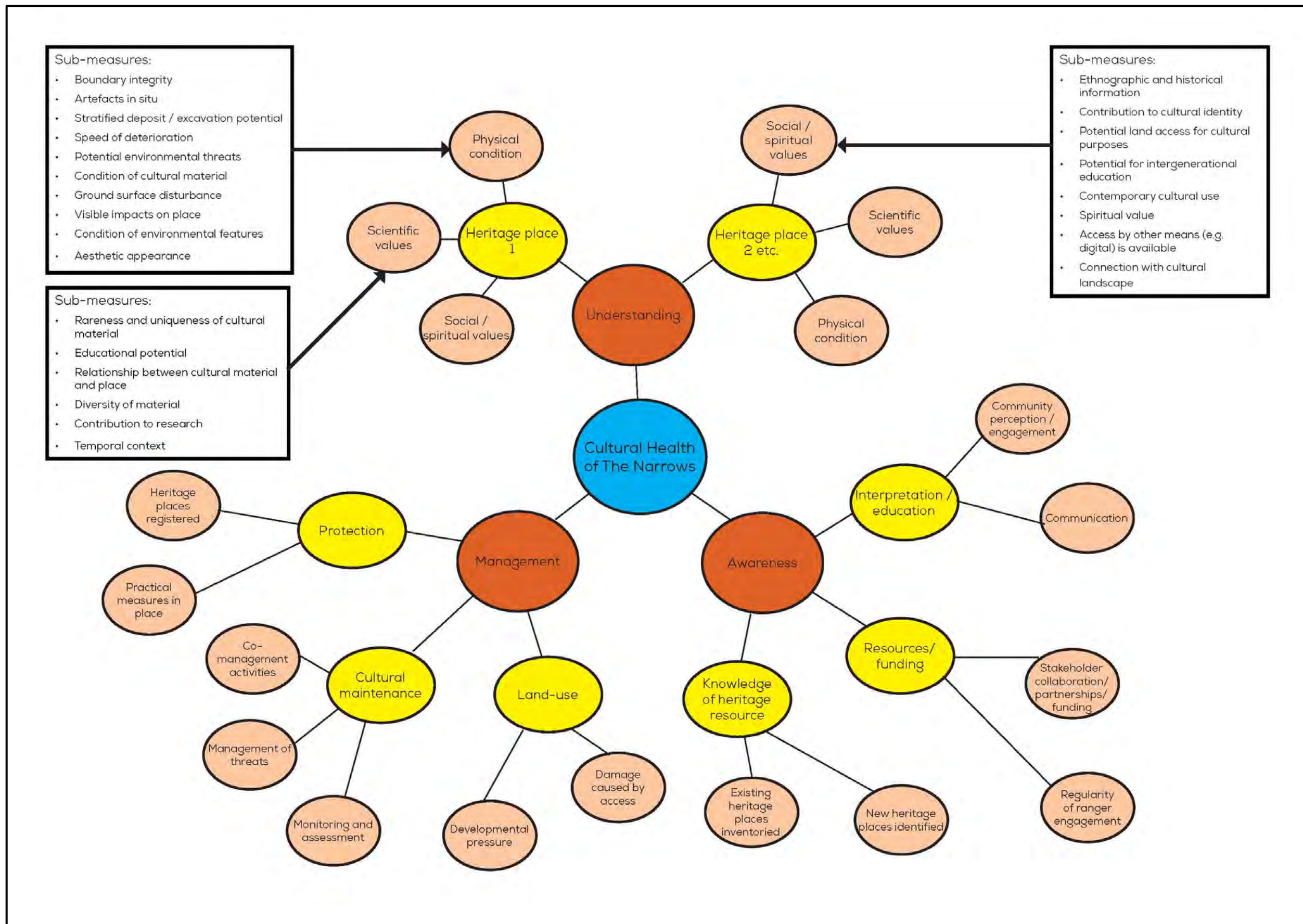


Table 1: Draft GHHP Cultural Indicators

Component	Indicator Group	Indicator	Sub-Indicator*	Measure	Sub measure
Cultural	Cultural heritage health: The Narrows	Awareness	Identification / Knowledge of the heritage resource	New heritage places identified within the area and existing heritage places inventoried	Heritage places identified within the areas
					Details of heritage places recorded within the database
				Number of heritage places assessed using best practice standards	Heritage places recorded outside of monitoring program
					Audit of database shows compliance of frameworks
			Interpretation and education	Community perception and engagement and the presence and availability of educational material	Co-operation with sense of place indicators
					Engagement with local schools
				Interpretation and communication	Number of sites containing information, interpretation and knowledge sharing.
			Local, regional or national level events at which the project goals and results are communicated		
			Cultural heritage resources	Stakeholder collaboration, partnerships and funding	Research partnerships
					Funding commitments from stakeholders
		Regularity of ranger engagement and development		Number of site visits within the area by the rangers	
				Training in interpretation, site management and recording delivered to the ranger team	
		Understanding	Heritage Place 1, Heritage Place 2 etc.	Spiritual / social values	Ethnographic and historical information
					Contribution to cultural identity
Potential land access for cultural purposes					
Potential for intergenerational education					
Contemporary cultural use					
Spiritual value					
Access by other means (e.g. digital) is available					

				Scientific values	Connection with cultural landscape
					Rareness and uniqueness of cultural material
					Connection with cultural landscape
					Educational potential
					Relationship between cultural material and place
					Diversity of cultural material
					Contribution to research
					Temporal context
				Physical condition (place and cultural material)	Boundary integrity (artefacts retained within boundary)
					Artefacts in situ
					Stratified deposit / excavation potential
					Speed of deterioration (place and material)
					Potential environmental threats
					Condition of cultural material
		Management	Cultural maintenance	Co-management activities	Effectiveness of management recommendations
					Presence of suitable regional keeping places
					Upkeep of heritage place (regularity and effectiveness)
			Monitoring and assessment	Site monitoring stations established	
				Heritage place information and ICIP is controlled by Traditional Owners	
				Data base and panoramic information updated	
Management of threats	Threat register maintained and updated				
	Threat mitigation strategies implemented				
Protection	Heritage places registered	Registered on DATSIP			
		Registered nationally			

			Practical measures in place	Fencing
				Other
		Land use	Damaged caused by access	Livestock, fauna etc.
				Public access
			Developmental pressure	Detrimental downstream effects
				Probability of future impacts

6 Development of Proposed Draft Database

The draft GHHP ICHD has been established using Microsoft Excel and ArcGIS. The use of this format was guided by the initial availability of desktop research material relating to individual sites within the PCCC Native Title claim area, available from ATSCHRD.

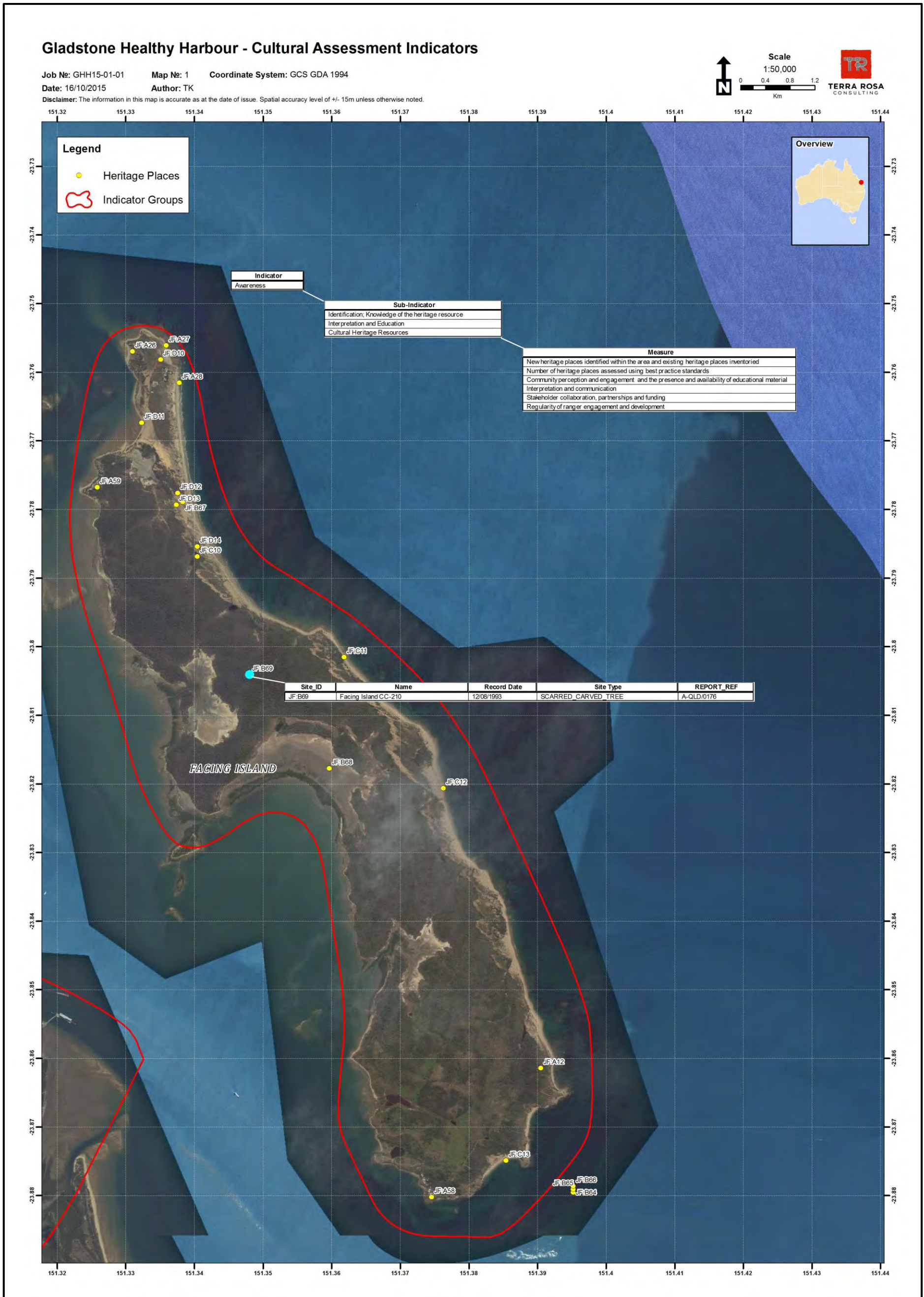
As outlined above, the course of establishing the draft GHHP ICHD, it became apparent to Terra Rosa that in order to effectively assess the health of the cultural heritage within Gladstone Harbour, the establishment of the geographical indicator group approach would be essential. Once defined (see maps 2 to 4), Terra Rosa identified the registered Aboriginal sites and post-European contact heritage sites within each of the four indicator groups. All available information relating to any site within the regional study area was entered into Terra Rosa's draft ICHD. This information is easily accessible and cross-referenced within a Microsoft Excel document that forms the basis of a .CSV file to be loaded into .SHP format.

This will help to firstly define baseline site indicators comparable with the identified cultural locus within each indicator group, thereby making each indicator group self-referencing, and secondly allow each indicator group to be comparable with each other in the greater Gladstone Harbour landscape.

Once all available data relating to each site was entered under its specific indicator group in the draft ICHD, each site was considered under extensive criteria, allowing for the establishment of the draft ICHD baseline data. Criteria used include basic site information such as site name, identification number and location but also more extensive site criteria including for example draft site indicators such as understanding, management and awareness, draft sub-indicators such as physical condition, scientific values and ethnographic values (connectivity) and draft measures such as ground surface disturbance, visible impacts to place and speed of deterioration (see example below in table 2). A full list of indicators, sub-indicators and measures relating to the cultural heritage of Gladstone Harbour will be provided in the forthcoming Task Five report. As this draft ICHD is solely desktop based; only the limited information, primarily available in site files and DATSIP reports, could be used to assess the health of the cultural heritage of Gladstone Harbour.

Figure 2 below shows an example of how the ICHD will look once complete and implemented. The resource will be set up within Gidarjil office as well as within DIMS in order for the project to build over time. The interface at this stage is a web based ArcGIS application that can be edited and queried and will be hosted on a suitable server.

Figure 2: Example of IC-D Spatial Interface



7 Proposed Work Program

7.1 Overview

The following table illustrates an updated timeframe for the deliverables within the project based on current best estimates.

Table 2: Updated Project Timeframes

Activity	Milestones	Due Date
Task 1 Project Inception Meeting	T1.1: Attendance at project inception meeting - phone conference	Complete
	T1.2: Attendance at project inception meeting - Qld	Complete
	T1.3: Agreement on project tasks, timelines, objectives and integration	Complete
Task 2 Prepare the Detailed Project Proposal and Work Plan	T2.1: Detailed program design and work plan	16/10/15
	T2.2: Detailed timeline	16/10/15
Task 3 Draft GHHP ICHD	T3.1: Draft GHHP Indigenous Cultural Heritage Database	16/10/15
	T3.2: Milestone 1 Report	
Task 4 Field Assessment	T4: Field Assessments Completed and data included in the ICHD	09/12/15
Task 5 Cultural Indicator Options	T5: Milestone 2 Report: Report outlining indicator options and recommendations	18/12/15
Task 6 Develop Report Card Scores	T6.1: Develop report card scoring method and calculate scores for 2016 card	15//01/16
	T6.2: ICHD and data and calculation scripts for scores and grades to the DIMS	15//01/16
Task 7 Draft Project report	T7: Draft project report for review by the ISP and the GHHP science team	22/01/16
Task 8 Presentation of Project Results	T8: Forty minute presentation for the ISP Gladstone	12/02/16
Task 9 Final report and report card scores	T9: Final project report	19/02/16
Task 10 An open access publication	T10: Submission of a manuscript to a peer reviewed journal	31/03/16

7.2 Detailed field method

7.2.1 Approach to fieldwork

The following is an outline of how Terra Rosa, in conjunction with the Gidarjil rangers plan to conduct fieldwork assessments at a variety of cultural heritage places within Gladstone harbour. As outlined in this work plan, consultations prior to fieldwork between Terra Rosa, GHHP and Gidarjil resulted in the establishment of four indicator groups, namely The Narrows, Facing Island, Gladstone Central and Wild Cattle Creek and Hummock Hill Island, which have formed the basis of the report card indicator framework, as well as the geographical framework by which to conduct fieldwork.

Prior to fieldwork, there are a number of considerations which need to be taken into account, which will directly impact upon the logistical approach to fieldwork. These include:

- The geographical vastness of Gladstone Harbour, which spans approximately 70 km from Division Point at the north of The Narrows to Norton Point at the southern tip of Hummock Hill Island;
- The scoped fieldwork timeframes for this project – place assessments will be conducted for ten days over a two week period;
- Accessibility - this includes vehicular access, availability of accessible tracks and boat or canoe hire;
- Ferry Timetables;
- Tide Tables; and
- Accommodation on Facing Island – during initial consultations (Task 1) Symeon Marou, Senior Ranger at Gidarjil, suggested camping on Facing Island as a time saving measure for fieldwork.

By taking into account these logistical necessities, Terra Rosa, in conjunction with Gidarjil and GHHP have developed a proposal for a practical approach to fieldwork, which will generate the greatest amount of data for the ICHD within the scoped timeframe.

Immediately prior to fieldwork, all involved parties including Terra Rosa, Gidarjil, PCCC community members and elders, GHHP members, CSIRO's GHHP science team, Gladstone Port Authority and other interested parties will attend a community consultation in Gladstone. It is anticipated that this consultation will take place at Barney Point and will provide an opportunity for all involved parties to meet face to face and discuss and learn about the project. Terra Rosa will present the fieldwork methodology at this consultation and seek feedback and guidance from the PCCC elders regarding the approach to fieldwork and places to visit. This will be a unique and worthwhile opportunity for all involved parties to voice any queries or concerns regarding the project. Another broad community consultation will take place at the conclusion of this project, at which point Terra Rosa and GHHP will present the findings and outcomes of the project.

The heritage team involved in the fieldwork stage of this project will include at least two Terra Rosa heritage consultants and four rangers from Gidarjil. On the same day as the community consultation, the heritage team will logistically prepare for and outline the proposed plan for the upcoming fieldwork. The field methodology is defined by four stages which are reflective of the geographical areas in which fieldwork assessments will be conducted (see Maps 2 to 5). The four stages for fieldwork are:

1. Wild Cattle Creek and Hummock Hill Island
2. Facing Island
3. The Narrows
4. Gladstone Central

7.2.1.1 Stage 1 – Wild Cattle Creek and Hummock Hill Island

It is anticipated that fieldwork will commence the day after the community consultation in Gladstone. On the initial two days of fieldwork, the heritage team will concentrate on recording the cultural heritage health of the Wild Cattle Creek and Hummock Hill Island. Cultural heritage places in these areas are located up to 30 km south of Gladstone, close to Boyne Island, Tannum Sands, Wild Cattle Island and Hummock Hill Island (see Map 2).

Within this indicator group, there are a total of 51 DATSIP registered places. Of these, there are a number of places which, from the initial desktop research and establishment of the draft ICHD, were noted to be of high significance. Given the limited nature of the desktop research results, a fieldwork assessment of each of these places along with those on Hummock Hill Island will be conducted (see Table 1), at which time the cultural locus of this indicator group will be identified. Burke in 1993 noted that the following four places are of high significance:

- JE:A65 (Hummock Hill Island Site CC-197);
- JF:A94 (Alfredson '89);
- JF:B43 (Wild Cattle Creek CC-160); and
- JF:B47 (Canoe Point CC-167).

Burke also noted that one place, JF:B35 (Wild Cattle Creek CC-108), is of extremely high significance. These place types include both shell middens and artefact scatters.

Four of these places are in relatively close proximity to each other at Tannum Sands and Wild Cattle Creek. It is anticipated that these areas may be visited in the one day (**Stage 1 – Day 1**). Time permitting; there are a number of other places in this vicinity which can also be assessed while the heritage team are in the area. It is proposed, depending on accessibility, that a boat or canoe may be a useful means by which to access the places in this area, along the banks of Wild Cattle Creek.

Stage 1 Day 2 will see the heritage team mobilise to Hummock Hill Island to assess JE:A65 (Hummock Hill Island Site CC-197). Hummock Hill Island is accessed from by Turkey Beach Rd, Foreshore Rd and Clarks Drive off of the Bruce Highway. This place is located in close proximity to a large number of DATSIP registered places for which the desktop research has returned only a limited amount of information. The heritage team will access and assess as many of these places on Hummock Hill Island as possible on **Stage 1 Day 2** (see Table 3). Of these places, those of potential interest include three stone arrangements:

- JE:A04 (Hummock Hill Stone Arrangement), although this is likely to be a surveyor's peg;
- JE00000117; and
- JF00000007.

Seven DATSIP registered places in this area are recorded as 'isolated finds' and due to the nature of the fieldwork assessment and following initial consultations with Gidarjil, these

places are not considered a priority for the heritage team to visit during Stage 1 of the fieldwork (see Table 3).

During the fieldwork at Wild Cattle Creek and Hummock Hill Island, the heritage team will split into two teams if necessary, so as to more effectively cover the two areas and gather as much place data as possible. **Stage 1** of the fieldwork assessment will be completed over two days during **Week 1** of the fieldtrip.

Table 3: Wild Cattle Island and Hummock Hill Island

Indicator Group	Cultural locus	# of registered places	Stage / Day	Proposed places to visit	Location	Excluded places
Wild Cattle Island and Hummock Hill Island	TBD	51	Stage 1 / Day 1 23/11/2015	<ol style="list-style-type: none"> JF:A94 (Alfredson '89) JF:B43 (Wild Cattle Creek CC-160) JF:B47 (Canoe Point CC-167) JF:B35 (Wild Cattle Creek CC-108) As many other places as possible on around Wild Cattle Creek and Island 	<ol style="list-style-type: none"> South of Tannum Sands South of Tannum Sands North of Tannum Sands Wild Cattle Island Wild Cattle Island 	
			Stage 1 / Day 2 24/11/2015	<ol style="list-style-type: none"> JE:A65 (Hummock Hill Island Site CC-197) JE:A04 (Hummock Hill Stone Arrangement) JE00000117 (Stone Arrangement) JF00000007 (Stone Arrangement) As many other places as possible on Hummock Hill Island 	<ol style="list-style-type: none"> South of Hummock Hill Island South of Hummock Hill Island Central Hummock Hill Island Northeast of Hummock Hill Island Hummock Hill Island 	<u>Isolated Finds</u> JE00000116 JE00000119 JE00000120 JE00000125 JE00000126 JE00000127 JE00000128

7.2.1.2 Stage 2 – Facing Island

Stage 2 of the fieldwork assessment will involve traveling to Facing Island, approximately 12 km east of Gladstone. Given the island nature of this indicator group, it will be logistically effective for the heritage team to spend two nights and three days camping on Facing Island. It is anticipated that the heritage team will leave Gladstone in a number of 4WD vehicles on a morning ferry to Facing Island and while there camp at The Oaks on Facing Island campsite.

Within the Facing Island indicator group, there are a total of 21 DATSIP registered places (see Map 3). There is a concentration of these places in the northern portion of the island, close to North Point and on the east side of the island, east of Farmers Point. From the desktop research, as noted by Burke in 1993, it is apparent that a number of these places are of high significance. Place types include both artefact scatters and shell middens, or a combination of both and given their locational proximity to each other, the heritage team will endeavour to assess as many of these places in this northern portion of the island as possible (see Table 4).

It is likely that during the time spent on Facing Island, the heritage team will again split into two teams with one team will assessing the places in the northern portion of the island and the second team travelling to other areas of the island where during the desktop research, a variety of places of interest were identified. These include:

- JF:A12 (Facing Island Hearth Site) – a hearth or oven site at East Point in the southern portion of the island;
- JF:B68 (Facing Island CC-208) – a shell midden of high significance; and
- JF:B69 (Facing Island CC-210) – a scarred or carved tree located centrally on the island.

As well as these, the heritage teams will visit and assess as many other places as possible while on Facing Island (see Table 4).

Given the length of time that will be spent on the island, it is anticipated that the heritage team will also conduct heritage surveys in areas of the island that have not been previously investigated for cultural heritage material. The areas in which to conduct this activity will be guided by the community consultation prior to fieldwork, the onsite accessibility to certain portions of the island and on the ground discussions between Terra Rosa and Gidarjil rangers.

One registered place on Facing Island (JF:A58 Gatcombe Head) was noted to comprise an artefact assemblage of just two stone tools. Due to the nature of the fieldwork assessment and following initial consultations with Gidarjil, this place is not considered a priority for the heritage team to visit during Stage 2 of the fieldwork (see Table 4).

While on Facing Island, fieldwork day duties for the heritage team will also involve all practical requirements for camping including camp set up and daily cooking of meals. It is anticipated that the heritage team will leave Facing Island on the afternoon ferry, arriving back to Gladstone in the late afternoon. **Day 1, 2 and 3 of Stage 2** of the fieldwork assessment will be completed during **Week 1** of the trip.

Table 4: Facing Island

Indicator Group	Cultural locus	# of registered places	Stage / Day	Proposed places to visit	Location	Excluded places
Facing Island	TBD	21	Stage 2 / Day 1, 2 and 3 25/11/2015 – 27/11/2015	<ol style="list-style-type: none"> 1. JF:A26 (Facing Island) 2. JF:A27 (North Point Midden - Facing Island) 3. JF:A28 (Castle Rocks Midden - Facing Island) 4. JF:D10 (Facing Island Site 1) 5. JF:D11 (Facing Island Site 2) 6. JF:D12 (Facing Island Site 3) 7. JF:D13 (Facing Island Site 4) 8. JF:D14 (Facing Island Site 5) 9. JF:C68 (Facing Island CC-208) 10. JF:B69 (Facing Island CC-210) 11. JF:A12 (Facing Island Hearth Site) 12. As many other places as possible around North Point 13. Heritage survey 	<ol style="list-style-type: none"> 1. North Point 2. North Point 3. North Point 4. North Point 5. North Point 6. East of Farmer Point 7. East of Farmer Point 8. East of Farmer Point 9. Central Facing Island 10. Central Facing Island 11. East Point 12. Central Facing Island and Gatcombe Head 13. Central Facing Island and Gatcombe Head 	<p><u>Limited number of artefacts</u></p> <p>JF:A58 (Gatcombe Head)</p> <p><u>GPS Location incorrect</u></p> <p>JF:B64</p> <p>JF:B65</p> <p>JF:B66</p>

7.2.1.3 Stage 3 – The Narrows

Week 2 of the fieldwork process will see the heritage team complete cultural heritage assessments at Stage 3 (The Narrows) to the north of Gladstone. The Narrows indicator group is geographically the largest of the four indicator groups and stretches approximately 40 km from the mouth of The Narrows at Deception Creek and Division Point in the north to immediately north of the Calliope River, close to Gladstone city in the south (see Map 4).

From the desktop research and draft ICHD, it is apparent that there are two main concentrations of registered places in The Narrows indicator group. The southernmost concentration is centred close to Fisherman's Landing and continues north as far as Friend Point, a distance of approximately 9 km. The northern concentration is centred on Ramsay Crossing with registered places located on both the mainland (west of The Narrows) and on Curtis Island (east of The Narrows).

The desktop research and initial consultations with Gidarjil also revealed an important but as yet unregistered place in area called The Narrows Quarry. This place falls within the geographical scope of this indicator group and is located west of Worthington Island and close to Teningie Creek (see Map 4). The Narrows Quarry is noted to be the cultural locus within this indicator group and the heritage team will visit and assess this place on the **Day 1 of Stage 3**. Given the size and archaeological and ethnographic significance of this place, the detailed assessment is likely to require the use of Terra Rosa's quadcopter drone for detailed data capture of the area. It is anticipated that the heritage team will spend at least one whole day conducting assessments at this place. If necessary, and time permitting, the heritage team may return to The Narrows Quarry during other stages of the fieldwork assessment.

On **Day 2 of Stage 3** the heritage team will complete an assessment of chosen places between Fisherman's Landing and Friend Point (see Map 4). The desktop research has identified a number of noteworthy places in this area (see Table 5). These include:

- JF:A93 (Stuart Oil Shale Project 3; scarred tree);
- JF:C68 (Coolamon Scarred Tree);
- JF:D78 (WB06; potentially non-aboriginal scarred tree);
- JF:C70 (High Hill) – a culturally significant 'look out' place at close to Yarwun Industrial Estate; and
- A number of shell middens which were noted to be of low to medium or medium significance in 2009 (ARCHAEO 2009), including JF:D79 (WB07), JF:D81 (WB09) and JF:D83 (WB11).

The heritage team will visit as many of these as possible during **Day 2 of Stage 3**.

The desktop research of this area also revealed a number of the registered places which are classified as artefact scatters and which are represented by less than six stone artefacts. In total for The Narrows indicator group, twenty-one places were noted to have less than six artefacts and due to the nature of the fieldwork assessment and following initial consultations with Gidarjil, these places are not considered a priority for the heritage team to visit during Stage 3 of the fieldwork (see Table 5). All twenty-one places are located between Fisherman's Landing and Friend Point.

One registered place in this area, JF:D89 (WB17), was also noted to have only a single artefact, however in 2009 ARCHAEO considered this place to be of medium significance due to the artefact being a retouched piece of glass (ARCHAEO 2009). Along with those outlined above, the heritage team will visit this place during **Day 2 of Stage 3** of the fieldwork assessment.

During the completion of Task 1 for this project, Terra Rosa consultants and Gidarjil ranger Symeon Marou visited the area to the north of Fisherman's Landing. This initial fieldtrip saw the identification of a number of possible stone arrangements, which the heritage team will revisit during **Day 2 of Stage 3** of the fieldwork and assess using Terra Rosa's quadcopter drone.

On **Day 3 of Stage 3** of the fieldwork assessment, the heritage team will access Curtis Island by ferry so as to conduct cultural heritage assessments of places and areas there (see Map 4). It is anticipated that the heritage team will divide into two teams with Team One heading northwest towards Central Hill and Mount Barker to assess the places in these areas and Team 2 conducting heritage surveys in areas on the island that have not been previously investigated for cultural heritage material.

Team One will visit a number of artefact scatters in the Central Hill and Mount Barker area for which the desktop research only returned minimal information. These include:

- JF:B17 (Mt Barker CC-022);
- JF:B55 (Ramsay Crossing CC-179a);
- JF:B56 (Ramsay Crossing CC-180a);
- JF:B57 (Barker Creek CC-181a); and
- JF:B59 (Barker Creek CC-183a).

It is worth noting at this stage however, that JF:B17, JF:B57, JF:B19 are located considerably further north (approximately 10 km) on Curtis Island than the concentration around Ramsay Crossing. A visit to these three places may be dependent on both vehicular accessibility and timeframes. Team One will also assess a shell midden (JF:C20 – Wallin 10/1995 (QCL 95)) and two scarred trees (JF:A25 – Curtis Island) which are located on the west coast of Curtis Island (see Map 4).

While on Curtis Island, Team Two will conduct research and heritage surveys in areas on the island that have not been previously investigated for cultural heritage material. The areas in which to conduct this activity will be guided by the community consultation prior to fieldwork, the onsite accessibility to certain portions of the island and on the ground discussions between Terra Rosa and Gidarjil rangers. It is anticipated that the heritage team will leave Curtis Island on the afternoon ferry, arriving back to Gladstone in the late afternoon.

On **Day 4 of Stage 3** of the fieldwork assessment, the heritage team will mobilise to the northern portion of The Narrows and assess the places on the mainland close to Ramsay Crossing (see Map 4). Given the small number of places in this general vicinity, it is anticipated that the heritage team will also have sufficient time to conduct heritage surveys in areas of The Narrows that have not been previously investigated for cultural heritage material. The areas in which to conduct this activity will be guided by the community consultation prior to fieldwork, the onsite accessibility to certain areas and on the ground discussions between Terra Rosa and Gidarjil rangers. If necessary, the heritage team will

divide into two teams to complete both the place specific assessments and the landscape survey.

The places identified in this northern portion of The Narrows which the heritage team will assess include (see Table 5):

- JF:B12;
- JF:B13;
- JF:B14;
- JF:B15; and
- JF:B16.

There are seven registered places in this area which desktop research has revealed have already been salvaged and as a result, the heritage team will not visit or assess these places as part of Stage 3 (see Table 5).

Stage 3 of the fieldwork assessment will be completed in four days during **Week 2** of the trip.

Table 5: The Narrows

Indicator Group	Cultural locus	# of registered places	Stage / Day	Proposed places to visit	Location	Excluded places
The Narrows	The Narrows Quarry	55	Stage 3 / Day 1 30/11/2015	1. The Narrows Quarry	1. West of Worthington Island	
			Stage 3 / Day 2 1/12/2015	<ol style="list-style-type: none"> 1. JF:A93 (Stuart Oil Shale Project 3) 2. JF:C68 (Coolamon Scarred Tree) 3. JF:D78 (WB06; potentially non-aboriginal) 4. JF:C70 (High Hill) 5. JF:D79 (WB07) 6. JF:D81 (WB09) 7. JF:D83 (WB11) 8. JF:D89 9. Possible stone arrangements identified during Task 1 	<ol style="list-style-type: none"> 1. Between Fisherman's Landing and Friend Point 2. Yarwun Industrial Estate 3. Between Fisherman's Landing and Friend Point 4. North of Yarwun Industrial Estate 5. Between Fisherman's Landing and Friend Point 6. Between Fisherman's Landing and Friend Point 7. Between Fisherman's Landing and Friend Point 8. Between Fisherman's Landing and Friend Point 9. Between Fisherman's Landing and Friend Point 	<p><u>Limited number of artefacts</u></p> <p>JF:A91</p> <p>JF:A92</p> <p>JF:D72</p> <p>JF:D73</p> <p>JF:D74</p> <p>JF:D75</p> <p>JF:D76</p> <p>JF:D77</p> <p>JF:D80</p> <p>JD:D82</p> <p>JF:D84</p> <p>JF:D85</p> <p>JF:D86</p> <p>JF:D87</p> <p>JF:D88</p> <p>JF:D90</p> <p>JF:D91</p> <p>JF:D92</p> <p>JF:D93</p> <p>JF:D94</p> <p>JF:D95</p>

			<p>Stage 3 / Day 3 2/12/2015</p>	<ol style="list-style-type: none"> 1. JF:B55 (Ramsay Crossing CC-179a) 2. JF:B56 (Ramsay Crossing CC-180a) 3. JF:C20 (Wallin 10/1995 (QCL 95)) 4. JF:A25 (Curtis Island) 5. JF:B17 (Mt Barker CC-022) 6. JF:B57 (Barker Creek CC-181a) 7. JF:B59 (Barker Creek CC-183a) 8. Heritage survey 	<ol style="list-style-type: none"> 1. Northwest of Central Hill 2. Northwest of Central Hill 3. Northwest of Central Hill 4. Northwest of Central Hill 5. Mount Barker 6. Mount Barker 7. Mount Barker 8. West coast of Curtis Island, North of Graham Creek 	
			<p>Stage 3 / Day 4 3/12/2015</p>	<ol style="list-style-type: none"> 1. JF:B12 (Ramsay Crossing CC-010, CC-011) 2. JF:B13 (Ramsay Crossing CC-012, CC-013, CC-014, CC-015) 3. JF:B14 (Telegraph Creek CC-016) 4. JF:B15 (Telegraph Creek CC-017) 5. JF:B16 (Telegraph Creek CC-018, CC-019, CC-020) 6. Heritage survey 	<ol style="list-style-type: none"> 1. Ramsay Crossing 2. Ramsay Crossing 3. Ramsay Crossing 4. Ramsay Crossing 5. Ramsay Crossing 6. The Narrows 	<p><u>Previously salvaged</u></p> <p>JF:C58</p> <p>JF:C59</p> <p>JF:C60</p> <p>JF:C61</p> <p>JF:C62</p> <p>JF:C63</p> <p>JF:C64</p>

7.2.1.4 Stage 4 – Gladstone Central

Stage 4 of the fieldwork assessment is centred on the cultural heritage of the Aboriginal and post-European contact historic places identified around Gladstone city (see map 4) and will take place during **Week 2** of the fieldtrip. Desktop research results have revealed a total of 17 places in this area (see Table 6), four of which are Aboriginal places:

- KB:F94 (Police Creek Artefact Scatter);
- JF:C08 (Eastern Boyne Island Site 1);
- JF:C14 (South Trees Island Stone Axe); and
- Barney Point.

The desktop research and initial consultations with Gidarjil has identified an area around Police Creek as the cultural locus of this indicator group. In addition to these Aboriginal cultural heritage places, thirteen post-European contact historic places (see Table 6), all located within Gladstone city, are listed on the Queensland Heritage Register (QHR). Desktop research of the QHR has provided detailed records of each of these places, including photos, descriptions, historical backgrounds and significance assessments. As a result, and given the timeframe for the fieldwork assessments, it is likely that on **Day 1 of Stage 4**, the heritage team will concentrate on assessing the cultural heritage of the Aboriginal places within this indicator group. Once these assessments are complete, and timeframes permitting, the heritage team will begin an assessment of the post-European contact historic places of Gladstone city. It is anticipated that Stage 4 of the field assessment will be completed over one day during Week 2.

Table 6: Gladstone Central

Indicator Group	Cultural locus	# of registered places	Stage / Day	Proposed places to visit	Location
Gladstone Central	Police Creek	17	Stage 4 / Day 1 4/12/2015	<ol style="list-style-type: none"> 1. KB:F94 (Police Creek Artefact Scatter) 2. JF:C08 (Eastern Boyne Island Site 1) 3. JF:C14 (South Trees Island Stone Axe) 4. Barney Point 	<ol style="list-style-type: none"> 1. Police Creek 2. South Trees Point 3. South Trees Point 4. Barney Point
				<ol style="list-style-type: none"> 1. 602711 Port Curtis Sailing Club Clubhouse 2. 601332 Gladstone Court House 3. 602385 Fig Tree 4. 602001 Gladstone Central State School, Block B 5. 601338 Commonwealth Bank Building (former) 6. 601331 Gladstone Post Office (former) 7. 601330 Kullaroo House 8. 601333 Gladstone Regional Art Gallery and Museum 9. 600521 Our Lady Star of the Sea Church & School 10. 601334 Port Curtis Co-operative Dairy Association Ltd Factory (former) 11. 601341 Friend Park and Graves 12. 601811 William Wyndhams gravesite and remnant orchard trees 13. 600385 St Luke's Anglican Church 	<ol style="list-style-type: none"> 1. 1 Goondoon Street, Gladstone 2. 16 Yarroon Street, Gladstone 3. Roseberry Street, Gladstone 4. 94 Auckland Street, Gladstone 5. 114 Goondoon Street, Gladstone 6. 33 Goondoon Street, Gladstone 7. 40 Goondoon Street, Gladstone 8. 144 Goondoon Street, Gladstone 9. Goondoon Street, Gladstone 10. 6 Short Street, Gladstone 11. Friend Street, Barney Point 12. Boyne Island, Boyne Island 13. Sayre Crescent, Boyne Island

7.2.2 Heritage place recording methodology

During all stages of the fieldwork assessment, the heritage team will encounter, assess and record a broad variety of place types, including but not limited to shell middens, artefact scatters, scarred trees, hearth sites, stone arrangements, quarries and post-European contact historic places.

Given the broad spectrum of place types identified within all four indicator groups, the heritage team will adopt a methodology by which to most effectively record and assess the health of these heritage places within the timeframes of the project.

7.2.2.1 Collaborative consultation

Terra Rosa strongly advocates for an approach to recording Indigenous heritage that is based on partnerships and collaboration with Indigenous Ranger teams. During the course of this fieldwork Terra Rosa will engage in collaborative consultation with the Gidarjil rangers, allowing the rangers to have direct involvement in the direction of the fieldwork, as well as full participation in place assessments and informal training in all aspects of the fieldwork methodology. Should further funding becoming available and time permitting, Terra Rosa will be involved in the formalised training of the Gidarjil rangers and in the delivery of Aboriginal Sites Work and Indigenous Land Management courses to the participants.

7.2.2.2 Heritage place recording forms

Terra Rosa has developed two separate recording forms for this project. One is a GHHP Heritage Place Recording Form (HPRF) and the second is a Cultural Indicators Form (CIF). The heritage team will complete both forms when visiting all cultural heritage places.

The HPRF has been developed so as to comprehensively capture and describe all aspects of the place, including:

- Location;
- Land tenure;
- Land use;
- Environment – vegetation, topography, soil, parent rock, faunal species, visibility;
- Water sources;
- Cultural material;
- Condition and disturbance;
- Vegetation;
- Access; and
- Management recommendations

The CIF has been developed to allow an interpretation of the health of each place. The information gathered in this form can be fed into the BBN so as to generate a report card score. This form will include measures for each of the indicators and sub-indicators, as well as a grading scale (1 – 5), whereby the heritage team will assign a value to each measure question. As the project progresses and the draft indicators and sub-indicators develop, the draft measures will be further developed and finalised. During the course of the fieldwork, the heritage team will assign an individual recording number to each place visited. This number will cross-reference with the DATSIP registered site identification numbers, and will allow Terra Rosa and Gidarjil to easily reference the places the heritage team has visited.

7.2.2.3 Panoramic imagery

During the recording of each site, the heritage team will use panoramic imagery so as to effectively assess the physical health of each site over time. The heritage team will take a series of 360° photos at one or more locations throughout the site and Terra Rosa will use the appropriate software to stitch these photos together so as to create a virtual tour of each site.

These virtual tours convey a sense of place and will allow for a visual comparison of the physical health of each site over time. The heritage team will also take a series of still photos and videos at each site which will be embedded into and further enhance the virtual tour of each site. During the fieldwork, Terra Rosa heritage consultants will provide training to the Gidarjil rangers in the use of panoramic imagery equipment.

For consistency, the heritage team will establish one or more monitoring stations at all sites visited. This station point will be physically marked using a star picket and also marked on a GPS. This will allow for panoramic imagery to be taken at the exact same location each year, which will allow for consistency in recording and an accurate representation of the sites over time.

7.2.2.4 Quadcopter drone

During the course of the fieldwork, Terra Rosa will use a quadcopter drone so as to capture detailed imagery of specific areas within the sub-indicator groups. Similar to the panoramic imagery, the quadcopter drone footage will provide a visual comparison of specific areas over time and will provide a more time efficient means by which to analyse large areas. The quadcopter drone will be particularly useful in assessing The Narrows Quarry site, as well as in the assessment of potential stone arrangements in the southern portion of The Narrows indicator group.

7.2.2.5 Heritage survey

During the course of the fieldwork, the heritage team will conduct a series of heritage surveys in chosen areas of the four indicator groups which have not been previously investigated for cultural heritage material.

This heritage survey will involve the heritage team identifying an area of potential archaeological or ethnographic interest and inspecting it using either the quadcopter drone or meandering pedestrian transects.

It is apparent from previous surveys of the area (Burke 1993) that due to a lack of visibility, pedestrian transects are the most appropriate method to inspect an area. Where possible, formalised transects will be undertaken whereby the heritage team will be evenly spaced up to 30 m apart (depending on the terrain and the size of the area) and walking parallel to the coast to search for cultural material. Any newly identified cultural material will be recorded by the heritage team, with site recording forms and panoramic imagery completed for each site.

7.3 Proposed publication

The final outcome outlined in the Scope of Works for this project involves the submission by Terra Rosa of an open access publication to a peer reviewed science journal. This publication can be produced in conjunction ISP, CSIRO or DIMS members if necessary.

Terra Rosa has outlined two potential models for the submission of this publication:

1. Terra Rosa provides data to the ISP, CSIRO and DIMS, in an appropriate journal format, to be integrated into the current CSIRO paper prepared for the Public Library of Science (PLOS) journal, PLOS One.
2. Terra Rosa delivers an independent publication dedicated to the project area which can be linked with the CSIRO and DIMS research. Terra Rosa would need to source data from the CSIRO and DIMS with regards to the statistical analysis/report card elements of the project.

Further discussions and consultations are necessary between Terra Rosa, ISP, CSIRO and DIMS in order to finalise the approach to the publication plan. However, the following is a preliminary outline of what Terra Rosa can potentially or partially contribute to a publication, as per the guidelines of PLOS One publications.

Table 7: Terra Rosa's potential contribution to a PLOS One publication

PLOS One	Requirements	Additional information
Section 1	Title page	List title, authors and affiliations as first page of manuscript
	Abstract	
	Introduction	
Section 2	Materials and Methods	Review of best practice Outline of consultation undertaken with GHHP, Gidarjil and stakeholders Fieldwork methodology ICHD development Report card scores development
	Results	ICHD data Fieldwork and consultation results Cultural Indicators Report card scores
	Discussion	Discussion of results
	Conclusions	

	(optional)	
Section 3	Acknowledgements	
	References	
	Supporting information captions (if applicable)	
Other elements	Figure captions	Inserted immediately after the first paragraph in which the figure is cited. Figure files are uploaded separately.
	Tables	Are inserted immediately after the first paragraph in which they are cited.
	Supporting information files	Are uploaded separately

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Legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)

Aboriginal Cultural Heritage Act 2003 (QLD)

Aboriginal Heritage Act 1972 (WA)

Aboriginal Heritage Act 1988 (SA)

Aboriginal Heritage Act 2006 (Vic)

Aboriginal Relics Act 1975 (Tas)

Aboriginal Lands Rights Act 1976 (NT)

Australian Heritage Commission Act 1975 (Cth)

Australian Heritage Council Act 2003 (Cwth)

Commonwealth's Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth).

Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987 (QLD)

Environment Protection and Biodiversity Conservation Act 1999 (Cth)

Environment Protection and Biodiversity Conservation Regulations 2000 (Cth)

Fisheries Management Act 1994 (NSW)

Fisheries Management Act 2007 (SA)

Heritage Act 1977 (NSW)

Heritage Act 2004 (ACT)

Historical Cultural Heritage Act 1995 (Tas)

National Parks and Wildlife Amendment (Aboriginal Ownership) Act 1996 (NSW)

Native Title Act 1993 (Cth)

Northern Territory Aboriginal Sacred Sites Act 1979 (NT)

Northern Territory Aboriginal Sacred Sites Act 1989 (NT)

Queensland Heritage Act 1992 (QLD)

The Federal Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The Great Barrier Reef Marine Park Act 1975 (QLD)

The Heritage Act 1977 (NSW)

The Heritage Act 2012 (NT)

Treaty of Waitangi Act 1975

International agreements

International Covenant on Civil and Political Rights

International Covenant on Economic, Social and Cultural Rights

International Labor Organisation Convention Regarding Indigenous and Tribal Peoples in Independent Countries (ILO 169)

Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation of the Convention on Biological Diversity

UNESCO Convention on the Safeguarding of the Intangible Cultural Heritage

United Nations Convention on Elimination of all forms of discrimination against women (1983)

United Nations Convention on the Rights of the Child (1987)

United Nations Declaration on the Rights of Indigenous Peoples

United National Educational, Scientific and Cultural Organisation Convention on the Protection and Promotion of the Diversity of Cultural Expressions

United Nations Universal Declaration of Human Rights (1948)

Appendix 1: Best-practice review

This document will examine the standards and practices that currently exist or are being used for heritage protection and management in Australia, with reference to approaches used in New Zealand. It will establish the purpose and/or outcome of these standards and which areas within heritage management they pertain to (e.g. identification, protection, management). It will then discuss measures and proposed approaches to management of the Great Barrier Reef World Heritage Area including the Great Barrier Reef Marine Park. Finally it will indicate how these will be adopted within the project. It is envisaged that this research into best practice methodology will inform the practical assessment of heritage places within the target area, as well as future reporting requirements.

Cultural heritage management in Australia

Traditionally, Australia's heritage legislation and documentation has not sufficiently recognised, protected or managed Aboriginal heritage. Initial heritage laws passed in Australian jurisdictions in the 1960s and 1970s became known as 'relics' Acts. This legislation was drafted primarily by professional archaeologists, rather than by Aboriginal people (NNTT, 2010, p.2) which resulted in Aboriginal cultural heritage being defined largely by its value to prehistory, as represented by objects and sites of archaeological importance (NNTT, 2009, p.3).

Under this legislation, Aboriginal people were largely not consulted regarding heritage protection and management process, with legislation concentrating on the protection of the archaeology rather than of the "cultural heritage values of the people who created it" (NNTT, 2009, p.4).

In the 1970s and early 1980s, despite a continued dominance of archaeological significance of Aboriginal heritage, Aboriginal people became somewhat more involved in the decision making regarding Aboriginal heritage. However, the significance of Aboriginal heritage continued to be dominated by the established legislation of the 1960s and 1970s, as well as the newly established legislation, such as the Burra Charter, which initially in 1979 was dominated by the notion of 'fabric' (NNTT, 2009; The Burra Charter 2013).

Since 1979, there have been numerous revisions of The Burra Charter, which is now reflective of the idea that the significance of a heritage place is associated with its importance to the Aboriginal people connected with it. The Burra Charter continues to provide a best practice standard for the conservation and management of cultural heritage places in Australia, including Indigenous cultural heritage.

The 1980s saw an increased understanding of Aboriginal heritage, with new or amended legislation providing some acknowledgment of non-archaeological significance of Aboriginal Heritage (NNTT, 2009, p.5). In 1984, the Commonwealth's *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act) was introduced which was fundamental, at least in theory (NNTT, 2009, p.5), in providing appropriate protection for a significant Aboriginal area or object that is "of particular significance to Aboriginals in accordance with Aboriginal tradition" (ATSIHP Act, 1984). However, as outlined below, the execution of the Commonwealth's ATSIHP Act was not effective for the protection of Aboriginal heritage.

In some instances, despite review, enquiries and recommended changes, 1970s ‘relics’ Acts remains the primary heritage legislation, for example in Western Australia and Tasmania.

Overall, developments in Australian legislation and policy over the last 40 years have led to a significantly expanded role for government in decision-making about heritage. While Indigenous people have been increasingly recognised, ‘consultation’ with ‘knowledge holders’ rather than decision-making by owners remains the basis of recognition under most schemes (Schinerer et al, 2011).

Current legislative frameworks

In Australia the primary responsibility for management and protection of Indigenous heritage lies with state and territory governments, and is guided by state and territory legislation. State and territory governments are generally responsible for (Schinerer et al, 2011, p.25):

- maintaining Indigenous heritage registers;
- planning and development approvals, including mining and forestry, through bilateral agreements such as the Regional Forestry Agreements (RFAs);
- most natural resource management laws, including fishing and hunting licences, native vegetation and threatened species;
- managing most reserve and park lands; and
- Indigenous land rights legislation.

Aboriginal heritage legislation is varied, with different approaches, administrative bodies and procedures for identifying, recording and protecting Aboriginal heritage. The table below summarises the key legislation responsible for protecting Aboriginal heritage around Australia.

Table 8: Australian heritage legislation

Heritage Legislation	Level	Administrative body	Purpose
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	C'wlth	Department of Prime Minister and Cabinet – Indigenous Affairs	Often described as an ‘an Act of last resort’ where the Minister considers that state or territory laws do not provide adequate protection for the area or object under threat.
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	C'wlth	Australian Government Department of the Environment and Heritage	Aims to regulate amongst other issues, Matters of National Environmental Significance (MNES), including national heritage places.

<i>Australian Heritage Council Act 2003</i>	C'wth	Australian Heritage Council	Principle advisory group to the Australian Government on heritage issues. Maintains Register of the National Estate (RNE) and the Australian Heritage Places Inventory (AHPI)
<i>Aboriginal Cultural Heritage Act 2003</i>	State (QLD)	Department of Aboriginal and Torres Strait Islander Partnerships	Recognises, protects and conserves Aboriginal cultural heritage in the State of Queensland. Maintaining a Cultural Heritage Register and Cultural Heritage Database.
<i>Queensland Heritage Act 1992</i>	State (QLD)	Department of Environment and Heritage Protection (QLD)	Protects historical heritage places, including those which may <i>also</i> have historical Indigenous significance. Maintains the Queensland Heritage Register
<i>Aboriginal Heritage Act 1972</i>	State (WA)	Department of Aboriginal Affairs (WA)	Provisions for the preservation of places used customarily and traditionally by Aboriginal people.
<i>The Heritage Act 1977</i>	State (NSW)	Office of Environment and Heritage	Allows for Indigenous places to be nominated to the NSW Heritage Register if they are 'considered of high significance to the cultural heritage values of the community or to the Aboriginal peoples of NSW'
<i>National Parks and Wildlife Amendment (Aboriginal Ownership) Act 1996</i>	State (NSW)	Office of Environment and Heritage	To protect and preserve the rights and interests of Aboriginal people with cultural, historical and traditional association with national parks
<i>Aboriginal Heritage Act 2006</i>	State (VIC)	Department of Premier and Cabinet	Provides for the protection and management of Victoria's Aboriginal heritage. Established a Victorian Aboriginal

			Heritage Council. Established of Cultural Heritage Management Plans and Cultural Heritage Permit processes to manage activities that may harm Aboriginal cultural heritage.
<i>Aboriginal Relics Act 1975</i>	State (Tas)	Department of Primary Industries, Parks, Water and Environment (DPIPWE).	Provision for the preservation of aboriginal relics.
<i>Historical Cultural Heritage Act 1995</i>	State (Tas)	Department of Primary Industries, Parks, Water and Environment (DPIPWE).	To promote the identification, assessment, protection and conservation of places having historic cultural heritage significance and to establish the Tasmanian Heritage Council
<i>Aboriginal Heritage Act 1988</i>	State (SA)	Aboriginal Affairs and Reconciliation Division of the Department of State Development	Provides protection for archaeological sites and artefacts as well as objects and sites that are of 'significance to Aboriginal tradition. Maintains an Aboriginal Heritage Register.
<i>Northern Territory Aboriginal Sacred Sites Act 1989</i>	Territory (NT)	Aboriginal Areas Protection Authority	Created for the sole purpose of protecting Aboriginal sacred sites. Established the Aboriginal Sacred Sites Protection Authority and a governing Board comprised of members drawn mostly from the Aboriginal community. Established a register of sacred sites.
<i>The Heritage Act 2012</i>	Territory (NT)	Department of Lands, Planning and the Environment	Protects both natural and cultural heritage, including Indigenous heritage and objects. Established the Heritage Council. Establishes the NT Heritage Register

<p><i>Heritage Act 2004</i></p>	<p>Territory (ACT)</p>	<p>Environment and Planning Directorate</p>	<p>Established the ACT Heritage Council.</p> <p>Established a register of places and objects in the ACT which have heritage significance at the Territory level, including Aboriginal heritage.</p> <p>Provisions for the declaration of Representative Aboriginal Organisations (RAOs)</p>
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The function of this legislation is to provide a statutory framework for managing Aboriginal cultural heritage, sometimes within the parameters of general cultural heritage, including European cultural heritage. Commonly, this includes:

- Providing a workable definition of Aboriginal heritage to which the Act applies;
- Establishing representative Aboriginal bodies and minimum requirements for consultation;
- Providing Due Diligence Guidelines for developers to undertake risk assessment in regards to Aboriginal cultural heritage;
- Defining a process for ensuring Due Diligence – usually through the preparation of Cultural Heritage Management Plans, conducting cultural heritage surveys or studies;
- Maintaining a register of Aboriginal sites that have been afforded protection;
- Setting fines and monitoring non-compliance, damage or disturbance to Aboriginal sites.

Defining Aboriginal heritage

State heritage legislations generally include a definition of what constitutes Aboriginal heritage under their Act/s. The definitions of Aboriginal heritage vary between state heritage legislation, from those which draw on indigenous heritage values to those which rely on anthropological, archaeological or scientific values. This has led to the common critique that definitions under heritage legislation are too narrow in scope, focus too heavily on tangible cultural heritage, include only past heritage rather than living heritage, and do not give enough weight to cultural/spiritual values (Janke 1998). Furthermore, Indigenous people are usually not the primary decision-makers as to whether a place constitutes an Aboriginal site under the various Acts, with this decision usually vested in a Minister or Committee (Schinerer et al, 2011; Janke 1998).

In Queensland, cultural heritage is broadly defined as ‘areas or objects of particular significance to Aboriginal or Torres Strait Islander parties’ (*Aboriginal Cultural Heritage Act 2003, QLD*). Significant places or objects are defined as those which have particular significance due to Aboriginal tradition, or the history, including contemporary history, of any

Aboriginal Party for the area. This means that the views of Aboriginal parties are central to identifying and managing Aboriginal heritage. The legislation also gives regard to authoritative anthropological, biogeographical, historical and archaeological information; however the primacy of the Aboriginal viewpoint is notable.

Establishing parameters for Indigenous engagement

State legislation sets the parameters for Aboriginal involvement in cultural heritage assessment processes. All state legislation has some provision for Indigenous consultation. In the Northern Territory, South Australia, Western Australia and Victoria, consulting with the specific Aboriginal heritage body is a recognised step in the heritage approval process. In other states, like QLD, consultation with an Aboriginal body is required through the Environmental Impact Statement process. While moving in the right direction, these frameworks have entrenched a role for Indigenous people in heritage management based on consultation rather than formal decision-making, enforceable rights, requirements for free, prior, informed Indigenous consent or recognition of Indigenous ownership of heritage, as advocated by Indigenous peoples (Schinerer, 2011, p.23).

Setting a Due Diligence Process

Arising from the practical implementation of legislation, many states have released Due Diligence Guidelines which can be used by developers to inform a precautionary approach to impacting Indigenous heritage, including taking all reasonable and practicable measures to avoid or minimise harm to a site (see, for example the QLD Duty of Care Guidelines 2003). Whilst highlighting positive Aboriginal heritage management principles, certain parts of the Guidelines are not ideal. Exemptions for 'low impact' activities create vulnerability for certain Indigenous site types, and the classification of what constitutes a low-impact activity (such as farming), which has typically been very destructive to Aboriginal heritage, assumes that all Indigenous heritage values in the area have already been destroyed, which is not always the case. In Queensland, impacting a site is not illegal if duty of care has been met through developing a Cultural Heritage Management Plan or another form of agreement.

Statutory protection for Aboriginal sites

State and Commonwealth heritage legislation does provide a level of statutory protection for Aboriginal sites through establishing a process for identifying, recording and managing sites, maintaining heritage registers, fines for non-compliance or unapproved disturbance of sites and, sometimes, funding for further site research. Again, this varies between states and can include site registration combined with a development application process. Penalties for non-compliance with the proposed system range from \$500 for an individual to a maximum of \$50,000 for a body corporate, but so far there have been few prosecutions (Evatt 1998). In QLD, all Aboriginal cultural heritage sites are protected regardless of whether or not they have been recorded on the official register, and penalties can apply if they are damaged. However in reality these provisions are not policed, and with the added challenge of remoteness, the protection of Aboriginal sites is largely at the discretion of landholders (Windle and Rolfe 2003)

Cultural heritage assessment and planning

Legislation often sets the requirements for cultural heritage assessment, via management plan, surveys and studies varies between states. In QLD cultural heritage assessment is only

required if the activity is deemed to be 'high risk' of harming cultural heritage – that is, it is occurring in an undeveloped area and causes ground disturbance to a previously undisturbed area (QLD Duty of Care Guidelines 2003). "A cultural heritage study or a cultural heritage survey should be carried out ... where an activity is likely to excavate, relocate, remove or harm Aboriginal cultural heritage" (QLD Duty of Care Guidelines 2003). Where an Environmental Impact Statement (EIS) is being conducted, a Cultural Heritage Management Plan (CHMP) pursuant to Section 7 of the Act must be undertaken. A cultural heritage study or survey can be undertaken as part of this process (QLD Duty of Care Guidelines 2003).

Legislation as a starting point for best-practice

It is important to note that these legal frameworks have meant that managing Aboriginal heritage has become one of the many 'approvals' required by any commercial development and land-use projects. Hence this process has established baseline heritage management practices in each state, and has often demanded a low-cost minimalist approach to heritage management that is often primarily concerned with minimising the risk of damaging heritage and achieving the minimum requirements under state legislation, rather than any holistic or long term site research or conservation. Many scholars working in the heritage space agree that this 'compliance-driven focus' has been detrimental in many ways to notions of best-practice heritage management, but acknowledge that legislative frameworks do form a minimum level guideline for engagement with Aboriginal heritage, which can be seen as a starting point. In many cases administering bodies have made up for gaps in legislation through introducing practical processes and procedures and the adoption of guidelines within their organisations. Furthermore, many companies do go beyond the minimum risk management requirements, and work in partnership with Aboriginal communities to constructively manage and promote their heritage.

Where else to look for a model of best-practice?

In addition to Commonwealth and State specific heritage legislation, best-practice methodologies and principles can be found in a variety of documents from Australia, New Zealand and international heritage management arenas. These documents embody the guiding principles for successful heritage management, which are discussed in detail in this section.

The Australian ICOMOS Burra Charter (The Burra Charter)

This Charter continues to provide a best practice standard for the conservation and management of cultural heritage places in Australia, including Indigenous cultural heritage, and has been internationally recognised and adapted for other cultural contexts (Waterton et al. 2006). It deals specifically with the issue of the multiple definitions of cultural significance, and provides a framework for developing a detailed understanding a place as a first step prior to the management and conservation of significant places. It's author, the Australian ICOMOS are members of the international ICOMOS (International Council on Monuments and Sites), which advises UNESCO on heritage management. The reputation of ICOMOS and the regular review and update of Australia's Burra Charter to form contemporary best-practice leads scholars to claim that "In Australia the Burra Charter is the single most important professional code of conduct" (Waterton et al. 2006, p. 341)

The ICOMOS New Zealand Charter (The New Zealand Charter)

Established to guide the conservation of places of cultural value in New Zealand, the Charter is based on founding principles from the Venice Charter (1964), and was developed by the New Zealand National Committee (ICOMOS New Zealand /Te Mana O Nga Pouwhenua O Te Ao) who became incorporated in 1987. Its members are also members of the international ICOMOS (International Council on Monuments and Sites), which advises UNESCO on heritage management, and the Charter is widely supported as providing a best-practice standard for heritage management in New Zealand.

Ask First: a guide to respecting Indigenous heritage places and values (The Ask First Guide)

Introduced by the former Australian Heritage Commission, the Ask First guide established a standard for 'best practice' regarding the identification, conservation and management of Aboriginal heritage by Aboriginal people. It provides a practical guide for land developers, land users and managers, cultural heritage professionals and many others who may have an impact on Indigenous heritage. It promotes a process of consultation and negotiation and aligns with the principles of free, prior and informed consent.

World Heritage Cultural Landscapes, a Handbook for Conservation and Management (Cultural Landscapes Handbook)

The Handbook (Mitchell, Rossler and Tricaud 2009), was designed to address issues that arise in the on-ground management of cultural landscapes. It aims to promote best-practice management standards using World Heritage Listed and potential cultural landscapes as examples.

World Archaeological Code of Ethics

The World Archaeological Congress (WAC) is a non-governmental, not-for-profit organisation and is the only representative world-wide body of practising archaeologists, formed in 1986. Members agree that they have obligations to indigenous peoples and that they shall abide by the following principles:

- 1. To acknowledge the importance of indigenous cultural heritage, including sites, places, objects, artefacts, human remains, to the survival of indigenous cultures.
- 2. To negotiate with and obtain the informed consent of representatives authorised by the indigenous peoples whose cultural heritage is the subject of investigation.

AIATSIS Guidelines for Ethical Research in Australian Indigenous Studies 2012

The Guidelines embody the best standards of ethical research and human rights. It comprises 14 principles grouped under the broad categories of:

- rights, respect and recognition;
- negotiation, consultation, agreement and mutual understanding;
- participation, collaboration and partnership;
- benefits, outcomes and giving back;
- managing research: use, storage and access; and
- reporting and compliance.

Australian Archaeological Association (AAA) Code of Ethics

- Members specifically acknowledge the rights and interests of Indigenous peoples
- They support current guidelines for ethical research with Indigenous parties published by the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS)
- Members will negotiate equitable agreements between archaeologists and the Indigenous communities whose cultural heritage is being investigated.
- Members will use current guidelines regarding such agreements published by the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS).

Guiding principles

Indigenous people as primary stakeholders of their cultural heritage

Key words: Indigenous heritage ownership, collaborative consultation, community-based management, Indigenous partnerships, collaborative archaeology, self-determination, heritage agreement making and free, prior, informed Indigenous consent.

In Australia and New Zealand there is growing recognition that it is Indigenous populations who must be recognised as the key stakeholders or ‘owners’ of their heritage, and involved at every stage of the management process (Guilfoyle 2011). The Australian Heritage Commission has identified consultation with Aboriginal people as best practice in heritage management. *Ask First* states that “all parties concerned with identifying, conserving and managing this heritage should acknowledge, accept and act on the principles that Indigenous people:

- are the primary source of information on the value of their heritage and how this is best conserved;
- must have an active role in any Indigenous heritage planning process;
- must have input into primary decision-making in relation to Indigenous heritage so they can continue to fulfil their obligations towards this heritage; and
- must control intellectual property and other information relating specifically to their heritage, as this may be an integral aspect of its heritage value (*Ask First*, 2002).

Community involvement, including Indigenous communities, has been recognised as a vital strategy to preserving both intangible and tangible cultural heritage and is also an ethical model for post-colonial nations to move forward in a partnership with Indigenous communities. The ICOMOS New Zealand Charter recognises that the Treaty of Waitangi guarantees the protection of *tino rangatiratanga*, and in doing so empowers indigenous groups through customary trusteeship. Any conservation or management process is therefore conditional on decisions made with Indigenous communities, and can only proceed in this context. It can be argued that the Treaty, combined with a Charter that explicitly sets strong parameters for Indigenous ownership and involvement gives New Zealand’s Indigenous communities stronger rights to self-determination than Australian indigenous peoples. This deficit must be recognised and counteracted by strong co-management and collaborative principles.

Community-based archaeology is proposed by Guilfoyle as a method for including Indigenous communities in the archaeological process. “Doing indigenous archaeology means embracing an archaeology for, with, and by indigenous people, a prepositional diversity that produces and engages a plethora of methods, theories and practices that share the goal of making archaeology responsive to Indigenous needs, histories, perspectives and worldviews (Silliman 2008:2)”. It is “built around partnerships between Indigenous communities and archaeologists that employ mutually acceptable research agendas, work practices, and interpretive frameworks (McNiven and Russell 2005:258).” McNiven and Russell (2005, 236) argue that Indigenous communities should be involved “not as equal stakeholders, but as the owners and controllers of their heritage”. They discuss a ‘host-guest’ approach which supports a restructuring of power within archaeology and heritage management.

The Burra Charter highlights that conservation, interpretation and management should involve the people for whom the place has significant associations – social, cultural or spiritual (Article 12). It notes that, where appropriate these people should have an opportunity to participate in the conservation and management (Article 26.3), and be involved in regular review and monitoring of progress (Article 26.4). This importantly requires developing a sound working relationship between community and heritage professionals. Collaboration and co-management generally also indicate a level of joint decision-making and power sharing between these partners. Partnerships between community members, Indigenous representatives and heritage professionals are especially important in the critical first step of obtaining holistic understandings of place.

A holistic understanding of heritage values

Key words: Tangible and intangible cultural heritage; significance assessment

Aiming for a meaningful understanding of heritage values is critical to any model of best practice, and is highlighted as the primary step in Cultural Heritage management and conservation (The Burra Charter; ICOMOS New Zealand). The Burra Charter ties heritage values of a place to cultural significance, which is defined as “cultural significance means “aesthetic, historic, scientific, spiritual or social value for past, present or future generations”, which “is embodied in the *place* itself, its *fabric, setting, use, associations, meanings, records, related places* and *related objects*.”

Whilst this works well for archaeological sites, one of the main critiques of the Burra Charter is the “the naturalisation of cultural significance” which does not resonate with intangible cultural heritage values that form an important part of Aboriginal heritage. Windle and Rolfe (2003, p.35) note that “Aboriginal cultural heritage is often associated with more commonly known places such as rock art sites. However the bulk of cultural heritage sites and items relate to living patterns, for example camp sites, stone tools, stone-working sites, marked trees, rock wells and middens along waterholes.” They argue that intangible cultural heritage and connectivity between sites has often been, at times, overlooked for tangible archaeological sites or an approach focused on ‘stones and bones’.

The ICOMOS New Zealand Charter similarly specifies that, “All available forms of knowledge and evidence provide the means of understanding a place and its cultural heritage value and cultural heritage significance”. However, primacy is given to Indigenous people’s “particular

matauranga, or knowledge of cultural heritage meaning, value, and practice”. For ICOMOS New Zealand, the understanding of a place is dependent on consultation with “connected people”, as well as systematic documentary and oral research, physical investigation and recording of the place. In an Australian context, Evatt (1998) agrees that, “It is Aboriginal people themselves who should have the major responsibility for determining the significance of an area or object”. This view point is supported by the *Ask First* guidelines, which “focuses on allowing the relevant Indigenous people to determine the significance of places in accordance with their culture before moving to achieving agreements between parties on how places and heritage values should be managed”.

The practical task of incorporating a multitude of heritage values into an understanding of place has often been regarded as a challenge. Brown (2008) notes that “the Burra Charter ‘ideal’ of managing all significant values does not appear to be the reality of current Indigenous cultural heritage management practice” (Brown 2008, Mute or Mutable, 27). Often approaches to heritage management are critiques for focusing too heavily on scientific value, with little regard for the intangible cultural heritage values of the spiritual / social domains (Janke 1998). Godwin and Weiner (2006) note that, “The value that Aboriginal people place on material culture is likely to be very different than that of the archaeologist and this fact more and more must be a part of the survey rather than an adventitious comment upon it.” Guilfoyle (2011) argues for ‘significance assessments via negotiated outcomes... which provides for conservation, community, and research outcomes in a commercial context’. The alignment of archaeological and important spiritual/social assessment methodologies is proposed by Brown as a natural step in the process, “based on recognition of Indigenous people’s rights” (Brown 2008, Mute or Mutable, 27).

This is further complicated by the definitions of Aboriginal ‘sites’ used in previous regional research. In Queensland, there is discrepancy in previous heritage assessment work of what constitutes a ‘site’, ranging from places that contain very minimal cultural material (sometimes as little as one artefact) (see Burke 1993) to complex sites containing numerous cultural materials, intangible values and cultural significance.

A best-practice principle for understanding the cultural values of a place should therefore draw from the holistic significance assessment recommended by the Burra Charter, and the New Zealand principles of foregrounding the value placed on sites by Traditional Owners. A further consideration for contemporary community importance, ‘living heritage’ and recent historical significance are factors that need to be considered by heritage practitioners when identifying and defining Aboriginal heritage (Janke 1998). Most importantly, this process should not necessarily be fixed in a guideline, but part of a negotiated process that involves Indigenous people in the decision-making process, with sensitivity to intangible and contemporary values (Guilfoyle 2011).

Adopting a cultural landscape approach

Key words: representativeness, connectivity, interconnectedness

“The term “cultural landscape” embraces a diversity of manifestations of the interaction between humankind and its natural environment.” (Mitchell, Rossler and Tricaud 2009)

‘Cultural landscape’ was a term adopted by the World Heritage Committee in 1992 due to a growing recognition of the intrinsic link between communities and their natural environment.

This approach has since found resonance in an Australian context, representing an increasing recognition of the link between Indigenous heritage and broader Aboriginal concepts of land ('Country'), and recognition that Aboriginal heritage places extend beyond relics and defined areas, and include areas of lands and waters, natural formations, and related natural resources. In New South Wales, for example, the Department of Environment, Climate Change and Water has adopted a cultural landscape approach to heritage management (Schinere et al., 2011). As Windle and Rolfe note, "The landscape is covered with intertwined and connected places and objects of significance to Aboriginal people which are part of their cultural heritage" and understanding the *connectivity* between these places is critical for a holistic understanding of Aboriginal heritage (p.35).

Viewing the cultural landscape as a holistic, interconnected entity means that heritage places are able to be understood in their regional context. It also means that scientific values of a place are contextual to the relative values of its wider area, enabling a focus on representativeness and specific research questions (Bowdler 1984). *Representativeness*, is the ability of a sample of areas or objects from a particular area to represent as accurately as possible the range (and often frequency) of cultural heritage classes/types from a particular area. Furthermore, a site's intactness or condition can be understood in terms of its exposure to regional threats and degradation, and its relative condition resulting from this.

This move towards investigating places within their landscape has been replicated in the terminology used to define Aboriginal heritage *places*, rather than *sites*. This approach fits with Guilfoyle's (2011) recommendation for "a place-based approach to identifying and documenting values associated with archaeological heritage" and a methodology that works "beyond the site to fully integrate traditional and archaeological understandings of interconnected cultural landscapes".

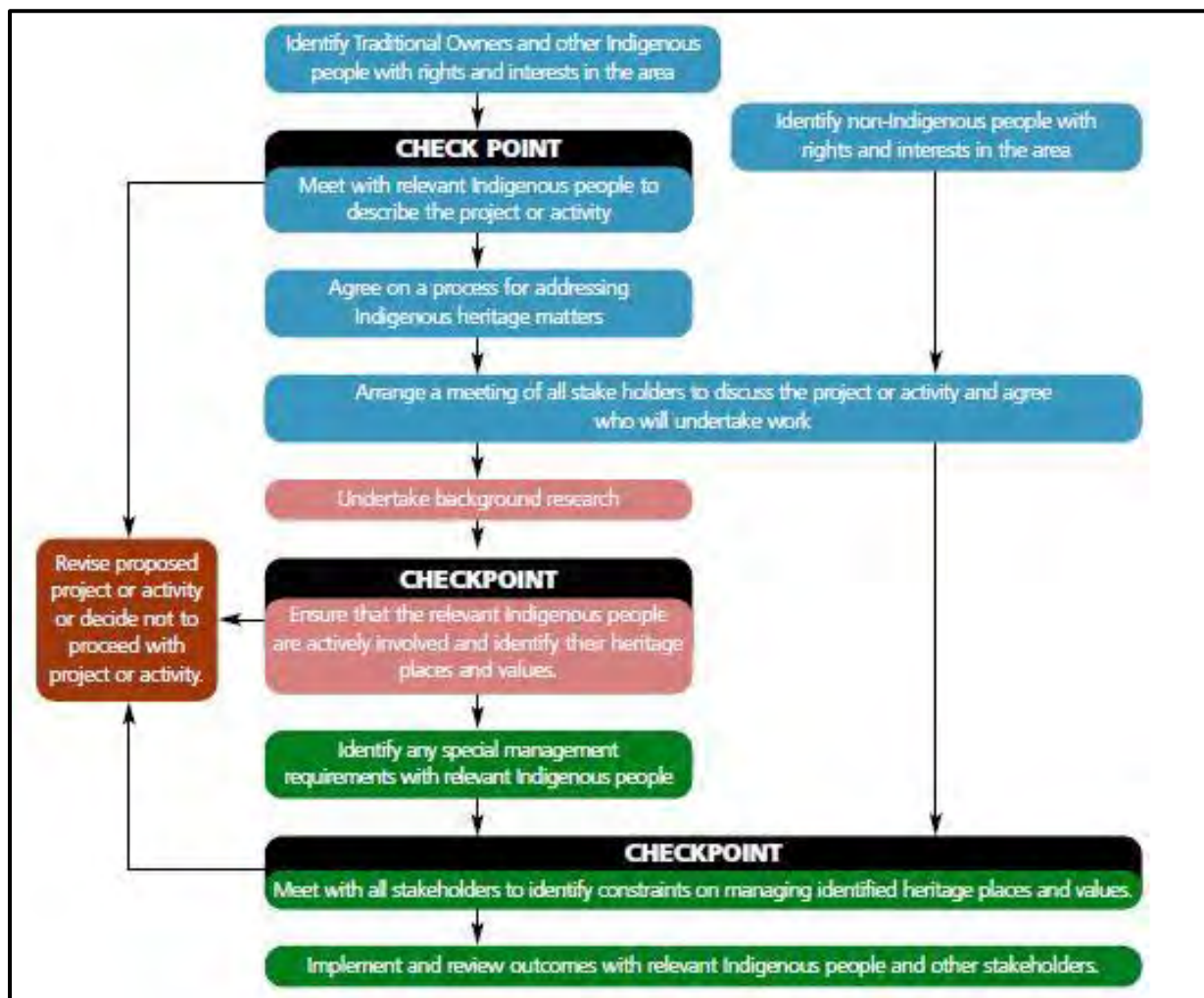
A best-practice site identification methodology is therefore one that situates a heritage place within the cultural landscape that focuses on the 'connectivity' of places to the cultural landscape, the representativeness of sites within this regional context and adds to regional research questions. Heritage management then becomes about managing change in a way to ensure that the regional environmental and cultural values endure, and that change takes place within the limits that do not disrupt these values.

Recommended practical approaches

Step 1 – Collaborative consultation

The *Ask First Guidelines* propose a framework for consultation that resonates with the guiding principle of Indigenous People as primary stakeholders of their cultural heritage (see Figure x).

Figure 3: Ask First process for identifying and managing Indigenous heritage places (Ask First, 2002)



Step 2 – Understand and assess significance

Developing a holistic and shared understanding of place is the cornerstone to the Burra Charter’s suggested approach to heritage management. The Burra Charter Process outlines the importance of understanding the place (its fabric, extent, history, use, associations etc.) and assessing its significance, prior to the development of policy or management strategies.

Figure 4: The Burra Charter Process (2013: 10)



Step 3 – Develop a co-management strategy

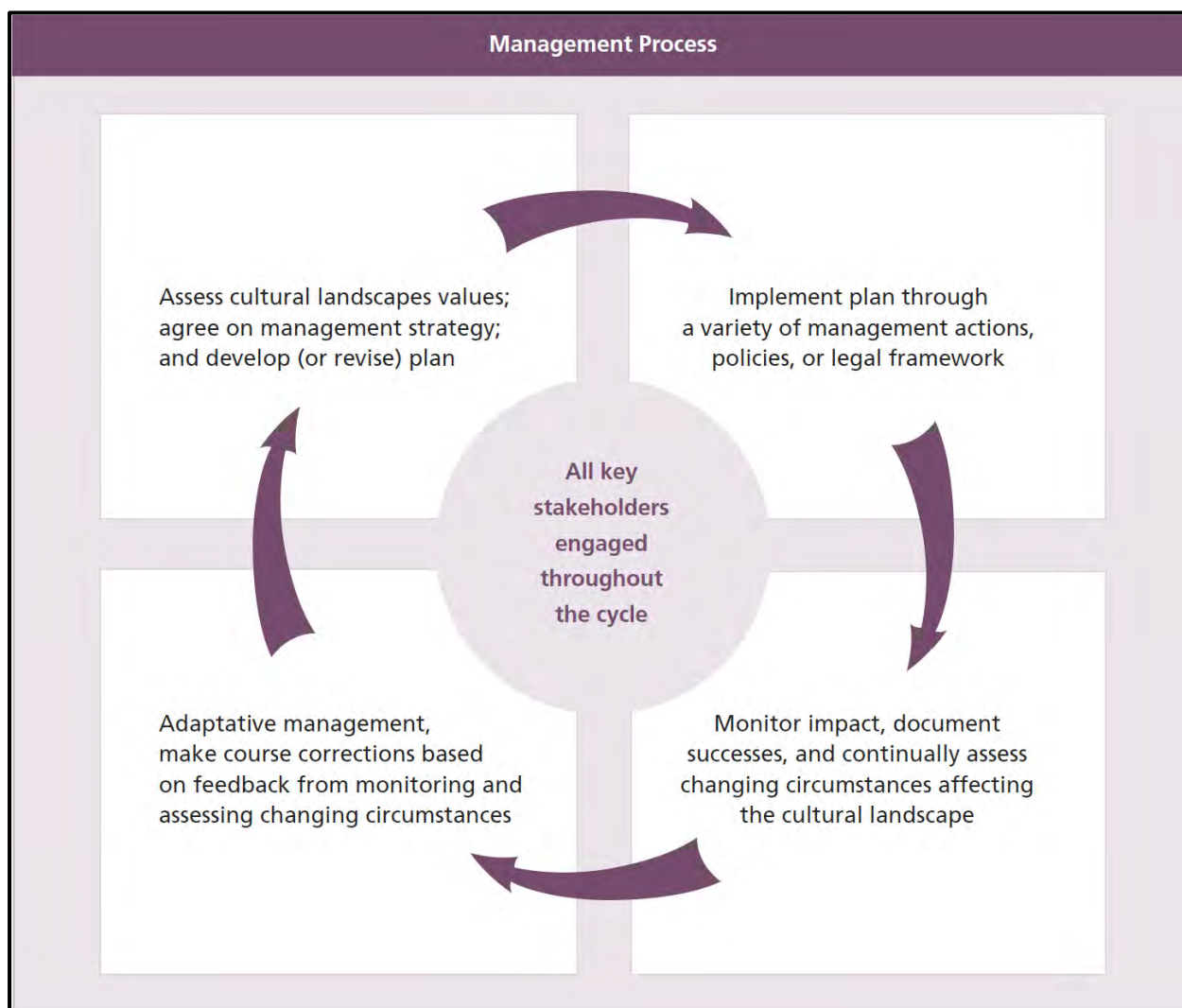
Utilising the frameworks outlined above as a starting place, and in consultation with Traditional Owners, the next stage of the process is to develop a comprehensive and practical management plan that should also include mechanisms for the engagement with the broader community, land owners and other stake holders. This plan should be informed by the consultation and negotiation processes, and be based around the following considerations:

1. Which cultural values or environments are strategically important in the region and in the landscape?
2. Which actions, management strategies are realistic?
3. How can goals and strategies be monitored (follow-up)?
4. Which will the consequences be for the environment, for the people, for the society?
5. What can be measured in economic terms?
6. What cannot be measured?
7. Are any cultural values influenced? directly? Indirectly? threatened?
8. Are alternative solutions needed?
9. Are there uncertain factors?
10. Can the development be used for strengthening the heritage value? Conserving the value? Developing the value?
11. Can the development use the heritage value as a resource?

The Cultural Landscape Handbook proposes a Cultural Landscape Management Framework, which is designed to complement national and state legislative frameworks. The key elements of this approach include:

- Establishing a detailed and shared understanding of the nature of the heritage values
- A cycle of planning, implementation, monitoring, evaluation and feedback
- The full involvement of partners and stakeholders
- The allocation of necessary resources
- Capacity-building
- An accountable, transparent description of how the management system functions

Figure 5: The heritage management cycle (Mitchell, Rossler and Tricaud 2009)



Managing Threats

In the Operational Guidelines for the implementation of the World Heritage Convention (as cited in Mitchell, Rossler and Tricaud 2009), the nomination of properties requires a description of factors affecting the site:

- a. Development Pressures (e. g., encroachment, adaptation, agriculture, mining)
- b. Environmental Pressures (e. g., pollution, climate change)
- c. Natural disasters and preparedness (earthquakes, floods, fires, etc.)
- d. Visitor / tourism pressures
- e. Number of inhabitants within site, buffer zone
- f. Other

Each heritage place should be considered independently in regards to its level of threat, and appropriate mitigation strategies prescribed. The challenge is developing adequate responses to pressures on cultural heritage values.

Monitoring

Monitoring is a critical step for cultural heritage management in all reviewed documents. During the monitoring process, it is important to identify how heritage values are being identified in the cultural landscape and whether the management strategies employed are assisting in the management of any identified threats to the integrity of the landscape and the continuity of heritage values. Monitoring can be employed to chart changes over time.

The development of performance indicators to measure sustainability of heritage values is being discussed globally in relation to World Heritage sites. The aim is to establish relevant indicators to best assist the ongoing monitoring of the condition of cultural landscapes, otherwise described as the 'health' or 'state' of the landscape and the places within it. This process was undertaken by the Australia: State of the Environment Report (2011, 8) which proposed general regional indicators for measuring the health of Indigenous cultural heritage. Combined with regular reporting, this process aims to "to regularly provide the Australian public, managers and policy makers with accurate, timely and accessible information about the condition of, and prospects for, the Australian environment".

Figure 6: Cultural Heritage Indicators (Australia State of the Environment Report 2011)

Natural and Cultural Heritage Indicators (Australia State of the Environmental Report 2011)	
Issue element	Indicator
Knowledge of the heritage resource	G.1 Number and distribution of identified heritage items (places and objects)
	G.2 Number of heritage places assessed using best practice assessment standards
Condition of the heritage	G.3 Number of heritage places destroyed or whose values have been severely diminished
	G.4 Number of heritage places reserved for conservation purposes where heritage values have been seriously impaired by visitor use
Resources and training	G.5 Funds provided for maintaining heritage values
	G.6 Amount of funding provided to heritage agencies responsible for heritage places and objects
	G.7 Number of conservation practitioners and training courses
Community awareness and action	G.8 Community awareness of, and attitudes towards heritage place and objects and their conservation.

Step 4 – Interpretation and Education

A final, yet essential stage of heritage management is building general public and community awareness about heritage values through providing free and accessible information. It is important to start with the host community prior to focusing on tourists (Mitchell, Rossler and Tricaud 2009). Awareness is vital for building political and financial support for ongoing conservation activities. Information about cultural heritage values can be disseminated through various platforms:

- Websites
- Signage at sites
- Brochures
- Public information sessions
- Displays

A measurement of success can include community attitudes towards cultural heritage and how perceptions change over time. Best practice interpretation includes the development of a communication strategy which outlines the long-term strategies and goals for all aspects of communication and marketing.

The seven interpretation principles as outlined by the ICOMOS Ename Charter (2007) are as follows:

1. **Facilitate understanding and appreciation** of cultural heritage sites and foster public awareness and engagement in the need for their protection and conservation;
2. **Communicate the meaning** of cultural heritage sites to a range of audiences through careful, documented recognition of significance, through accepted scientific and scholarly methods as well as from living cultural traditions;
3. **Safeguard the tangible and intangible values** of cultural heritage sites in their natural and cultural setting and social contexts;
4. **Respect the authenticity** of cultural heritage sites, by communicating the significance of their historic fabric and cultural values and protecting them from the adverse impact of intrusive interpretive infrastructure, visitor pressure, inaccurate or inappropriate interpretation;
5. **Contribute to the sustainable conservation** of cultural heritage sites, through promoting public understanding of, and participation in, ongoing conservation efforts, ensuring long-term maintenance of the interpretative infrastructure and regular review of its interpretative contexts;
6. **Encourage inclusiveness** in the interpretation of cultural heritage sites, by facilitating the involvement of stakeholders and associated communities in the development and implementation of interpretative programmes; and
7. **Develop technical and professional guidelines** for heritage interpretation and presentation, including technologies, research, and training. Such guidelines must be appropriate and sustainable in their social contexts.

Case Study – Approaches to Heritage Management in the Great Barrier Reef Marine Park

The Great Barrier Reef World Heritage Area (GBRWHA) extends from the top of Cape York in north-east Australia to just north of Bundaberg, and from the low water mark on the Queensland coast to the outer boundary of the Marine Park, which is beyond the edge of the continental shelf. The Great Barrier Reef (GBR) received world heritage status (GBRWHA) in 1981 for its “Outstanding Universal Value”. The GBR is protected by international, national and state legislation and controls including those outlined in the following tables.

Table 9: International legislation and controls for the GBR

Act/Convention (International)
UNESCO World Heritage Convention
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar 1971)
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 1973)
Convention on Conservation of Migratory Species of Wild Animals (Bonn Convention 1979)
Convention on Biological Diversity (CBD 1992)

Table 10: National legislation and controls for the GBR

Act (National)	Description
<i>The Great Barrier Reef Marine Park Act 1995</i>	Enacted to protect the area’s outstanding biodiversity whilst providing for reasonable use. Uses a spectrum of multiple-use zones ranging from General Use Zones (most reasonable activities can occur), through to National Park Zones (provide opportunities to see and enjoy the diversity of the Reef but where no fishing or collecting are allowed), to Preservation Zones (reference areas which are off limits to most activities).
<i>Environment Protection & Biodiversity Conservation Act 1999</i>	Provides for the protection of world heritage values as well as environmental protection, biodiversity conservation, and the protection of threatened and migratory species.
<i>Historic Shipwrecks Act 1976</i>	Aims to ensure that historic shipwrecks are protected for their heritage values and maintained for recreational and educational purposes.

<p><i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i></p>	<p>The principle Commonwealth legislation protecting Indigenous heritage. The Act complements state/territory legislation and is intended to be used only as a 'last resort' where state/territory laws and processes prove to be ineffective.</p> <p>The Minister can make temporary or long-term declarations to protect areas and objects of significance under threat of injury or desecration.</p> <p>Encourages heritage protection through mediated negotiation and agreement between land users, developers and Indigenous people.</p>
<p><i>Protection of Movable Cultural Heritage Act 1986</i></p>	<p>Regulates the export of Australia's significant cultural heritage objects. It implements a system of export permits for certain heritage objects defined by the Act as 'Australian protected objects'.</p>

Table 11: State legislation and controls for the GBR

Act (State)	Description
<p><i>Nature Conservation Act 1992</i></p>	<p>Almost 50% of the State islands within the GBRWHA are National Parks. This act also deals with the protection of endangered, vulnerable, rare and common wildlife species prescribed by regulation.</p>
<p><i>Marine Parks Act 1982.</i></p>	<p>In some areas within the GBRWHA, the tidal lands and tidal waters are declared as State Marine Parks to complement the provisions of the adjoining Commonwealth Marine Park.</p>
<p><i>Coastal Protection and Management Act 1995</i></p>	<p>Provides for the protection, conservation, rehabilitation and management of the coast and coastal waters including its resources and biological diversity.</p>
<p><i>Aboriginal Cultural Heritage Act 2003.</i></p>	<p>Under this Act, there is legislative recognition that Aboriginal people are the primary guardians, keepers and knowledge holders of their cultural heritage.</p>

The function of this legislation is to provide a statutory framework for the management of the GBR Region. This case study is concerned with the management of Aboriginal cultural heritage, sometimes within the parameters of general cultural heritage, including European cultural heritage. As outlined in the above best-practice review, relevant legal frameworks such as the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and *Aboriginal Cultural Heritage Act 2003* are a starting point for best-practice.

The Great Barrier Reef Marine Park Authority (GBRMPA) is an independent Australian Government agency responsible for protection and management of the Great Barrier Reef Marine Park. *The Great Barrier Reef Marine Park Act 1975* (GBRMPA 1975; amended in 2007 and 2008) provides for “the long term protection and conservation ... of the Great Barrier Reef Region” with specific mention of meeting “... Australia’s responsibilities under the World Heritage Convention” (GBRMPA 1975). As a world heritage property, The GBR is governed by UNESCO and is required to have a Statement of Outstanding Universal Value which documents the Reef’s values and condition. *The Federal Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides an overarching mechanism for protecting the World Heritage values from inappropriate development, including actions which could impact on its heritage values.

Aboriginal and Torres Strait Islander people continue to undertake traditional use of marine resource activities at the GBR so as to provide traditional food, practice their living maritime culture, and to educate younger generations about traditional and cultural rules and protocols. These activities are managed by both Federal and State legislation and include Traditional Use of Marine Resource Agreements (TUMRAs) and Indigenous Land Use Agreements (ILUAs). These agreements allow for the recognition of Indigenous people as the primary stakeholders of their cultural heritage and currently 30 % of the GBR inshore area is covered by these agreements. These agreements assist and support Traditional Owners in maintaining their cultural connection with their sea country.

An assessment of the management of GBRWHA indicates that considerations have been made for what the Terra Rosa’s best-practice review has determined to be the essential guiding principles in the management of cultural heritage. The heritage of the GBR is managed by its 25 Year Strategic Plan, produced in 1994 which contains a section on the recognition of Aboriginal and Torres Strait Islander interests within the GBR. The Strategic Plan highlights that present and future management of the GBR should recognise “the interests of Aboriginals and Torres Strait Islanders so that they can pursue their own lifestyle and culture, and exercise responsibility for issues, areas of land and sea, and resources relevant to their heritage within the bounds of ecologically sustainable use and consistent with our obligations under the World Heritage Convention and other Commonwealth and State laws” (Great Barrier Reef Marine Park Authority, 1994).

The Strategic Plan outlines the management of the GBR through a variety of broad strategies which allow for the adoption of a holistic understanding of heritage values and well as consideration of Indigenous people as the key stakeholders for the area. These broad strategies include:

- “Aboriginals and Torres Strait Islanders developing, with stakeholder agencies and organisations, management plans to ensure that their traditional use of resources is ecologically sustainable;
- Consideration of the legal implications of the Mabo ruling for the legislative framework for, and management of, the Great Barrier Reef World Heritage Area;
- Ensuring that use by Aboriginals and Torres Strait Islanders is taken into account in the development of resource management plans;

- Ensuring that Aboriginals and Torres Strait Islanders have opportunities for membership of, and full involvement in, the relevant decision-making and consultative bodies;
- Providing the full range of employment opportunities for Aboriginals and Torres Strait Islanders in agencies and industries of the Area;
- Educating the general community, other users and managers about the cultural heritage and aspirations of Aboriginals and Torres Strait Islanders; and
- Develop culturally-appropriate and understandable formats for regulatory and informative material that is distributed to Aboriginals and Torres Strait Islanders” (Great Barrier Reef Marine Park Authority, 1994, p.35).

The management of the GBRWHA is guided by a landscape approach towards spatial management tools and policies. These include a Zoning Plan which provides a spatial basis for determining where many activities can occur, Plans of Management, Special Management Areas, and Agreements with Traditional Owners and permits. These are regularly tied to specific zones or smaller areas within zones, which allows for a more detailed level of management. These statutory instruments assist in the protection of the Outstanding Universal Value of GBRWHA.

In 2005, the GBRMPA developed a Heritage Strategy which identifies and assesses all places that it owns or controls for Commonwealth Heritage values, and records the nature of any heritage values of places that are revealed by this process in its heritage register. It also consults the Australian Heritage Council and makes appropriate arrangements to involve people and organizations with interests in the place’s heritage values, especially when developing management plans.

With regards to Indigenous heritage, the Heritage Strategy recognises that Traditional Owners in the Region hold a range of past and present heritage values for their land and sea country and that these values maybe cultural, spiritual, economic, social or physical, or a combination of these. These values demonstrate continuing connections with the GBR Region and its natural resources. The Heritage Strategy identifies strategies for the protection, management and presentation of Indigenous land and sea country heritage, making specific reference to the following values:

- Sea estates;
- Fish traps;
- Burial grounds;
- Traditional cultural lifestyles;
- Places of aesthetic value;
- Important grounds for traditional use of marine resources and breeding grounds;
- Sacred sites of significance;
- Ceremony sites;
- Totems;
- Storylines and songlines;

- Practice of cultural protocols in sea country;
- Travel routes- ritual paths through land and sea country;
- Place Names / Area Names; and
- Native Title Rights and interests.

The Heritage Strategy also outlined in detail the factors which currently affect Indigenous heritage in sea country and a number of strategies for action including a work program and legislation. The Heritage Strategy noted that GBRMPA is committed to working with Traditional Owner groups for sea country management and this is reflected in the TUMRA and ILUA agreements as described above.

Every five years the GBRMPA publishes an Outlook Report which analyses the health, pressures and likely future of the GBR. This report is a requirement of *The Great Barrier Reef Marine Park Act 1975* and aims to regularly and reliably assess the health and management of the GBR. The 2014 Outlook Report specifically considers both tangible and intangible heritage values of the BGR Region. It highlights that Indigenous heritage recognises Aboriginal and Torres Strait Islander peoples as the First Australians and the Traditional Owners of the GBR, and that the natural values of the Region are inseparable from cultural identity. The report also states that the strong and ongoing links between Traditional Owners and their sea country is an attribute recognised as contributing to the Outstanding Universal Value of the GBR (Outlook Report 2014).

The report recognises that although Aboriginal sites maybe known to Traditional Owners, they may be vulnerable to coastal development and other land use activities as they have not yet been systematically identified by managing agencies. The report noted that the Region's heritage values are poorly recorded and rarely monitored and this affects the condition of many values and directly affects the ability to protect and manage the Aboriginal sites of the Region.

This brief introduction into the legislation and regional frameworks under which the GBR is managed highlight that management of the GBR does consider the guiding principles outlined within Terra Rosa's best-practice review. However, as outlined in the 2014 Outlook Report for the GBR, as the amount of available heritage information grows, the management of heritage will also develop and it will be assessed more thoroughly. Currently, the recognition and engagement of Traditional Owners, primarily through TUMRAs and ILUAs, is a key component of the management of Indigenous heritage at the GBR. These are essential to the ongoing engagement of Indigenous people in the management of the Region and also in the maintenance of the Outstanding Universal Value of the GBR.

Application of best-practice to the project

Drawing from best-practice frameworks of heritage management, the approach and methodology for developing the cultural heritage indicators for the Gladstone Healthy Harbour Partnership (the project) will be based on the key guiding principles:

1. Indigenous people as primary stakeholders
2. A holistic understanding of heritage values

3. Adopting a cultural landscape approach

As representatives of the PCCC native title Claimants, Gidarjil are considered to be primary stakeholders for this project. Therefore, there is an understanding that Gidarjil are the primary source of information on the value of their heritage in the Gladstone region and the key decision-makers in how it should be best conserved. Gidarjil will have an active role in all stages of the project's heritage management process through:

- Consultations with Gidarjil around the agreed scope of the project, agreed frameworks and logistics for the fieldwork, and their involvement in the review process.
- An initial consultation meeting with the broader community including PCCC elders to discuss the aims and methods of fieldwork including specific cultural landscapes and place which will be investigated as part of the project.
- The active involvement of the Gidarjil rangers in the fieldwork aspect of the project which will include, capacity building in identification and heritage management practices;
- Providing the project with expert knowledge of the environment and cultural landscape, and the logistics of access.

Indigenous Cultural and Intellectual Property (ICIP) will be collected and protected through the development of an Indigenous Cultural Heritage Database for the region, which will be controlled by Gidarjil and shared with appropriate project partners. The established partnership with GHHP, Terra Rosa and Gidarjil will allow for joint decision-making and power sharing, and an approach to cultural heritage management that prioritises collaboration and co-management.

A holistic understanding of heritage values will be achieved in the project through consultation with, and active participation by Gidarjil rangers and PCCC representatives that ensures the spiritual / social significance of heritage places is well documented. The involvement of qualified archaeologists and anthropologists guarantees that the scientific and aesthetic significance of heritage places is thoroughly investigated through a best-practice approach to heritage identification and recording. A host-guest relationship between Gidarjil (as hosts) and Terra Rosa heritage consultants (as guests) will ensure that holistic understanding, management and awareness of both tangible and intangible heritage values in the Gladstone region is achieved.

It is also important to build an understanding of the regionally specific definition of what previously and currently constitutes an Aboriginal heritage place as defined by both scientific (archaeological) and Aboriginal viewpoints. This has involved a thorough review of previous archaeological studies in the Gladstone region and has led to discussions with Gidarjil that resulted in an understanding of what constitutes an Aboriginal place in the Gladstone region, and a consequent selection of priority heritage places for this project.

Importantly, significance assessment of Aboriginal heritage places will be sensitive to the recent Indigenous history of the region, and which takes into consideration the continued

contribution that Aboriginal heritage places can have for contemporary Indigenous cultural identity and sense of place.

A cultural landscape approach to the project will be best-achieved through considering four separate geographical areas as different cultural landscapes because of environmental features, previous archaeological research and contemporary land use. These include:

1. Wild Cattle Creek and Hummock Hill Island
2. Facing Island
3. The Narrows
4. Gladstone Central

This facilitates the recommended best-practice process of assessing heritage places within each cultural landscape and defining specific research questions. Each cultural landscape forms a self-referencing indicator group, and the heritage places within it are representative of the area. Each cultural landscape can then be compared with one another to achieve an understanding of the interconnectedness of cultural heritage within the broader Gladstone area. Furthermore this will enable management and monitoring that contributes to continued enquiry into specific research questions, allows for mitigation of common threats across the cultural landscape, and assists in tracking the progress and change of cultural heritage health within the specific areas (e.g. the Narrows).

Through the review of key international and national documents relating to best-practice approaches to heritage management, Terra Rosa has considered the above Guiding principles as essential for best-practice in general heritage management in Australia. This methodology enhances the minimum-level heritage management legislative standards to ensure that:

1. The **understanding** of Aboriginal heritage places in the Gladstone region is improved through fieldwork concentrating on baseline identification and recording;
2. The **management** needs of cultural landscapes are documented and the rangers have the tools and capacity to monitor sites over time.
3. The **awareness** of cultural heritage is increased through increasing the information available to the public about Aboriginal heritage in the Gladstone region.

Through the development of heritage indicators moulded around these themes, conservation and maintenance of Indigenous heritage can be achieved. The adoption of the guiding principles within the project will form a strong foundation, and its long term aims in improving the score card for the health of cultural heritage in Gladstone Harbour.

Appendix 3 Milestone 2 Report



TERRA ROSA
CONSULTING

Task 5: Milestone 2 Report and Summation of Works to Date.

**ISP012 – Developing the Cultural Heritage Indicators
for the Gladstone Healthy Harbour Partnership**

February 2016

Submitted by Terra Rosa Consulting Pty Ltd

Acronyms

The following terms and acronyms are utilised throughout the report. Definitions are provided below for reference.

Term / Abbreviation	Definition
ATSCHRD	Aboriginal and Torres Strait Islander Cultural Heritage Register and Database
ACH Act	<i>Aboriginal Cultural Heritage Act 2003 (Qld)</i>
AHA	<i>Aboriginal Heritage Act (Vic)</i>
ALUM	<i>The Australian Land Use and Management Classification system</i>
ATSIHP Act	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)</i>
BBN	Bayesian Belief Network
CHIMS	Cultural Heritage Information Management System managed by DERM; a list of those places that might be of historical heritage interest throughout Queensland.
CHMP	Cultural Heritage Management Plan negotiated between a sponsor and endorsed parties pursuant to provision of Part 7 of the ACH Act
CHS	Cultural Heritage Studies
CIF	Cultural Indicators Form
Cultural Record Act 1987	<i>Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987</i>
CSIRO	<i>Commonwealth Scientific and Industrial Research Organisation</i>
DATSIP	The <i>Department of Aboriginal and Torres Strait Islander Partnerships</i>
DERM	Department of Environment and Resource Management (Qld)
DIMS	Data and Information Management System
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
GHHP	Gladstone Healthy Harbour Partnership
Gidarjil	Gidarjil Development Corporation
GBR	Great Barrier Reef
GBRMPA	Great Barrier Reef Marine Park Authority
GBRWHA	Great Barrier Reef World Heritage Area

HPRF	Site Recording Form
ILUA	Indigenous Land Use Agreement negotiated between native title claimants and development proponents to secure land access rights for a project under provisions of the Native Title Act 1998.
ISP	Independent Science Panel
NHL	National Heritage List
MS	Monitoring Station
PCCC	Port Curtis Coral Coast Native Title claim
PLOS	Public Library of Science
Registered Place	A place that has been entered on to the Queensland Heritage Register created under provisions of the Queensland Heritage Act 1992.
RFAs	Regional Forestry Agreements
RNE	Register of the National Estate
QH	<i>Queensland Heritage Act 1992</i>
QHR	Queensland Heritage Register
Terra Rosa	Terra Rosa Consulting
TUMRAs	Traditional Use of Marine Resource Agreements
UNESCO	The United Nations Educational, Scientific and Cultural Organization

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Executive Summary

The Gladstone Healthy Harbour Partnership (GHHP) has engaged Terra Rosa Consulting (Terra Rosa) and Gidarjil Development Corporation (Gidarjil) to develop and pilot indicators and reference condition values to inform the cultural heritage score of the cultural component within the GHHP Report Card. This Milestone 2 report refers to Task 5 of the GHHP scope of works and relates to the continuing development and practical application of Indicators, Sub-indicators and Measures in the assessment of Gladstone Harbour's cultural health, as outlined in the Milestone 1 report.

This report outlines the methodology developed and used during field work with Gidarjil, Terra Rosa and GHHP representatives, including the limitations encountered during field work, as well as a description of the step-by-step process involved in the physical documentation of sites. The Indicators, Sub-indicators and Measures were adapted during field work and have been further developed since the completion of the Milestone 1 report.

The cultural heritage of each zone is assessed as a combination of the cultural health of individual sites within that zone in conjunction with the management strategies applied to that zone. Draft grades, incorporating the above mentioned and weightings have been generated for each zone. Weightings are assigned by ethnographic consultation and identify the more important and significant sites in a zone. In absence of the ethnographic interviews in Year 1, it was decided that a 50 % score weighting would be given to the cultural locus site within a zone. In future years, the weighting will be revised following Traditional Owner consultation on the Spiritual / Social Value of individual sites.

As access to Hummock Hill Island is limited it was impractical for the Project Team to visit this zone. As a result, no sites were recorded here during Year 1 and there are no scores or grades to add from this zone to the overall results for the cultural heritage of Gladstone Harbour.

The Project Team spent seventeen days in the field and established 45 monitoring stations across 26 sites within the five zones.

¹Table 1: Cultural heritage scores for Gladstone Harbour Year 1

Zone	Draft Year 1 zone score	Zone Grade
The Narrows	0.58	C
Facing Island	0.63	C
Wild Cattle Creek	0.56	C
Gladstone Central	0.76	B
Hummock Hill Island	n/a	n/a
Average score		0.63
Cultural heritage grade for Gladstone Harbour		C

Following the completion of the Year 1 field work, along with the progression of the Measures, Sub-indicators and Indicators, the following recommendations are proposed:

Terra Rosa recommends:

- GHHP endorse the outlined method;
- GHHP endorse the change in Indicators and framework from the Milestone 1 Report;
- GHHP consider the proposed plan for the cultural heritage score card to be included as an appendix in the final report;
- Following the finalisation of the measures, and with the defined cultural locus weighting, the consultant appointed by GHHP apply the project to the BBN and complete the aggregation of scores to ascertain the final grade for Year 1;

¹ Please note these are not the final grades and scores for Year 1. Due to the ongoing development of the framework, these scores have been adjusted between the publication of this Milestone 2 report, and the final report. Please refer to ISP020 (Pascoe, S and Venables, B 2016, *Development of R scripts to calculate, aggregate and integrate Cultural heritage indicators with GHHP Data and Information Management System, CSIRO Draft report to the Gladstone Healthy Harbour Partnership, October 2016, 33 pp.*)

1 Introduction

1.1 Project background

The Gladstone Healthy Harbour Partnership (GHHP), advised by an Independent Science Panel (ISP), intends to define and track the health of Gladstone Harbour and enable effort prioritisation towards identified improvement activities by developing a whole-of system report card to expand on the 2014 Pilot Report Card.

Terra Rosa Consulting (Terra Rosa) has been engaged by GHHP to develop and pilot indicators and reference condition values to inform the cultural heritage score of the cultural component within the GHHP Report Card. GHHP's vision is to preserve the cultural heritage sites, with the objective of protecting those sites associated with the harbour and waterways.

Terra Rosa has worked collaboratively with Gidarjil Development Corporation (Gidarjil) to develop an Indigenous Cultural Heritage Database (ICHHD) and indicator options to assess the health of cultural heritage sites and fulfil GHHP's vision and objectives.

After the submission of the Milestone 1 Report for the project in October 2015, and the subsequent approval of the draft indicator options, Terra Rosa conducted a field season between 21 November and 8 December 2015. This took place in conjunction with the Gidarjil rangers and was a means of quantifying and assessing a number of sites within Gladstone Harbour. Data was captured to inform the Indigenous Cultural Heritage Database (ICHHD) and the report card scores.

During the field work Terra Rosa aimed, where possible, to transfer the skills and knowledge to conduct future works with GHHP to the Gidarjil rangers, all of whom showed a high level of motivation, enthusiasm and aptitude. The author would like to thank all participants for their efforts, as well as the support of John Kirkwood and Uthpala Pinto, without whom the project would not have taken shape in the positive way that it did.

1.2 Summation of work

The below table outlines the key stages of work which have already taken place as part of this project. It also outlines those stages which are ongoing or which have not yet been completed.

Table 2: Stages of the project

Step	Task	Completed / TBC
1	Desktop research: <ul style="list-style-type: none"> • Best Practice research and review • Regional Background • Case Study – Approaches to Heritage Management in the Great Barrier Reef Marine Park • Application of best practice for this project 	Completed
2	Establishment of zones: The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island	
3	Consultation with GHHP, Gidarjil and stakeholders	
4	Development of proposed draft Indicators, Sub-indicators and Measures	
5	Development of proposed draft database	
6	Outline of proposed field work program	
7	Milestone 1 report and reviews	
8	Field work (November and December 2015)	
9	Development of report card grades and scores	
10	Consultation with GHHP, Gidarjil and stakeholders	
11	Milestone 2 report and reviews	
12	Consultation with GHHP, Gidarjil and stakeholders	
13	Amended Milestone 2 report	
14	Second amendment to Milestone 2 report	
15	Final Report	To be completed
16	Presentation of project results to the ISP, GHHP, Gidarjil and stakeholders	

17	Final report card and report card scores	
18	Final ICHD	
19	Manuscript for peer review	

The Milestone 1 report detailed the research and consultation undertaken to establish the frameworks utilised within the conceptual approach to the project. While the full replication of this is not considered relevant, the key guiding principles that underlay the frameworks were:

- Indigenous people as primary stakeholders;
- A holistic understanding of heritage values; and
- Adopting a cultural landscape approach.

The practical application of these principles and the frameworks that they informed led to the establishment of five zones of interest for the study within Gladstone Harbour (The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island). These five zones are based around initial consultations and were informed by desktop research. The cultural health of the sites within these zones, as well as the zone's management strategies has led to the development of a report card score for the cultural heritage of Gladstone Harbour.

The sites are assessed by twelve Measures and three Sub-indicators relating to the cultural health of each site.

The zones are then assessed by combining the cultural health of the sites with the management strategies of the zone. These management strategies are assessed by nine Measures and three Sub-indicators.

The scores for each zone lead to the development of a score for the cultural heritage of Gladstone Harbour which will be incorporated into a Bayesian Belief Network (BBN) with an applied weighting (see section 3).

This method allows for the uniqueness and diversity of each zone to be represented in its separate score which is then compiled to ascertain an overall score for the cultural heritage of Gladstone Harbour.

Within each of the zones several sites were selected from the available desktop material and any input from Gidarjil that was available with additional areas of heritage potential identified in order to fully establish an independent baseline of Gladstone Harbour. This process was informed to a high degree by Burke's 1993 study of the Coral Coast, which is the only systematic survey of the area to have been previously conducted. While this report is a comprehensive baseline of the coastal area as the project progressed, it became evident that there were some major errors with the translation of the data form this report and the other consultancy based reports within the area to the sites record within the Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) register (see section 2.1).

Following a comprehensive review of the available data, and extrapolating the likely areas of intensive occupation in each zone, a cultural locus site for each zone was also identified (see section 2.2). This site was rated against the measures in the first instance, and was used as to benchmark subsequent sites within its zone (section 2.2.3). This concept of self-referencing areas of cultural reference was inherent to the application of the subjective grading methods across a variety of landscapes and numerous differing sites.

Throughout the course of this project, a number of key terms have been adapted, utilised and developed in accordance with GHHP terminology. These are provided so as to assist with an understanding of the development of the project.

Table 3: Terminology

Indicator group	<ul style="list-style-type: none">•The cultural heritage of Gladstone Harbour.
Zone	<ul style="list-style-type: none">• One of five geographical locations considered for the project: The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island.
Cultural locus	<ul style="list-style-type: none">•Focal or key site identified within each zone and considered to be the most important for ongoing monitoring and management of that zone.•In the first year of the project, a 50 % score weighting will be attributed to this site.
Site	<ul style="list-style-type: none">•A concentrated group of heritage features within a landscape.
Monitoring station (MS)	<ul style="list-style-type: none">•A location within a site from which the heritage features, heritage elements and non-heritage features are monitored.
Heritage element	<ul style="list-style-type: none">•A single stone tool e.g. flake, chopper tool.•Often a component part in a larger heritage feature within a site. But can also be an isolated artefact.
Heritage feature	<ul style="list-style-type: none">•A group of interrelated heritage elements e.g. knapping floor, reduction sequence.•A single element worthy of consideration as a feature e.g. backed blade, stone arrangement.•Cultural, archaeological and ethnographic features e.g. signage, monuments, gravestones.
Non-heritage features	<ul style="list-style-type: none">•Disturbance e.g. refuse, tracks, animal impact.•Other features that are not archaeological but are useful in the overall assessment of cultural heritage.

1.3 Field work participants

During the course of the project, Terra Rosa was assisted by the following staff members from Terra Rosa Consulting, Gidarjil and GHHP.

Terra Rosa Consulting

Address	346 South Terrace, South Fremantle, Western Australia 6163	
Field work participants	Scott Chisholm (project leader)	Jade O'Brien (archaeologist)
	Nell Taylor (anthropologist)	Anne Golden (archaeologist)

Gidarjil Rangers

Address	32 Beckinsale Street, Gladstone, Queensland 4680
Contact	Annette Rutherford – Office Manager
Field work participants	Symeon Marou (head ranger)
	Noah Saumalu (ranger)
	Jayne Cooke (ranger)
	William Hollingsworth (ranger)
	Dwayne Lingwoodock (trainee ranger)
	Elias Mercy (trainee ranger)
	Ian Twist (trainee ranger)
	Jordan Lindley (trainee ranger)
	Kaishar Ezekiel (trainee ranger)
	Kenny Marou (trainee supervisor)
	Steven Davies (trainee ranger)
	Tyler Mercy (trainee ranger)
	Jamie Williams (trainee ranger)
	Jessie Holland (trainee ranger)

GHHP

Address	Post Box 3465, Tannum Sands, Queensland 4680
Contact	Uthapla Pinto
Field work participants	Uthpala Pinto (project manager / co-ordinator)
	John Kirkwood (Science Convener)

Plate 1: The Project Team at Wild Cattle Creek



2 Field work methodology

The method that was followed during field work was broadly consistent with the proposal that was outlined in the Milestone 1 Report. The program was designed to, as best as possible, account for:

- The geographical vastness of Gladstone Harbour, which spans approximately 70 km from Division Point at the north of The Narrows to Norton Point at the southern tip of Hummock Hill Island;
- The scoped field work timeframes for this project – place assessments conducted for seventeen days (extended from the original ten) over a three week period; and
- Physical accessibility of the zones.

2.1 Limitations

Despite the project design and field work methodology, there were some limitations that affected the field work plan.

2.1.1 Inaccuracy of the previously recorded sites

As the project developed it had not taken fully into consideration the high degree of inaccuracy of the previously recorded sites within the Gladstone Harbour. While it is common throughout Australia for similar databases to show a level of inaccuracy, it was thought that the Burke (1993) study would be accurately reflected on the register, due to detailed maps and the available site descriptions in the original report. However, during field work, sites were consistently not in the zone or area that they were recorded as being in.

The exception to this was some of the smaller shell and artefact scatters within The Narrows zone which were recorded during more recent cultural heritage management work.

This did not present a major barrier on Facing Island (as the size of the sites themselves and their visibility within the landscape compensated for the inaccuracy), or within Gladstone Central (where the focus has been on the intangible heritage values that are inherent to several well-known parks). However, at Wild Cattle Creek, the data was severely compromised.

Although not included in Burke's study, it is noted that the site locations on the west of Curtis Island and the north of The Narrows were unable to be relocated within their registered locations.

2.1.2 Consultation with PCCC elders

Another major drawback to the field work methodology is that due to community politics, consultation with the PCCC elders did not occur until after the field work had been conducted. Consequently, less information than is ideal, on the Spiritual / Social Values for the zones, has been incorporated into the results and connectedness to place was not documented. Terra Rosa is working with Gidarjil to ensure sufficient elder consultation occurs for all subsequent phases of the project. Topics that require further consultation are outlined in Section 6.2.2.

2.1.3 Time and access restrictions

Due to significant variation in tides, locked gates, dense vegetation and ferry timetables the Project Team experienced limited access to four of the five zones in the project. Inspection of Wild Cattle Creek was originally intended to include Hummock Hill Island, but the tide timings only allowed for approximately one hour on the island at low tide. This would have meant only visiting sites in immediate vicinity of the crossing.

Inspections at Wild Wattle Creek involved gaining access to a locked area through stakeholder consultation, while inspections of Facing Island encountered dense vegetation and poorly maintained tracks, as well as co-ordination with ferry timetables. Inspection of The Narrows involved gaining access to a pastoral area through consultation with the landholder who had to permit access. As a result of these restrictions, the project was limited in time for site recording and training of rangers in all of these zones.

2.1.4 Training Gidarjil rangers

When the project was initially scoped it was understood that Terra Rosa would provide informal training to four trainee Indigenous rangers. By the commencement of this project, the Gidarjil ranger team and the Green Army program has grown to approximately fifteen people. Whilst there was some consistency with the rangers who attended each day, there was an effort to expose everyone to the kind of field work completed during the project. This was fantastic for building base skills in technology, artefact identification and site recording methods, but meant that it was not possible to teach a detailed process for ongoing monitoring and management of sites. Also, the rangers, while capable and enthusiastic had limited exposure to the subject matter and benefited from the program being grounded in more tangible and measurable data.

2.1.5 Response to limitations

In light of the logistical challenges, the incomplete record, the lack of the spatial accuracy of existing data and the lack of access to key knowledge holders, a responsive and agile method was employed that focussed on rapid 'snap shots' of sites utilising digital technology on the ground. This enabled the Project Team to increase its sample size exponentially, generating increased data points. However, it necessitated a focus on the physical condition of the sites recorded and a reduced emphasis on the metric recording of the sites and their constituent features. This was thought to be consistent with an effort to "baseline" these areas; an objective that the Project Team felt it had achieved. However, this means that in the first year of this report card development less data was gathered, but over a wide area that has been designed to inform the ongoing program.

Furthermore, in the area of ranger training it was identified that this more practical approach would need to be implemented in order for the recording and management frameworks to be replicated and transferable to the rangers in the long term. Also, rather than an interpretative basis and expert and informed opinion, some of the indicators would need to be inherently tied to metric data that could be gathered on the ground.

Finally, the end result is that it was necessary to alter the structure of the relationships between the indicators (see section 3.2 below for further detail) to focus on the data that was collected, while leaving some of the theoretical structures in place to be informed by future works.

2.2 Field work methodology

2.2.1 Consultation with Gidarjil

The methodology for this project was developed in close consultation with Gidarjil management team. The table below summarises the consultative process with various Traditional Owner stakeholders throughout the project.

Table 4: Stakeholder consultations

Date	Attendees	Discussion and resolutions
29/09/2015	Scott Chisholm and Anne Golden (Terra Rosa) Peter Brockhurst (Gidarjil management team) Gidarjil Ranger team	Initial project meeting to confirm: <ul style="list-style-type: none"> • Project outcomes • Goals of Gidarjil • Capability of the ranger team • Logistics involved in accessing and recording the places • Agreement sought on the progress of the work, how to best target the field assessments, the technology to be used to record the heritage places and landscapes, and the general run sheet of the program.
7/12/2015	Scott Chisholm, Jade O'Brien, Anne Golden (Terra Rosa) 2 x PCCC elders Gidarjil management team	PCCC elder consultation to consult on: <ul style="list-style-type: none"> • Project accomplishments thus far • Methodology for site recording • Use and replicability of monitoring stations • Elders' concerns about future works that will impact cultural heritage surrounding Gladstone. • Resolution that elders who attended meeting were happy with the chosen methodology and the project outcomes thus far.

2.2.2 Documenting site values

The zones were initially sampled by targeted surveys focussed on the previously recorded sites and informed by the desktop research as defined above. The Project Team typically spent as much time as possible in identifying the constitute elements of each of the sites encountered; any obvious management issues and the optimum places to locate one or more monitoring stations. This was completed by targeted pedestrian transects as, due to the high site visibility of the areas (coastal dunes and mangroves primarily with material within the verges of the littoral zone or within deflated facing dunes), the majority of site features were easy to document.

During this process several practical work methods had to be implemented by the Project Team due to the fragile nature of the sites and surrounding environment. The following actions were implemented:

- Intact reduction sequences were not disturbed – the presence / absence of these were indicative for the purposes of this study;
- Intact stratified deposits were avoided by pedestrian traffic and recorded digitally; and
- Where practical, duckboards were utilised to minimise the disturbance by the Project Team on the site surfaces that were accessed.

The field method focussed on documenting the highest density sections of the physical manifestations of the sites visited, with base level information gathered. This documentation was conducted in collaboration with the Gidarjil rangers who were trained in operating the equipment utilised, as well as in site, artefact and feature identification.

Each place recorded was assigned a new site identification code that was reflective of the year of the study, its location and a numerical identifier. For the purposes of this study where previous signifiers are obvious they have been included as a reference point.

Plate 2: The Project Team and GHHP representatives conducting a targeted survey within the mangroves at Wild Cattle Creek



Plate 3: Gidarjil rangers and the project leader discussing artefact identification at The Narrows Quarry



Plate 4: The Project Team recording site features on Facing Island



2.2.3 Identification of a cultural locus

During discussions with Gidarjil, it was established that from an ethnographic perspective, heritage places should be considered within their localised landscapes, as this reflects traditional land use. Gidarjil suggested and in the case of The Narrows, a highly significant quarry site had been identified as a cultural locus of activity, the condition of which should form a localised baseline upon which comparisons with other heritage places are made. In other words, the sites within the zone become self-referencing to this quarry site. When measuring the cultural health of sites within the zone, the values of individual site are referenced against the benchmark that is the identified locus.

This proposal by Gidarjil resonates with the archaeological best-practice approach of using representativeness to inform a better understanding of place and consequent management recommendations. For instance, Burke (1993) suggests that the coastline sites are not more than 6,000 years old, but that sites dating to the Pleistocene maybe located on the islands off the coast. This means that the education potential and temporal context of a site that is 6, 000 years old on the coastline would have to be considered differently to a site of the same age identified in an island context. Therefore, the scientific measures of rarity and uniqueness must be tied to geographical context.

Identifying a key heritage place as a benchmarked cultural locus within a localised cultural landscape allows for comparison with all surrounding heritage places and develops an accurate cultural narrative of traditional land use (a sense of place) which informs the cultural heritage record for that zone. Once the measures for this site have been established it allows for the surrounding sites in the zone to be compared back to a known benchmark, which was done within each of the zones and specific to the sites themselves. It also enabled a reflexive field method to be developed that enabled the scope to be relatively complete by the end of the trip. Further measures were established post the field work through utilisation of the panoramic imagery.

Table 5: Cultural locus site within each zone

Zone	Cultural locus site Year 1	Grade	Score	Weighted (Y/N)
The Narrows	NAR15-01 (The Narrows Quarry)	B	0.8	Y
Facing Island	FAC15-06	A	0.9	Y
Wild Cattle Creek	WCC15-10	C	0.64	Y
Gladstone Central	GLA15-03 (Police Creek)	A	0.85	Y
Hummock Hill Island	n/a	n/a		n/a

2.2.4 Monitoring Stations (MS)

During the recording of each site, the Project Team established one or more Monitoring Stations. The number of Monitoring Stations established depended on the size and number of features identified within the site. This allowed for the capture of panoramic imagery so as

to effectively assess the physical health of each site over time. By the Project Team taking a series of 360° photos at each Monitoring Station within sites and then mapping-in the pertinent elements, features and management issues, a visual record of the place was created. This can be replicated year on year as a practical monitoring device. Some sites recorded required a single Monitoring Station while others required numerous, for example NAR15-01 (The Narrows Quarry) at which eight stations were established. A total of 45 Monitoring Stations were established across four of the five zones of the project.

A draft example of the panoramic imagery captured at one site can be accessed on the following website:

<http://interactive.trco.com.au/ghhp/TheNarrows/NAR15-01.html>

Plate 5: Gidarjil ranger William Hollingsworth with Jade O'Brien constructing a monitoring station



2.2.5 Quadcopter drone

Targeted aerial imagery of a number of sites within the zones was developed using a remote quadcopter drone. This was undertaken in order to establish environmental context of the sites and their constituent elements. It also allowed for a more detailed understanding of the topography of the areas and the impact of environmental factors on sites. For the most part, the drone was piloted by the Gidarjil rangers.

While the demonstrative use of the drone in this way enhanced the Project Team's recording methods, it is anticipated that in future years and with the use of enhanced software, detailed maps of the sites, their features and management concerns can be mapped. This will be in a much more tailored way, offering a high resolution of understanding of these issues year on year.

Drone footage of The Narrows Quarry: <https://vimeo.com/158434232>

The password to access the video is: Gidarjil

Plate 6: Gidarjil ranger Ian Twist operating the drone



3 Indicator, Sub-Indicator and Measure frameworks

3.1 Adaptation of Indicators

As highlighted in the section above, the focus of the indicators shifted as the project developed on the ground. Given the restrictions on the Project Team and the need to rapidly capture as much data as possible from a decent sample size, the approach to the indicators changed from what was initially proposed in Milestone Report 1.

The Project Team, after discussions with stakeholders including capacity discussions and a skills assessment of the rangers and trainees, determined that a more practical focus was needed for the inaugural year of the project:

- The 'Understanding' Indicator was adapted to Cultural health of sites within that zone;
- The 'Awareness' and 'Management' Indicators were combined into a single Indicator: 'Management strategies';
- Various measures from all Sub-Indicator groups were updated to reflect the important features recorded during field work; and
- The criteria for scoring the measures were adapted to ensure that they were specific, clear and measurable on an annual basis.

Numerous discussions have taken place between Terra Rosa and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) team regarding the structure of recording from Measures to Indicators. A suggestion of adopting a double hierarchical aggregation approach, as per the Environmental Indicators, was explored. However, due the presence of data from a number of levels i.e. site, zone and whole of harbour, it is proposed to continue with the current structure which allows for the cultural health of each zone to be assessed individually, prior to an aggregation of zone scores to give a final report card score for the cultural heritage (Indicator Group) of Gladstone Harbour (see section 3.5).

The following tabulated list of Indicators, Sub-Indicators and Measures are being applied from Year 1 of the project, but many have scope within their criteria to be adapted over time as the project evolves. A breakdown of how individual zones scores are aggregated to provide the final report card score for the cultural health of Gladstone Harbour is also provided.

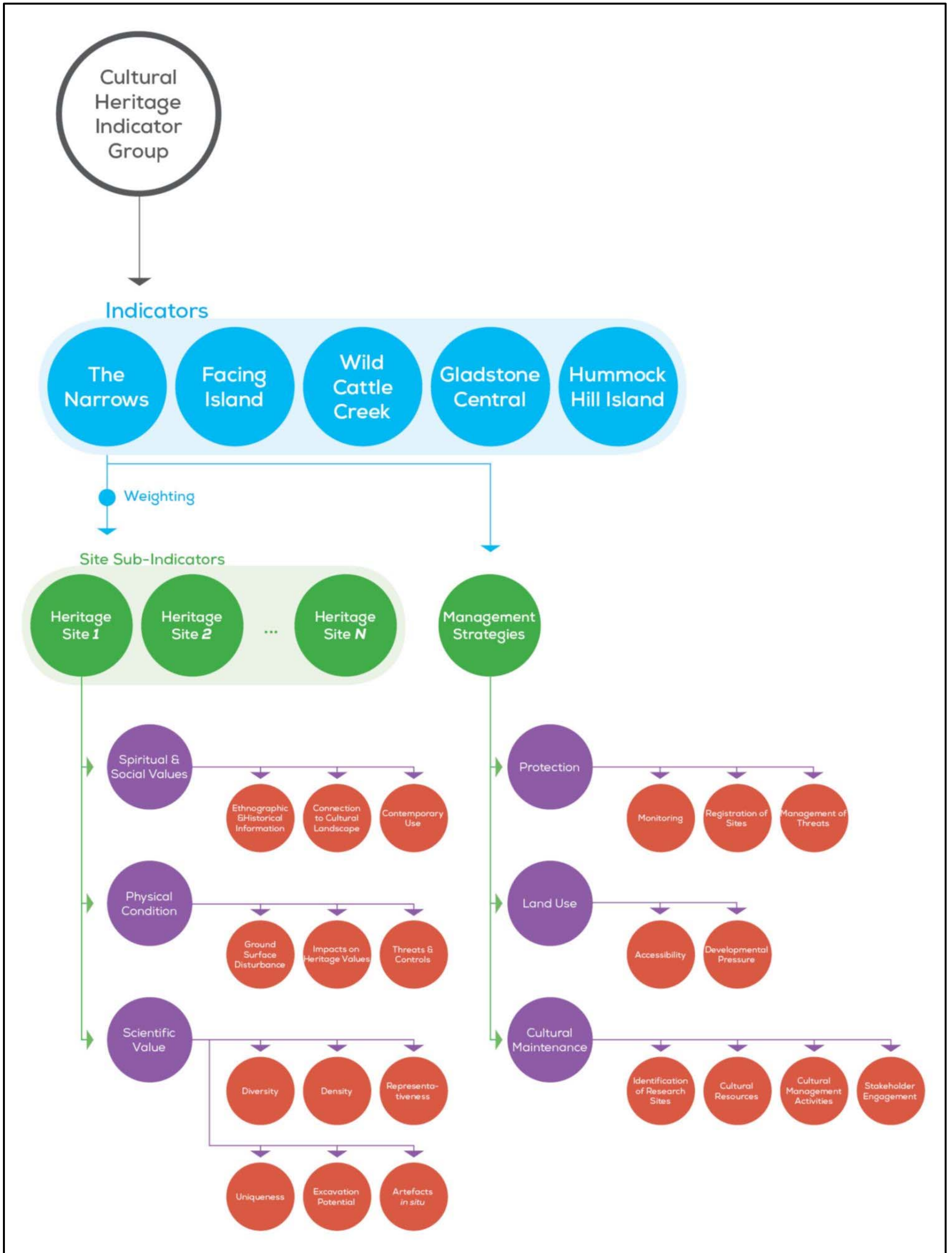
Table 6: Indicator options developed to inform the field work program

Component	Indicator Group	Indicator	Sub-indicator	Measure
Cultural	Cultural heritage	Cultural health of sites e.g. NAR15-01	Spiritual / Social Values (by site) <i>Requires Traditional Owner consultation</i>	Ethnographic and historical information
				Connection to the cultural landscape
				Contemporary use
			Scientific Values (by site; includes an aggregation of monitoring station results when necessary)	Diversity
				Density
				Representativeness
				Uniqueness
				Excavation potential
			Physical Condition (by site)	Artefacts <i>in situ</i>
				Ground surface disturbance
		Impacts on heritage values		
		Management strategies by zone e.g. The Narrows	Protection	Threats and controls
				Monitoring
				Registration of sites
			Land use	Management of threats
				Accessibility
			Cultural maintenance	Developmental pressure
				Identification and research of sites
				Cultural resources
				Cultural management activities
Stakeholder engagement				

Table 7: Report card score development

Zone	Cultural health (Indicator) score	Management strategies (Indicator) score	Overall score and grade
The Narrows	Cultural health score for The Narrows (aggregate of cultural health score for all sites within The Narrows)	Management strategies score for The Narrows	Cultural health score for The Narrows + Management strategies score for The Narrows
Facing Island	Cultural health score for Facing Island (aggregate of cultural health score for all sites within Facing Island)	Management strategies score for Facing Island	Cultural health score for The Narrows + Management strategies score for Facing Island
Wild Cattle Creek	Cultural health score for Wild Cattle Creek (aggregate of cultural health score for all sites within Wild Cattle Creek)	Management strategies score for Wild Cattle Creek	Cultural health score for The Narrows + Management strategies score for Wild Cattle Creek
Gladstone Central	Cultural health score for Gladstone Central (aggregate of cultural health score for all sites within Gladstone Central)	Management strategies score for Gladstone Central	Cultural health score for The Narrows + Management strategies score for Gladstone Central
Hummock Hill Island	Cultural health score for Hummock Hill Island (aggregate of cultural health score for all sites within Hummock Hill Island)	Management strategies score for Hummock Hill Island	Cultural health score for The Narrows + Management strategies score for Hummock Hill Island
	Overall score and grade for Cultural health of the harbour	Overall score and grade for Management strategies of the harbour	

Figure 1: GHHP Cultural Heritage Indicators



3.2 Indicator Group – Cultural heritage

The cultural heritage (Indicator Group) of Gladstone Harbour is assessed as a combination of two Indicators (the Cultural health of sites within a zone and the Management strategies applied to that zone), plus an aggregation of all zone results, so as to arrive at a single report card score. There are five zones for consideration within Gladstone Harbour: The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island (see figure 1).

This allows firstly for a calculation of the cultural health of individual sites, as well as an understanding of the management strategies within each zone. When combined, and with a weighting added (see section 3.6), a score is provided for each individual zone. These are then aggregated so as to provide a holistic calculation of the cultural heritage of Gladstone Harbour.

For example, the cultural health of The Narrows is assessed as a combination of the cultural health of its individual sites, in conjunction with the management strategies for the whole of The Narrows zone.

Figure 2: Example of assessing the cultural health of a zone



3.3 Indicator 1 - Cultural Health of Sites- Scoring Framework

The Cultural Health of sites in each zone is assessed by considering the Scientific Value, Spiritual / Social values and Physical Condition of the heritage features and elements within a monitoring station or site (as appropriate).

3.3.1 Spiritual / Social values (Sub-indicator)

The Spiritual / Social values of a site are measured at the broader site level, with consultation focussed on the holistic values of the site and its context within any ethnographic narratives. The values are designed to be derived from a framework of anthropological enquiry including ethnographic interviews with key Indigenous community members and elders (where possible).

As mentioned previously, the PCCC elders at Gladstone were largely unavailable during Year 1 of the field work program and the grades for the measures under this Sub-indicator were based on the desktop and anecdotal information gathered to date. This is a key area to improve into Year 2, and it is hoped that more information can be incorporated from a detailed consultation with PCCC elders in Gladstone for Year 2. As mentioned previously, future consultations with the Traditional Owner elders will inform the weightings given to sites deemed to be more significant.

3.3.1.1 Ethnographic and historical information (Measure)

Site files from the DATSIP register are reviewed for any recorded ethnographic information, site significance and any available historic information. Ideally this is then further informed by the site-specific knowledge held by the Traditional Owners so as to build a picture of the broader ethnographic narrative for each site.

Table 8: Ethnographic and historical information grades and criteria

Grade	Criteria (all years)
A	Desktop research continues to inform ethnographic and historical information about a site. Detailed archaeological recording of site features and elements continues to build an understanding of its previous use. The Traditional Owners are aware of this information and the growing narrative of the site.
B	Desktop research has informed the ethnographic and historical information about a site. Monitoring station/s have given an insight into its previous use. The Traditional Owners are aware of this information and the growing narrative of the site.
C	Desktop research has provided limited informed regarding the ethnographic and historical information about a site. Monitoring station/s provide limited insight into its previous use. The Traditional Owners are aware of limited information about the site.
D	The site or its type does not occur in the written record. Monitoring station/s provide minimal insight into the previous use of the site. Limited consultation with

	Traditional Owners has taken place.
E	No desktop research has occurred. The site has not been previously documented or recorded. No consultation has occurred with Traditional Owners about the site.

3.3.1.2 Connection to the cultural landscape (Measure)

Connection to the cultural landscape is ideally defined by ethnographic interviews focussing on ascertaining the level of spiritual and social value attached to the site in the context of the traditional patterns of cultural activities within the zone. In the absence of interviews, the connection of a site to the landscape can be inferred through using the archaeological record in conjunction with available ethno-historical desktop research. In Year 1 ethnographic interviews were not possible and the latter methodology was used to define the following grades.

Table 9: Connection to the cultural landscape grades and criteria

Grade	Criteria (all years)
A	The heritage features of a site clearly demonstrate its importance and significance in cultural life within the zone, past or present. There is a clear narrative that the site was a focus of past activities within the zone. The information about the site adds greatly to the cultural narrative of the zone.
B	The heritage features of a site suggest its probable importance in cultural life within the zone, past or present. It is consistent with the broader ethnographic narrative that has been developed for the zone.
C	The heritage features of a site suggest previous use for cultural purposes within the zone, past or present. It is consistent with the understanding of past cultural activities of the zone.
D	The heritage features of a site provide limited information regarding its use for cultural purposes within the zone. The site does not clearly show a spiritual or social connection to the zone.
E	The site is contextually isolated to the point where it contains no measurable spiritual or social values in the context of the zone.

3.3.1.3 Contemporary use (Measure)

Contemporary use is a critical factor when considering the social and spiritual value of a site. This measure considers the visitation of the site by those for whom it is most significant. Ideally this is ascertained through ethnographic information which identifies the regularity of visitation to sites by members of the Traditional Owner community. During Year 1, in the absence of ethnographic interviews, this was measured by consulting Gidarjil management and the rangers about the visitation of their family members to the sites.

Table 10: Contemporary use of the place grades and criteria

Grade	Criteria (all years)
A	The site is visited at least annually by members of the Traditional Owner group. Visitation of the site may also be in a digital format.
B	The site is visited at least every second year by members of the Traditional Owner group. Visitation of the site may also be in a digital format.
C	The site has been visited in the last 5-10 years by members of the Traditional Owner group. Documentation and digital resources of the site have been created.
D	The site has historically been visited in living memory by members of the Traditional Owner group. Limited documentation and digital resources of the site have been created.
E	The site is not currently visited by members of the Traditional Owner group and there is no available digital access to the site.

3.3.2 Scientific values (Sub-indicator)

Scientific values are measured at a site level by monitoring stations. When more than one monitoring station is installed at a site, an aggregation of all monitoring stations score results produces a score for the overall scientific value of that site. Scientific value is assessed by the measures of diversity, density, representativeness, uniqueness, excavation potential and whether or not the artefacts are *in situ*.

Measuring the scientific or archaeological value is important in building the baseline record of sites within each zone. This allows the rangers to monitor change over time to the heritage features and elements at monitoring stations within sites. An annual monitoring form is provided in Appendix 2 and is an essential practical tool for measuring scientific value.

In assessing scientific value, only heritage features are considered, whilst non-heritage features e.g. track disturbance, are considered under the physical condition Sub-indicator.

The grading framework for scientific values has been designed so that any of the measures can be excluded from assessment and grading for particular monitoring stations that do not have certain heritage features. In this way, only relevant scientific measures are applied to monitoring stations so that an accurate score can be generated. For example excavation potential is not considered for sites that have no potential for stratified deposits such as WCC15-11, a culturally modified scar tree. The measures of density and diversity are also excluded in this instance as they are irrelevant when assessing the scientific value of a culturally modified scar tree site. This exclusion of certain measures and their grades is decided upon for each individual monitoring station.

This Sub-indicator is not measured for sites with purely ethnographic values, for example GLA15-02 (Hector Johnson Park), which will be considered under Spiritual / Social values (see section 3.3.1).

As such, the below scores are indicative frameworks of how some of the sites have been graded and scored, but not necessarily reflective of the scoring within each site or even zone. In some of the areas where there was a clearly established baseline early in the recording process we were able to apply a method that focussed on grading the sites relative to each other and the cultural focus of the area. These scores are considered to be a key area for improvement in the transfer of the project to the Gidarjil rangers as the project develops and will be discussed in detail in the final report.

3.3.2.1 Diversity of heritage features (Measure)

This grade represents the complexity of the heritage features and elements that have been recorded within a monitoring station. For each monitoring station the identified heritage features and their comprising elements were assessed individually and collectively for their diversity, i.e. their similarities, differences and individual contribution to the understanding of the previous cultural use of that specific portion of a site.

The diversity score is calculated by grouping the heritage features of a monitoring station according to similar characteristics and dividing this number by the total number of heritage features at that station (see table 11). For sites with multiple monitoring stations the diversity score for each monitoring station is calculated and then averaged across the site to give an overall diversity score for that site.

Table 11: Heritage feature groupings

Heritage features at NAR15-02 MS2	Feature Group
Conjoining silcrete flake	Conjoining flake
Silcrete flake	Flakes
Silcrete blade	
Knapping floor	Knapping floor
Knapping event	

In the above example; three identified feature groups were identified and are divided by the total number of heritage features identified at that monitoring station i.e. five. This gives a percentage result of 60 % for scientific diversity at this monitoring station.

Table 12: Diversity of heritage features grades and criteria

Grade	Criteria (all years)
A	80-100% diverse
B	60-79% diverse
C	40-59% diverse

D	20-39% diverse
E	0-19% diverse

3.3.2.2 Density of heritage features (Measure)

This is a measure of the density of identified heritage features and elements per monitoring station. During Year 1, the maximum number of heritage features identified and recorded at any one monitoring station was 15. This is seen to be an achievable target for appropriate monitoring stations and sites. However, as outlined above (section 3.3.2), not all monitoring stations will have this measure applied and graded. Heritage features cover a range of site features, including artefacts, artefact assemblages (reduction / knapping floors), middens, shell lenses, unique artefact types, narrative features or landscape elements that meaningfully add to the understanding of the site.

Table 13: Density of heritage features grades and criteria

Grade	Criteria (all years)
A	The monitoring station contains 15 or more heritage features.
B	The monitoring station contains 10-14 heritage features.
C	The monitoring station contains 5-9 heritage features.
D	The monitoring station contains less than 2-4 heritage features.
E	The monitoring station contains less than 2 heritage features.

3.3.2.3 Representativeness (Measure)

Connection to the cultural landscape is scientifically defined by how reflective a heritage feature or element is of other known heritage features in each site and across the greater zone. It allows for the development of data on patterns of past cultural use within sites and zones. For example, on Facing Island, five of the six sites are recorded as shell midden artefact scatters, suggesting this site type is common on the island and that future sites identified within this zone have a high probability of also being shell midden artefact scatters.

Understanding representativeness contributes to the better health of the site and the zone by giving insight into how to manage it appropriately. Representativeness is defined by examining all identified heritage features and elements within each site and zone and measuring them against one another. This was based on the known desktop research and site patterning works detailed in the Stage 1 Report, as well as field verification and comparison.

Table 14: Representativeness grades and criteria

Grade	Criteria (all years)
A	The heritage features of a monitoring station occur in 80-100% of other monitoring stations in the zone.
B	The heritage features of a monitoring station occur in 60-79% of other monitoring stations in the zone.
C	The heritage features of a monitoring station occur in 40-59% of other monitoring stations in the zone.
D	The heritage features of a monitoring station occur in 20-39% of other monitoring stations in the zone.
E	The heritage features of a monitoring station occur in 0-19% of other monitoring stations in the zone.

3.3.2.4 Uniqueness (Measure)

This measure relates to monitoring stations and sites containing heritage features that have not been identified anywhere else in the zone. Understanding uniqueness is important as it is a means of highlighting stand-out features within sites. It is likely that monitoring stations that score highly for uniqueness will not be graded against the measure of representativeness. Please refer to Table 3 which outlines examples of heritage features assessed for individual monitoring station, and the associated ICHD where all the heritage features for each monitoring station are evident.

Table 15: Uniqueness grades and criteria

Grade	Criteria (all years)
A	The monitoring station contains heritage feature/s that have not been identified anywhere else in the zone, or are seen to be the best quality examples of this heritage feature type.
B	The monitoring station contains heritage feature/s that have been identified in less than 25% of other monitoring stations in the zone, or are seen to be amongst the best quality examples of this heritage feature type.
C	The monitoring station contains heritage feature/s that have been identified in 26-50% of other monitoring stations in the zone.
D	The monitoring station contains heritage feature/s that have been identified in 51-75% of other monitoring stations in the zone.

E	The monitoring station contains heritage feature/s that have been identified in 76-100% of other monitoring stations in the zone.
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3.3.2.5 Excavation potential (Measure)

Stratification is assessed through visual inspection and subsurface probing where appropriate. This was used to assess whether any future research through an archaeological excavation may or may not be appropriate. As outlined above (section 3.3.2), this measure is not applicable to all monitoring stations or sites.

Table 16: Excavation potential grades and criteria

Grade	Criteria (all years)
A	The deposit exhibited clear and deep stratification (greater than 15 cm).
B	The deposit exhibited clear stratification but is less than 15 cm deep.
C	The deposit exhibited stratification with minor disturbance.
D	The feature exhibited stratification with significant disturbance.
E	The feature exhibited shallow and significantly disturbed stratification

3.3.2.6 Artefacts in situ (Measure)

Heritage features and elements that are *in situ* have been retained over time in their original positions. This suggests a lack of interference or disturbance to the original fabric of the site and can elicit meaningful data regarding the remnant behavioural relationships of the heritage features and elements, suggesting that heritage features are highly intact. This includes midden sites and artefact scatters and is a general representation of whether the features that have been identified are wholly in their depositional context. This criteria was not applicable to intangible or non-artefactual site features.

Table 17: Artefacts in situ grades and criteria

Grade	Criteria (all years)
A	80-100% of the heritage features and elements are <i>in situ</i> and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
B	60-79% of the heritage features and elements are <i>in situ</i> and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
C	40-59% of the heritage features and elements are <i>in situ</i> and artefacts can be refitted and/or the behavioural relationship of the elements is unclear.
D	20-39% of the heritage features and elements are <i>in situ</i> .

E	The artefacts are largely not <i>in situ</i> , artefacts cannot be refitted and the behavioural relationship of the elements is not apparent.
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3.3.3 Physical condition (Sub-indicator)

When monitoring a site, its physical condition is the most obvious indication of the health of that site. Its assessment facilitates firstly, a baseline condition report for that site and any visible impacts and disturbances to the site, and secondly allows for future heritage management planning specific to that site. Consideration is given in this grade assessment to ground surface disturbance, the impact of this on heritage values within a site and the control of threats for a site.

3.3.3.1 Ground surface disturbance (Measure)

Assessment of ground surface disturbance within a site is carried out by analysing the portion of the site that has not been disturbed versus that which has been impacted by either environmental, animal or human causes. This allows for a proportion of site disturbance to be estimated. During monitoring works, the causes of disturbance are also recorded in order to inform the whole of zone management strategies. In addition, a comparison of yearly grades for ground surface disturbance will allow for the calculation of the speed at which the site is deteriorating over time.

Table 18: Ground surface disturbance grades and criteria

Grade	Criteria (all years)
A	Less than 20% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
B	20-39% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
C	40-59% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes
D	60-79% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
E	80% or more of the ground surface within the site has been heavily impacted.

3.3.3.2 Impact on heritage values (Measure)

Once the ground surface disturbance grading is established, it is important to assess the impact of any such disturbance on the heritage features and elements within a site. Over time this shows stability or deterioration of the scientific (and often ethnographic) values of the site, as a result of the environmental, animal or human disturbances. A comparison of yearly grades for the impact of disturbance on heritage values within a site will allow for the calculation of the speed at which the heritage features within a site are deteriorating over time.

Table 19: Impact on heritage values grades and criteria

Grade	Criteria (all years)
A	Ground surface disturbance has not impacted the heritage value of the site.
B	Ground surface disturbance has compromised less than 25% of the heritage values of the site.
C	Ground surface disturbance has compromised 25-50% the heritage values of the site.
D	Ground surface disturbance has compromised 51-75% the heritage values of the site.
E	Ground surface disturbance has compromised more than 75% of the heritage values of the site.

3.3.3.3 Threats and controls (Measure)

A key to the ongoing health of the harbour is to effectively document site threats and implement controls that have the potential to mitigate or remove the effect of these threats on the cultural heritage values of a site. Each site within a zone will have a threats register which will allow for the tracking of the progress of the identification and mitigation of these threats. Examples of threats include:

- Environmental such as storm surges, inundation and erosion;
- Animal such as burrowing, trampling and animal waste; and
- Human such as tracks, vehicles, paths, trampling and boating activities.

Year on year, the count of threats to the site will be documented, with the intention to implement control measures.

Table 20: Threats and controls grades and criteria

Grade	Year 1 - Criteria	Years 2, 3, 4 etc. - Criteria
A	There is no present threat to the site.	The site is under no present threat and/or all identified threats have been controlled. The site is stable.
B	1-2 threats identified within the site.	More than 75% of identified threats to the site have been controlled.
C	3-4 threats identified within the site.	50-75% of identified threats to the site have been controlled.
D	5 or above threats identified within the site.	25-49% of identified threats to the site have been controlled.
E	Site is under immediate threat from environmental, animal or human disturbance.	Less than 25% of identified threats to the site have been controlled. Site is under immediate threat from environmental, animal or human disturbance.

3.4 Indicator 2 - Management Strategies by zone - Scoring Framework

To assess the effective management of each zone (The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island), three Sub-indicators have been established:

- Protection;
- Land use; and
- Cultural maintenance

These encompass the holistic suite of activities that the rangers will work on to manage, protect and build knowledge of the heritage resource within a particular zone. Examples include: compiling a threats register for each zone; implementing site specific management activities such as fencing or signage in each zone; accessing and updating the GHHP database; maintaining online Panoramic Tours of zones; and continued research of new and existing sites within each zone. Concurrently, this management strategies Indicator will contribute to an understanding of what the rangers are achieving in regards to promoting heritage health.

It is likely that these Sub-indicators and their informing Measures will not be assessed in the field at individual monitoring stations, but in the office upon reflection of the cultural heritage management works completed during the year in each zone.

3.4.1 Protection (Sub-indicator)

This management strategy Sub-indicator is based on the physical implementation of protective measures within a zone so as to ensure the protection of that zone and the sites within. This involves the site monitoring, the registration of sites with GHHP's ICHD and where possible, DATSIP, and the management of threats to sites at zone level.

3.4.1.1 Monitoring (Measure)

The monitoring grade has been based around tracking the ability of the rangers to continue the implementation of the cultural health indicators by setting up monitoring stations. These are set up in previously unrecorded sites, or in areas of previously recorded larger sites which will benefit from an additional monitoring station. In Year 1, the maximum number of monitoring stations established in a particular zone was 12, giving this Sub-indicator an 'A' Grade (see table 21).

In subsequent years, the monitoring stations will be revisited so as to monitor the change over time and assess the health of sites. Subsequent years may also see the establishment of new monitoring stations in previously unrecorded sites or areas of interest within already recorded sites.

Table 21: Monitoring grades and criteria.

Grade	Year 1 - Criteria	Years 2, 3, 4 etc. - Criteria
A	12 or more monitoring stations are established within the zone.	80-100% of existing monitoring stations are visited annually and/or new monitoring stations have been established within the zone.
B	6-11 monitoring stations are established within the zone.	60-79% of existing monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
C	3-5 monitoring stations are established within the zone.	40-59% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
D	1-2 monitoring stations are established within the zone.	20-39% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
E	No monitoring stations are established within the zone.	0-19% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.

3.4.1.2 Registration of sites (Measure)

This is a measure of the immediate response to site discovery and re-assessment. Ideally, new information should firstly be lodged with GHHP's ICHD, with the possibility of providing site information to DATSIP and appropriate individual land or tenement holders, as long as the PCCC are in agreement. It is not considered effective to rely on the DATSIP register alone, though it is acknowledged as an important tool.

Table 22: Registration of sites grades and criteria.

Grade	Years 2, 3, 4 etc. - Criteria
A	80-100% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
B	60-79% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
C	40-59% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
D	20-39% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
E	0-19% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.

3.4.1.3 Management of threats (Measure)

A key to the ongoing health of the harbour is to effectively document site threats and implement controls that have the potential to mitigate or remove the effect of these threats on the cultural heritage values. As discussed above (section 3.3.3; physical condition Sub-indicator), each site within a zone will have a threat register and the tracking of the progress of the identification and mitigation of these threats will involve the threats register being monitored by rangers yearly at a zone level, and rated as follows.

Table 23: Management of threats grades and criteria

Grade	Years 2, 3, 4 etc. - Criteria
A	80-100% of control measures for the zone are implemented.
B	60-79% of control measures for the zone are implemented.
C	40-59% of control measures for the zone are implemented.
D	20-39% of control measures for the zone are implemented.
E	0-19% of control measures for the zone implemented.

3.4.2 Land Use (Sub-indicator)

This management strategy Sub-indicator is based on The Australian Land Use and Management Classification system (ALUM) which reflects the current land use in the zones. An examination of land use allows for a desktop assessment of the limitations for heritage management activities and potential developmental pressures upon individual sites within each zone. This desktop assessment is confirmed yearly through field work assessments and monitoring.

3.4.2.1 Accessibility (Measure)

This relates to the accessibility of the zones and the sites therein, based on the ALUM land use classification and a visual inspection of the zone during field work. Ideally, a healthy heritage resource is one that is easily accessible for heritage management (e.g. not behind locked gates and freehold pastoral tenure). Accessibility can be improved by creating positive relationships with local landholders and by negotiating heritage management outcomes with stakeholders, for example, an agreement established for yearly surveying and monitoring on a property.

Such improvements were noted during Year 1 within The Narrows zone. The field team engaged in consultation and negotiation with a pastoral leaseholder to access The Narrows Quarry (NAR15-01). This resulted in positive outcomes for both parties with the field team gaining access to the site, under reasonable and attainable conditions, while the pastoral leaseholder was provided with an opportunity to highlight his concerns regarding animal activity throughout the quarry.

With regards general land use by the public, the threat of negative accessibility to zones is included in the management of threats Measure under the Protection Sub-indicator (see Section 3.4.1).

Table 24: Accessibility grades and criteria.

Grade	Criteria (all years)
A	80-100% of the sites within the zone are easily accessible for heritage management activities.
B	60-79% of the sites within the zone are easily accessible for heritage management activities.
C	40-59% of the sites within the zone are easily accessible for heritage management activities.
D	20-39% of the sites within the zone are easily accessible for heritage management activities.
E	0-19% of the sites within the zone are easily accessible for heritage management activities.

3.4.2.2 Development Pressure (Measure)

This relates to the development pressure potentially impacting zones and the sites therein, based on the ALUM land use classification and a visual inspection of the zone during field work. The zones face varying degrees of pressure from tourism, housing, recreational and industrial development. An essential component of establishing grades for this Measure is the research of current and future proposed developments for each zone and the wider Gladstone Harbour area.

Table 25: Developmental pressure grades and criteria

Grade	Criteria (all years)
A	The zone is not under pressure by future developments.
B	The zone is assumed to not be under developmental pressures.
C	The zone is known to be under pressure in the long term.
D	The zone is under pressure in the medium term.
E	Development is impending immediately in the zone.

3.4.3 Cultural maintenance (Sub-indicator)

This Sub-indicator is designed to reflect the reality of the cultural health of the zones being managed by the Traditional Owners. In this increasingly proactive role, Traditional Owners will maintain their heritage values through further identification and research of sites, development of digital and physical cultural resources and by engaging and collaborating with stakeholders to fulfil joint cultural heritage aims. This Sub-indicator is intended to be assessed by the rangers in the office upon reflection of what cultural maintenance activities have been achieved over the year.

3.4.3.1 Identification and research of sites (Measure)

It is important for the longevity of the project that sites documented in each zone are included in the ICHD, with the potential for information to be added and updated on a yearly basis. This Measure has been designed so that it is not always necessary to identify and record new sites every year in order to gain a high grade. High scoring grades can also be achieved through revisiting sites for monitoring, further ethnographic comment and archaeological research. Further research into the heritage features and elements within previously identified sites assists in building the knowledge of the heritage resources.

An 'A' grade criteria has been established following Year 1 field work, where the total number of sites recorded across the five zones was 26, resulting in the average number of sites recorded within a zone being approximately six. It is considered achievable each year for six new sites to be identified or six previously recorded sites to be researched. However, this Measure is not appropriate for Gladstone Central, where during Year 1, a total of three sites were recorded.

Table 26: Identification and research of sites grades and criteria.

Grade	Criteria (all years)
A	6 or more sites are identified and/or researched within the zone for input into the ICHD.
B	4-5 sites are identified and/or researched within the zone for input into the ICHD.
C	3-4 sites are identified and/or researched within the zone for input into the ICHD.
D	1-2 sites are identified and/or researched within the zone for input into the ICHD.
E	0 sites are identified and/or researched within the zone.

3.4.3.2 Cultural resources (Measure)

This refers to the available digital and physical resources that store knowledge and information about cultural heritage within each zone. These can include digital resources such as the ICHD and Panoramic Tours, and physical resources such as signage. Currently two sites within Gladstone Central contain specific interpretative information on signage describing the history and cultural values of the place. There are also numerous plaques and interpretative stations around Gladstone providing information on the traditional inhabitants of the area. A high grade would see the incorporation of more interpretative elements into zones (both physical and digital). This is an easily achievable way of continually improving the cultural health score of each zone.

Table 27: Cultural resources grades and criteria

Grade	Criteria (all years)
A	75-100% of sites within a zone have both physical and digital interpretative elements. Signage includes descriptions as to why sites are significant and the digital data for the group is actively promoted and accessed by the public.
B	50-74% of sites within a zone have both physical and digital interpretative elements. Signage includes descriptions as to why sites are significant and the digital data for the group is actively promoted and accessed by the public.
C	25-49% of sites within a zone have either physical or digital interpretative elements. Signage includes descriptions as to why sites are significant and the digital data for the group is actively promoted and accessed by the public.
D	Less than 25% of sites within a zone have either physical or digital interpretative elements.

E	No sites within a zone have any physical or digital interpretative elements.
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3.4.3.3 Cultural management activities (Measure)

A measure of cultural maintenance is how proactive heritage management is in progressing through activities within each zone. This can include items such as the installation of fencing, signage, interpretative information and environmental restoration. Not all of these activities would be appropriate for all zones and the sites within. Therefore heritage management planning must occur in order to establish which necessary activities are required for specific sites.

It is intended that through the ranger program, planning around heritage management will continue to grow during yearly monitoring, which may also offer the opportunity for some of the abovementioned activities to occur.

Table 28: Cultural management activities grades and criteria

Grade	Criteria (all years)
A	A heritage management plan is prepared and implemented for the zone and/or 80-100% of activities are in progress.
B	Heritage management planning has occurred for the zone and/or 60-79% of activities are in progress.
C	Heritage management planning has occurred for the zone and/or 40-59% of recommended activities are in progress.
D	Heritage management planning has occurred for the zone and/or 20-39% of recommended activities are in progress.
E	No heritage management planning has occurred for the zone and/or no activities are in progress.

3.4.3.4 Stakeholder engagement (Measure)

This measure was designed to rank the ability of the project to interface with associated stakeholders to facilitate further monitoring and research, and also to fulfil joint cultural heritage and land management aims. ‘Stakeholders’ refers to PCCC Traditional Owners, Gidarjil rangers, GHHP representatives, landholders, government agencies and other local stakeholders. An example of positive stakeholder engagement occurred during Year 1: the project outcomes were vastly enabled by positive engagement with local landholders who were notified about the project and facilitated access to zones, specifically The Narrows and Wild Cattle Creek.

Table 29: Stakeholder engagement grades and criteria.

Grade	Criteria (all years)
A	Representatives from all the stakeholder groups are actively engaged in the project and support ongoing management activities and future project outcomes.
B	The majority of stakeholders are engaged in the project and support ongoing management activities and future project outcomes.
C	The majority of stakeholders are engaged in the project but do not support or are not aware of ongoing management activities and future project outcomes.
D	A minority of stakeholders do not support the project and are disengaged from the project outcomes.
E	The majority of stakeholders do not support the project and are disengaged from the project outcomes.

3.5 Report Card Methodology

The Measures for recording the Cultural heritage of Gladstone Harbour are defined in sections 3.6 and 3.7 and are all assessed with a grade results from 'A' through to 'E'. Scores have been generated for each Measure by assigning numerical equivalent values between 0 to 1. Following final numerical analysis, the final grades for Indicators and the Indicator Group are provided on an 'A' to 'E' scale.

Table 30: Scoring grades

Score	Grade
0.85 - 1	A
0.65 - 0.84	B
0.50 – 0.64	C
0.25 – 0.49	D
0.00 – 0.24	E

3.6 Scoring methodology – Indicator 1

To generate grades for Indicator 1 (Cultural Health of Sites) the Sub-Indicators of Spiritual / Social Values and Physical condition is completed for a site as a whole. For the Sub-Indicator of Scientific values, this is completed by establishing an aggregate of all monitoring station results to provide a single scientific value grade for each site. These grades are

assigned a corresponding score from the above table, which are averaged to find the final score and grade. As seen in table 31, some final scores are represented as decimals. Such scores are rounded to the nearest whole number so as to find the corresponding grade. Results should always be calculated numerically by score; grades are provided so as to provide a representation of cultural health at varying stages of calculations.

An example of the scoring method used to establish results for Indicator 1 (Cultural health of sties) is provided below (table 31 and 32). This method was used on all sites identified during Year 1 of the project and the results are summarised in section 5 and appendix 1.

Table 31: Worked example of generating a Cultural health score for FAC15-06

Sub-indicators	Measures	MS1	MS2	Unweighted score
Spiritual / Social values	Ethnographic and historical information			0.55
	Connection to the cultural landscape			1
	Contemporary use			0.6
	Average spiritual / social score			0.72
	Grade for spiritual / social values			B
Scientific values	Diversity	1	1	1
	Density	1	1	1
	Representativeness	1	0.75	0.8
	Uniqueness	1	1	1
	Excavation potential	1	1	1
	Artefacts in situ	1	1	1
	Average scientific score			0.98
	Grade for scientific values			A
Physical Condition	Ground surface disturbance			1
	Impacts to place (anthropogenic, enviro)			1
	Threats and controls			1
	Average condition score			1
	Grade for condition			A
Average overall score for Cultural Health of FAC15-06				0.9
Final grade for Cultural Health of FAC15-06				A

3.6.1 Weighting – Year 1

In order to produce a final result for the Cultural health of sites Indicator within each zone, it is necessary to combine and average the individual site scores within the zone. This requires consideration for the weighting applied to different sites. Weightings are intended to be assigned by ethnographic consultation and identify the more important and significant sites in a zone. In absence of the ethnographic interviews in Year 1, it was decided that a 50 % score weighting would be given to the cultural locus site within each zone.

Figure 3: Worked example of weighting applied to Facing Island during Year 1

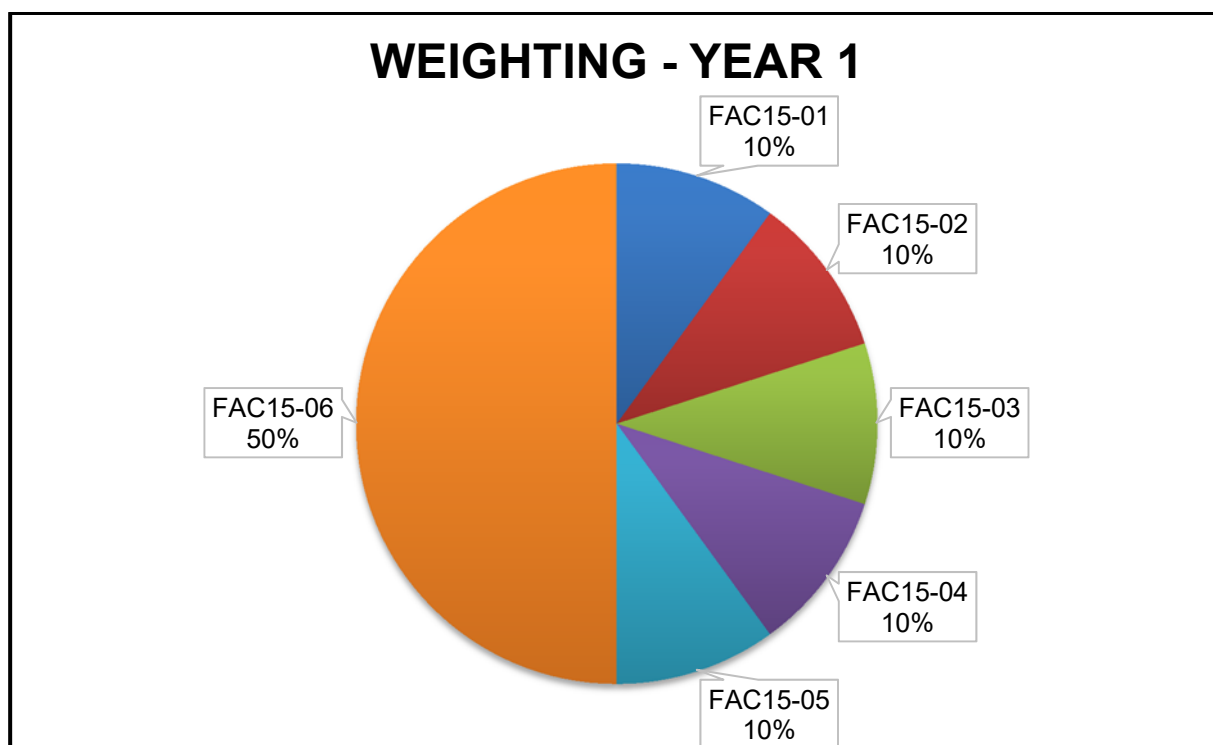


Table 32: Worked example of generating a weighted score for Cultural health of sites (Facing Island)

Site Number	Total score	Year 1 Weighting applied	Weighted score
FAC15-06 (Cultural locus)	0.9	50%	0.45
FAC15-01 FAC15-02 FAC15-03 FAC15-04 FAC15-05	0.56	50%	0.28
Sum of weighted scores			0.73

Final Grade for Cultural Health of Sites Indicator	B
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3.7 Scoring methodology – Indicator 2

The scoring for the Management Strategies (Indicator 2) is achieved by scoring the measures explained in section 3.4 against the grades at a zone level. An example of this scoring is worked through for the Facing Island zone in tables 33 and 34.

Table 33: Worked example of generating a Management Strategies score for Facing Island

Sub-indicators	Measure	Score	Weighted Score
Protection (40% weighted)	Monitoring	0.6	0.2
	Registration of sites	0.8	
	Management of threats	0.1	
Land use (20% weighted)	Accessibility	0.6	0.13
	Developmental pressure	0.7	
Cultural Maintenance (40% weighted)	Identification and research of sites	0.5	0.18
	Cultural resources	0.1	
	Cultural management activities	0.5	
	Stakeholder engagement	0.7	
Score		0.52	0.51
Final grade for Management Strategies Indicator		C	C

With the ongoing development of the ICHD, it became apparent that Protection and Cultural Maintenance were stronger indicators of the effectiveness of Management Strategies than Land Use. It is still important to consider Land Use in assessing Management Strategies, though the Sub-indicator could unintentionally skew the overall management strategy score. This is in large part due to the reality that there was a stated aim to develop frameworks that measured the cultural record and health as at now, and not as at some idealised point in history. This is consistent with the philosophy underpinning the reference sites within the area, and also an attempt to not make the frameworks subject to forces that are largely outside of the control of GDC, the partnership and other factors. We suggest that in future years the weighting of these factors is developed through a similar community perceptions and values questionnaire as conducted by the other social indicator teams (see recommendations below), but in the absence of any available data have suggested that a weighting be developed that minimise the impact of the land usage (typically a negative

variable) and emphasises the Protection and Cultural Maintenance (generally a positive value where it is available). This is underpinned by some anecdotally and assumption based evidence from the field trips.

As a result, a weighting was applied to these Sub-indicators, with Protection and Cultural Maintenance being allocated a 40 % weighting each, and Land Use being allocated a 20 % weighting. This better reflects the significant management strategies within each zone.

3.8 Indicator Group – Scoring Framework

The final grade for the Indicator Group (Cultural heritage) is based on a combination of the following:

- The average grade from two Indicators at site and zone level:
 - Indicator 1. Cultural health of sites; and
 - Indicator 2. Management Strategies;
- The application of weighting to the cultural locus sites within Indicator 1; and
- An aggregation of all scores from across all five zones.

Table 34: Worked example of generating the Indicator Group (Cultural heritage) score for Facing Island

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.73
Management Strategies (Indicator 2)	0.52
Average score	0.625
Final grade for Indicator Group	C

3.9 Weightings – subsequent years

In subsequent years of this project, the weighting will be revised following Traditional Owner consultation on the Spiritual / Social Value of individual sites. This will define which sites are of:

- High priority; or
- Low-medium priority.

The priority rating of a site relates to its importance and significance. Significance (as outlined in the Milestone 1 Report) relates to tying the heritage values of a place to cultural significance, which means: “aesthetic, historic, scientific, spiritual or social value for past, present or future generations”. These are “embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects” (The Burra Charter; ICOMOS, Australia). Sites of high priority or high significance within Gladstone Harbour are those to which The Burra Charter can be assigned, and which are aesthetically, historically, scientifically, spiritually or socially valuable to the PCCC elders. Lower priority sites are comparatively less significant and important to the PCCC elders.

Weightings of low and high priority sites will allow the PCCC community to decide which sites are the most important and significant and should be considered for specific management activities to protect and build understanding. This practice will enable a more nuanced understanding of the heritage resource and guide future investigations in the area.

Any successful sites management activities at High Priority sites would be positively reflected in the final score for that zone.

It is envisaged that sites deemed by elders to be High Priority will attract between 50 – 75 % of the Cultural Health of Sites grade for the zone. The final figure will be determined during subsequent years of the project, in consultation with Traditional Owners.

4 Field Work Results

During the course of the project, the Project Team spent a total of seventeen days conducting field work across four of the five zones. At the end of the fieldwork, a total of 45 monitoring stations were established across 26 sites. At all recorded sites, at least one and up to a maximum of eight monitoring stations were established. Additional monitoring stations were established depending on the size and complexity of individual sites, so as to comprehensively record the scientific values of the site. The Social / Spiritual values and the Physical Condition of the places were analysed and recorded based on a broader recording of the site as a whole.

The 'A' to 'E' assigned grades for Measures were assigned a corresponding numerical value of 1 to 5 (see section 3.5) to arrive at an aggregate score for the zones. These scores were then averaged to provide the overall Indicator Group (Cultural heritage) score for Gladstone Harbour.

Table 35: Overall score for Gladstone Harbour Year 1

Zone	Average scores	Grade
The Narrows	0.58	C
Facing Island	0.64	C
Wild Cattle Creek	0.55	C
Gladstone Central	0.8	B
Hummock Hill Island	n/a	n/a
Overall average	0.51	
Final Average Grade		C

For each of the zone, a list of the sites identified is included as is a summary of the sites that are the cultural locus of each zone. A results map for each zone illustrating the location of sites within is provided in Appendix 2.

Full details of the sites, their scores and the assembled data will be uploaded to the Data and Information Management System (DIMS) after the submission of the Draft Report. Updated site data will then be lodged with DATSIP, should the PCCC Traditional Owners consent to this process.

4.1 Field Work Results – The Narrows

A total of six sites were recorded within The Narrows, including:

- One extremely large and exceptionally dense quarry site (NAR15-01 – The Narrows Quarry);
- One Artefact Scatter (NAR15-02), and;
- Four small middens (NAR15-03, NAR15-04, NAR15-05 and NAR15-06).

Given both the scientific and the cultural importance of the quarry site, it is determined to be the cultural locus site within this zone and is used to benchmark the other sites of the zone.

4.1.1 Cultural locus for The Narrows: NAR15-01 – The Narrows Quarry

NAR15-01 (The Narrows Quarry) is an extensive silcrete outcrop located approximately 21 km northwest of Gladstone in The Narrows, along Targinie Creek. The quarry is approximately 2 km in length (north to south) and up to 500 m wide in places. This site is the cultural locus of The Narrows zone. It is a truly unique example of an extremely dense and complex quarry site in the context of coastal Queensland.

This site demonstrates widespread quarrying of the silcrete raw material by Aboriginal people so as to manufacture stone tools. The material present is very varied and includes extensive quarried and unquarried raw material, numerous reduction sequences, knapping floors, micro-knapping, extensive numbers of cores, flakes, retouched artefacts, conjoining flakes and cores, hammerstones, blades and numerous concentrations of artefacts. A number of stone arrangements were also identified towards the north of the site and a landing is located in the southern portion.

An examination of the material suggests that fire has swept through the area with burnt silcrete, noted in a change of raw material colour, also noted. The exposed nature of the general area suggests an inhospitable landscape.

The general area is disturbed by both water activity, as seen through water rolled tools and buried or partially buried material, and cattle, evidenced by trampling (broken material) and tracks.

There are numerous semi-permanent pools in the southeast of the site and conversations with the landholder suggest that these are the only reliable water sources between Phillippe Landing to the south and Black Swan Creek to the north. Given the dry environs elsewhere it is thought that the areas around these water holes would have been a major draw card to the area for past peoples. Further research of the inland areas in the vicinity of the quarry is needed to verify this.

Terra Rosa and Gidarjil rangers spent 2.5 days establishing eight monitoring stations (MS1 – MS8) and recording an extensive number of features at The Narrows Quarry.

Plate 7: View east across the northern portion of NAR15-01 (The Narrows Quarry)



Plate 8: NAR15-01, MS5, Feature 6: Silcrete knapping floor demonstrating medium reduction



Plate 9: NAR15-01, MS8, Feature 1: Stone arrangement



Plate 10: NAR15-01, MS8, Feature 10: Silcrete reduction sequence



4.1.2 Summary Score Card for The Narrows

Table 36: Summary grades of the Cultural Health of sites (Indicator 1) – The Narrows

Site Number	Total score	Year 1 Weighting applied	Weighted score
NAR15-01 (Cultural locus)	0.8	50%	0.4
NAR15-02	Average score: 0.48	50%	0.24
NAR15-03			
NAR15-04			
NAR15-05			
NAR15-06			
Sum of weighted scores			0.64
Final grade for Cultural Health of Sites Indicator			C

Table 37: Grades of the Management Strategies (Indicator 2) – The Narrows

Sub-indicators	Measure	Score	Weighted Score
Protection (40% weighted)	Monitoring	0.6	0.12
	Registration of sites	0.2	
	Management of threats	0.1	
Land use (20% weighted)	Accessibility	0.7	0.13
	Developmental pressure	0.6	
Cultural Maintenance (40% weighted)	Identification and research of sites	0.7	0.25
	Cultural resources	0.6	
	Cultural management activities	0.5	
	Stakeholder engagement	0.7	
Score		0.52	0.50
Final grade for Management Strategies Indicator		C	C

Table 38: Average grades for the Indicator Group – The Narrows

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.64
Management Strategies (Indicator 2)	0.50
Average score	0.56
Final grade for Indicator Group	C

4.2 Field Work Results – Facing Island

A total of six sites were recorded on Facing Island, including:

- One extremely large and exceptionally dense stone tool and shell midden site (FAC15-01);
- One low density stone tool scatter (FAC15-03) and;
- Four stone tool and shell midden site complexes (FAC15-02, FAC15-04 and FAC15-05).

Given both the scientific values and the extent of the deposit identified at FAC15-06, is determined to be the cultural locus site within this zone and is used to benchmark the other sites of the zone.

4.2.1 Cultural locus for Facing Island: FAC15-06

FAC15-06 is a large shell midden distributed amongst sand dunes close to the foreshore in the southeast portion of Facing Island. This site is the cultural locus site of the Facing Island zone. The site comprises extensive and densely populated shell middens with significant numbers of stone tools present amongst the shell scatters. The location of the site, away from the main thoroughfare to the nearby beach has allowed for the majority of the cultural material within this site to remain *in situ*.

The stone tools identified from the dense concentrations of cultural material include basalt, quartz and quartzite flakes and cores, chopper tools, pebble tools, hammerstones, bone and ground material including mullers. Some stone tool material is partially buried and this, combined with the overall nature and intactness of the site suggests that FAC15-06 would be a prime site for archaeological excavation.

The shell shatter concentrations include a variety of shell types with complete and fragmented shells including dense areas with concentrations of oyster shells.

Terra Rosa and Gidarjil established two monitoring stations (MS1 and MS2) at FAC15-06.

Plate 11: FAC15-06, MS1, Feature 11: Dense concentration of cultural material



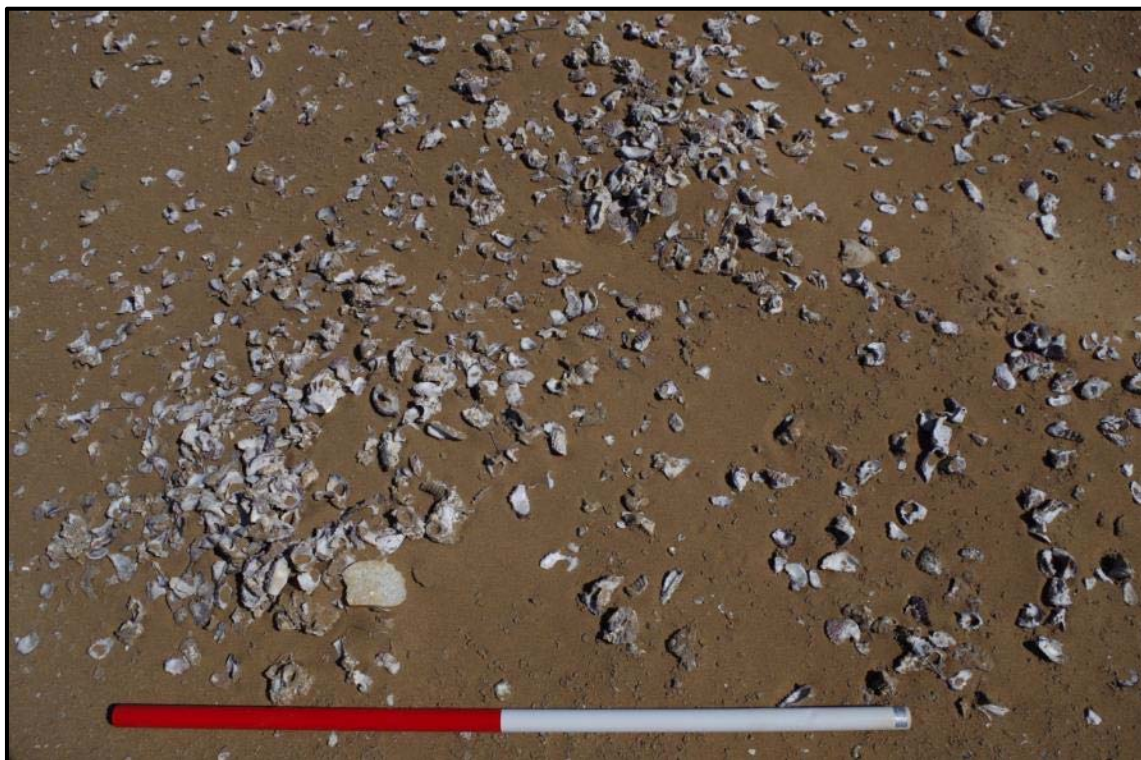
Plate 12: FAC15-06, MS1, Feature 7: Dense concentration of stone tools



Plate 13: FAC15-06, MS1, Feature 12: Bone fragment amongst shell scatter



Plate 14: FAC15-06, MS2, Feature 4: Dense concentration of shell in the lower sand dunes



4.2.2 Summary Score Card for Facing Island

Table 39: Summary grades of the Cultural Health of sites (Indicator 1) – Facing Island

Site Number	Total score	Year 1 Weighting applied	Weighted score
FAC15-06 (Cultural locus)	0.9	50%	0.45
FAC15-01 FAC15-02 FAC15-03 FAC15-04 FAC15-05	0.56	50%	0.28
Sum of weighted scores			0.73
Final Grade for Cultural Health of Sites Indicator			B

Table 40: Grades of the Management Strategies (Indicator 2) – Facing Island

Sub-indicators	Measure	Score	Weighted Score
Protection	Monitoring	0.6	0.2
	Registration of sites	0.8	
	Management of threats	0.1	
Land use	Accessibility	0.6	0.13
	Developmental pressure	0.7	
Cultural Maintenance	Identification and research of sites	0.5	0.18
	Cultural resources	0.1	
	Cultural management activities	0.5	
	Stakeholder engagement	0.7	
Score		0.52	0.51
Final Grade for Management Strategies Indicator		C	C

Table 41: Average grades for the Indicator Group – Facing Island

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.73
Management Strategies (Indicator 2)	0.51
Average score	0.62
Final grade for Indicator Group	C

4.3 Field Work Results – Wild Cattle Creek

A total of 11 sites were recorded within the Wild Cattle Creek zone. They consisted of:

- One large midden site with evidence of a deep and extensive stratified deposit (WCC15-10);
- Two scar trees (WCC15-04 and WCC15-11), and;
- Eight small middens (WCC15-01 – WCC15-03, WCC15-05 – WCC15-09).

This zone was the most compromised by the flaws in the existing record. It was not possible to locate any pre-registered sites and access was somewhat restricted. As such, the sites recorded were not of a high standard, mostly consisting of small expressions of middens and shell scatters, though two impressive scar trees were located in the zone. In the absence of a site that would be hard to not consider a focus of the zone, WCC15-10 is used as the cultural locus site for Wild Cattle Creek.

4.3.1 Cultural locus for Wild Cattle Creek: WCC15-10

WCC15-10 is a shell midden located along Wild Cattle Creek close to Tannum Sands to the south of Gladstone. The site comprises a number of exposed shell middens, visible along the banks of the creekline, and along access tracks traversing the site. This site is typical of the shell scatters and middens identified in this area and is the cultural locus site within the zone.

The site has a number of shell middens exposed along the banks with some areas of shell exposed due to the disturbed nature of the site, with both in-use light vehicle tracks and water activity significantly impacting the cultural material. General refuse is also present throughout the area. This disturbance has affected the physical condition of the site.

Terra Rosa and Gidarjil rangers established two monitoring stations (MS1 and MS) and recording a number of features at WCC15-10.

Plate 15: WCC15-10, MS1, Feature 1: Disturbance across the site



Plate 16: WCC15-10, MS2, Feature 9: Exposed shell midden in bank of creekline



4.3.2 Summary Score Cards for Wild Cattle Creek

Table 42: Summary Grades of the Cultural health of sites (Indicator 1) – Wild Cattle Creek

Site Number	Total score	Year 1 Weighting applied	Weighted score
WCC15-01	0.48	50%	0.24
WCC15-02			
WCC15-03			
WCC15-04			
WCC15-05			
WCC15-06			
WCC15-07			
WCC15-08			
WCC15-09			
WCC15-11			
WCC15-10 (cultural locus)	0.64	50%	0.32
Sum of weighted scores			0.56
Final Grade for Cultural Health of Sites Indicator			C

Table 43: Grades of the Management Strategies (Indicator 2) – Wild Cattle Creek

Sub-indicators	Measure	Final score	Weighted Score
Protection	Monitoring	0.5	0.17
	Registration of sites	0.6	
	Management of threats	0.2	
Land use	Accessibility	0.6	0.14
	Developmental pressure	0.8	
Cultural Maintenance	Identification and research of sites	0.6	0.18
	Cultural resources	0.2	
	Cultural management activities	0.2	
	Stakeholder engagement	0.8	
Score		0.50	0.49
Final Grade for Management Strategies Indicator		C	C

Table 44: Average grades for the Indicator Group – Wild Cattle Creek

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.56
Management Strategies (Indicator 2)	0.49
Average score	0.53
Final grade for Indicator Group	C

4.4 Field Work Results – Gladstone Central

A total of three ethno-historical sites that were predominated by historic and intangible heritage values were recorded in the Gladstone Central zone. They include:

- GLA15-01 (Barney Point);
- GLA15-02 (Hector Johnson Park); and
- GLA15-03 (Police Creek)

Given both the historic and social values, it has been determined that the cultural locus site within this zone is GLA15-03 (Police Creek); a very significant heritage site in the context of the settlement and development of Gladstone.

4.4.1 Cultural locus for Gladstone Central: GLA15-03 (Police Creek)

Police Creek forms part of the Auckland Creek Catchment which flows through the centre of Gladstone. This site is the cultural locus site within the Gladstone Central zone. The recreational area associated with the creek, where the monitoring stations are positioned, is located in the southwest of the city. This area allows for pedestrian access through the park, along the banks of the creek with interpretative signage present throughout.

As part of the establishment of Port Curtis (Gladstone), Native Police were sent to the district in 1853. The Native Police was a paramilitary force consisting of Aboriginal men commanded by a European officer. A Native Police camp was established at Auckland Creek in 1854, with this area later renamed as Police Creek. The precise location of the Native Police camp has not been determined. This creek was also used as a waterhole and was one of the first permanent water sources for Gladstone. It is thought that up to the 1890s, an Aboriginal fringe camp was located along the banks of Police Creek.

The area remains in use by the public and includes a walking trail and interpretative signage describing the ecology and history of Police Creek. A concrete causeway, located near the modern bridge that crosses Police Creek, was also an early means of crossing the creek.

Terra Rosa and Gidarjil rangers established three monitoring stations (MS1, MS2 and MS3) and recording a number of features at GLA15-03.

Plate 17: GLA15-03 (Police Creek), MS1, Feature 1: Welcome signage



Plate 18: GLA15-03 (Police Creek), MS3, Feature 2: View across the creek



4.4.2 Summary Score Cards for Gladstone Central

Table 45: Summary Grades of the Cultural Health of Sites (Indicator 1) – Gladstone Central

Site Number	Total score	Year 1 Weighting applied	Weighted score
GLA15-01	0.8	50%	0.4
GLA15-02			
GLA15-03 (cultural locus)	0.85	50%	0.43
Sum of weighted scores			0.83
Final grade for Cultural Health of Sites Indicator			B

Table 46: Grades of the Management Strategies (Indicator 2) – Gladstone Central

Sub-indicators	Measure	Final score	Weighted Score
Protection	Monitoring	0.6	0.21
	Registration of sites	0.2	
	Management of threats	0.8	
Land use	Accessibility	1	0.2
	Developmental pressure	1	
Cultural Maintenance	Identification and research of sites	0.6	0.32
	Cultural resources	0.8	
	Cultural management activities	1	
	Stakeholder engagement	0.8	
Average score		0.76	0.73
Final Grade for Management Strategies Indicator		B	B

Table 47: Average grades for the Indicator Group – Gladstone Central

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.83
Management Strategies (Indicator 2)	0.73
Average score	0.78
Final grade for Indicator Group	B

4.5 Field Work Results – Hummock Hill Island

As access to Hummock Hill Island is limited, primarily due to tide timings and the lack of a readily available ferry, it was impractical for the Project Team to visit the island. As a result, no sites were recorded within this zone during Year 1 and there are no scores or grades to add to the overall results for the cultural heritage of Gladstone Harbour.

5 Discussion and Recommendations

5.1 Assessment of Cultural Heritage Health – Year 1

The grades above (section 4) demonstrate the current fragility of sites around the Gladstone Harbour, and also reflect the potential for an improvement in the scores through ongoing monitoring and practical heritage management activities, ideally completed through a ranger monitoring program on a yearly basis.

The project has designed a robust, flexible and detailed framework for the assessment of the Cultural Heritage Health of the Gladstone Harbour and its constituent cultural landscapes. It is guided by the best practice examples and references as set out in the Milestone 1 Report. This project has, at all times, aimed to design a practical program that in the longer term will assist in the growth of capacity of the local ranger program, and help it expand the skills set of its staff working in an area that is of great value to the community.

A guiding principle of the project is to acknowledge the mutable nature of the cultural heritage record and landscapes, and to work with the sites in the area as they exist now, not at some stage in the past. While this may prove problematic to some, it has led to a pragmatic scoring system that is also a pathway to better management of the cultural heritage within the Gladstone Harbour. Consultation with landholders, interested parties and development proponents is critical to the future planning of the project.

Following discussions and consultation undertaken to date, the project framework has been structured and designed to easily feed into a BBN. Following the finalisation of the measures, and with the defined cultural locus weighting, it is intended that the consultant team will apply the project to the BBN and provide an aggregation of scores to ascertain the final grade for Year 1.

5.1.1 Capacity Building of Gidarjil Rangers

Due to time pressures and the increased reliance on digital technology, it is believed that the objective to train the Gidarjil rangers and enable them to conduct future works, while partially successful, will require further efforts into 2016/17. Various Gidarjil trainee rangers participated throughout the two weeks of field work and expanded their skills in utilising site recording technology, identifying cultural material, and recording the scientific values at monitoring stations. In order for Gidarjil rangers to run annual monitoring programs independently it is recommended that they undergo further training in:

- Sites monitoring - particularly in the continued use of 3D Panoramic imagery to compare monitoring station from year to year;
- Assessing site threats and controls; and
- Performing heritage management activities to control threats without damaging the often fragile condition of sites.

Terra Rosa delivers formal training in the nationally recognised Certificate III in Aboriginal Sites Work which covers all of the above and more. It is recommended that the Gidarjil rangers commence formal training towards this qualification in subsequent years of the project.

5.1.2 Further consultation with PCCC elders

Further consultation with PCCC elders in the forthcoming years of the project will assist in fulfilling many of the project outcomes. Unfortunately, this is not possible for Year 1 of the Project due to reasons outlined in section 2.1.2 (Consultation with PCCC elders). Future proposed consultation will PCCC elders:

- Show Panoramic Tours of each heritage site recorded;
- Verify the desktop and anecdotal information currently gathered for the cultural health indicators;
- Confirm the priority sites in each of the five zones through a significance assessment. As outlined in the Milestone 1 Report, the Burra Charter ties heritage values of a place to cultural significance, which means: “aesthetic, historic, scientific, spiritual or social value for past, present or future generations”, which “is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects” (The Burra Charter; ICOMOS, Australia);
- Visit cultural locus sites for ethnographic consultation;
- Discuss threats and management recommendations for each place. Initial consultations will take place with the rangers during field work; the heritage team will identify any threats and provide suggested management recommendations. These will be relayed to the PCCC elders who will discuss, verify and provide further management recommendations for individual sites as well as the of Gladstone Harbour; and
- Discuss weightings for sites to reflect heritage management plans.

5.1.3 Yearly identification of new sites

In Year 1, the maximum number of monitoring stations established in a particular zone was 12. This number influenced method development, which suggests that, in order to achieve an ‘A’ Grade for this Sub-indicator (monitoring; see table 21), then at least 12 new monitoring stations should be established each year; this can be in newly identified sites or in areas of interest within already recorded sites.

It is not always necessary to identify and record new sites every year; previously recorded sites have the potential to be revisited for monitoring, further ethnographic comment and archaeological research. Further research into the heritage features and elements within previously identified sites assists in building the knowledge of the heritage resources.

It is anticipated that each year the Project Team will revisit and monitor the cultural locus site of each zone, as well as other sites in each zone, as it sees fit. This will primarily be based on visiting sites that were noted to be under threat the previous year.

All newly identified sites are subject to the same Measures, Sub-indicators and Indicators analysis as the already recorded sites.

5.2 Recommendations

Terra Rosa recommends:

- GHHP endorse the outlined method;

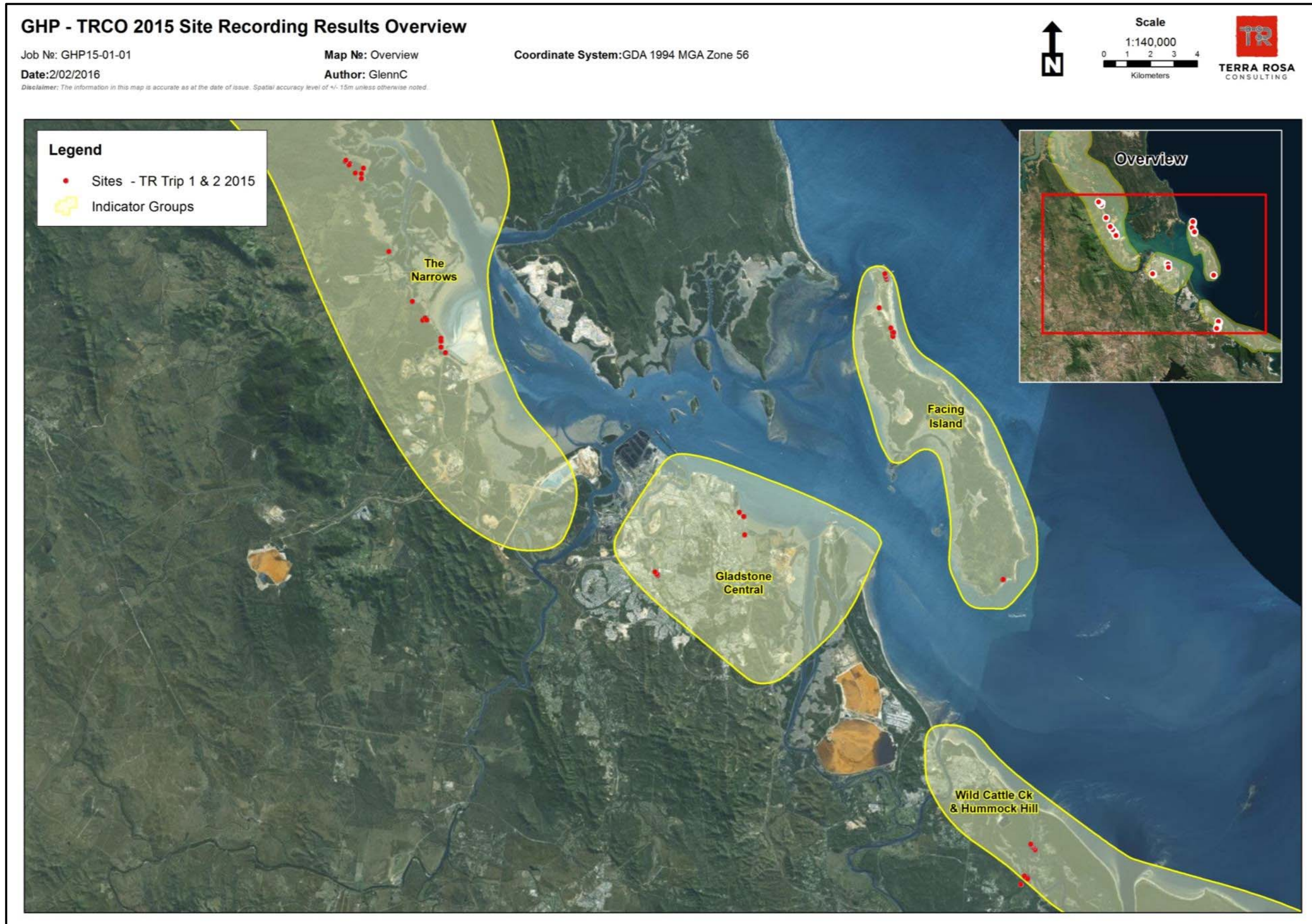
- GHHP endorse the change in Indicators and framework from the Milestone 1 Report;
- GHHP consider the proposed plan for the cultural heritage score card to be included as an appendix in the final report;
- GHHP works with Gidarjil to include consultation with elders in the next round of the project;
- GHHP endorse the Year 1 weighting method;
- Following the finalisation of the measures, and with the defined cultural locus weighting, the consultant appointed by GHHP apply the project to the BBN and complete the aggregation of scores to ascertain the final grade for Year 1;

6 References

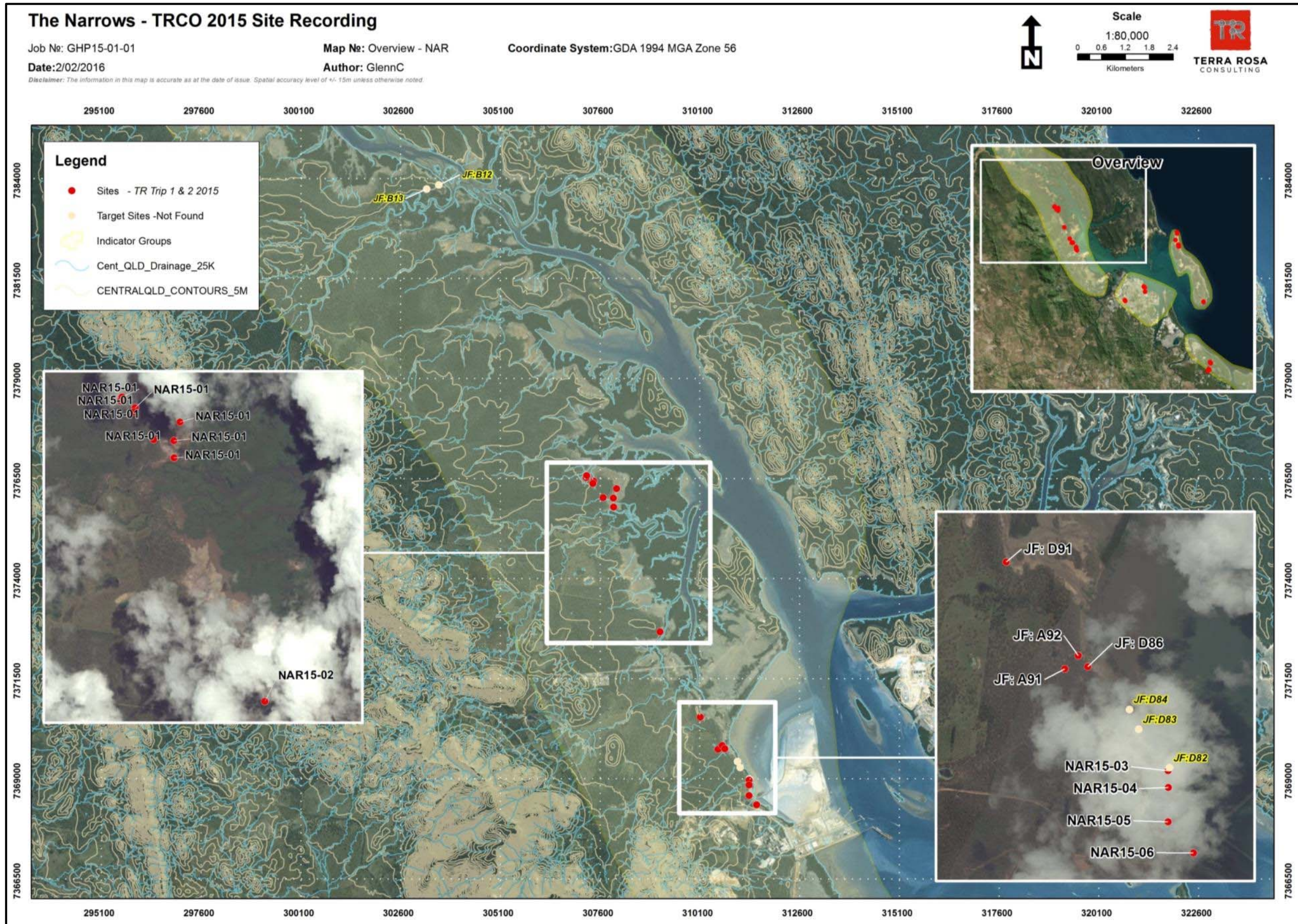
- Burke, C 1993 A Survey of Aboriginal Archaeological Sites on the Curtis Coast, Central Queensland. Unpublished report to the Queensland Department of Environment and Heritage, Rockhampton, DATSIP Report A-QLD-0176.
- Chisholm, S 2015 *Task 3.2 Milestone 1 Report and Summation of Works to Date. ISP012 – Developing the Cultural Heritage Indicators for the Gladstone Healthy Harbour Partnership*, Terra Rosa Consulting Pty Ltd.
- ICOMOS, Australia. "The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013)." (2013).

Appendix 1 – Results maps

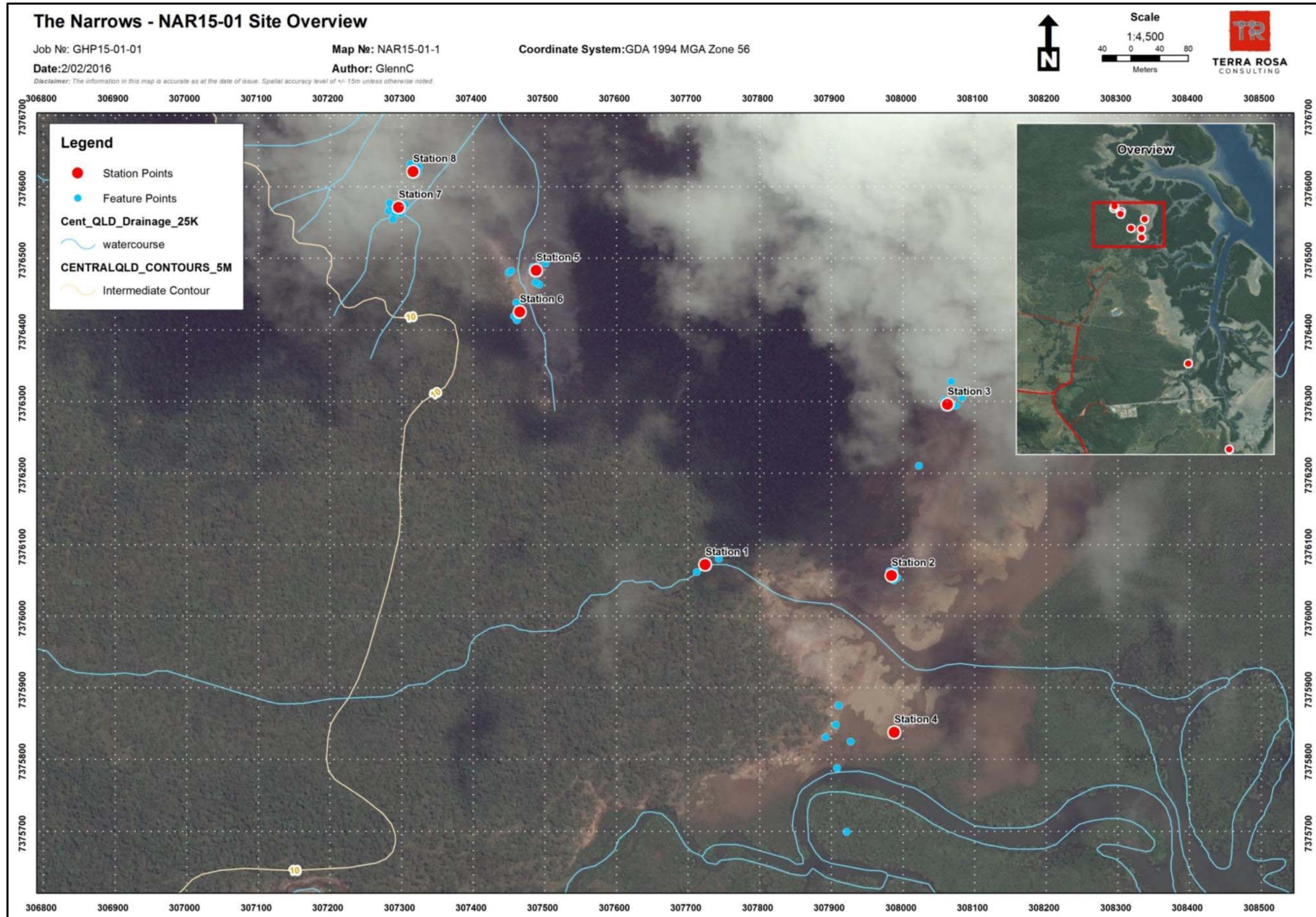
Map 1: Gladstone Harbour Indicator Groups results overview



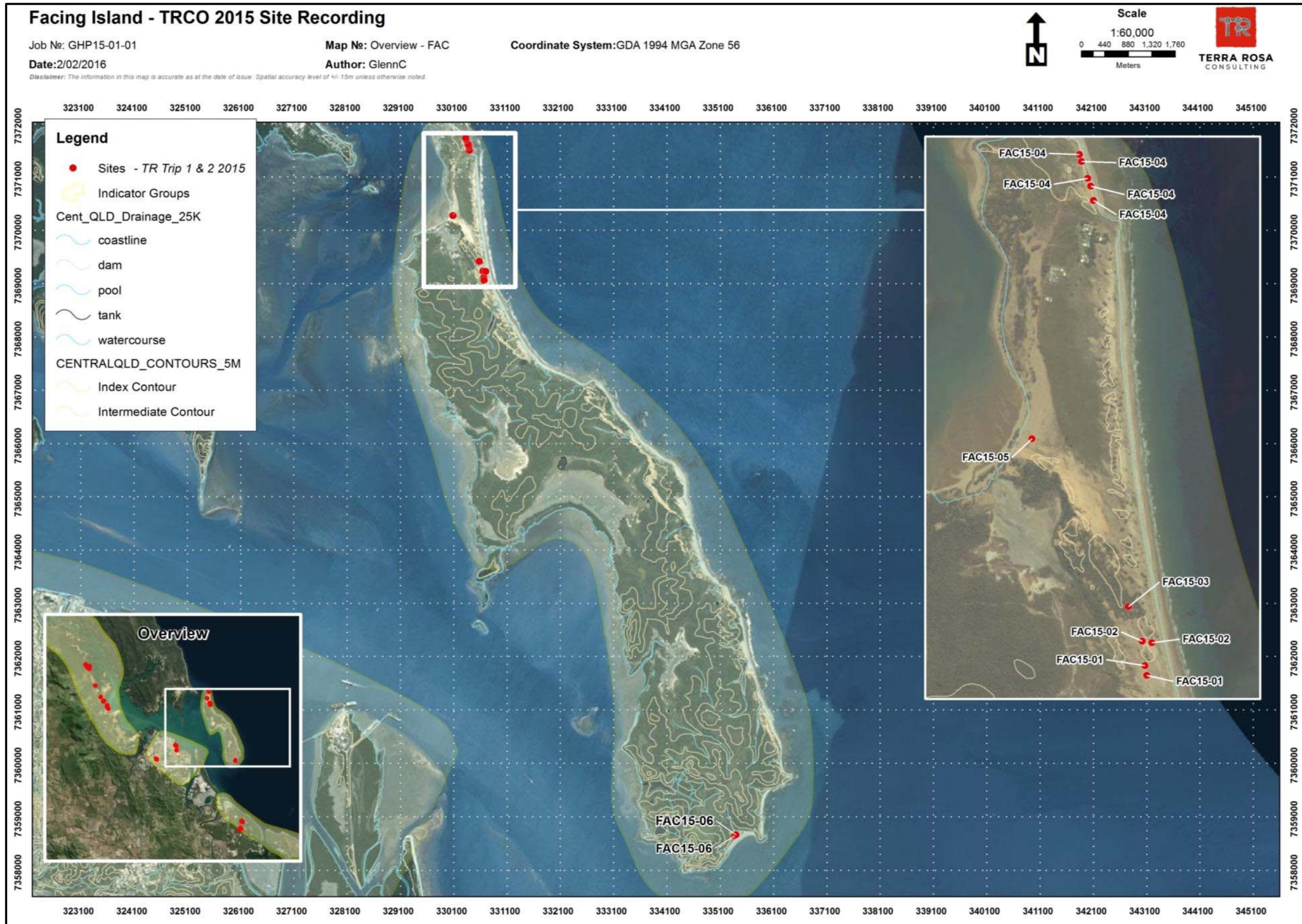
Map 2: Site recording results – The Narrows



Map 3: NAR15-01 (The Narrows Quarry) – cultural locus



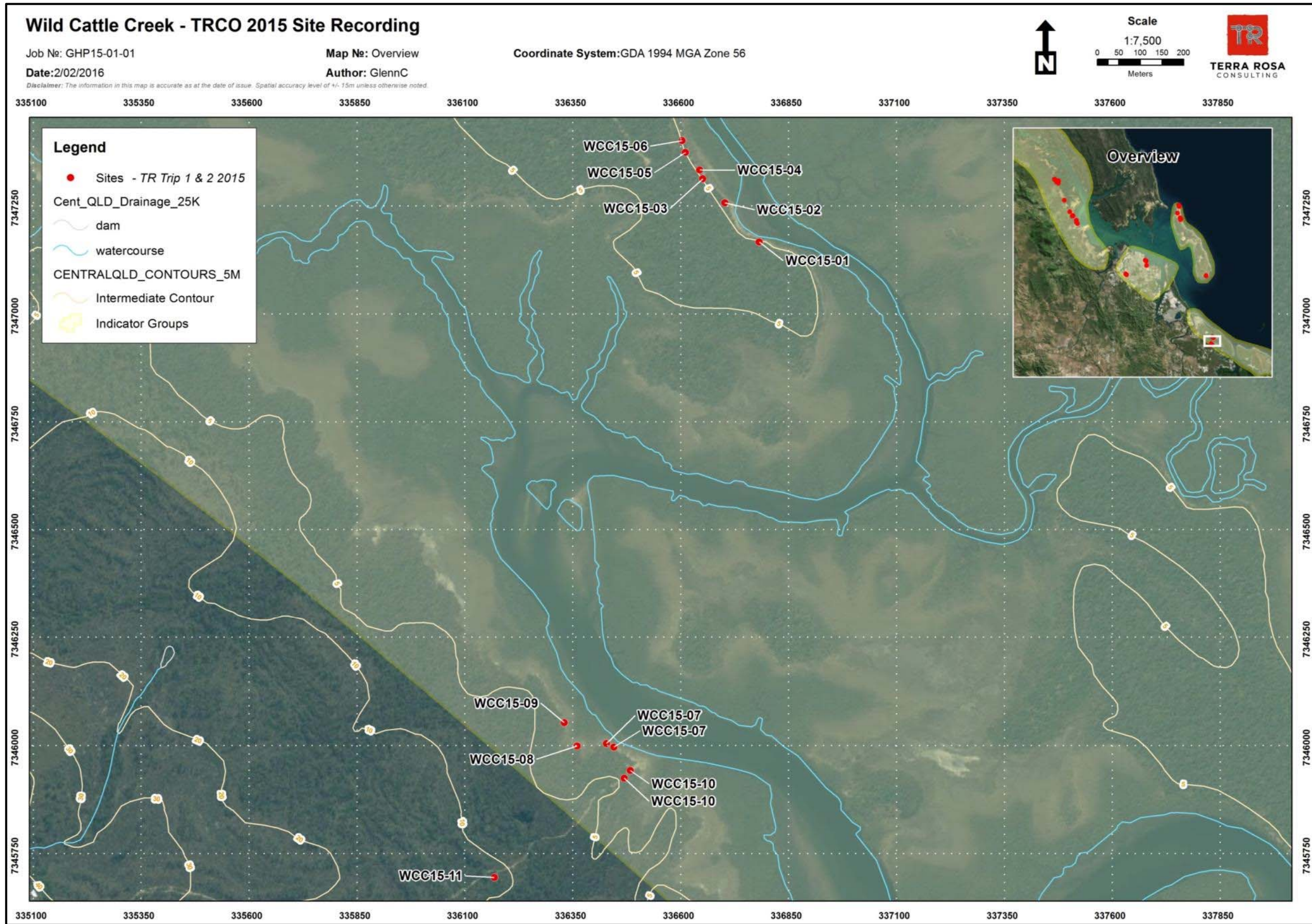
Map 4: Site recording results – Facing Island



Map 5: FAC15-06 – Cultural locus



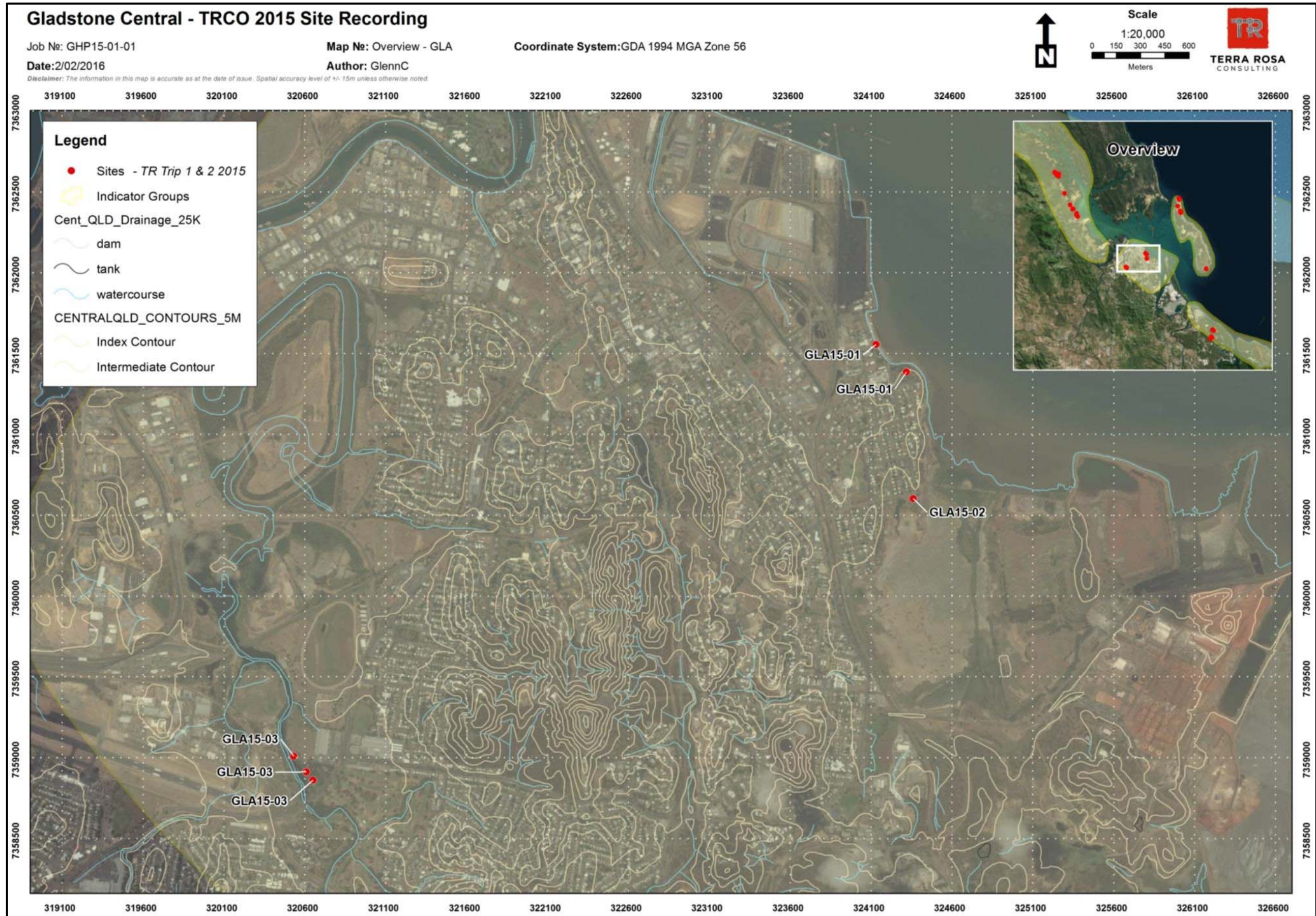
Map 6: Site recording results – Wild Cattle Creek



Map 7: WCC15-10 – Cultural locus



Map 8: Site recording results – Gladstone Central



Map 9: GLA15-03 (Police Creek) – Cultural locus



Appendix 2 – Draft Monitoring Form

ANNUAL MONITORING FORM			
Zone:			
Site:			
Monitoring Station No:			
Date of current visit		Visitation no.	
Heritage features	GPS location	Relocated?	
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
		Y	N
New heritage features identified	GPS location	Recorder initials	
Inspection of scientific values			
Are the previously recorded heritage features still in situ?			
If not, is there a clear reason for this?			

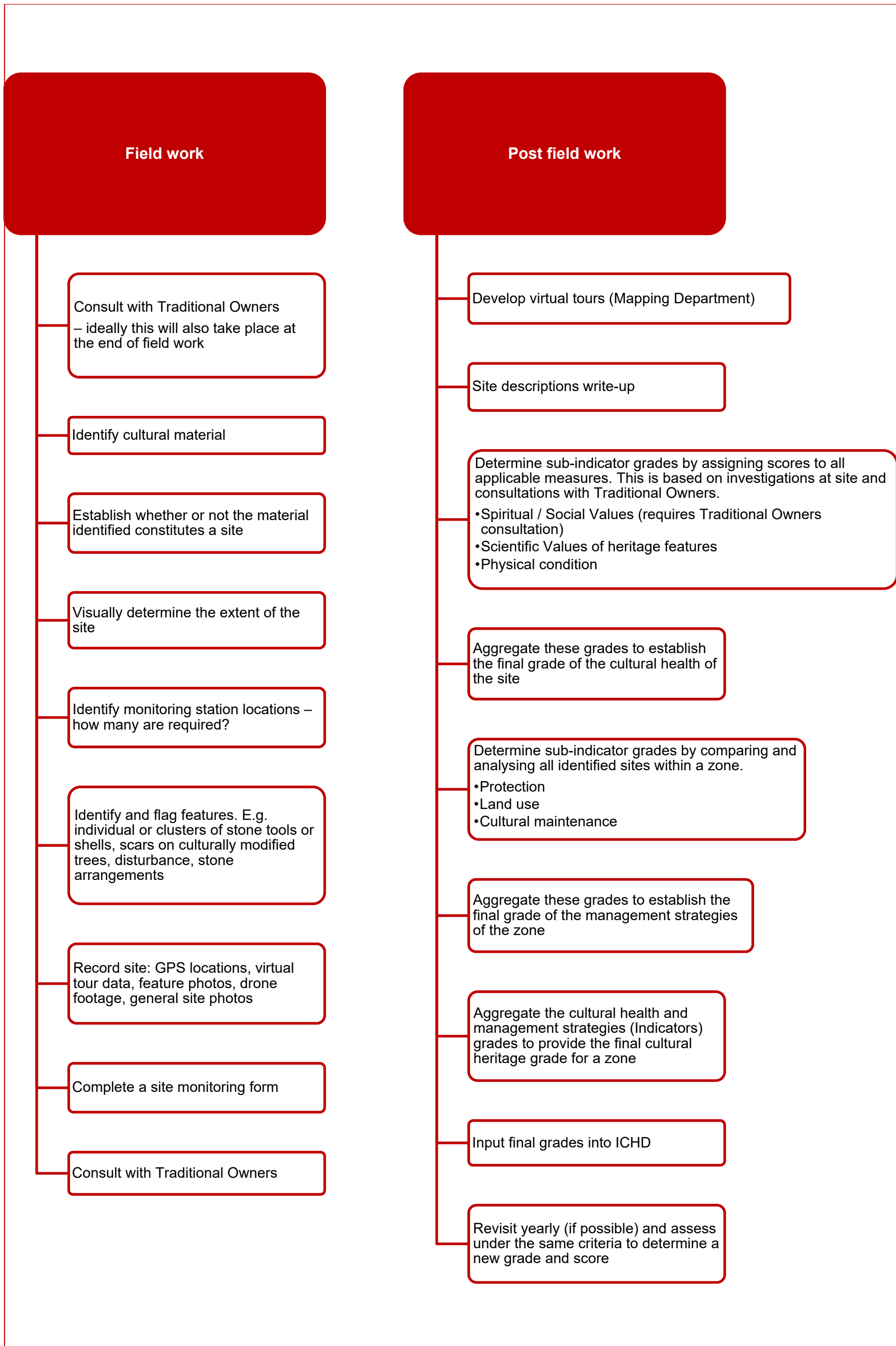
What is the amount of visible ground surface disturbance?	0%	Less than 5%	5-20%	More than 20%	100%
Impacts and threats					
Compared with previous visit is ground disturbance....	Increasing		Stable		Decreasing
What are the main causes of disturbance to the MS?	Human -Tracks -Vehicles -Paths -Trampling -Camping - Development -Rubbish -Boating		Animal -Burrowing -Digging -Trampling -Animal waste		Environment -Erosion -Subsidence -Inundation -Storm surge -Wind -Weeds
Are there any potential threats that may impact the MS in the future?					
Control measures for threats					
Reflection on spiritual/ social values					
Are Traditional Owners visiting this place?		Y		N	
Since last year is visitation increasing? How do you know and why?					
Are there barriers to more visitations?					
Has consultation with the elders occurred for this place?		Y		N	
How spiritual is this place to the Traditional Owners? And why?					

Is the story of this place known yet?	Y N
What more needs to be done to build a better picture?	

Heritage management activities

Have any of the following activities been recommended / completed for this MS?	In progress	Completed	Recommended
• Identification of more heritage features?			
• Ethnographic consultation with elder			
• Litter removal			
• Heritage flagging and/or boundary definition			
• Heritage/environmental management plan			
• Signage			
• Fencing			
• Environmental restoration			
• Interpretative activities			
• Research			

Appendix 3 – Method flow chart



Appendix 4 Site Descriptions



TERRA ROSA
CONSULTING

GHHP
2015 Site Recording Forms



Site Recording Form

Site Code: NAR15-01

Site Name: The Narrows Quarry

Date: 24/11/2015

Site Type: Quarry

MS # 1 – 8

Zone: The Narrows

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Extensive silcrete outcrop.

21 km northwest of Gladstone, along Targinie Creek.

2 km in length (north to south) and 500 m wide in places.

Widespread quarrying of the silcrete raw material for stone tools.

Extensive quarried and unquarried raw material, numerous reduction sequences, knapping floors, micro-knapping, extensive numbers of cores, flakes, retouched artefacts, conjoining flakes and cores, hammerstones, blades and numerous concentrations of artefacts.

Stone arrangements towards the north.

A landing is located in the south.

An examination suggests that fire has swept through the area - burnt silcrete, a change of raw material colour.

Exposed nature of general area suggests an inhospitable landscape.

Disturbed by both water activity - water rolled tools, buried or partially buried material, cattle trampling (broken material) and cattle tracks.

Numerous semi-permanent pools in the vicinity

Conversations with the land holder - the only reliable water between Phillipe Landing to the south and Black Swan Creek to the north.

MS1 – MS8

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information				X	
Connection to the cultural landscape					X
Contemporary use		X			

Ethnographic comments:

Very significant site in the area. Important to the PCCC representatives.

Some work done on this place in the past.

MS1 – MS8

Physical condition	1	2	3	4	5
Ground surface disturbance				X	
Impact on heritage value				X	
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density					
Representativeness	X				
Uniqueness	X				
Excavation Potential					
Artefacts in situ					

MS2

Scientific values	1	2	3	4	5
Diversity				X	
Density				X	
Representativeness					X
Uniqueness				X	
Excavation Potential			X		
Artefacts in situ					X

MS3

Scientific values	1	2	3	4	5
Diversity				X	
Density				X	
Representativeness					X
Uniqueness				X	
Excavation Potential			X		
Artefacts in situ					X

MS4

Scientific values	1	2	3	4	5
Diversity					X
Density			X		
Representativeness					X
Uniqueness				X	
Excavation Potential				X	
Artefacts in situ				X	

MS5

Scientific values	1	2	3	4	5
Diversity					X
Density					X
Representativeness					X
Uniqueness				X	
Excavation Potential					X
Artefacts in situ					X

MS6

Scientific values	1	2	3	4	5
Diversity					X
Density					X
Representativeness					X
Uniqueness					X
Excavation Potential					X
Artefacts in situ					X

MS7

Scientific values	1	2	3	4	5
Diversity					X
Density					X
Representativeness					X
Uniqueness					X
Excavation Potential					X
Artefacts in situ					X

MS8

Scientific values	1	2	3	4	5
Diversity					X
Density				X	
Representativeness					X
Uniqueness					X
Excavation Potential				X	
Artefacts in situ					X

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Site is under some threat from disturbance – cattle, water activity

Land use (accessibility, developmental pressures)

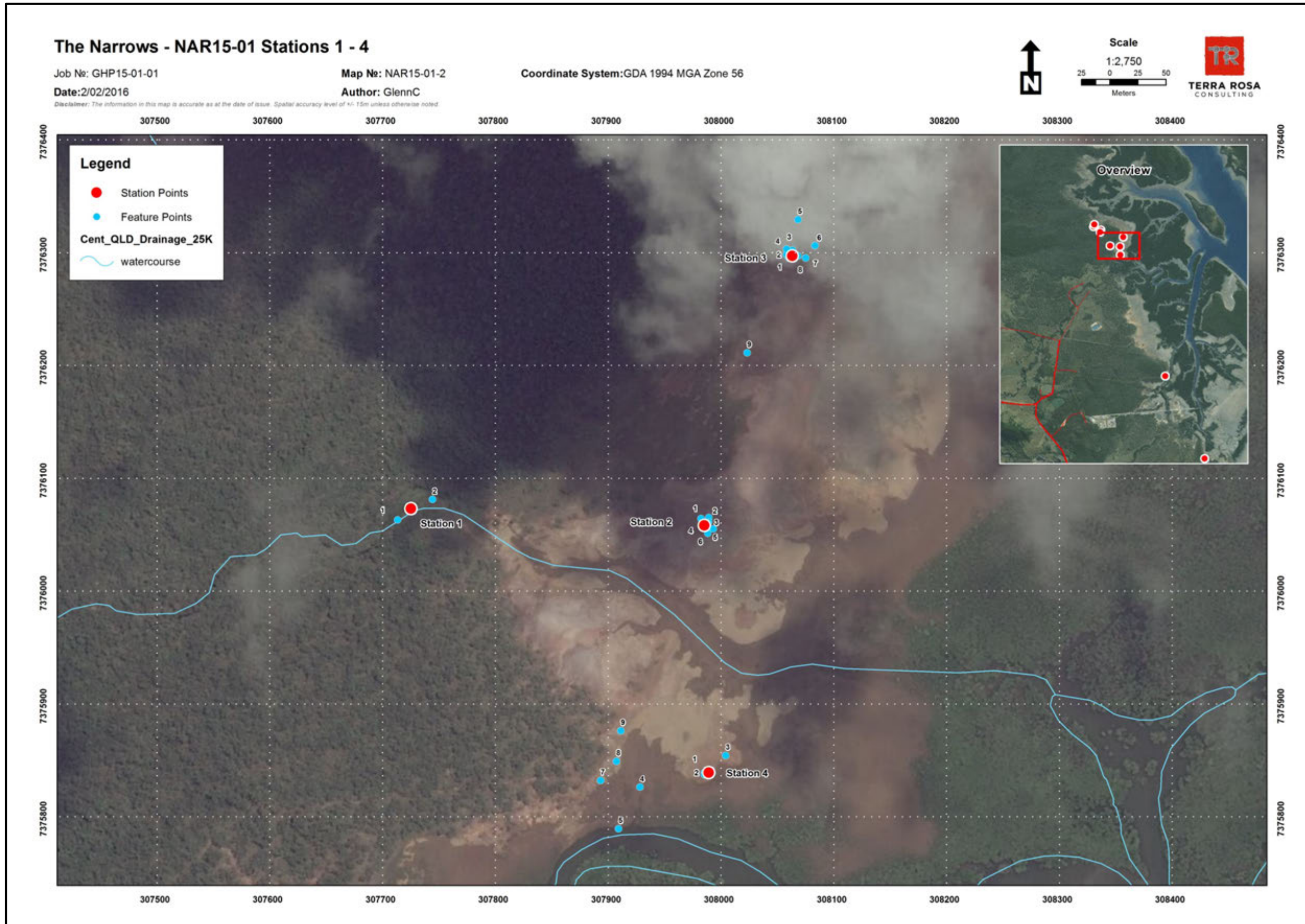
Pastoral

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

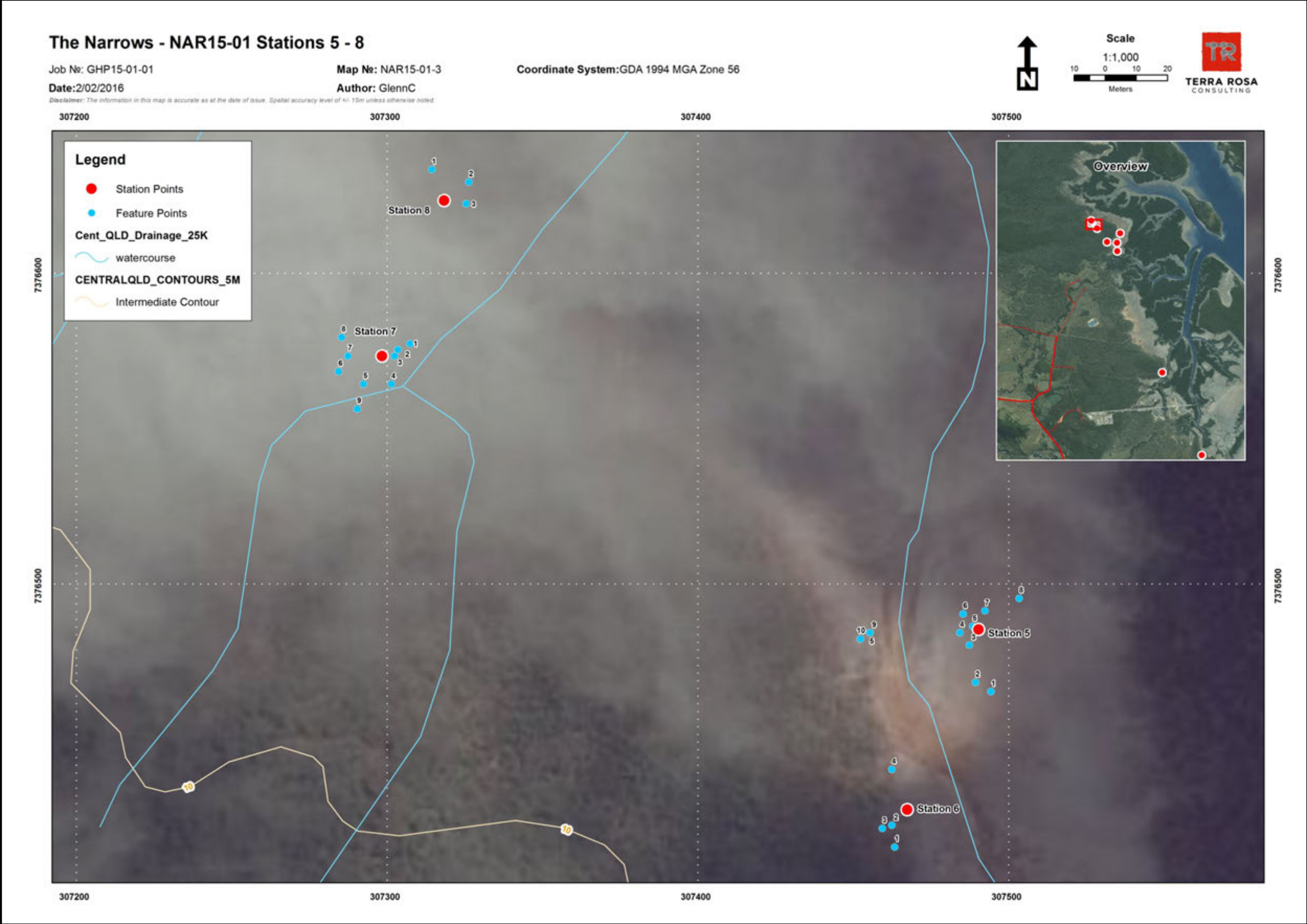
Landowner wishes to put up fencing

Additional comments

Map 1: NAR15-01 Monitoring Stations 1 – 4 Site Plan



Map 2: NAR15-01 Monitoring Stations 5-8 Site Plan





Site Recording Form

Site Code: NAR15-02

Site Name:

Date: 26/11/2015

Site Type: Artefact Scatter & Stone Arrangement

MS # 1

Recorder/s: SC, AG, Gidarjil rangers

Zone: The Narrows

Camera/s: Pentax, SC

Description:

An artefact scatter and stone arrangement located along a creekline.

4 km south of NAR15-01

Approximately 16 stone tools identified.

Primarily silcrete cores and flakes.

Some tools clustered in close proximity to each other.

A single linear stone arrangement in the southern portion.

Extensive disturbance

- Track running through the centre of the site
- Scrap metal and general refuse was visible
 - o Site and throughout the wider area.
- While recording, a bush fire was burning within the site and throughout the wider area.
- Water movement is evident throughout the site - located along creekline

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape			X		
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density		X			
Representativeness				X	
Uniqueness			X		
Excavation Potential		X			
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

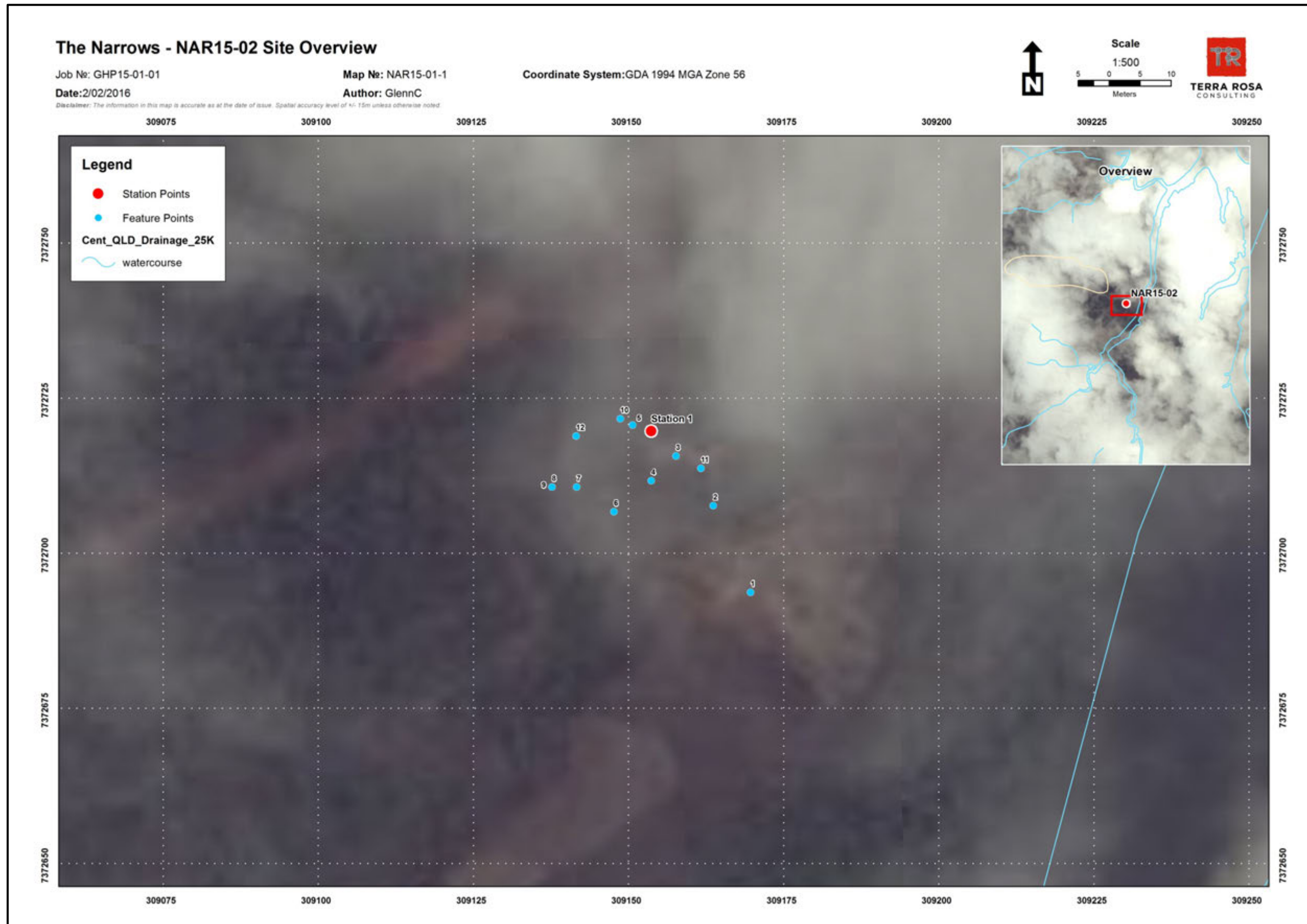
- A track running through the centre of the site

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: NAR15-02 Site Plan





Site Recording Form

Site Code: NAR15-03

Site Name:

Date: 30/11/2015

Site Type: Shell Scatter

MS # 1

Zone: The Narrows

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

A shell scatter located along a creekline.

Located approximately 8 km south of NAR15-01 (The Narrows Quarry).

Comprises a number of shell scatters.

Evidence of fragmented shell.

Exposed in a low bank close to the shoreline.

Chenier also evident in the area.

Low energy water movement is likely through the site

Close proximity to the shoreline.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape		X			
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density			X		
Representativeness	X				
Uniqueness	X				
Excavation Potential		X			
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Low energy water movement is likely through the site

Close proximity to the shoreline.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: NAR15-03 Site Plan

The Narrows - NAR15-03, & NAR15-04 Site Overview

Job No: GHP15-01-01

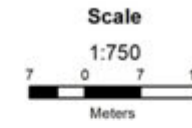
Map No: NAR15-03, 04

Coordinate System: GDA 1994 MGA Zone 56

Date: 2/02/2016

Author: GlennC

Disclaimer: The information in this map is accurate as at the date of issue. Spatial accuracy level of +/- 15m unless otherwise noted.



Legend

- Station Points
- Feature Points





Site Recording Form

Site Code: NAR15-04

Site Name:

Date: 30/11/2015

Site Type: Shell Scatter

MS # 1

Zone: The Narrows

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

A shell midden.

Located close to the water's edge.

Approximately 8.3 km south of NAR15-01 (The Narrows Quarry).

Comprises a single feature: a small low density shell midden.

Extensive water movement likely due to its immediate proximity to shoreline.

Disturbance caused by a track which cuts through and alongside the small cluster of shell.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape		X			
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density			X		
Representativeness		X			
Uniqueness		X			
Excavation Potential	X				
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Low energy water movement is likely through the site

Close proximity to the shoreline.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: NAR15-04 Site Plan

The Narrows - NAR15-03, & NAR15-04 Site Overview

Job No: GHP15-01-01

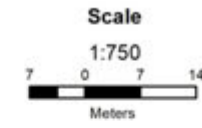
Map No: NAR15-03, 04

Coordinate System: GDA 1994 MGA Zone 56

Date: 2/02/2016

Author: GlennC

Disclaimer: The information in this map is accurate as at the date of issue. Spatial accuracy level of +/- 15m unless otherwise noted.



Legend

- Station Points
- Feature Points





Site Recording Form

Site Code: NAR15-05 (JF: D79)

Site Name:

Date: 30/11/2015

Site Type: Shell Scatter

MS # 1

Zone: The Narrows

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

A shell midden located close to the water's edge

Approximately 8.5 km south of NAR15-01.

The shell is eroding out of the sand bank

Comprises small clusters of in situ oyster shell.

Water movement due to its immediate proximity to the shoreline.

Fencing is present; installed as to curtail the extensive erosion occurring throughout the wider area.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape		X			
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density			X		
Representativeness		X			
Uniqueness		X			
Excavation Potential	X				
Artefacts in situ		X			

MS1

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Immediate proximity to water movement

Susceptible to erosion

Fencing is in place to mitigate external influences.

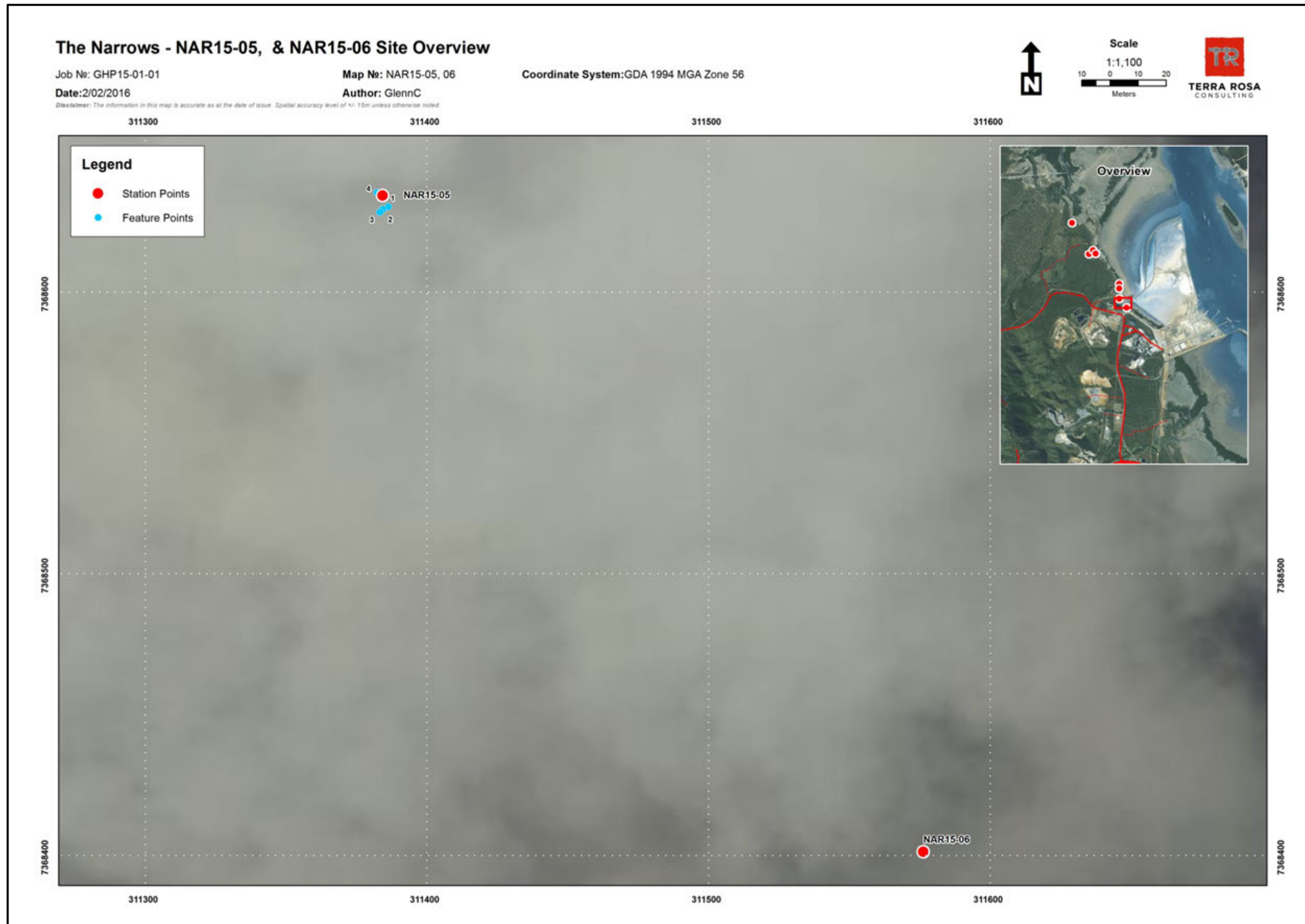
Land use (accessibility, developmental pressures)

Fencing in place.

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: NAR15-05 Site Plan





Site Recording Form

Site Code: NAR15-06 (JF: D79)

Site Name:

Date: 30/11/2015

Site Type: Stone Artefact Scatter

MS # 1

Zone: The Narrows

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Artefact scatter of five stone tools within a 5 m radius.

The site is located approximately 8.8 km south of NAR15-01

A single stone tool was relocated.

Deemed unnecessary to establish a monitoring station at this site.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape	X				
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance					
Impact on heritage value					
Threats and controls					

MS1

Scientific values	1	2	3	4	5
Diversity					
Density					
Representativeness	X				
Uniqueness	X				
Excavation Potential					
Artefacts in situ					

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

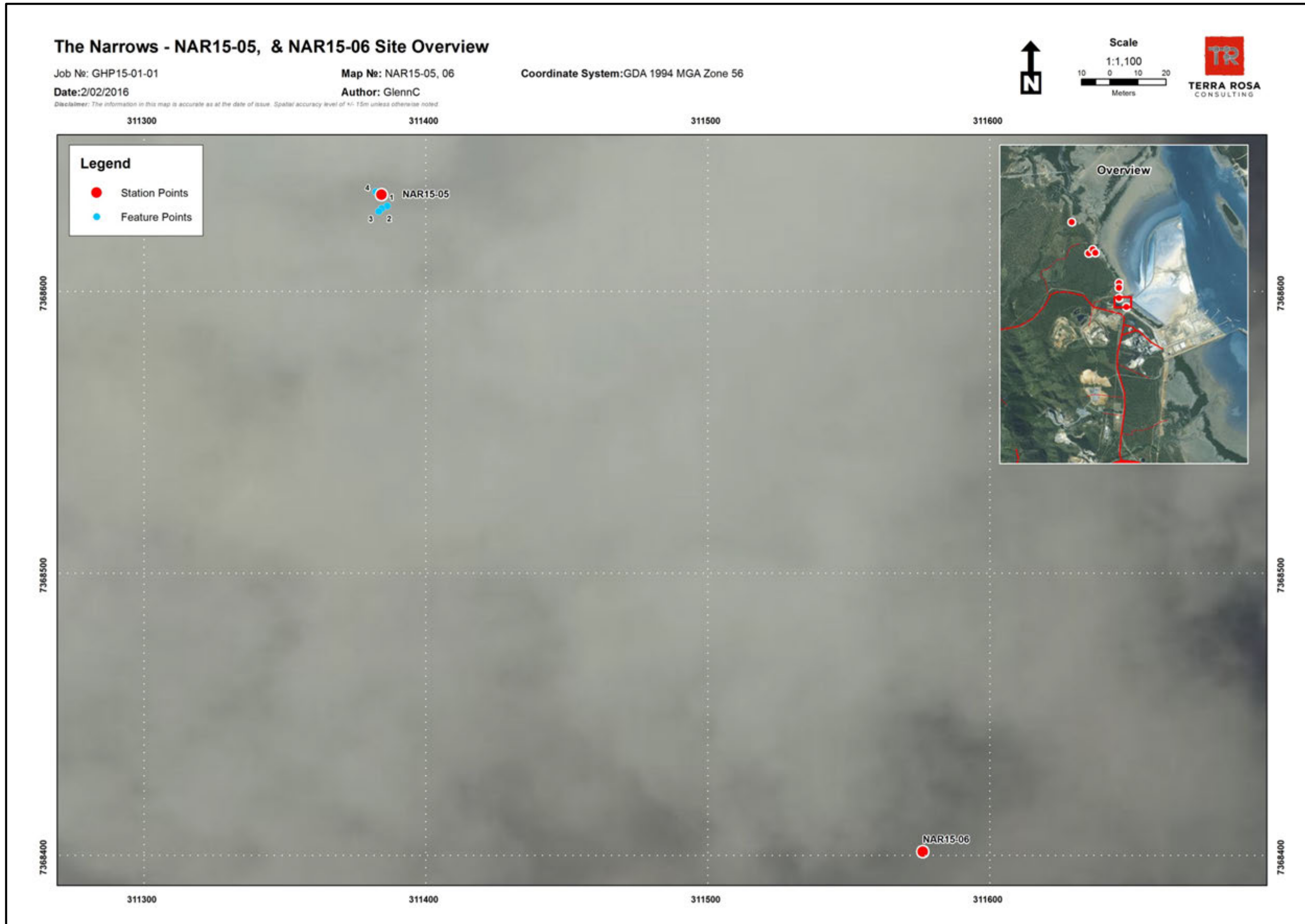
No monitoring required.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: NAR15-06 Site Plan





Site Recording Form

Site Code: JF: A91 **Site Name:** Stuart Oil Shale Project 1 **Date:** Sept 2015

Site Type: Artefact Scatter **MS #** NA **Zone:** The Narrows

Recorder/s: SC, AG, Gidarjil rangers **Camera/s:** AG

Description:

Visited by Terra Rosa and Gidarjil Senior Ranger Symeon Marou in September 2015.

Photos were taken at this place.

Due to time constraints this site was not revisited.

A monitoring station was not established.

This site has not been allocated a new site code.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information					
Connection to the cultural landscape					
Contemporary use					

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance					
Impact on heritage value					
Threats and controls					

MS1

Scientific values	1	2	3	4	5
Diversity					
Density					
Representativeness					
Uniqueness					
Excavation Potential					
Artefacts in situ					

Management strategies Comments

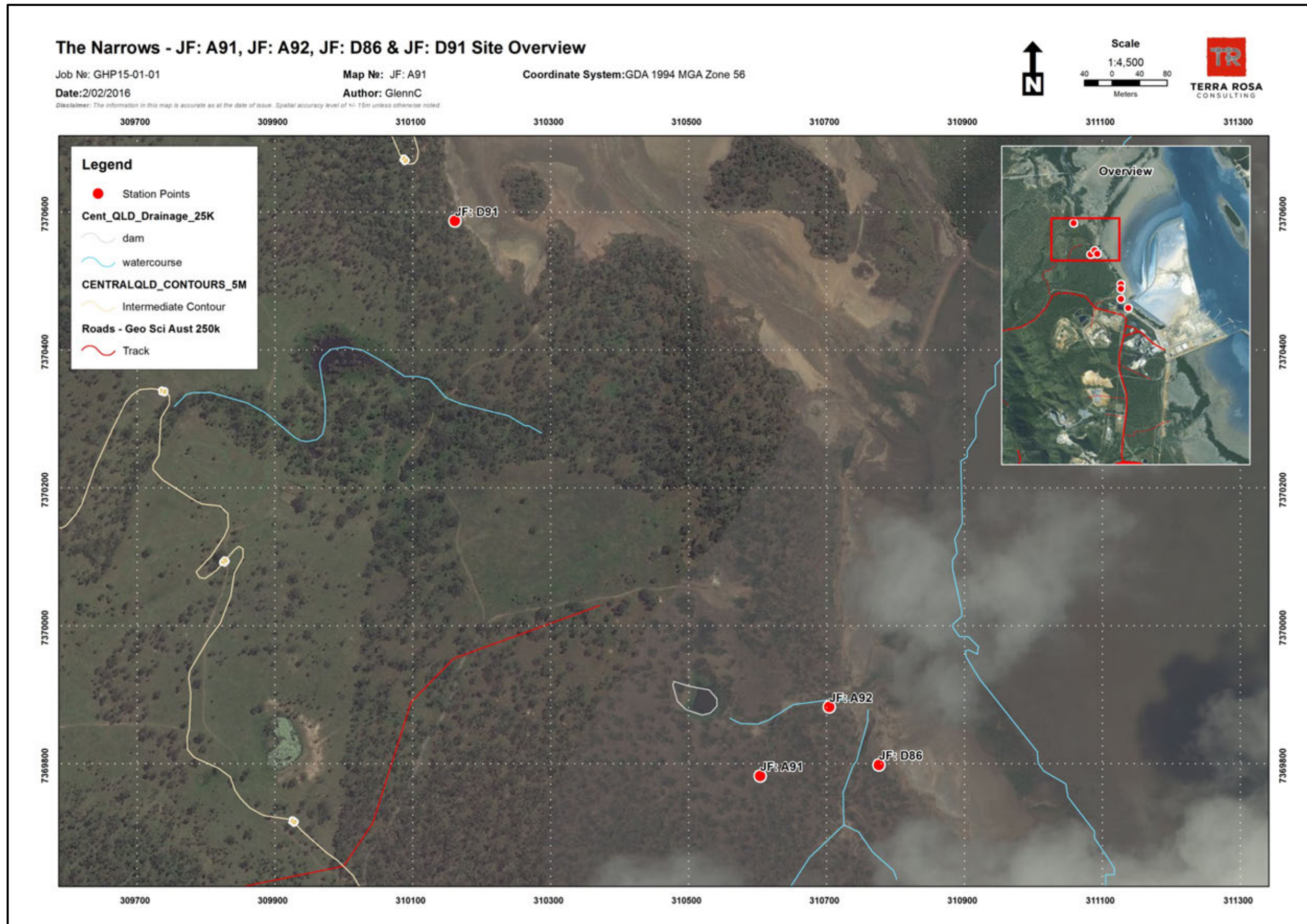
Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: JF: A91 (Stuart Oil Shale Project 1) Site Plan





Site Recording Form

Site Code: JF: A92 **Site Name:** Stuart Oil Shale Project 2 **Date:** Sept 2015

Site Type: Artefact Scatter **MS #** NA **Zone:** The Narrows

Recorder/s: SC, AG, Gidarjil rangers **Camera/s:** AG

Description:

Visited by Terra Rosa and Gidarjil Senior Ranger Symeon Marou in September 2015.

Photos were taken at this place.

Due to time constraints this site was not revisited.

A monitoring station was not established.

This site has not been allocated a new site code.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information					
Connection to the cultural landscape					
Contemporary use					

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance					
Impact on heritage value					
Threats and controls					

MS1

Scientific values	1	2	3	4	5
Diversity					
Density					
Representativeness					
Uniqueness					
Excavation Potential					
Artefacts in situ					

Management strategies Comments

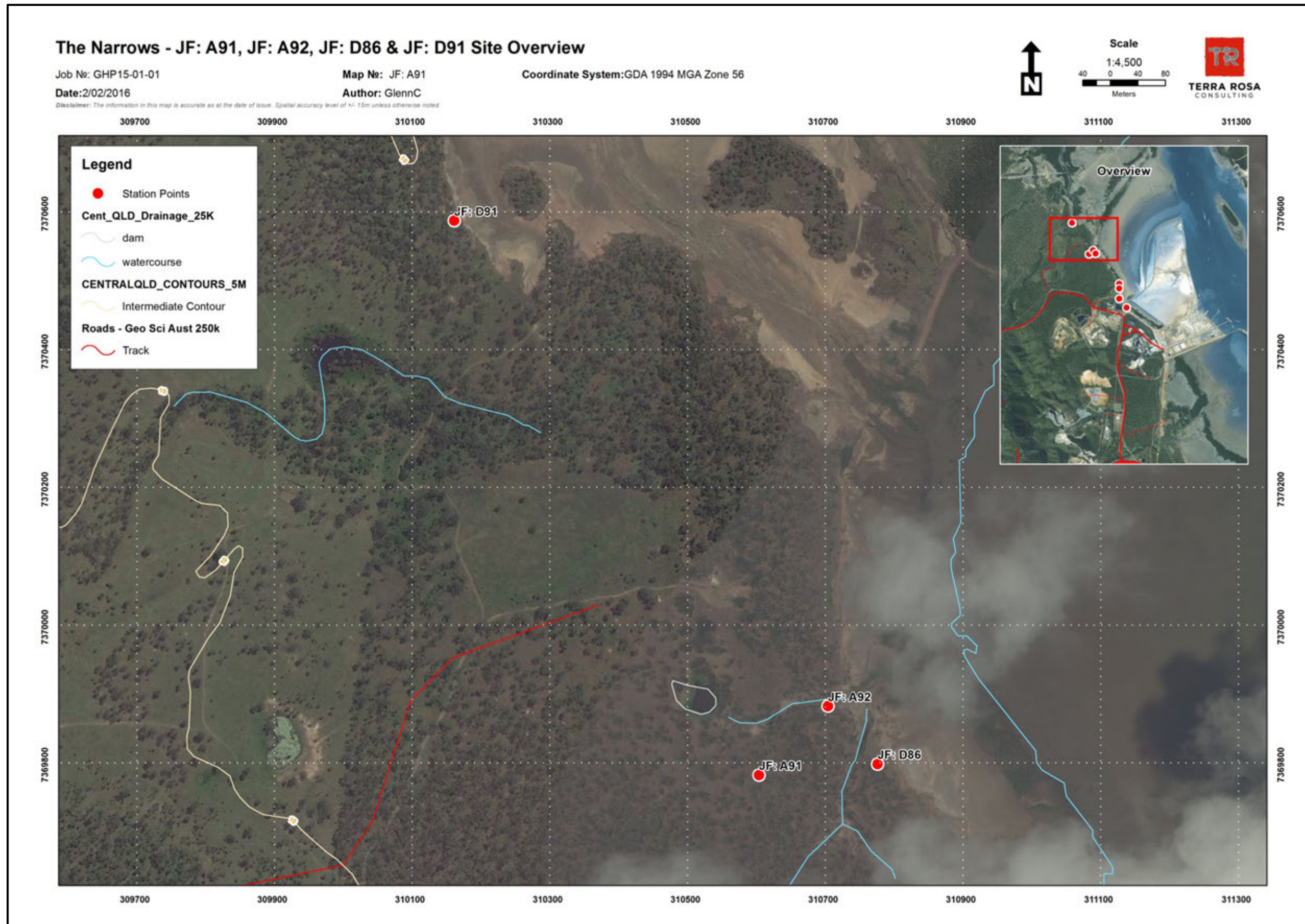
Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: JFA: 92 (Stuart Oil Shael Project 2) Site Plan





Site Recording Form

Site Code: JF:D86

Site Name: WB14

Date: Sept 2015

Site Type: Artefact Scatter **MS #** NA

Zone: The Narrows

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: AG

Description:

Visited by Terra Rosa and Gidarjil Senior Ranger Symeon Marou in September 2015.

Photos were taken at this place.

Due to time constraints this site was not revisited.

A monitoring station was not established.

This site has not been allocated a new site code.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information					
Connection to the cultural landscape					
Contemporary use					

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance					
Impact on heritage value					
Threats and controls					

MS1

Scientific values	1	2	3	4	5
Diversity					
Density					
Representativeness					
Uniqueness					
Excavation Potential					
Artefacts in situ					

Management strategies Comments

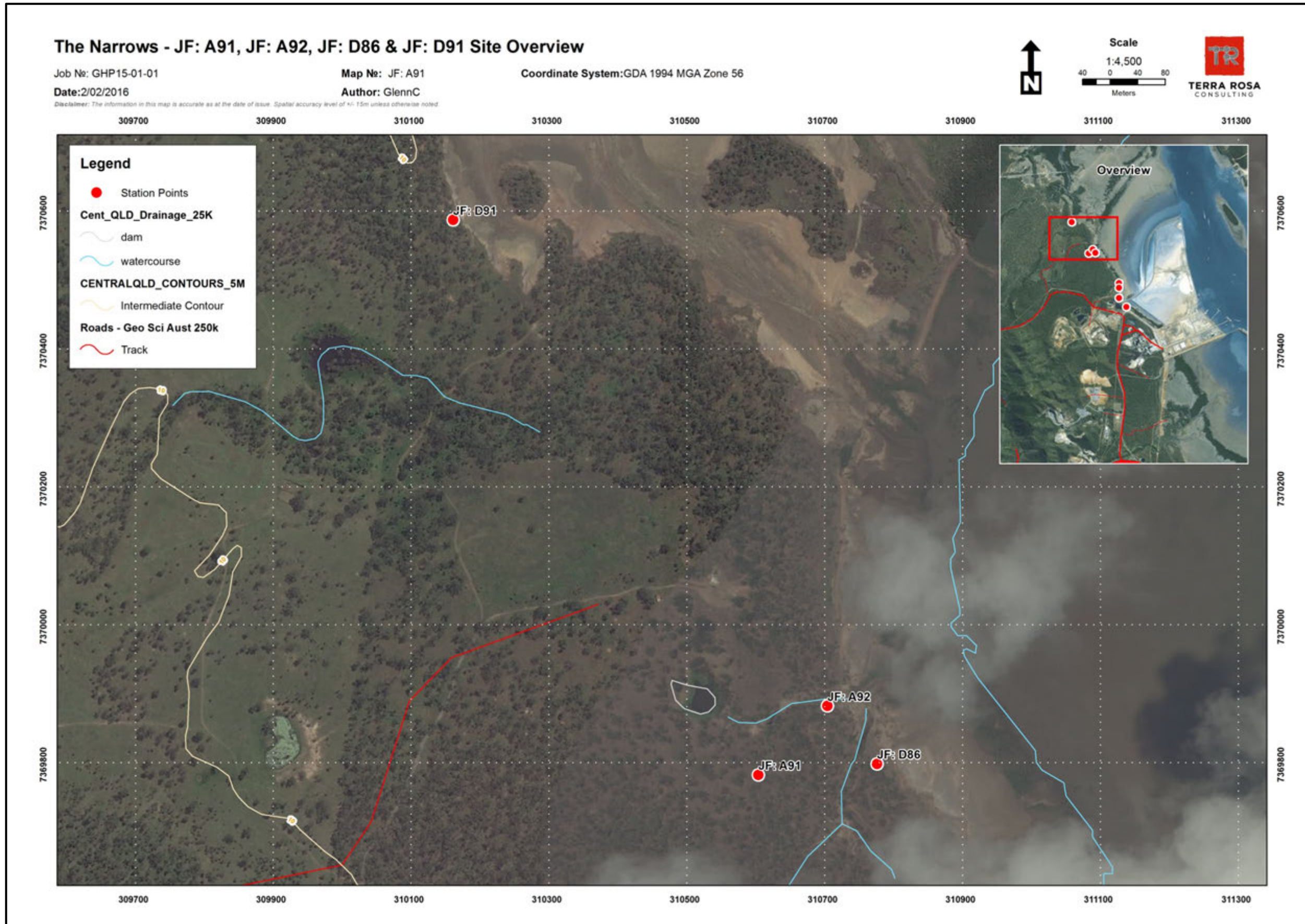
Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: JF: D86 (WB14) Site Plan





Site Recording Form

Site Code: JF:D91

Site Name: WB19

Date: Sept 2015

Site Type: Artefact Scatter **MS #** NA

Zone: The Narrows

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: AG

Description:

Visited by Terra Rosa and Gidarjil Senior Ranger Symeon Marou in September 2015.

Photos were taken at this place.

Due to time constraints this site was not revisited.

A monitoring station was not established.

This site has not been allocated a new site code.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information					
Connection to the cultural landscape					
Contemporary use					

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance					
Impact on heritage value					
Threats and controls					

MS1

Scientific values	1	2	3	4	5
Diversity					
Density					
Representativeness					
Uniqueness					
Excavation Potential					
Artefacts in situ					

Management strategies Comments

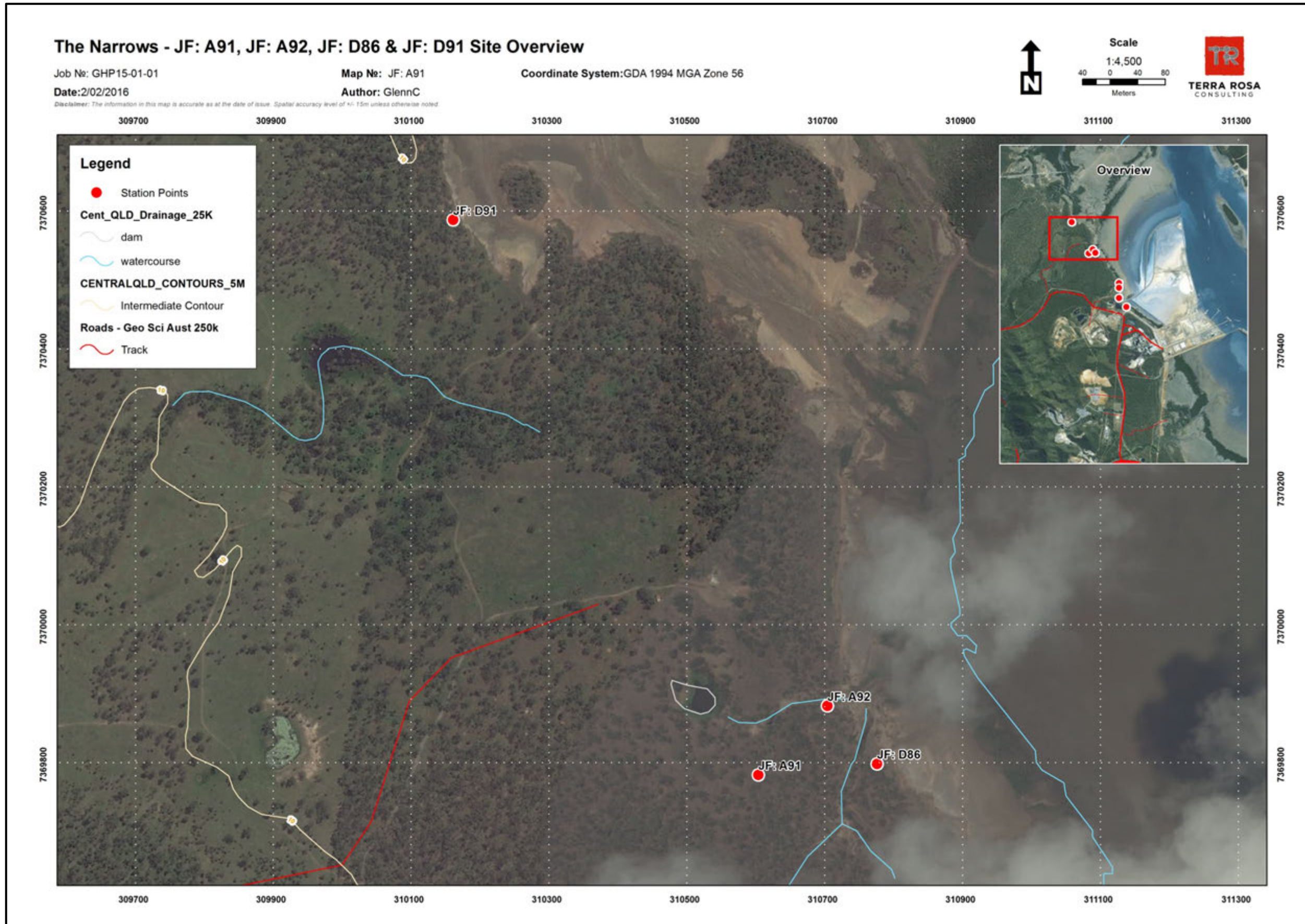
Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: JF: D91 (WB19) Site Plan





Site Recording Form

Site Code: FAC15-01

Site Name:

Date: 27/11/2015

Site Type: Shell Scatter & Stone Tools

MS # 1 - 2

Zone: Facing Island

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Concentrations of dense in situ shell scatter and stone tools.

Located on the northeast coast of Facing Island.

12 km north of FAC15-06.

Cultural material noted to be in situ

Disturbance is evident.

Light vehicle track dissecting the site.

Numerous more tracks in the wider area.

Basalt and quartz flakes and cores, grinding material, basal grindstone & a muller.

Variety of shell species.

Basalt reduction sequence was also identified.

Continuous background scatter of shell and stone tools.

Less dense spread to the west of stone tools.

MS1 - MS2

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape			X		
Contemporary use		X			

Ethnographic comments:

MS1 - MS2

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value			X		
Threats and controls				X	

MS1

Scientific values	1	2	3	4	5
Diversity				X	
Density			X		
Representativeness			X		
Uniqueness				X	
Excavation Potential			X		
Artefacts in situ			X		

MS2

Scientific values	1	2	3	4	5
Diversity					X
Density				X	
Representativeness			X		
Uniqueness				X	
Excavation Potential				X	
Artefacts in situ				X	

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Disturbance is evident.

Light vehicle track dissecting the site.

Numerous more tracks in the wider area.

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: FAC15-01 Site Plan





Site Recording Form

Site Code: FAC15-02

Site Name:

Date: 27/11/2015

Site Type: Shell Scatter

MS # 1 - 2

Zone: Facing Island

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Shell scatter of shells and stone tools

Located on the northeast coast of Facing Island.

12 km north of FAC15-06

Dense concentrations

Cultural material identified in situ.

Disturbance is evident

Light vehicle tracks crossing the site

Remnants of previously fencing in and around the site.

Shell and stone tool scatters with basalt tools including a muller and a stepped scraper.

Variety of shell species – baler shell.

MS1 - MS2

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape			X		
Contemporary use		X			

Ethnographic comments:

MS1 - MS2

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls			X		

MS1

Scientific values	1	2	3	4	5
Diversity			X		
Density			X		
Representativeness		X			
Uniqueness			X		
Excavation Potential		X			
Artefacts in situ			X		

MS2

Scientific values	1	2	3	4	5
Diversity			X		
Density		X			
Representativeness		X			
Uniqueness				X	
Excavation Potential		X			
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Disturbance is evident

Remnants of previously fencing in and around the site

Land use (accessibility, developmental pressures)

Light vehicle tracks crossing the site

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: FAC15-02 Site Plan





Site Recording Form

Site Code: FAC15-03

Site Name:

Date: 27/11/2015

Site Type: Artefact Scatter

MS # 1

Zone: Facing Island

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Low density artefact scatter.

In valley between sand dunes on the northeast coast of Facing Island.

Located approximately 12 km north of FAC15-06.

Stone tools identified – basalt/quartz cores and flakes, blade and pebble core.

Cultural material identified in situ.

Water activity is likely

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape		X			
Contemporary use		X			

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance			X		
Impact on heritage value				X	
Threats and controls			X		

MS1

Scientific values	1	2	3	4	5
Diversity			X		
Density		X			
Representativeness		X			
Uniqueness			X		
Excavation Potential			X		
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Water activity is likely, requires monitoring due to location in a valley between sand dunes.

Land use (accessibility, developmental pressures)

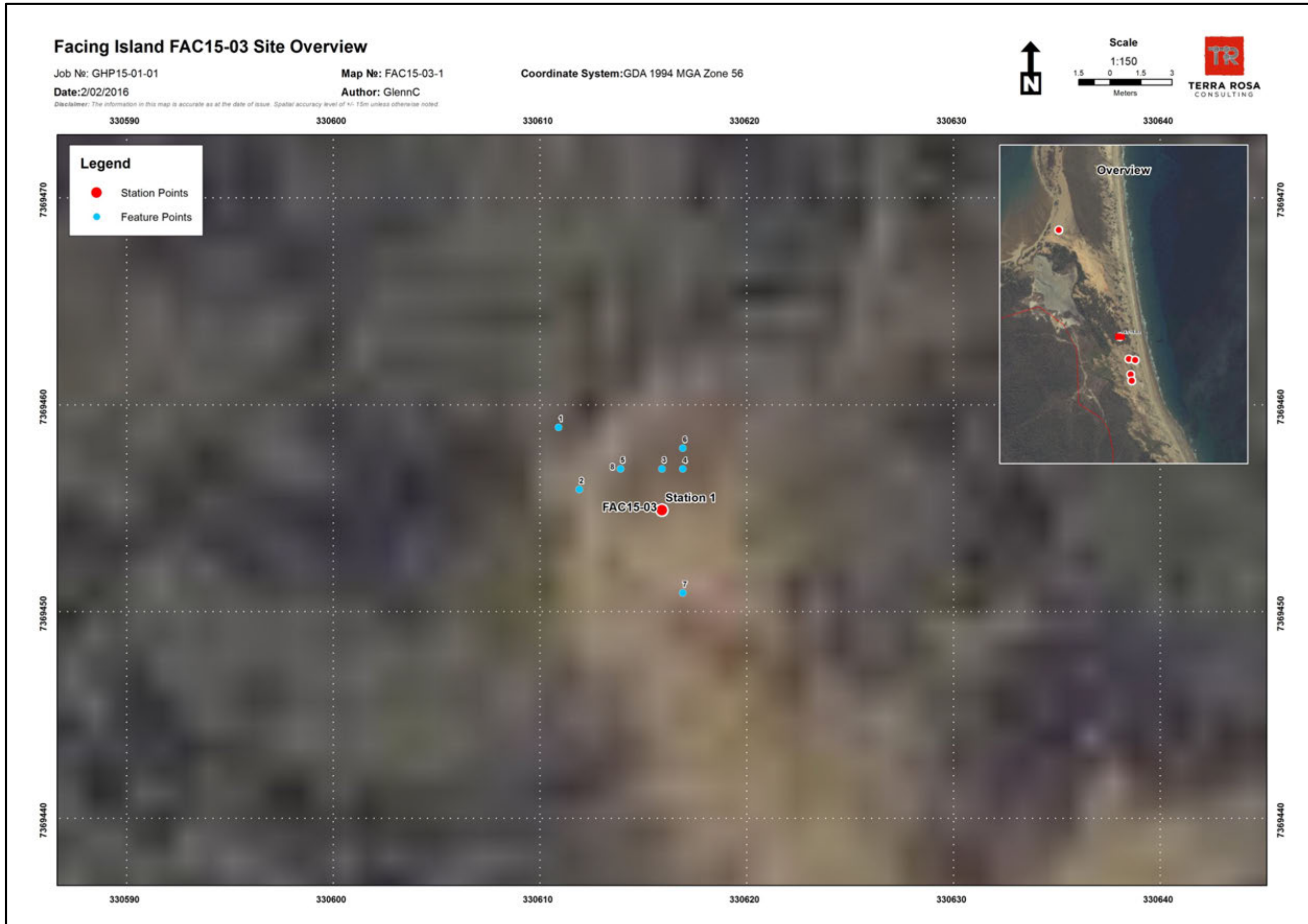
Developmental pressure of water movement.

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Cultural material identified in situ.

Additional comments

Map 1: FAC15-03 Site Plan





Site Recording Form

Site Code: FAC15-04

Site Name:

Date: 27/11/2015

Site Type: Shell Midden & Artefact scatter **MS #** 1 - 5

Zone: Facing Island

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Shell midden and artefact scatter

Concentrations of shells and stone tools

Located on the northeast coast of Facing Island.

14 km north of FAC15-06

Cultural material in situ.

Disturbance to the west and south of the site where tracks cut through the dunes.

Portions on east eroding from reducing sand dunes.

Stone tools of basalt, quartz and quartzite and shells including hand axes, basalt reduction areas, hammer stones, grindstones and core tools.

Oyster and mussels dominate the shell midden deposits - baler shell identified.

Background scatter of shell and stone tools.

MS1 – MS5

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape			X		
Contemporary use		X			

Ethnographic comments:

MS1 – MS5

Physical condition	1	2	3	4	5
Ground surface disturbance			X		
Impact on heritage value			X		
Threats and controls				X	

MS1

Scientific values	1	2	3	4	5
Diversity				X	
Density				X	
Representativeness				X	
Uniqueness				X	
Excavation Potential				X	
Artefacts in situ				X	

MS2

Scientific values	1	2	3	4	5
Diversity				X	
Density				X	
Representativeness				X	
Uniqueness			X		
Excavation Potential				X	
Artefacts in situ				X	

MS3

Scientific values	1	2	3	4	5
Diversity				X	
Density				X	
Representativeness				X	
Uniqueness				X	
Excavation Potential				X	
Artefacts in situ				X	

MS4

Scientific values	1	2	3	4	5
Diversity			X		
Density				X	
Representativeness			X		
Uniqueness				X	
Excavation Potential				X	
Artefacts in situ				X	

MS5

Scientific values	1	2	3	4	5
Diversity			X		
Density				X	
Representativeness			X		
Uniqueness			X		
Excavation Potential				X	
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Disturbance to the west and south where tracks cut through the dunes.

Portions on east eroding from reducing sand dunes.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: FAC15-04 Site Plan





Site Recording Form

Site Code: FAC15-05

Site Name:

Date: 27/11/2015

Site Type: Shell & Artefact Scatter

MS # 1

Zone: Facing Island

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Dispersed shell and artefact scatter

West coast of Facing Island.

12 km north of FAC15-06.

Cultural material in situ.

Extensive disturbance from vehicles

Windrows noted throughout the sites.

Stone tools of primarily basalt and quartz, including a chopper pebble tool, flakes and worked pebbles, and a dispersed shell midden.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information		X			
Connection to the cultural landscape		X			
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance	X				
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density		X			
Representativeness		X			
Uniqueness		X			
Excavation Potential		X			
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Extensive disturbance from vehicles

Windrows noted throughout the sites.

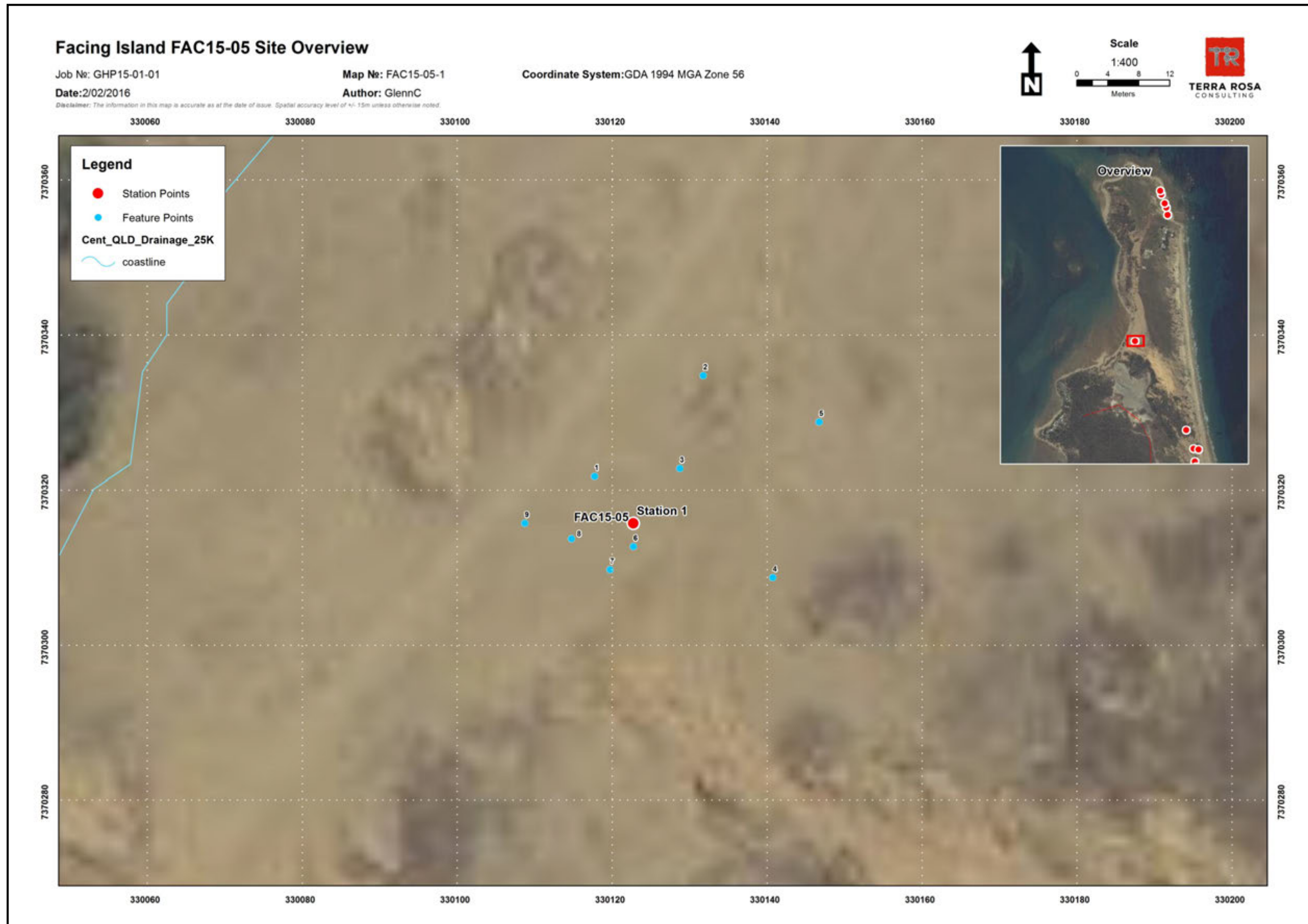
Land use (accessibility, developmental pressures)

Vehicle access.

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: FAC15-05 Site Plan





Site Recording Form

Site Code: FAC15-06

Site Name:

Date: 27/11/2015

Site Type: Shell & Artefact Scatter

MS # 1 - 2

Zone: Facing Island

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Large shell midden and artefact scatter

Amongst sand dunes close to the foreshore in the southeast portion of Facing Island.

Cultural locus site within the Facing Island zone.

Extensive and densely populated shell middens with significant numbers of stone tools.

Majority of the cultural material in situ.

The stone tools identified include basalt, quartz and quartzite flakes and core, chopper tools, pebble tools, hammer stones, bone and ground material including mullers.

Some stone tool material is partially buried

Prime site for archaeological excavation.

Variety of shell types with complete

Concentrations of oyster shells.

MS1 – MS2

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape					X
Contemporary use		X			

Ethnographic comments:

MS1 – MS2

Physical condition	1	2	3	4	5
Ground surface disturbance				X	
Impact on heritage value				X	
Threats and controls			X		

MS1

Scientific values	1	2	3	4	5
Diversity					X
Density				X	
Representativeness					X
Uniqueness					X
Excavation Potential				X	
Artefacts in situ				X	

MS2

Scientific values	1	2	3	4	5
Diversity					X
Density					X
Representativeness					X
Uniqueness					X
Excavation Potential				X	
Artefacts in situ				X	

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

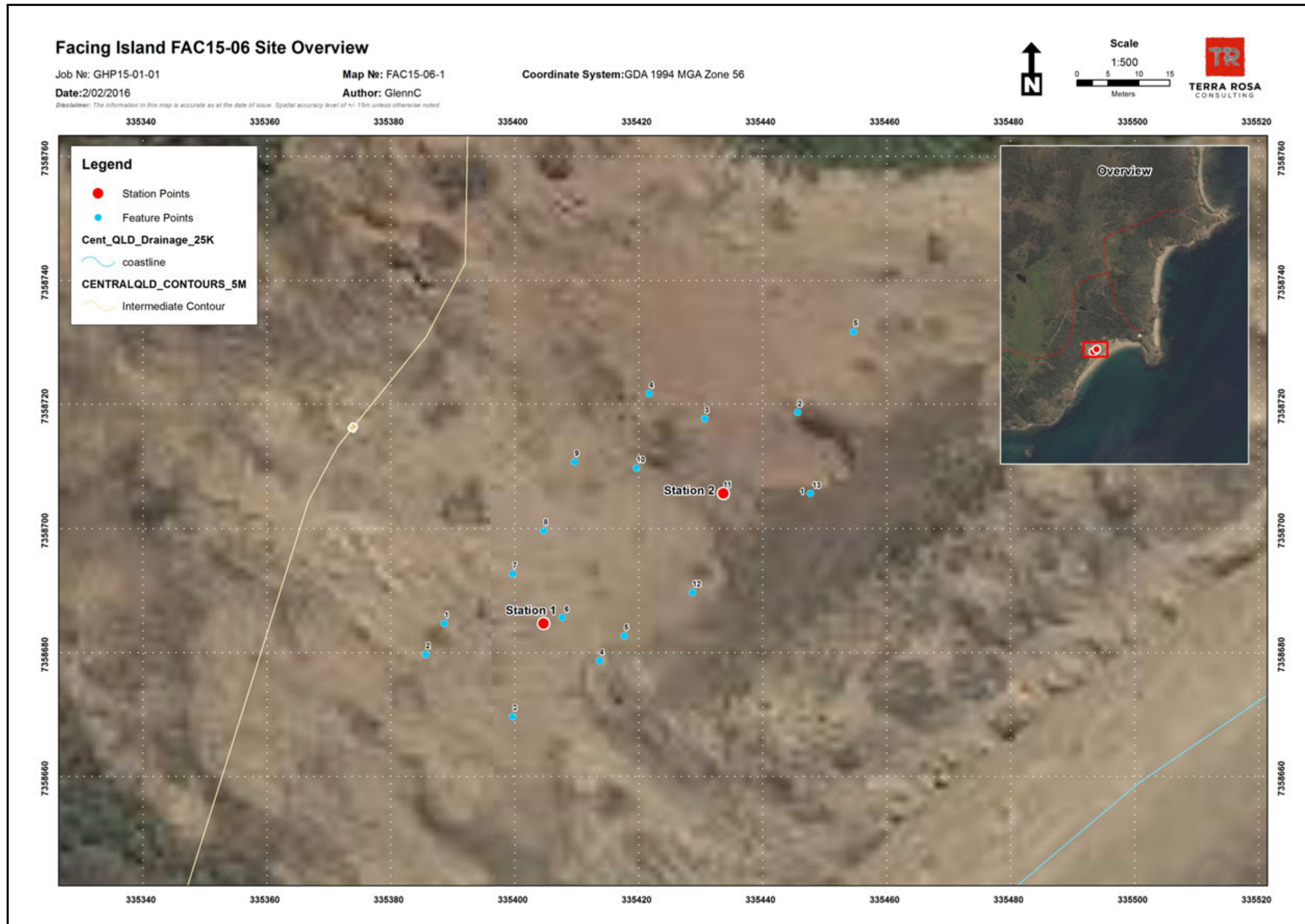
Prime site for archaeological excavation.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: FAC15-06 Site Plan





Site Recording Form

Site Code: WCC15-01

Site Name:

Date: 02/12/2015

Site Type: Shell Midden

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Small shell midden

Edge of the mangroves

1.5 km north of WCC15-010

Eroding out of the sand dune.

Heavily impacted by water disturbance.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape	X				
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density		X			
Representativeness		X			
Uniqueness	X				
Excavation Potential		X			
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Eroding out of the sand dune.

Heavily impacted by water disturbance.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-01 Site Plan





Site Recording Form

Site Code: WCC15-02

Site Name:

Date: 02/12/2015

Site Type: Shell Midden

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Small shell midden.

Located in a sand dune above the mangroves.

Along a tree line.

1.5 km north of WCC15-010

Small scatter of *Anadara* spp. shell which is eroding out of the sand dune.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape	X				
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density		X			
Representativeness		X			
Uniqueness	X				
Excavation Potential		X			
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Sand dune access

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-02 Site Plan





Site Recording Form

Site Code: WCC15-03

Site Name:

Date: 02/12/2015

Site Type: Shell Midden & Artefact Scatter **MS #** 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Small shell midden and artefact scatter.

Located in a sand dune above the mangroves.

Along a tree line.

1.5 km north of WCC15-010

Very sparse scatter of *Anadara* spp. shell are quartz flakes.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape	X				
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density		X			
Representativeness		X			
Uniqueness	X				
Excavation Potential		X			
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Sand dune access

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-03 Site Plan





Site Recording Form

Site Code: WCC15-04

Site Name:

Date: 02/12/2015

Site Type: Scar Tree

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

1.5 km north of WCC15-010.

Single culturally modified Melaleuca (*Myrtaceae* spp.) tree.

The retained scar is reflective of a canoe.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape			X		
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance					X
Impact on heritage value					X
Threats and controls			X		

MS1

Scientific values	1	2	3	4	5
Diversity					
Density					
Representativeness					X
Uniqueness					X
Excavation Potential					
Artefacts in situ					

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Water used for transport/hunting (Canoe)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-04 Site Plan





Site Recording Form

Site Code: WCC15-05

Site Name:

Date: 02/12/2015

Site Type: Artefact Scatter

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Small artefact scatter.

Located on the slope of a sand dune.

1 km north of WCC15-010.

Situated above the mangroves, along a tree line.

Comprises flakes and cores of basalt, chert and quartz.

Water activity is evident down the slopes of the dune.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape	X				
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density		X			
Representativeness			X		
Uniqueness	X				
Excavation Potential	X				
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Water movement. Near mangroves.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-05 Site Plan





Site Recording Form

Site Code: WCC15-06

Site Name:

Date: 02/12/2015

Site Type: Artefact Scatter

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Very small artefact scatter

Located on the slope of a sand dune.

1 km north of WCC15-010.

Comprises flakes and cores of silcrete and quartz.

A single blade of quartz.

Water activity is evident down the slopes of the dune.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape	X				
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density		X			
Representativeness			X		
Uniqueness	X				
Excavation Potential	X				
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Water activity is evident down the slopes of the dune.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-06 Site Plan





Site Recording Form

Site Code: WCC15-07

Site Name:

Date: 27/11/2015

Site Type: Shell & Artefact Scatter

MS # 1 - 2

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Shell midden.

Bank on the west side of Wild Cattle Creek.

Close to the water's edge.

300 m north of WCC15-010.

Number of locations along the creek bank.

Water activity is high in this location.

Eroding from the bank in places.

MS1 – MS2

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape			X		
Contemporary use	X				

Ethnographic comments:

MS1 – MS2

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density			X		
Representativeness			X		
Uniqueness	X				
Excavation Potential			X		
Artefacts in situ			X		

MS2

Scientific values	1	2	3	4	5
Diversity	X				
Density			X		
Representativeness			X		
Uniqueness	X				
Excavation Potential			X		
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Water activity is high in this location.

Eroding from the bank in places.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-07 Site Plan





Site Recording Form

Site Code: WCC15-08

Site Name:

Date: 02/12/2015

Site Type: Shell Midden

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Small shell midden.

Bank on the west side of Wild Cattle Creek.

Close to the water's edge.

300 m north of WCC15-010.

Two expressions of shell along the creek bank.

Water activity is high.

Eroding from the bank in places.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape			X		
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance			X		
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density			X		
Representativeness			X		
Uniqueness	X				
Excavation Potential		X			
Artefacts in situ		X			

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Water activity is high.

Eroding from the bank in places.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-08 Site Plan





Site Recording Form

Site Code: WCC15-09

Site Name:

Date: 02/12/2015

Site Type: Shell Midden

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Small shell midden.

Bank on the west side of Wild Cattle Creek.

Close to the water's edge.

300 m north of WCC15-010.

Single expression of shell along the creek bank.

Water activity is high.

Eroding from the bank in places.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape			X		
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance			X		
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density				X	
Representativeness			X		
Uniqueness	X				
Excavation Potential			X		
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Water activity is high.

Eroding from the bank in places.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-09 Site Plan





Site Recording Form

Site Code: WCC15-10

Site Name:

Date: 27/11/2015

Site Type: Shell Scatter

MS # 1 - 2

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Shell scatter.

Along Wild Cattle Creek close to Tannum Sands.

South of Gladstone.

Exposed shell middens, visible from creek line.

Typical to the area.

Focus site within the Wild Cattle Creek zone.

Disturbed site.

In-use light vehicle tracks.

Water activity significantly impacting on the cultural material.

General refuse present.

MS1 – MS2

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape				X	
Contemporary use			X		

Ethnographic comments:

MS1 – MS2

Physical condition	1	2	3	4	5
Ground surface disturbance		X			
Impact on heritage value		X			
Threats and controls		X			

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density		X			
Representativeness			X		
Uniqueness			X		
Excavation Potential		X			
Artefacts in situ		X			

MS2

Scientific values	1	2	3	4	5
Diversity		X			
Density		X			
Representativeness			X		
Uniqueness			X		
Excavation Potential			X		
Artefacts in situ			X		

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Disturbed site.

In-use light vehicle tracks.

Water activity significantly impacting on the cultural material.

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-10 Site Plan





Site Recording Form

Site Code: WCC15-11

Site Name:

Date: 02/12/2015

Site Type: Tree Scar

MS # 1

Zone: Wild Cattle Creek

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

500 m southwest of WCC15-010.

Single culturally modified tree with a retained scar is reflective of a shield or bowl.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information	X				
Connection to the cultural landscape			X		
Contemporary use	X				

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance					X
Impact on heritage value				X	
Threats and controls			X		

MS1

Scientific values	1	2	3	4	5
Diversity					
Density					
Representativeness					X
Uniqueness					X
Excavation Potential					
Artefacts in situ					

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: WCC15-11 Site Plan





Site Recording Form

Site Code: GLA15-01

Site Name: Barney Point

Date: 13/12/2015

Site Type: Ethno-historical Site

MS # 1 - 2

Zone: Gladstone Central

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Ethno-historical site of cultural importance.

No physical cultural material present.

Features of interest:

Centenary Celebrations Monument (1954)

Monument (2003) 150th anniversary of the arrival of Francis Peter MacCabe

Grave of Thomas Milles Stratford Riddell (died 15 September 1854)

Monument commemorating the opening of the play park (6th December 1958).

MS1 – MS2

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information				X	
Connection to the cultural landscape			X		
Contemporary use					X

Ethnographic comments:

MS1 – MS2

Physical condition	1	2	3	4	5
Ground surface disturbance	X				
Impact on heritage value				X	
Threats and controls					X

MS1

Scientific values	1	2	3	4	5
Diversity		X			
Density					
Representativeness			X		
Uniqueness			X		
Excavation Potential					
Artefacts in situ					

MS2

Scientific values	1	2	3	4	5
Diversity		X			
Density					
Representativeness			X		
Uniqueness			X		
Excavation Potential					
Artefacts in situ					

Management strategies Comments

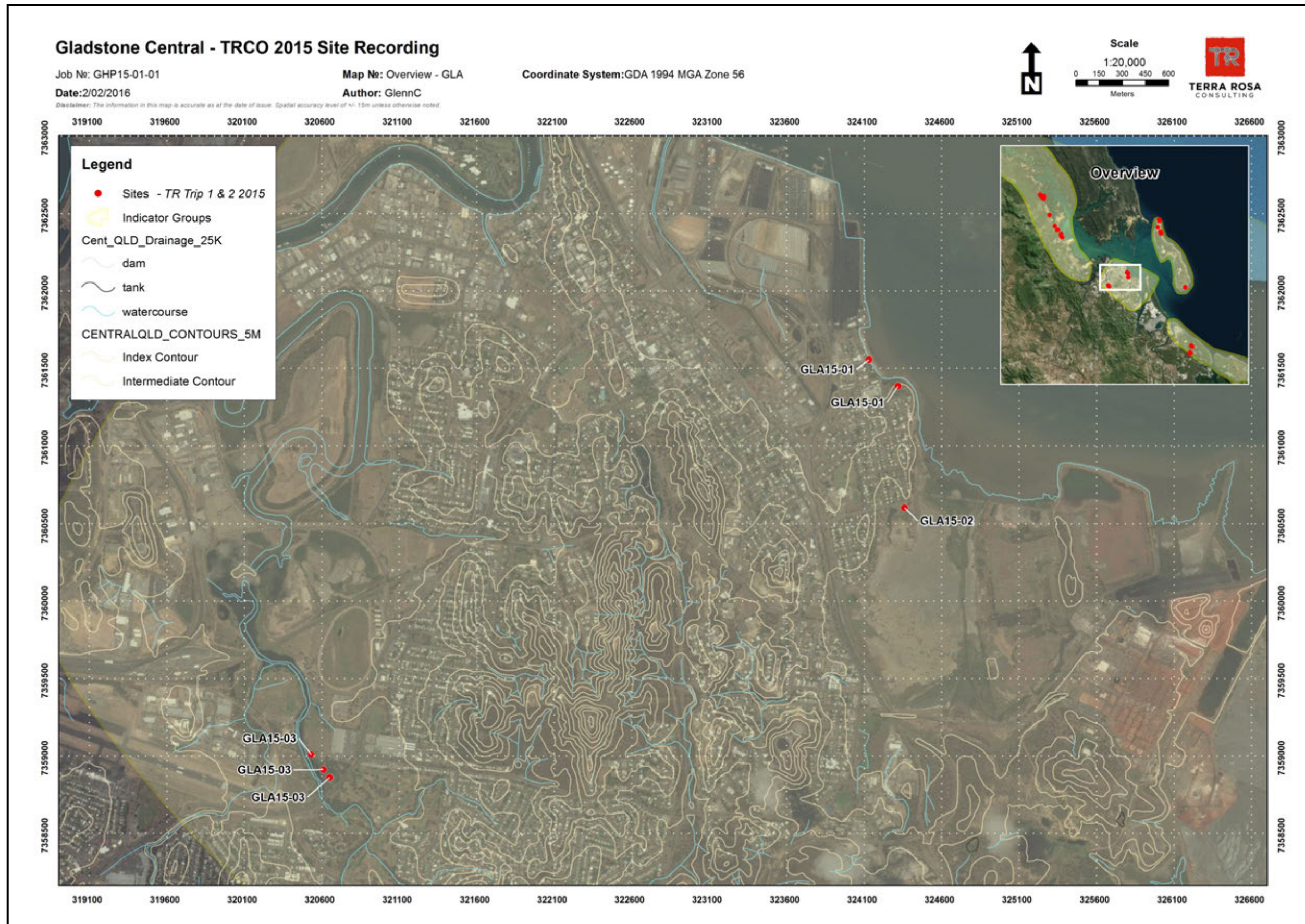
Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: GLA15-01 Site Recording





Site Recording Form

Site Code: GLA15-02

Site Name: Hector Johnson Park

Date: 13/12/2015

Site Type: Ethno-historical Site

MS # 1

Zone: Gladstone Central

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Named after an Aboriginal elder in the Gladstone community.

No physical cultural material.

Single sign denoting the park's name.

MS1

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information			X		
Connection to the cultural landscape			X		
Contemporary use			X		

Ethnographic comments:

MS1

Physical condition	1	2	3	4	5
Ground surface disturbance	X				
Impact on heritage value		X			
Threats and controls			X		

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density					
Representativeness		X			
Uniqueness	X				
Excavation Potential					
Artefacts in situ					

Management strategies Comments

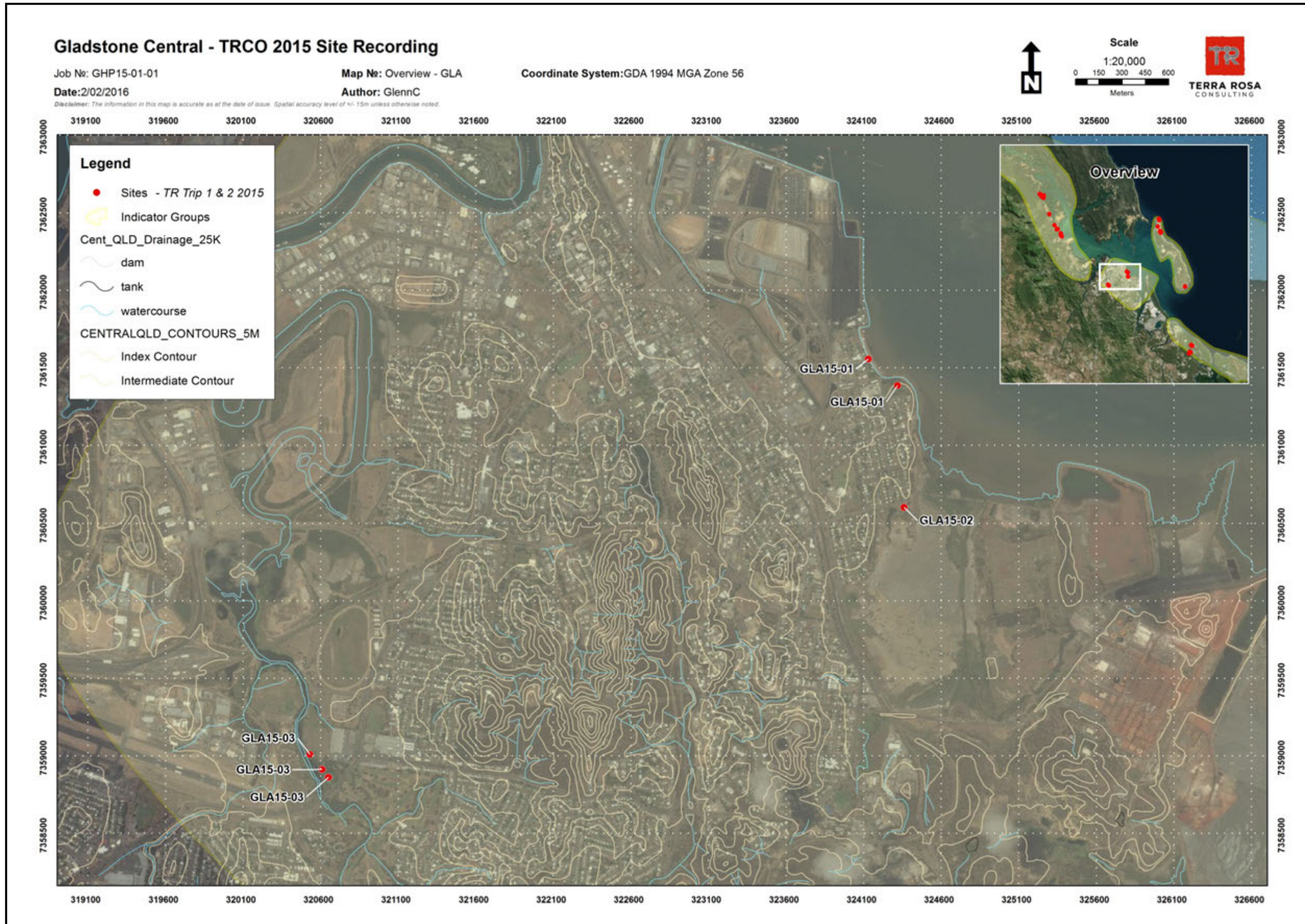
Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: GLA15-02 – Site Recording





Site Recording Form

Site Code: GLA15-03

Site Name: Police Creek

Date: 13/12/2015

Site Type: Ethno-historical Site

MS # 1 - 3

Zone: Gladstone Central

Recorder/s: SC, AG, Gidarjil rangers

Camera/s: Pentax, SC

Description:

Auckland Creek Catchment.

Focus site within the Gladstone Central zone.

Recreational area.

Monitoring stations are positioned.

Located in the southwest of the city.

Interpretative signage present throughout.

Native Police were sent to the district in 1853.

Paramilitary force consisting of Aboriginal men commanded by a European officer.

Native Police camp established 1854.

Location of the Native Police camp undetermined.

First permanent water sources for Gladstone.

Public use and includes a walking trail

MS1 – MS3

Spiritual / social values	1	2	3	4	5
Ethnographic and historical Information					X
Connection to the cultural landscape					X
Contemporary use					X

Ethnographic comments:

MS1 – MS3

Physical condition	1	2	3	4	5
Ground surface disturbance	X				
Impact on heritage value				X	
Threats and controls					X

MS1

Scientific values	1	2	3	4	5
Diversity	X				
Density					
Representativeness				X	
Uniqueness				X	
Excavation Potential					
Artefacts in situ					

MS2

Scientific values	1	2	3	4	5
Diversity	X				
Density					
Representativeness				X	
Uniqueness				X	
Excavation Potential					
Artefacts in situ					

MS3

Scientific values	1	2	3	4	5
Diversity	X				
Density					
Representativeness				X	
Uniqueness				X	
Excavation Potential					
Artefacts in situ					

Management strategies Comments

Protection (monitoring, registration of sites, management of threats)

Land use (accessibility, developmental pressures)

First permanent water sources for Gladstone.

Cultural maintenance (identification and research of sites, cultural resources, cultural management activities, stakeholder engagement)

Additional comments

Map 1: GLA15-03 – Site Recording

