Aboriginal Cultural Heritage Assessment

ST MARYS FREIGHT HUB, ST MARYS NSW

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ngh environmental

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ACRONYMS AND ABBREVIATIONS

ACHA	Aboriginal Cultural Heritage Assessment – *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHR / ACHCRP	*Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*
AHIMS	Aboriginal heritage information management system
EP&A Act	*Environmental Planning & Assessment Act 1979* (NSW)
Km	Kilometres
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
M	Metres
NPW Act	*National Parks & Wildlife Act 1974* (NSW)
NSW	New South Wales
OEH	(NSW) Office of Environment and Heritage
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party

EXECUTIVE SUMMARY

INTRODUCTION

NGH Environmental has been engaged by Urbanco on behalf of Pacific National Pty Ltd to investigate and examine the presence, extent and nature of Aboriginal heritage for the proposed State Significant Development of St Mary's Freight Hub, located along Forrester Road, Lee Holm Road, and Christie Street, St Mary's NSW 2760. (Figure 1). The proposed Freight Hub site is located within the local government area of Penrith and consists of three lots - Lot 2 DP876781, Lot 3 DP876781, and Lot 196 DP31912. The total site has an area of 43 hectares (ha) with the area subject to the development (Stage 1) being approximately 9.6ha.

The proposed works would include the construction of the St Marys Freight Hub and its associated services which include access points and roads, shipping container stacking points, power and water, and office construction. These activities would involve ground disturbance that has the potential to impact Aboriginal heritage sites and objects which are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act).

During an extensive search of the Aboriginal Heritage Information Management System (AHIMS) which is maintained by NSW Office of Environment and Heritage (OEH), eleven previously recorded Aboriginal heritage sites were identified within a 1km buffer zone of the proposed works area. No registered sites are located within the project area; however, one site is located within the wider Lot 2 DP876781, approximately 50m to the north of the project boundary. This Aboriginal Cultural Heritage Assessment (ACHA) will investigate the presence, extent and significance of any previously located Aboriginal sites proximate to project works and assess likely impacts so as to determine appropriate management strategies to mitigate these impacts.

Under the NSW Planning legislation, an Aboriginal Heritage Impact Permit (AHIP) from OEH would not be required for this project due to its designation as a State Significant Development for which the Department of Planning provides the approval. Despite this designation, Aboriginal heritage is still required to be considered along with appropriate consultation with the Aboriginal community.

PROJECT PROPOSAL

The proposed development includes the staged construction, and ultimate operation, of 9.6ha of the broader site for the St Marys Freight Hub, comprising an intermodal (road and rail) terminal and container park with an operating capacity of 300,000 TEU annual throughput.

The proposed development will facilitate the introduction of a new container rail shuttle between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail and relieving the regional and state road network of heavy vehicle and container traffic, including primary freight roads servicing Port Botany.

The proposed St Marys Freight Hub will be supported by a dedicated port rail shuttle service from Port Botany, with the road transport leg commencing at the St Marys site. The St Marys Freight Hub will be operated by an independent intermodal freight forwarding organisation, with containers transported between Port Botany and St Marys via up to five 650 metre Pacific National trains per day.

ABORIGINAL CONSULTATION

The consultation with Aboriginal stakeholders was undertaken in accordance with clause *80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) guide provided by OEH. The guide outlines a four-stage process of consultation as follows:

- Stage 1 – Notification of project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

The full list of consultation steps, including those groups and individuals that were contacted and a consultation log is provided in Appendix A. A summary of actions carried out in following these stages are as follows.

Stage 1. A letter outlining the development proposal and the need to carry out an ACHA was sent to the Deerubbin Local Aboriginal Land Council (LALC), and various statutory authorities including OEH, as identified under the ACHCRP. An advertisement was placed in *The Daily Telegraph* on the 20th December 2018 seeking registrations of interest from Aboriginal people and organisations. A further series of letters was sent to other organisations identified by OEH in correspondence to NGH Environmental. In each instance, the closing date for submission was 14 days from receipt of the letter.

As a result of this process, 20 groups contacted NGH to register their interest in the proposal.

Stage 2. An *Assessment Methodology* document for the 'St Marys Freight Hub' was sent to the RAPs and other Aboriginal stakeholders named by OEH. This document provided details of the background to the proposal, a summary of previous archaeological surveys and the proposed heritage assessment methodology for the proposal. The document invited comments regarding the proposed methodology and also sought any information regarding known Aboriginal cultural significance values associated with the subject area and/or any Aboriginal objects contained therein.

Stage 3. The *Assessment Methodology* outlined in Stage 2 included a written request to provide any information that may be relevant to the cultural heritage assessment of the study area. It was noted that sensitive information would be treated as confidential. No response regarding cultural information was received.

A site inspection and archaeological survey was organised for the 11 March 2019 and three registered parties (Deerubbin LALC, Amanda Hickey Cultural Services and A1 Indigenous Services) were invited to participate.

Stage 4 on 28.3.2019 a draft version of this *Aboriginal Cultural Heritage Assessment Report* for the project (this document) was forwarded to the RAPs and a timeframe of 28 days was requested for the receipt of responses to the document. NGH requested 'delivery' and 'read' receipts from all groups that were emailed.

At the conclusion of the minimum period of 28 days (29 April) for the review of the ACHAR, NGH had received a response from 5 of the groups regarding comments on the draft ACHAR report.

ARCHAEOLOGICAL CONTEXT

St Marys and the proposal area are located within the Cumberland Plain, which has been the subject of intensive archaeological investigation due to the urban development of the area over the past 40 years. As a result, the area is known to be a rich source of Aboriginal archaeology.

The assessment included a review of relevant information relating to the existing landscape of the proposal area. Included in this was a search of the Office of Environment and Heritage (OEH) AHIMS database. No Aboriginal sites have previously been recorded within the proposal area, however eleven AHIMS sites had been recorded within a 1km buffer zone and one AHIMS site (AHIMS # 45-5-3141) is located within the wider Lot 2 DP876781, approximately 50metres to the north of the project area footprint.

Throughout the project, Registered Aboriginal Parties have been provided the opportunity to provide pertinent cultural information about the project area and places of significance within proximity. No information about places of cultural or spiritual significance has been provided to date.

SURVEY RESULTS

No new Aboriginal heritage sites were located during the survey and the previously registered AHIMS site (AHIMS # 45-5-3141) is located 50m to the north of the project area. This may be due to reduced visibility and access occurring as a result of significant vegetation growth since the 2004 recording of the site. The vegetation and introduced fill and ballast across the site has significantly reduced the surface visibility of the proposal area.

The previous historical uses of the site, including the construction of the railway and the considerable amount of fill that has been introduced to the site, has characterised the site as being highly modified. This analysis reduces the likelihood of locating any cultural material across the site to low.

SIGNIFICANCE ASSESSMENT

The assessment of the significance of Aboriginal archaeological sites is undertaken in accordance with the criteria outlined in the ICOMOS Burra Charter (Marquis-Kyle & Walker 1994).

All sites or places may be expected to hold some degree of value. Where a site is deemed to be significant, its significance may be based on different levels ranging from local to regional to national, or in very rare cases, international. Further, sites may either be assessed individually, or where they occur in association with other sites, the value of the complex as a whole should be considered.

Social or cultural value

While the true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people, it is generally held that all sites retain cultural value for the local Aboriginal community. An opportunity to identify cultural and social value was provided to the RAPs for this proposal through the fieldwork and draft reporting process.

No social or cultural values of the project areas were identified during the project.

Scientific (archaeological) value.

The research potential of the project area is considered to be generally low. A significant amount of fill has been introduced to the site, and the land has undergone disturbance including farming and the construction and operation of the Ropes Creek Branch railway line. No sites were identified and therefore no scientific significance is attributed to the place. Further assessment of the site through excavation would therefore not be appropriate due to the highly modified nature of the site.

Aesthetic value

No identified aesthetic values for the proposal area.

Other Values

There are no other known heritage values associated with the proposal area.

CONSIDERATION OF HARM

Mitigation of harm to cultural heritage sites generally involves some level of detailed recording to preserve the information contained within the site. Appropriate mitigation measures may involve minimising harm through modification of the development plan or through direct management measures, such as artefact salvage.

As there are no previously recorded AHIMS sites within the project area footprint, and no sites were identified during the site survey, it is not considered necessary to employ mitigation measures such as salvage, detailed recording, or changes to the design footprint. The proposal area is located on a site of historical ground modification, and the potential for locating in-situ surface and subsurface artefacts is considered to be very low.

Whilst AHIMS site #45-5-3141 was unable to be located during the field survey, the coordinates for the site place it approximately 50 metres to the north of the project area and out of the impact zone.

RECOMMENDATIONS

The recommendations are based on the following information and considerations:

- Results of the archaeological survey;
- Consideration of results from other local archaeological studies;
- Results of consultation with the registered Aboriginal parties;
- Appraisal of the proposed development, and
- Legislative context for the development proposal.

The previously located Aboriginal site (AHIMS #45-5-3141) was unable to be relocated and its site coordinates indicate that it is outside the present project footprint. Additionally, no further Aboriginal sites were located in the project area. In light of these results and in conjunction with consultation with the local Aboriginal community, it is recommended for the project, that:

1. The proposed works to the St Marys Freight Hub, St Marys NSW, do not require further investigation and the proposed construction works can proceed with caution.

2. As a State Significant development, an AHIP permit would not be required if works were to uncover Aboriginal material. However, in the unlikely event that previously undiscovered Aboriginal finds are identified during construction, works in the vicinity of the find should cease and a qualified archaeologist/heritage consultant called in to inspect the find and provide recommendations on proceeding.

3. In the unlikely event that human remains are discovered during the construction, all work must cease. OEH, the local police and Deerubbin LALC should be notified. Further assessment would be undertaken to determine if the remains are Aboriginal or non-Aboriginal.

4. Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation. This would include consultation with the RAPs for the project and may include further field survey.

5. Continued consultation with the RAPs for the project should be undertaken if there are any major changes in project design or scope, further investigations or finds.

1 INTRODUCTION

NGH Environmental has been engaged by Urbanco on behalf of Pacific National Pty Ltd to investigate and examine the presence, extent and nature of Aboriginal heritage for the proposed State Significant Development of St Mary's Freight Hub, located along Forrester Road, Lee Holm Road, and Christie Street, St Mary's NSW 2760 (Figure 1). The proposed Freight Hub site is located within the local government area of Penrith and consists of three lots - Lot 2 DP876781, Lot 3 DP876781, and Lot 196 DP31912. The total site has an area of 43 hectares (ha) with the area subject to the development (Stage 1) being approximately 9.6ha.

The proposed works would include the construction of the St Marys Freight Hub and its associated services which include access points and roads, shipping container stacking points, power and water, and office construction. These activities would involve ground disturbance that has the potential to impact on Aboriginal heritage sites and objects which are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act).

During an extensive search of the Aboriginal Heritage Information Management System (AHIMS) which is maintained by NSW Office of Environment and Heritage (OEH), eleven previously recorded Aboriginal heritage sites were identified within a 1km buffer zone of the proposed works area. No registered sites are located within the project area, however one site is located within the wider Lot 2 DP876781, approximately 50m to the north of the project boundary. The purpose of this Aboriginal Cultural Heritage Assessment (ACHA) is to investigate the presence and extent of any Aboriginal sites and to assess their significance and possible impacts from the proposed works and to provide management strategies that may mitigate any impact.

Under the NSW Planning legislation for this project, an Aboriginal Heritage Impact Permit (AHIP) from OEH would not be required for the project as under the State Significant Development regime the Department of Planning provides the approval. However, Aboriginal heritage still needs to be considered, and consultation conducted the Aboriginal community. State Significant Developments are still subject to environmental planning processes and are assessed under the Secretary's Environmental Assessment Requirements (SEARs).

1.1 PROJECT PROPOSAL

The proposed Freight Hub project area covers approximately 9.6 hectares of land at St Marys, NSW, just to the northwest of St Marys Railway Station (Figure 1).

The proposed construction of the new Freight Hub is a State Significant Development and therefore includes the following requirements for the Aboriginal Cultural Heritage Assessment in regard to the SEARs:

- Identify and describe the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011);
- Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The

significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR; and

- Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.

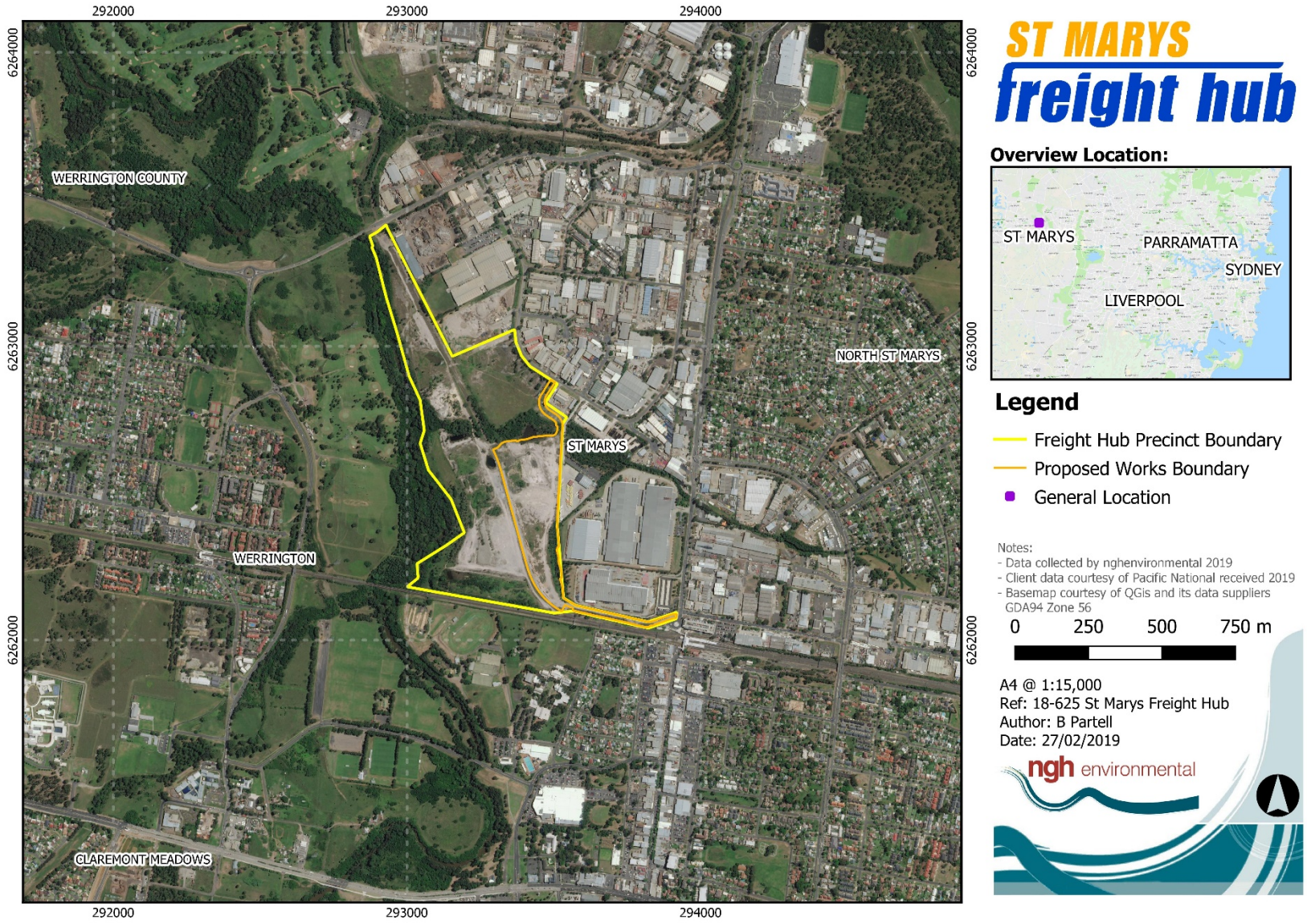

Figure 1. General Project Location.

1.2 PROJECT PERSONNEL

This assessment was undertaken by archaeologists Jakob Ruhl, Bronwyn Partell and Ingrid Cook of NGH Environmental, including background research, Aboriginal community consultation, field survey and report preparation.

Consultation with the Aboriginal community was undertaken following the process outlined in OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010.* As part of this process the Deerubbin Local Aboriginal Land Council was contacted, and a notice was placed in *The Daily Telegraph* (20.12.2018) to provide notification of the St Marys Freight Hub proposal and to request the registration of interest in the project by Aboriginal stakeholder groups. A total of 60 Aboriginal stakeholder groups were contacted directly by NGH, with 20 parties registering a formal interest in the project:

1. Amanda Hickey Cultural Services	2. Didge Ngunawal Clan
3. Darug Custodian Aboriginal Corporation	4. Barking Owl Aboriginal Corporation
5. B.W. Consultants	6. Yurrandaali Cultural Services
7. Yulay Cultural Services	8. Barraby Cultural Services
9. A1 Indigenous Services	10. Darug Land Observations
11. Ngambaa Cultural Connections	12. Darug Aboriginal Land Care
13. Darug Boorooberongal Elders Aboriginal Corporation	14. Widescope Indigenous Group
15. Warragil Cultural Services	16. Ginninderra Aboriginal Corporation
17. Gunjeewong Cultural Heritage Aboriginal Corporation	18. Deerubbin Local Aboriginal Land Council
19. Aboriginal Archaeology Service	20. Darug Aboriginal Cultural Heritage Assessments

A field survey of the construction footprint of the proposed St Marys Freight Hub sitewas undertaken on 11 March 2019. Three RAPs selected by the proponent in accordance with guideline requirements and they were invited to participate in the fieldwork:

Table 1. RAP participation table in the field survey, 11.03.2019

Organisation Name	Attended	Attendee Name
Deerubbin LALC	YES	Steve Randall
A1 Indigenous Services	YES	Carolyn Hickey

Amanda Hickey Cultural Services	YES	Amanda Hickey

Further detail and an outline of the consultation process is provided in Section 2.

1.3 REPORT FORMAT

This Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared in line with the following:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011);
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010a), and
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (OEH 2010b) produced by the NSW Office of Environment and Heritage (OEH).

The purpose of this ACHAR is therefore to provide an assessment of the Aboriginal cultural values associated with the project area and to assess the cultural and scientific significance of any Aboriginal heritage sites.

The objectives of the assessment were to:

- Conduct Aboriginal consultation as specified in clause 80c of the National Parks and Wildlife *Regulation*, using the consultation process outlined in the *Aboriginal cultural heritage consultation requirements for proponents 2010;*
- Undertake an assessment of the archaeological and cultural values of the project area and any Aboriginal sites therein;
- Assess the cultural and scientific significance of any archaeological material; and
- Provide management recommendations for any objects found.

2 ABORIGINAL CONSULTATION PROCESS

The consultation with Aboriginal stakeholders was undertaken in accordance with clause *80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) guide provided by OEH. The guide outlines a four-stage process of consultation as follows:

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The full list of consultation steps, including those groups and individuals that were contacted and a consultation log is provided in Appendix A. A summary of actions carried out in following these stages are as follows.

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As a result of this process, 20 groups contacted NGH to register their interest in the proposal.

Stage 2. An *Assessment Methodology* document for the 'St Marys Freight Hub' was sent to the RAPs and other Aboriginal stakeholders named by OEH. This document provided details of the background to the proposal, a summary of previous archaeological surveys and the proposed heritage assessment methodology for the proposal. The document invited comments regarding the proposed methodology and also sought any information regarding known Aboriginal cultural significance values associated with the subject area and/or any Aboriginal objects contained therein.

Stage 3. The *Assessment Methodology* outlined in Stage 2 included a written request to provide any information that may be relevant to the cultural heritage assessment of the study area. It was noted that sensitive information would be treated as confidential. No response regarding cultural information was received.

The following table lists all of the registered Aboriginal parties for this project and their responses to the project in general as well as the investigation methodology prepared by NGH.

Table 2. List of Registered Aboriginal Parties and comments provided on the NGH Aboriginal Heritage Investigation Methodology

Organisation name	Comments provided on the investigation methodology
Amanda Hickey Cultural Services	Read and agreed with the methodology.
Didge Ngunawal Clan	No comment received.
Darug Custodian Aboriginal Corporation	Read and agreed with the methodology.
Barking Owl Aboriginal Corporation	Read and agreed with the methodology.
B.W. Consultants	Read and agreed with the methodology.
Yurrandaali Cultural Services	Read and agreed with the methodology.
Yulay Cultural Services	Read and agreed with the methodology.
Barraby Cultural Services	Read and agreed with the methodology.
A1 Indigenous Services	Read and agreed with the methodology.
Darug Land Observations	Read and agreed with the methodology.
Ngambaa Cultural Connections	Read and agreed with the methodology.
Darug Aboriginal Land Care	Read and agreed with the methodology.
Darug Boorooberongal Elders Aboriginal Corporation	No comment received.
Widescope Indigenous Group	Read and agreed with the methodology.
Warragil Cultural Services	Read and agreed with the methodology.
Ginninderra Aboriginal Corporation	Read and agreed with the methodology.
Gunjeewong Cultural Heritage Aboriginal Corporation	Read and agreed with the methodology.
Deerubbin Local Aboriginal Land Council	Read and agreed with the methodology.
Aboriginal Archaeology Service	No comment received.
Darug Aboriginal Cultural Heritage Assessments	No comment received.

At this stage, the fieldwork was organised. A field survey of the construction footprint of the proposed St Marys Freight Hub was undertaken on 11 March 2019. Three RAPs were invited to participate in the fieldwork:

Organisation Name	Attended	Attendee Name
Deerubbin LALC	YES	Steve Randall
A1 Indigenous Services	YES	Carolyn Hickey
Amanda Hickey Cultural Services	YES	Amanda Hickey

Stage 4 on 28.3.2019 a draft version of this *Aboriginal Cultural Heritage Assessment Report* for the project (this document) was forwarded to the RAPs and a timeframe of 28 days was requested for the receipt of responses to the document. NGH requested 'delivery' and 'read' receipts from all groups that were emailed.

At the conclusion of the minimum period of 28 days (29 April) for the review of the ACHAR, NGH had received a response from 5 of the groups regarding comments on the draft ACHAR report.

2.1 ABORIGINAL COMMUNITY FEEDBACK

Aboriginal community feedback was sought during the design of methodology and field work stages. No information in respect of the project area holding specific cultural values or known heritage was provided by the Aboriginal representatives.

Representatives of the Aboriginal community were present during the fieldwork and provided feedback on the project. The Aboriginal Representatives present did not voice any objections to the project's commencement during or prior to fieldwork.

2.1.1 Registered Aboriginal Party Feedback to this ACHAR

A draft of this report was forwarded on its completion to the RAPs in March 2019. A summary of the responses received are provided in the table below and provided in full at Appendix A.

RAP	Response to ACHAR
Barking Owl Aboriginal Corporation	Read and agrees with the report and have no further comments or recommendations.
Darug Land Observations	Reviewed and supported the methodology and report.
Darug Aboriginal Land Care	Read and agree with the report and recommendations. Request that native plants be used in the landscape. If artefacts are uncovered during works then works are to stop so that they can be examined and salvaged. Any artefacts uncovered should be reburied in a safe area or placed in the care of a Museum.
Deerubbin Local Aboriginal Land Council	Steve Randall noted that he had attended site for the fieldwork and that there had been a high disturbance of the soils across the site. Deerubbin LALC therefore had no objections to the St Marys Freight Hub proposal.
Darug Aboriginal Cultural Heritage Assessments	Happy with the St Marys Draft ACHAR report and has no suggested amendments.

Further discussion of the issues raised by the RAPs in their feedback to the draft ACHAR is included in section 6.5 of this report.

3 BACKGROUND INFORMATION

3.1 REVIEW OF LANDSCAPE CONTEXT

3.1.1 General Description

The proposed St Marys Freight Hub (the project area) is located within the suburb of St Marys in the LGA of Penrith City Council. The total site has an area of 43 hectares (ha) with the area subject to the development (Stage 1) being approximately 9.6ha.

Land within the area consists of cleared woodland on the hills, foot slopes and plains, and extensively cleared open forest on the floodplain.

Dominant past land use of the area includes intensive residential, horticulture and animal husbandry, recreation, as well as light and heavy industry.

The project area is predominantly cleared and flat and contains existing rail sidings, which are to be used to service the proposed Freight Hub. The rail link was used to import material excavated from the Northside Sewerage Tunnel Project. Other parts of the site contain stockpiles of the excavated material and stacked redundant railway sleepers. There are numerous electrical transmission lines traversing the site (high and low voltages) and drainage channels. Little Creek traverses the site and discharges into South Creek to the west. Lot 196 contains existing rail infrastructure.

The broader site of the proposed St Marys Freight Hub was acquired by State Rail Authority (SRA) as a site to house its Tangara train maintenance and storage facility in 1986 with the closure of the Ropes Creek Branch Railway Line. Initial earthworks to raise the level of the broader site commenced in 1987, but the plan was abandoned in the late 1990s, during which time the broader site was unused. The broader site was then filled with material excavated from the Northside Sewerage Tunnel Project in 1999.

In June 2001 FreightCorp became the registered proprietor of the former SRA land, and in February 2002 Pacific National acquired the land.

3.1.2 Geology and Topography

Reference to the 1:100,000 Geological Series Sheet for Penrith, indicates that most of the proposal area is underlain by Triassic shale and sandstone and unconsolidated Quaternary sediments. The Bringelly Shale is the uppermost unit of the Wianamatta Group. Bringelly Shale is interpreted as a coastal alluvial plain, which grades up from a lagoonal coastal marsh sequence at the base to an increasingly terrestrial, alluvial plain at the top of the formation.

Lithology's which comprise the project area landscape include:

- Recent alluvium – fine grained sand, silt and clay;
- Bringelly Shale (Wianamatta Group) – shale, carbonaceous claystone, laminate, lithic sandstone, rare coal;

Underlain by:

- Minchinbury Sandstone (Wianamatta Group) – fine to medium-grained lithic sandstone;
- Ashfield Shale (Wianamatta Group) – black to light grey shale and laminate;

The minor constituents are:

- Londonderry Clay – highly plastic, relatively impervious clay, composed of poorly crystalline kaolinite, illite and mixed-layered clay, with associated ferruginous material and free quartz. Sandy patches are present and laterite pisolites and nodules are abundant throughout;
- St Marys Formation – laterised sand and clay with ferricrete bands; includes silcrete, sandstone and shale boulders;
- Volcanic diatremes- volcanic breccia (basaltic lapilli and blocks in a fine tuff matrix).

The local topography of the proposal area is characterised by low lying, gently undulating plains of the Cumberland Lowlands physiographic region. Slopes are 5-20% with local relief from 50-80m.

3.1.3 Soils and Native Vegetation

The area of St Marys has been mostly cleared of native vegetation, with less than half of the remnant vegetation having >10% canopy cover. Communities within the area include *Shale Plains Woodland* and *Alluvial Woodland* (along drainage lines).

The dominant tree species include: *Eucalyptus tereticornis* (forest red gum) and *E. moluccana* (coastal grey box) on the plains and *E. amplifolia* (cabbage gum), *Angophora floribunda* (rough-barked apple) and *E. tereticornis* (forest red gum) along the drainage lines.

Other common tree species include *E. crebra* (ironbark), *E. eugenioides* (thin-leaved stringybark), *E. baueriana* (blue box), *Corymbia maculate* (spotted gum), *Exocarpos curessiformis* (native cherry), *Acacia parramattensis* (Sydney green wattle) and *Acacia decurrens* (black wattle).

Between Liverpool and St Marys the dominant species are *E. globoidea* (white stringybark) and *E. fibrosa* (broad-leaved ironbark), with *E. longifolia* (woollybutt) as an understorey species. Individual trees or small stands of *E. sideroxylon* (mugga ironbark) are occasionally found on crests.

The project area is located in a number of different soil landscapes, summarised below:

Table 3. Soil landscapes in the project area.

Soil type	Description
South Creek	Landscape – floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain. Usually flat with incised channels; mainly cleared. Soils – Often very deep layered sediments over bedrock or relict soils. Where pedogenesis has occurred structured plastic clays or structured loams in and immediately adjacent to drainage lines; red and yellow podzolic soils are most common terraces with small areas of structured grey clays, leached clay and yellow solodic soils. Limitations – flood hazard, seasonal waterlogging, localised permanently high water tables, localised water erosion hazard, localised surface movement potential.
Blacktown	Landscape – gently undulating rises on Wianamatta Group shales. Local relief to 30m, slopes usually >5%. Broad rounded crests and ridges with gently inclined slopes. Cleared Eucalypt woodland and tall open-forest (dry sclerophyll forest). Soils – shallow to moderately deep (>100cm) hardsetting mottled texture contrast soils, red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines. Limitations – localised seasonal waterlogging, localised water erosion hazard, moderately reactive highly plastic subsoil, localised surface movement potential.

Shale Plains	Landscape – Low hills and gently undulating rises and plains, long and low colluvial/ alluvial foot slopes and plains (often ponding) and eroded, incised and extensive floodplains. Local relief is typically 15-30m with slopes <15%. Soils – red and brown podzolic soils on crests of low hills with red and yellow sodosols and yellow chromosols (yellow podzolic soils) on lower slopes and in drainage lines on low hills and rises. Limitations – salinity, gully erosion and streambank erosion.

3.1.4 Hydrology

Water supply is often suggested as being the most significant factor influencing peoples' prior land-use strategies.

Archaeologists, White and McDonald (2010), used 'stream order' (a term developed by Strahler; 1952) within the Cumberland Plain to form an archaeological predictive model around water supply. The greater the stream order, the larger and more permanent the water supply, the more likely longer and larger habitation sites are.

A tributary of South Creek lies within the project area, with South Creek lying approximately 250 m to the west of the project area. Ropes Creek, a major tributary of South Creek lies approximately 2km to the east of the project area. South Creek feeds into the South Creek sub-catchment of the Hawkesbury- Nepean catchment area.

Aboriginal people are likely to have frequently camped close to water sources and as a result, occupation sites may occur within or close to the proposal area.

3.1.5 Historic Land use

St Marys was first opened up for European occupation in 1806 when Mary Putland was granted 242 hectares, which she named 'Frogmore' Estate. Mary Putland subsequently married Maurice O'Connell and the Frogmore Estate was enlarged by a further grant of 426 acres. These combined grants were later known as the O'Connell Estates at South Creek. In 1841 part of the estate was subdivided into thirty-five town allotments and put up for sale as the Village of St Marys.

By 1842 approximately 400 hectares of the Estate had been divided into town allotments, and closer settlement of the town began. By the 1850s the area of St Marys contained a few small houses, shops, grocer, post office, hotel, and at least two tanneries (Penrith City Local History).

The opening of the South Creek (name later changed to 'St Marys') railway station to the north of the town reinforced the status of the suburb as a small rural village in 1863. The introduction of the railway line to St Marys prompted substantial urban and industrial development of St Marys.

From the mid-nineteenth century the village developed as the centre of a number of major industries including timber, tanneries, and coach and wagon works. St Marys reached its first peak of development in the last twenty years of the nineteenth century and the local industries played a major role in the continued growth and consolidation of the town at this time. This peak was maintained through the first few years of the twentieth century but, in common with the rest of the present City of Penrith, the town entered a period of hiatus during the inter-war years. Although a number of the early industrial sites continued to operate during this period, changing technology and economic conditions and the development of new industrial areas elsewhere in the state diminished their importance, and their history at this time is one of gradual decline (Penrith City Local History).

During the Second World War a large munitions depot was constructed to the north of the Railway Station along Palmyra Avenue, St Marys. A branch railway line (Ropes Creek line) was constructed in the early 1940s to ferry workers to and from St Marys to the munition's factory. At the end of the war in August 1945, production wound down and the buildings on the old site were leased and then sold to private firms, evolving into the current industrial area in St Marys.

The Ropes Creek Railway Line creates the western boundary of the project area and was originally 5.6km long and served the Commonwealth Government's munitions factory, located on a 1500 hectare site north of St Marys (Sydney's Forgotten Military Railways 2011, 53). The branch opened to Dunheved on 1 March 1942 and to Ropes Creek on 29 June 1942, and the railway became a double track shortly after services commenced to Dunheved. After the war, when production of the munitions factory had declined, the 'down' line (western) track was removed from the Branch Creek Railway line due to desperate shortages of rails across Sydney. Only the 'up' (eastern) line of the railway remained.

A flood in February 1956 resulted in damage to northern sections of the line between Dunheved and Ropes Creek Railway stops. In December 1956 the damaged northern section was rebuilt, and the 'down' line from St Marys to Ropes Creek were re-laid. The 'up' (eastern) line was upgraded following this re-laying. The line was electrified shortly thereafter.

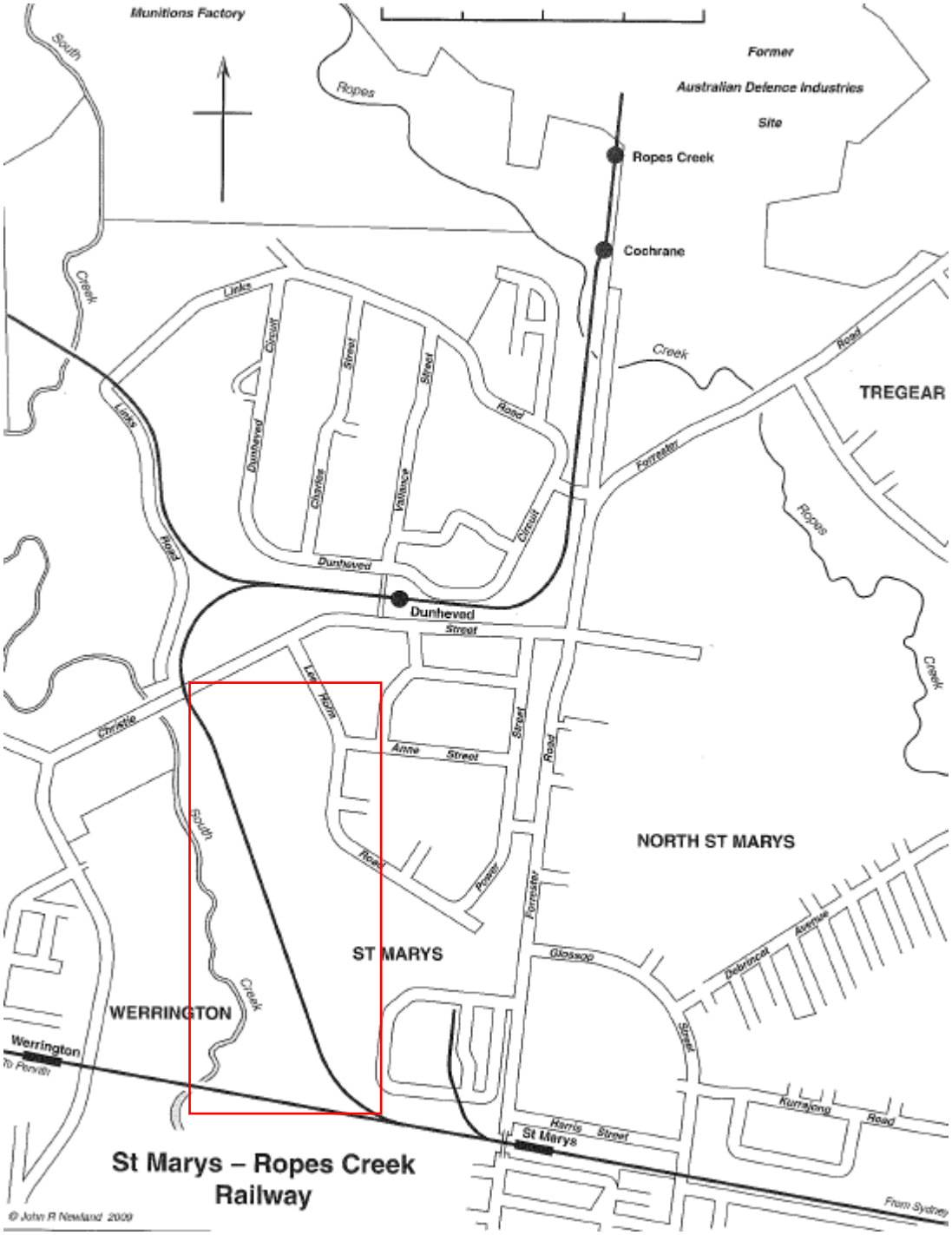


Figure 2. Ropes Creek Railway Line route (Image: J. Oakes, Sydney's Forgotten Military Railways 2011). Approximate project area outlined in red.

The line was officially closed in 1986 and the shunting and storage sidings were removed, but the main line was never lifted. The first kilometre of the main line has continued to be used as a storage siding.

The broader site of the proposed St Marys Freight Hub was acquired by State Rail Authority (SRA) as a site to house its Tangara train maintenance and storage facility in 1986 with the closure of the Ropes Creek Branch Line. Initial earthworks to raise the level of the broader site commenced in 1987, but the plan was abandoned in the late 1990s, during which time the broader site was unused. The broader site was then filled with material excavated from the Northside Sewerage Tunnel Project in 1999.

Geotechnical investigations undertaken by Douglas Partners across the site in 2019 have revealed that across the majority of the project area there is approximately 2-3 meters of fill material (Douglas Partners 2019). Bore hole testing along the southern driveway has revealed approximately 40-50cm of fill.

Figure 3. 2019 bore hole locations across the site.

Figure 4. 2005 image of St Marys Freight Hub displaying the cleared status of the site (Douglas Partners 2019).

In June 2001 FreightCorp became the registered proprietor of the former SRA land, and in February 2002 Pacific National acquired the land.

Overall, the project area has undergone historic farming practices, the construction and maintenance of the Ropes Creek Railway Line, and levelling with significant fill placed across the site.

3.2 REVIEW OF ABORIGINAL ARCHAEOLOGICAL CONTEXT

3.2.1 AHIMS Search

The Aboriginal Heritage Information Management System (AHIMS) is maintained by OEH and provides a database of previously recorded Aboriginal heritage sites. A search provides basic information about any sites previously identified within a search area. However, a register search is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected and details of any sites located have been provided to OEH to add to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area.

A search of the AHIMS database was conducted on 13.12.2018 by NGH centred around the project area with coordinates of Lat, Long From: -33.7743, 150.7418 - Lat, Long To: -33.7383, 150.799 with a buffer of 50 meters. The AHIMS Client Service Number was: 388788. Refer to Figure 3, below, for the AHIMS search area.

There were 47 Aboriginal sites and no declared Aboriginal Places recorded in the search area. Table 4 shows a breakdown the of the site types.

Table 4. Breakdown of previously recorded Aboriginal sites in the region.

Site Type	Number
Open Camp site	18
Artefact (isolated finds and scatters)	24
Artefact; Potential Archaeological Deposit	3
Potential Archaeological Deposit	1
Aboriginal Resource and Gathering; Artefact; Potential Archaeological Deposit	1
TOTAL	**47**

One of the sites is located along the unnamed creek (sometimes referred to 'Little Creek') within Lot 2 DP876781, just to the north of the project area (AHIMS # 45-5-3141). The site was registered in 2004 by Heritage Concepts and contains an open artefact scatter and associated PAD. A total of eight red silcrete items were identified on the southern bank of the unnamed creek (tributary of South Creek) during a survey of two industrial properties on the northern bank of the creek – Lots 2 and 3, fronting Lee Holm Road, St Marys. The artefact scatter was outside the study area of that particular project but was identified during attempts to cross the creek.

Two clusters were identified within the scatter – one group of five angular fragments and a second group of three pieces; one flake, one core and one angular fragment. Artefacts were scattered over an area of approximately thirty meters in length and ten meters in width along the upper terrace/southern bank of the creek and were thus considered to be part of a single site, with potential subsurface deposit. The western end of the visible site was identified as somewhat disturbed through the construction of a dam to the south. The results of the AHIMS search display that the dominant recorded site type in proximity to the proposal area are isolated finds and scatters. Figures 2-5, below, displays the location of registered AHIMS sites in relation to the project area.

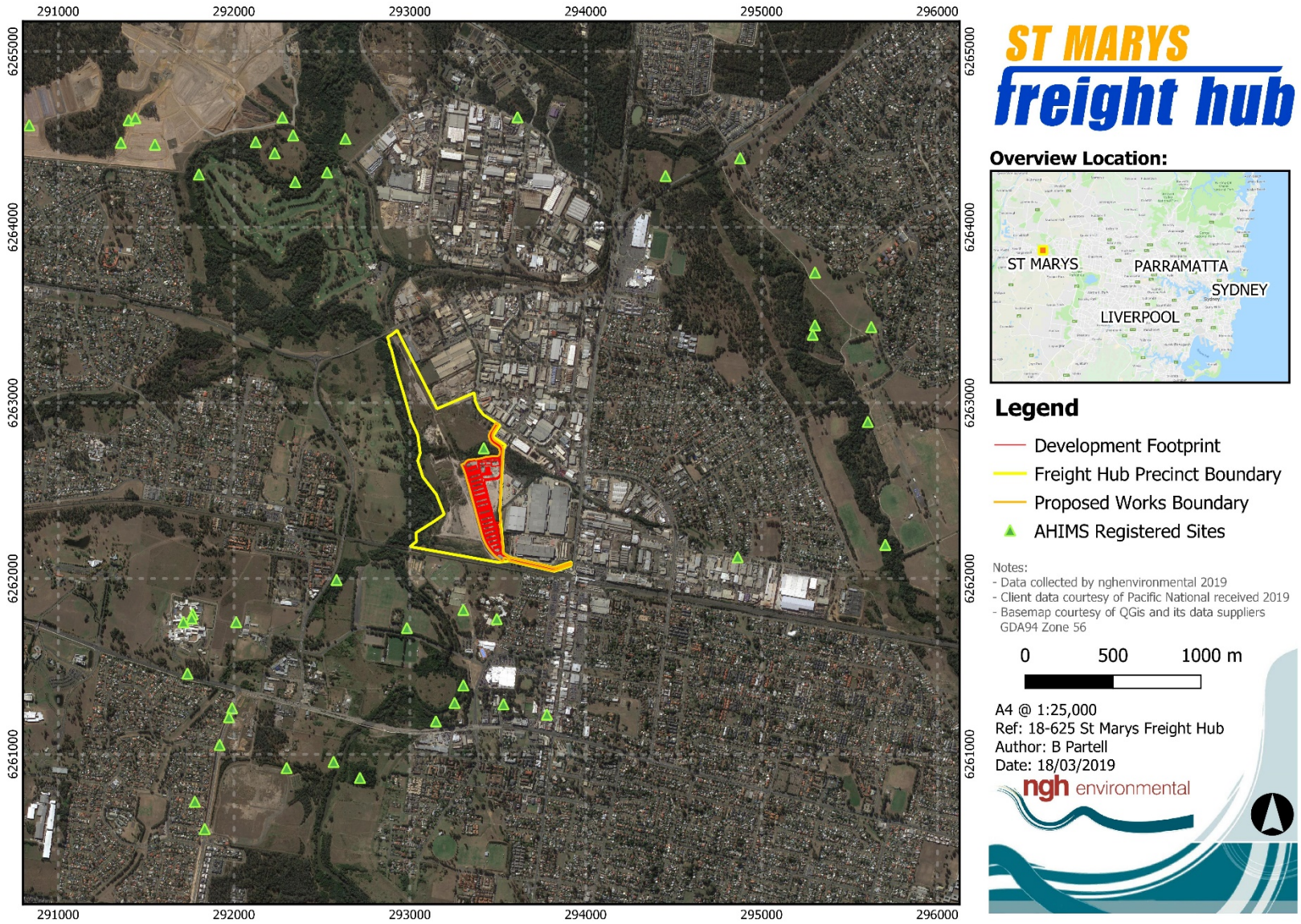


Figure 5. Location of AHIMS sites near project area.

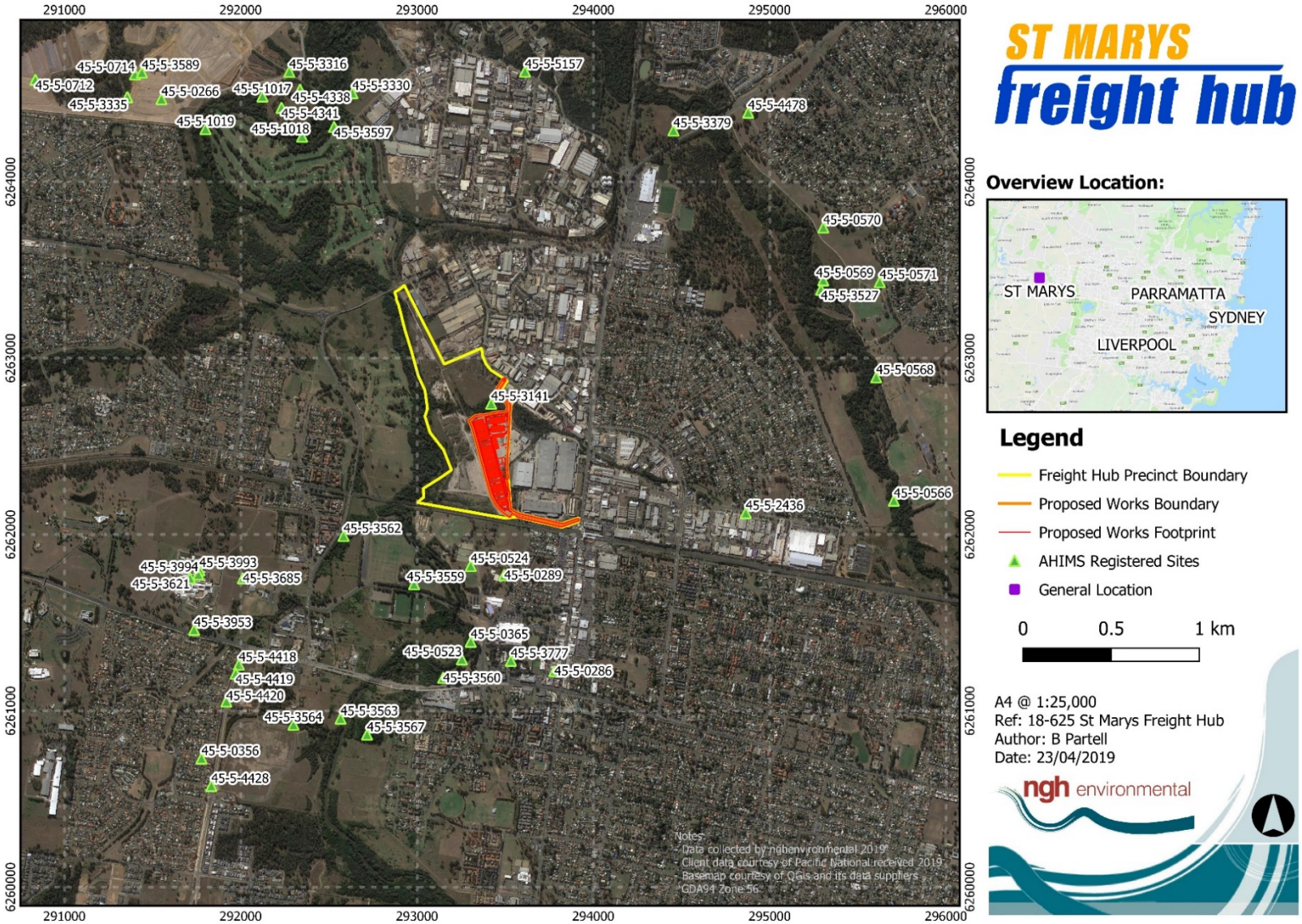


Figure 6. Location of AHIMS sites near project area (including AHIMS site ID numbers).

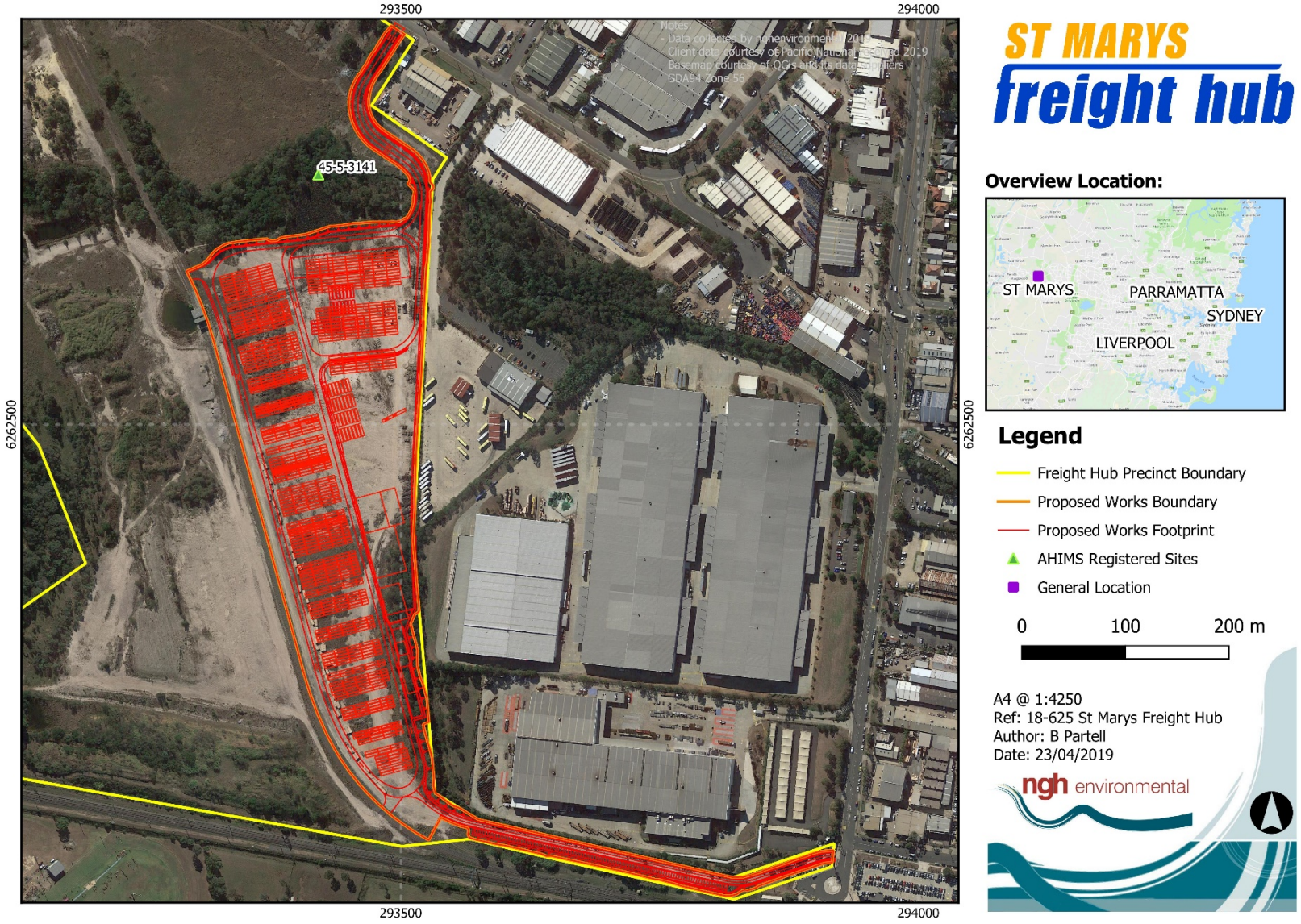


Figure 7. Location of AHIMS site # 45-5-3141 located to the north of the project area within Lot 2 DP876781.

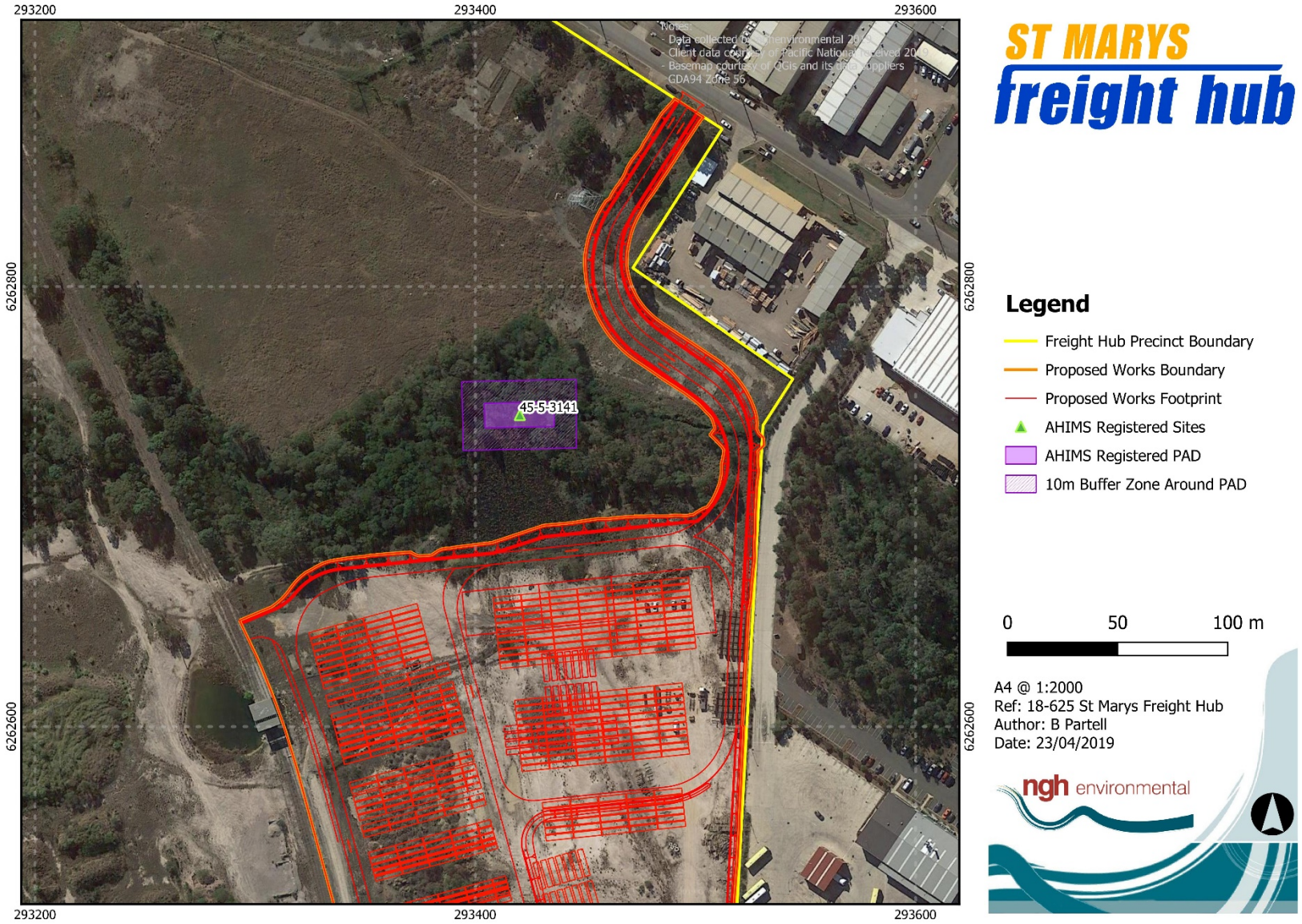


Figure 8. Location of AHIMS site # 45-5-3141 located to the north of the project area within Lot 2 DP876781.

3.2.2 Previous archaeological studies

More than 4,500 sites have been recorded and registered with the OEH Aboriginal Heritage Information Management System (AHIMS) for Sydney, reflecting both the wealth of archaeology in the region and the number of archaeological investigations undertaken.

The dominant site types in the Sydney region (in the 15 - 20 % frequency range) are rock shelters with midden deposit, rock shelters with art, rock art engravings and open artefact scatters (Attenbrow 2002). The distribution, density and size of sites are largely dependent on environmental context.

A study of the regional archaeology of the Cumberland Plain by Kohen (1986) reported findings about site location patterns in the Sydney area. The study demonstrated that proximity to water was an important factor in site patterning. Kohen found that 65 % of open artefact scatter sites were located within 100 metres of permanent fresh water (Kohen 1986). Only 8 % of sites were found more than 500 metres away from permanent fresh water. In short, Kohen argued that open artefact scatters are larger, more complex and more densely clustered along permanent creek and river lines. Kohen's study also found that silcrete (51 %) and chert (34 %) are the most common raw materials used to manufacture stone artefacts. Other raw materials include quartz, basalt and quartzite.

Although the patterns described above have been generally supported by subsequent investigations, Kohen's study was limited by a reliance on surface evidence. Extensive excavation across the Cumberland Plain has since shown that areas with no surface evidence often contain sub-surface archaeological deposits. This is a critical consideration in aggrading soil landscapes, such as those commonly found across the Cumberland Plain.

In a 1997 study of the Cumberland Plain, McDonald (1997) found that:

- 17 out of 61 excavated sites had no surface artefacts prior to excavation;
- The ratio of recorded surface to excavated material was 1:25; and
- None of the excavated sites could be properly characterised on the basis of surface evidence. In short, surface evidence (or the absence of surface evidence) does not necessarily indicate the potential, nature or density of sub-surface material.

The results of McDonald's study clearly highlight the limitations of surface survey in identifying archaeological deposits in this landscape. The study also shows the importance of test excavation in establishing the nature and density of archaeological material on the Cumberland Plain.

The following are summaries of those archaeological survey reports that have been completed in the St Marys and surrounding areas and in relative proximity (within 10km) to the current assessment area. As not all archaeological reports are available on OEH, summaries from other reports have been used where necessary.

Navin Officer (2003) Proposed 132kV Transmission Line Erskine Park, NSW. Report to Integral Energy.

In 2003 Navin Officer (2003) undertook an archaeological survey of a proposed 132kV transmission line from Erskine Park to West Sydney substation. During the survey 2 sites were identified on basal slopes adjacent to minor drainage lines; one scatter of 4 silcrete and 3 mudstone artefacts, and one scatter of 8 silcrete artefacts. 1 PAD was identified on alluvial soils on a terrace near the junction of Ropes Creek (tributary of South Creek) with an unnamed tributary.

Heritage Concepts (2004).

Heritage Concepts undertook a survey of the land immediately north of the project area in 2004, identifying the site listed within the project area (AHIMS # 45-5-3141) during their survey. NGH have attempted to locate this report but have been unsuccessful.

It is noted that the coordinates provided for the artefact scatter and associated PAD are somewhat contradictory. The AHIMS extensive search has the site listed with AGD86 coordinates, but the site card itself lists the site utilising GDA94 coordinates. Utilising the AGD coordinates (AHIMS extensive search listed coordinates), the site is located along the banks of the unnamed creek (tributary of South Creek) to the north of the project area (when converted to GDA). The location when the AGD coordinates were converted to GDA matches the written description and photographs of the location on the AHIMS site card (which is why this location was used). The site card lists the coordinates as being recorded in GDA94, however this places the site to the west of the Ropes Creek Branch Railway Line and no longer meets the site card description or photographs as being along the southern bank of the unnamed ('Little') Creek.

Whilst NGH has not been able to retrieve a copy of the report, the information and maps provided on the site card suggest that the AGD (site card) coordinates are more likely to be correct, and that the site will be located along the unnamed creek on the site, to the north-east of the dam.

Navin Officer (2005a-d) CSR Lands at Erskine Park – Test Areas 1 and 2: Archaeological Subsurface Testing Program. Report to CGP Management Pty Ltd on behalf of CSR Limited.

Navin Officer (2005a-d) undertook the archaeological test excavation and site survey for the proposed industrial development, access road and gas main in the Erskine Park area.

During the excavation (2005a) 38 test pits were dug, with 49 artefacts recovered from 20 of the test pits. The lithic assemblage consisted mainly of silcrete (55.1%, 27 artefacts) and rhyolitic tuff (24.5%, 12 artefacts), with lesser quantities of chert, chalcedony, quartz and unidentified stone (20.3%, 10 artefacts). The greatest density of artefacts occurred on locally elevated and relatively level ground adjacent to water. Lower densities of artefacts were recorded on low gradient slopes along a spurline.

Further excavation (2005b) uncovered 285 artefacts from 88 of 256 test pits. Low densities of artefacts were found on all landform units tested, including a ridgeline, spurline, valley floor, and locally elevated and relatively level ground adjacent to a watercourse. The greatest quantity of artefacts was recovered from valley floor contexts, which were assessed as having moderate to high archaeological potential. All other landform units were assessed as having moderate archaeological potential.

Navin Officer (2005c) recorded 172 artefacts from 21 of 24 test pits on a low spurline, previously identified as an area of archaeological potential during test excavation for the proposed road access in the area. The assemblage was dominated by silcrete (72.67%, 96 items) and tuff (17.44%, 30 items), with lesser quantities of milky quartz (2.33%, 4 items), quartzite (2.33%, 4 items), rhyolitic tuff (1.745%, 3 items), unidentified stone (1.745%, 3 items), chert (1.16%, 2 items), and chalcedony (0.58%, 1 item). Some lithic items were heat affected, mostly silcrete and tuff, although it could not be determined if the heat fracturing was from anthropogenic or natural causes.

The archaeological survey for the proposed gas main (2005d) located one previously identified artefact scatter with shell (freshwater mussel) on the elevated eastern bank of Ropes Creek. More than 40 artefacts manufactured from silcrete, tuff/chert, and quartz were noted; however, no shell material was visible.

Jo McDonald Cultural Heritage Management Pty Ltd. (2006) *Archaeological Survey for Indigenous Heritage along the proposed Fauna Fence at the former ADI Site, St Marys within the Penrith LGA.* Report to Delfin Lend Lease.

Jo McDonald Cultural Heritage Management (2006) undertook a survey for Indigenous heritage sites along the route of a proposed fauna fence across the former Australian Defence Industries (ADI) Site at St Marys in western Sydney. The fenceline was located to the west of Ropes Creek within the Penrith LGA. The proposed fenceline was a total of 12.674 linear Kilometres and was intended to contain the Kangaroo population within the Regional Park and help facilitate the effectiveness of the sterilization program that was being undertaken. The proposed fence was to be constructed as a 2.4 metre high cyclone wire fence, supported by steel posts spaced at 4 metre intervals.

The project area for the proposed fenceline was located on Bringelly shales of the Wianamatta Group with some sections of the project area within the South Creek soil landscape, similar to the St Marys Internodal project.

During the survey open artefact scatters (campsites comprising of between 2 and 26 surface artefacts) and isolated finds were found on 21 (48.8%) out of a total of 43 exposures recorded along the proposed fenceline route. Eight sites previously recorded along the proposed fenceline were relocated. A number of areas were also identified as having the potential for sub-surface archaeological deposits.

Due to the significant grass and vegetation cover over a large majority of the site, the artefacts found during the survey were recorded within areas of ground exposure (including vehicle tracks), and in some areas of maintained grass. Artefacts recorded included cores, core fragments, flakes, flaked pieces and hatchets. Of the 196 artefacts recorded during the survey of the proposed fauna fence, 85 (43.4%) were of silcrete, 43 (21.9%) silicified tuff, 1 chert (0.5%), 8 quartz (4.1%), 1 FGS (0.5%), and 5 igneous (2.6%).

Artefacts were located in areas of exposure on varied topography. Isolated finds and open camp sites were located across the entire project area on gently sloping lower mid and upper hillslopes, level to gently sloping ground, elevated spurs, spur crests, low ridges, gentle rise/terraces, floodplains, and creek beds. Artefacts and sites were located on hillslopes with north-east, south-east and west facings. A large number of sites were located in proximity to drainage lines and tributaries.

Only 2 sites contained more than 10 surface artefacts. Both of those scatters were found on gentle slopes in the northern section of the ADI Site.

Jo McDonald (2006) also identified a number of areas of potential subsurface deposits including on upper slopes, south facing sloping spur, and on the southern creeks of the majority tributaries of South Creek.

Navin Officer Heritage Consultants Pty Ltd. (2007) *Replacement Flows Project: Cultural Heritage Impact Assessment.* Report to Sydney Water.

Navin Officer (2007) undertook a survey of the Western Sydney Recycled Water Initiative Replacement Flow Project (RFP) which involved the advanced treatment of tertiary treated effluent from St Marys, Penrith and Quakers Hill sewerage treatment plants (STP) prior to release into the Hawkesbury-Nepean River.

The project area included a linear transect approximately 5 metres wide and 40km long (20km long between Quakers Hill and Penrith, 12km long from Quakers Hill to Vineyard Creek in Dundas, and 8km of new pipeline from Seven Hills to Dundas). The study also included augmentation to the Quakers Hill, St Marys and Penrith STPs.

The length of pipeline and survey resulted in a number of sites and artefacts being identified along the 40km stretch, with a Potential Archaeological Deposit (PAD) identified approximately 2km north-west of the project area.

Navin Officer (2007) Erskine Park Employment Area, Ropes Creek, Western Sydney, NSW: Archaeological Subsurface Testing Program. Report to FDC Building Services Pty Ltd.

In 2007 Navin Officer (2007) undertook an archaeological test excavation of the proposed industrial development at Erskine Park Employment Area, Ropes Creek. During the excavation 112 test pits were dug with 261 artefacts recovered. The assemblage consisted mainly of silcrete (70%), with smaller quantities of tuff (21.3%), quartz (3.9%), chert (2.6%), volcanics (1.6%), and quartzite (0.6%).

Artefacts were concentrated on the basal slopes, midslopes and crest of a spurline.

Total Earth Care Pty Ltd (2007) Erskine Central Industrial Park: Archaeological excavation of Site EC1 and surrounds (AHIMS# 37-2-1851), Lenore Lane, Erskine Park. Report to Valad Property Group Pty Ltd.

Total Earth Care Pty Ltd (2007) undertook an archaeological salvage excavation of Erskine Centre Lenore Lane, Erskine Park. The salvage focused on the previously identified artefact scatter of 15 flaked pieces and surrounding area.

The largest number of artefacts were recovered from hilltop excavation areas (81.8% of total assemblage), and from a knoll below the hilltop (15.6%), with relatively few artefacts found mid-slope (2.7%). 1,014 artefacts were recovered, with the distribution of artefact concentrations suggesting the presence of knapping floors around the top of the hill as well as discrete knapping events. The assemblage was mostly made up of silcrete (87.6%, 888 artefacts), with smaller quantities of quartz (10.7%, 108 artefacts), indurated mudstone (1.0%, 10 artefacts), and silicified tuff (0.8%, 8 artefacts).

JMCHM (2009) Mamre Road Biodiversity Lot, Erskine Park: Aboriginal Heritage Management Plan Aboriginal Cultural Heritage and Archaeological Sites. Report to Goodman Property Services Australia Pty Ltd on behalf of the Department of Planning (Open Space Strategy).

In 2009 JMCHM undertook an Aboriginal Heritage Management Plan of Mamre Road, Erskine Park, approximately 4km west of the proposal area. The plan focused on 9 previously identified sites; 5 artefact scatters and 2 isolated finds in the vicinity of minor, first order tributaries of South Creek, and 2 artefact scatters in the vicinity of a second order stream channel. All sites are within 300m of the closest water source, with most sites between 50-200m.

Sites were recorded on lower hillslope landform units (67% of total sites), the interface of lower hillslope and creek bank (22%), and floodplain-creek bank (11%).

GML Heritage. (2014) *Energy from Waste (EFW) Plant, Eastern Creek – Aboriginal Technical Report.* Report for The Next Generation NSW Pty Ltd.

GML Heritage (2014) undertook an ACHAR and survey of the proposed Energy from Waste (EFW) Plant in Eastern Creek NSW, located approximately 5km south-east of the St Marys Freight Hub project area. The site was located approximately 900 metres from Ropes Creek, a permanent water source and tributary of South Creek.

3.2.3 Summary of Aboriginal land use

The results of previous archaeological surveys surrounding St Marys area show that there are sites present in a range of landforms, with artefact scatters, PADs and isolated finds the most common forms of recorded finds. Previous archaeological studies in the surrounding area highlight that the land use history of the proposal area and surrounds included clearing, ploughing, farming, residential and public development.

Previous archaeological studies and predictive modelling of the area surrounding St Marys outline that proximity to resources was a key factor in the location of Aboriginal sites, however it is also reasonable to expect that Aboriginal people ventured away from these resources to utilise the broader landscapes. It appears in most cases that artefact scatters were located in the mid to upper slopes of raised landforms, for the most part associated with water. There appears to be a predominance of finds associated with raised landforms, and that artefact scatters, while in proximity to water, were more often associated with the raised areas than the lower areas associated with the water.

3.2.4 Archaeological models

At the time of European settlement, the Aboriginal people of the Sydney region were organised into named territorial groups. Groups local to the study area are likely to have belonged to the Darug (Dharug), Gundundurra and the Dharawal (Thurrawal) language groups (Attenbrow 2010: 221,222).

Aboriginal occupation of the Sydney region is likely to have spanned at least 20,000 years with dates of more than 40,000 years claimed for artefacts found in gravels of the Cranebrook Terrace on the Nepean River (Nanson et al. 1987; Stockton 1993; Stockton & Holland 1974). The majority of sites in the Sydney region date to within the last 3,000 to 5,000 years, with many researchers proposing that occupation intensity increased from this period (Kohen 1986; McDonald 1994; McDonald & Rich 1993).

Due to significant urban residential development over the last 30 years, the Cumberland Plain has become the most intensively investigated archaeological landscape in Australia. The studies carried out over these decades of development in the west provide a broad picture of the archaeological context of the region. Over 400 Aboriginal sites have been recorded for the area.

A number of predictive models relating to Aboriginal occupation patterns and site locations have been formulated through archaeological investigations in the Cumberland Plain (Dallas 1989a; Haglund 1980; Kohen 1986; Smith 1989). More recent works have contributed to refining these models (AMBS 2000a, 2002; Jo McDonald Cultural Heritage Management [JMCHM] 1997, 1999, 2001a; McDonald 1999).

Archaeological research of the wider Cumberland Plain and Western Sydney region has adopted a number of theoretical stances which are important to outline—the majority of these are based on the quantity of stone artefact concentrations present, due to their ability to survive in the record more commonly than other archaeological features or objects. Many research questions surrounding the analysis of stone artefacts are concerned with the interpretation of stone artefacts as representations of occupational histories in the landscape. Researchers have asked questions such as:

- How did Aboriginal people use the landscape?
- How did Aboriginal people use the resources and landscape available to them?
- What patterns of occupation can we see?
- Did Aboriginal people stay in some places longer than others?
- What is the age of the deposit and what time duration does the deposit represent?

Archaeological interpretations of occupation intensity are based on two major paradigms: a modification of the Eastern Regional Sequence (ERS) and the Cumberland Plain Predictive Model (CPPM which is also known as the stream order and distance from lithics sources predictive model). The ERS predicts the structure of the archaeological record, the appearance of certain artefact technologies, difference in raw material use, and artefact densities. However, because of the nature of the archaeological record, and in particular for stone artefacts, the local context of sites and objects is not always taken into account.

Influenced by the ERS, and other archaeologists, Aboriginal history is seen to be composed of a small number of dramatic changes separated by periods of prolonged stasis.

Haglund (1980) developed a predictive model of site location based on an early survey in the Blacktown area. Haglund predicted that sites would most likely be located near water courses such as creeks, and on high ground near water. Kohen (1986) also determined that the availability of water was the most important factor influencing the distribution of sites across the landscape.

Other important criteria that also played a role in the site location within the Cumberland Plain are the proximity to a diversity of economic resources such as food and lithic materials, and to an extent elevation. Smith (1989) also supports the predictive model that sites will most commonly be found near water sources.

Smith (1989) suggests that:

- Sites will occur in all areas of the Cumberland Plain, except where destroyed by European land use, erosion processes and flooding;
- Sites will be located in all topographic units;
- Site densities may be expected to be 10% higher in the northern section of the Plain because of the greater concentrations of stone resources in that area;
- Sites will tend to be more frequent around permanent water sources (apart from areas overlying the Londonderry Clay or Ricaby Creek Formation, and the Werrington Downs area); and
- Sites will be expected in relatively high frequencies on or near stone resources.

White and McDonald (2010) highlight that artefact distribution varies significantly with stream order. Testing on the Cumberland Plain around water sources suggested that artefacts were least likely to occur in 1st order water supplies, more likely in on 2nd order supplies, more likely again on 3rd order supplies, and most likely to occur on 4th order supplies. The data on artefact distribution and artefact density supports the theory that water supply was an important factor influencing Aboriginal land-use and habitation patterns on the Cumberland Plain.

J. McDonald has undertaken over 20 years of consulting archaeology in the Cumberland Plain, and like Kohen has developed predictive models for the distribution of Aboriginal objects. In a recent publication, White & McDonald (2010:29) summarised the Stream Order model as follows:

> *Topographic and stream order variables correlate with artefact density and distribution. High artefact density concentrations may have resulted from large number of artefact discard activities and/or from intensive stone flaking. Highest artefact densities occur on terraces and lower slopes associated with 4th and 2nd order streams, especially 50 – 100 m from 4th order streams. Upper slopes have sparse discontinuous artefact distributions, but artefacts are still found in these landscape settings.*

As outlined by Owen and Cowie (2017), all Cumberland Plain archaeology makes extensive use of predictive modelling as an investigative tool due to the absence of surface-based archaeology. The results of previous archaeological surveys indicate that the most common site types found on the Cumberland Plain are open artefact scatters/open camp sites, followed by scarred trees and isolated finds. Shelter sites and grinding

grooves are also found, although mainly around the periphery of the Plain in sandstone geology. Key trends are summarized below:

- site frequency and density are directly related to the location of sites within the landscape;
- complex sites are usually located close to permanent water sources, with major confluences being a key requirement for occupation sites, and would have been used intensively by larger groups, or used repeatedly by smaller groups over a longer period of time;
- sites with large numbers of artefacts can occur on ridge tops and hill crests;
- sites situated in alluvial soils retain the potential for stratified deposits;
- Potential Archaeological Deposits (PADs) are most likely to be located along valley floors and low slopes in well-drained areas;
- surface artefact distribution does not accurately reflect the composition or density of subsurface archaeological deposits. Some areas with few or no surface manifestations have often been shown to contain subsurface archaeological deposits;
- artefact scatters are most commonly linked to the close proximity of permanent water sources in areas such as creek and river banks and alluvial flats. The majority of these sites are located within 100m of permanent fresh water;
- artefact assemblages generally comprise a small proportion of formal tool types with the majority of assemblages dominated by unretouched flakes and debitage;
- high concentrations of artefacts are more likely to be located within resource rich areas;
- silcrete is the dominant raw material used for tool manufacture, followed by chert (also known as tuff);
- Silcrete sources are located in the north western Cumberland Plain at places such as St Marys, Plumpton Ridge, Marsden Park, Schofields, Riverstone, Deans Park, Llandilo and Ropes Creek. Other raw materials include indurated mudstone from Nepean River gravels, quartz, porphyry and hornfels which may be derived from Rickabys Creek gravels, and basalt;
- stands of remnant old growth vegetation retain the potential for scarred trees to be present, although, large scale land clearance of the plain in general means that such stands of vegetation are rare; and
- evidence of post-contact camp sites may be located in close proximity to early European houses and farms, or official buildings.

3.2.5 Predictive Model

The St Marys Freight Hub site is located within an area of extensive historical use on the Cumberland Plain, close to the permanent water source of South Creek (5th order stream 150 metres to the west of the project footprint), with an unnamed tributary (1st order stream sometimes referred to as 'Little Creek') bisecting the project area.

Within the overall site there is a registered artefact scatter and associated PAD, located on the southern banks of the unnamed creek to the north of the project area.

The following predictive model is applied to the St Marys Freight Hub site based on previous archaeological research (White & McDonald 2010; Smith 1989; and Owen and Cowie 2017):

- site frequency and density are directly related to the location of sites within the landscape;

- complex sites are usually located close to permanent water sources, with major confluences being a key requirement for occupation sites, and would have been used intensively by larger groups, or used repeatedly by smaller groups over a longer period of time;
- Potential Archaeological Deposits (PADs) are most likely to be located along valley floors and low slopes in well-drained areas;
- surface artefact distribution does not accurately reflect the composition or density of subsurface archaeological deposits. Some areas with few or no surface manifestations have often been shown to contain subsurface archaeological deposits;
- artefact scatters are most commonly linked to the close proximity of permanent water sources in areas such as creek and river banks and alluvial flats. The majority of these sites are located within 100m of permanent fresh water;
- artefact assemblages generally comprise a small proportion of formal tool types with the majority of assemblages dominated by unretouched flakes and debitage;
- silcrete is the dominant raw material used for tool manufacture, followed by chert (also known as tuff);
- Silcrete sources are located in the north western Cumberland Plain at places such as St Marys, Plumpton Ridge, Marsden Park, Schofields, Riverstone, Deans Park, Llandilo and Ropes Creek. Other raw materials include indurated mudstone from Nepean River gravels, quartz, porphyry and hornfels which may be derived from Rickabys Creek gravels, and basalt; and
- stands of remnant old growth vegetation retain the potential for scarred trees to be present, although, large scale land clearance of the plain in general means that such stands of vegetation are rare.

3.2.6 Comment on Existing Information

The AHIMS database is a record of those places that have been identified and had site cards submitted to OEH. It is not a comprehensive list of all places in NSW as site identification relies on an area being surveyed and on the submission of site forms to AHIMS. There are likely to be many areas within NSW that have yet to be surveyed and therefore have no sites recorded. However, this does not mean that sites are not present.

The robustness of the AHIMS survey results are therefore considered to be only moderate for the present investigation. There are likely to be many sites that exist that have yet to be identified although the scale of farming and residential development and infrastructure has altered the natural landscape in some places. This activity has also greatly disturbed the archaeological record and there are unlikely to be many places that retain *in situ* archaeological material due to the scale of development.

With regard to the limitations of the information available, archaeologists rely on Aboriginal parties to divulge information about places with cultural or spiritual significance in situations where non-archaeological sites may be threatened by development. To date, we have not been told of any such places within the project area. There is always the potential for such places to exist but insofar as the current project is concerned, no such places or values have been identified.

4 ARCHAEOLOGICAL INVESTIGATION RESULTS

4.1 SURVEY STRATEGY AND DESCRIPTION

Site survey was undertaken on 11 March 2019 by two NGH Environmental archaeologists and three RAPs from groups invited to attend the field work. The entire proposal area was covered by pedestrian survey until all participants were satisfied that the project area had been sufficiently covered. Whilst the usual survey strategy is to divide the project area into survey units according to changes in land form units to ensure that all land forms are sample surveyed, the project area was small enough that the survey team simply traversed it from north to south, with one transect completed east to west along the southern driveway boundary of the site and another additional transect line walked along the northern access point, to the north of the Unnamed Creek.

Due to the small footprint area, transects were placed approximately 20m apart, with the southern boundary driveway and northern access point walked in approximately 5m transects. The group completed 1 transect along the southern driveway boundary of approximately 20m width, 1 transect along the northern access driveway of approximately 20m width, and 2 transects of approximately 100m width to complete the majority of the property survey.

Whilst outside of the project area, survey of the location of the registered AHIMS site (AHIMS # 45-5-3141) was also undertaken in an attempt to relocate the site. Due to significant vegetation growth along the unnamed ('Little') Creek the site could not be located during the survey.

The field survey had 90% ground exposure across approximately 70% of the project area. Approximately 30% of the project area contained significant grass and low shrub vegetation growth, reducing ground exposure in these areas to >5%. Overall the visibility was significantly reduced due to the presence of significant fill material and railway ballast across the entirety of the site and was around 1-2%.

4.2 SITE DESCRIPTION

The project area can be accessed via either Forrester Road, Lee Holm Road or Christie Street in St Marys NSW. The entire site (Lots 2 DP876781, Lot 3 DP876781, and Lot 196 DP31912) is protected on all side by metal and mesh fencing, with the two entrance gates containing padlocks to prevent public access.

Entrance to the site via Forrester Road is close to the State Heritage listed St Marys railway station. The driveway from the road to the main portion of the site is approximately 400m long and is unpaved, bounded by long grass growth, shrubs and trees along the property edge. Visibility within this entrance corridor was low. The long grass and the introduced fill for the unpaved road reduced the possibility of identifying any cultural heritage sites or objects along the driveway corridor.

Within the main part of the site the area is relatively flat, with a number of grassy mounds of fill material across the site. The majority of the ground includes long grass vegetation and fill material. Powerlines are also present, generally running in a south-east to north-west diagonal direction. The majority of the site showed clear disturbance and introduction of foreign soil materials.

A section of the Ropes Creek Branch Railway Line (constructed in 1942) is present within the site and forms the western boundary of the project area. As a result of the railway line there is a significant amount of railway ballast present across the project area.

A number of mature trees and shrubs are located around the boundary of the site, however they were not of suitable age to be culturally modified. To the west, South Creek is located approximately 250m from the project area, and to the east a number of large industrial buildings were partially disguised by the foliage. The Main Western Line Railway Tracks to the south were fully exposed, with no vegetation growth along a large section of the southern boundary fence.

Numerous piles of concrete and timber railway sleepers in a deteriorated condition are currently stockpiled on the site, and various associated metal pieces were also located within the ground fill across the entirety of the lot boundaries. There was only one structure noted within the site itself; a tall green derelict metal train dump station. The building was fenced off to prevent access to the area.

An unnamed ('Little') first-order Creek is located approximately 30m from the majority of the northern border for the project area, with part of the project design crossing over the creek to create a northern access point to the site. Access to the creek line was significantly reduced due to thick vegetation growth along the banks of the river.

Visibility within this main section of the site was also low due with the introduced fill, long grass vegetation, and railway tracks.

It was noted whilst on site that soils in areas of low/minimal disturbance contained dark yellow/orange silty loam (Plate 8), while areas that contained fill material included white/light yellow sandy loam.

Overall, the visibility on site was low, with significant introduced fill and vegetation growth. No new Aboriginal sites or places were recorded during the survey and the previously registered AHIMS site (AHIMS # 45-5-3141) located approximately 50m to the north of the project area was not able to be relocated due to dense vegetation growth along the creek line.

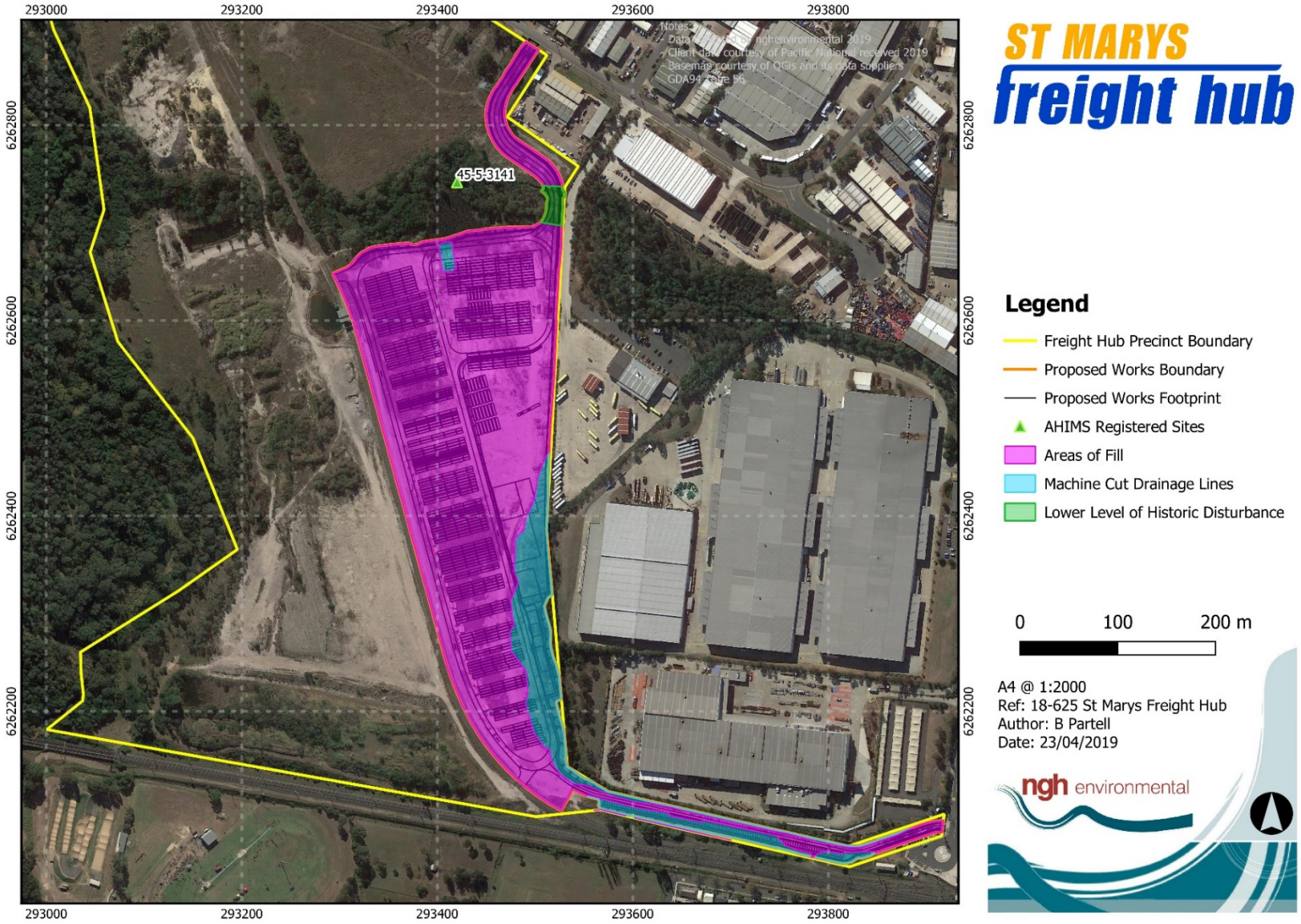


Figure 9. Disturbance mapping of the St Marys Freight Hub project area.

4.2.1 Site Photographs

Plate 1. Southern driveway entrance. Facing east towards the entrance gates.

Plate 2. Fill present across the southern driveway.

Plate 3. Low grass and shurb cover along the southern boundary of the site.

Plate 4. Fill pile present along the southern boundary of the site.

Plate 5. Lifted railway tracks stored along the access driveway along the southern boundary of the site.

Plate 6. Silcrete cobblestone located on the southern driveway.

Plate 7. Giant reed vegetation present along the southern side of the driveway, reducing visibility. Facing west.

Plate 8. Yellow/orange silty soils present in areas across the site that have minimal/no ground disturnace.

Plate 9. Vegetation present along southern border of the site.

Plate 10. Long grass cover present along the southern side of the southern driveway. Very low visibility. Soil in this area consisted dark yellow/orange loam.

Plate 11. Fill present across the site including railway ballast.

Plate 12. Powerlines running in an east-west direction across the site.

Plate 13. Some vegetation present emerging through the fill across the site.

Plate 14. Founds of fill material present across the site, covered in vegetation.

Plate 15. Fill material and ballast mound with vegetation growth.

Plate 16. Discarded rubbish piles present across the site.

Plate 17. The project area is relatively flat. Faing south towards the Main Western Railway line and public school.

Plate 18. Wooden railway sleepers piled onto the eastern section of the site.

Plate 19. Ground exposure and vegetation along the northern section of the project area.

Plate 20. Long grass cover and vegetation at the northern section of the project area. Facing east.

Plate 21. Man made dam immediately to the north of the project area. Facing north-east.

Plate 22. Railway ballast present across the site.

Plate 23. Northern side of unnamed ('Little') Creek proposed access point.

Plate 24. Vegetation surrounidng the coordinates of the registered AHIMS site, located to the north of the project area.

Plate 25. Ground visibility at the coordinates of the registered AHIMS site, located to the north of the project area. The site was not relocated.

Plate 26. Vegetation surrounding the coordinates of the registered AHIMS site, located to the north of the project area.

Plate 27. Modern drainage line cut into the eastern boundary of the site. Facing north. Area will be filled with material.

Plate 28. Modern drainage line cut into the eastern boundary of the site. Facing north. Area will be filled with material.

4.3 SURVEY COVERAGE

The effective survey coverage is calculated in table 5 below. Between the five survey participants, approximately 7.2km of transects were walked across the entire proposal area. Allowing for an effective view width of 5 m each person, this equates to a surface area of 36,370m^2, representing 39.38% of the 9.6 hectares. The survey coverage has been calculated according to the three landform disturbance categories mapped in figure 9. The areas of fill present the largest coverage on site with an area of 82,032 m^2 and effective coverage of 0.7%. The second largest landform area is represented through the machine cut drainage lines which cover 13,434m^2 of the site area. The effective survey coverage for the machine cut drainage line areas was 0.3%. The final landform area presented lower levels of historic development and

covered 731m^2 with an effective survey coverage of 1%. This totalled to a combined effective coverage area of 621.834m^2 and 2%.

Overall, it is considered that the surface survey of the project area had low effective survey coverage due to the significant amount of fill across the site. However, this is offset by the area having been subject to significant modification of the landscape.

Table 5. Survey Coverage across the St Marys Freight Hub project area.

Landform	Survey Unit area (sq m)	Visibility	Exposure	Effective Coverage area (sq m)	Effective coverage %
Areas of fill	82032m^2	0-1%	70%	574.224m^2 Unit area x visibility x exposure	0.7%
Machine Cut Drainage Lines	13434m^2	0-1%	30%	40.3m^2	0.3%
Lower Levels of Historic Development	731m^2	20%	5%	7.31m^2	1%

4.4 SURVEY RESULTS

No new Aboriginal heritage sites were located during the survey and the previously registered AHIMS site (AHIMS # 45-5-3141) to the north of the project area could not be relocated due to reduced visibility and access occurring as a result of significant vegetation growth since the 2004 recording of the site. The vegetation and introduced fill and ballast across the site significantly reduced the surface visibility of the proposal area.

The previous historical practices at the site, including the construction of the railway and the considerable amount of fill that has been introduced to the site, has characterised the site as being highly modified. This analysis reduces the likelihood of locating any cultural material across the site to low.

4.5 DISCUSSION

The predictive model for the St Marys Freight Hub project area suggests that artefact scatters are most commonly linked to the close proximity of permanent water sources in areas such as creek and river banks and alluvial flats, with the majority of these sites are located within 100m of permanent fresh water. It is also noted within the model that on the Cumberland Plain surface artefact distribution does not accurately reflect the composition or density of subsurface archaeological deposits. Some areas with few or no surface manifestations have often been shown to contain subsurface archaeological deposits.

As the natural landscape has been intensely modified through historical activities, NGH has undertaken 'disturbance' mapping in place of 'landscape' mapping. Figure 9, above, displays the areas of disturbance and modification across the project area site. Significant fill as well as machinery disturbed drainage lines are present across the majority of the site. The disturbance mapping has been split into three clear categories:

- Areas of fill

It has been discovered through desktop research and the site visit that significant amounts of fill are present across the site as a whole. The presence of this fill has reduced the potential of in-situ surface archaeology to nil.

Bore hole testing undertaken in 2019 by Douglas Partners has revealed that across the majority of the site there is 2-3 meters of fill material present. The depth of this fill negates the opportunity or necessity for subsurface testing.

Along the southern access driveway bore hole tests indicate approximately 40-50cm of fill is present. Subsurface testing in these areas will not be required as this forms the access road and will not be significantly altered during the works to the Freight Hub.

- Areas of machine cut drainage

  In some areas of the site it has been identified that machine cut drainage lines have resulted in significant modification of the landscape. This activity has resulted in surface and subsurface disturbance, effectively reducing the archaeological potential to low-nil.

- Area with lower levels of historical disturbance

  There is one area that appear to be less disturbed or modified in the context of the overall site located close to the creek line. This area contains new-growth vegetation growth and lack evidence of specific extensive cut and/or fill activities. Examination of the surface during the survey revealed no surface archaeology.

  However, the construction of a driveway leading from Lee Holm Road on the eastern boundary of the site included the construction of a culvert for the unnamed ('Little) Creek to run under the driveway and provide vehicular access. This construction would have resulted in ground disturbance in this area, reducing subsurface potential along this section of the creek line.

It is considered unlikely that the unnamed ('Little') first-order Creek located approximately 50 meters to the north of the majority of the project area provided a permanent water source, however South Creek, 250 meters to the west, would have provided water to the area on a more permanent basis

The survey located no new heritage sites, potentially a result of the limitations provided by the lack of visibility do to the significant amount of introduced fill across the site. However, taking into consideration the substantial site modification that has occurred across the site, the presence of in-situ surface archaeology is low-nil.

With regard to subsurface archaeological potential, the results of the background research and site visit suggest that the proposal area has been significantly historically modified and disturbed by the installation of the Ropes Creek Branch line across the site in the early 1940s, and the significant introduction of 2-3 meters of fill material across the site.

Whilst on site, NGH also attempted to relocate the registered AHIMS site (AHIMS # 45-5-3141) within the wider Lot 2 DP876781, located approximately 50 meters to the north of the project area. Analysis of the site card reveals that of the eight registered silcrete items, only two held diagnostic features to be classified as artefacts (one flake and one core). An area of PAD was also identified within the site card, approximately 10 meters by 30 meters. The exact coordinates of the PAD were not recorded, but NGH has mapped this area on Figure 8, allowing a buffer of 10 meters around the entire area to correct for inconsistences with placement. Due to dense vegetation NGH could not relocate the site whilst undertaking the survey, however the proposed works do not encroach on the listed coordinates of the site or the PAD including buffer zone.

Management recommendations are provided in section 9 to mitigate any risks to cultural heritage.

5 CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

The assessment of the significance of Aboriginal archaeological sites is currently undertaken largely with reference to criteria outlined in the ICOMOS Burra Charter (Marquis-Kyle & Walker 1994). Criteria used for assessment are:

- *Social or Cultural Value*: In the context of an Aboriginal heritage assessment, this value refers to the significance placed on a site or place by the local Aboriginal community – either in a contemporary or traditional setting.
- *Scientific Value*: Scientific value is the term employed to describe the potential of a site or place to answer research questions. In assessing Scientific Value issues such as representativeness, rarity and integrity are addressed. All archaeological places possess a degree of scientific value in that they contribute to understanding the distribution of evidence of past activities of people in the landscape. In the case of flaked stone artefact scatters, larger sites or those with more complex assemblages are more likely to be able to address questions about past economy and technology, giving them greater significance than smaller, less complex sites. Sites with stratified and potentially *in situ* sub-surface deposits, such as those found within rock shelters or depositional open environments, could address questions about the sequence and timing of past Aboriginal activity, and will be more significant than disturbed or deflated sites. Groups or complexes of sites that can be related to each other spatially or through time are generally of higher value than single sites.
- *Aesthetic Value*: Aesthetic values include those related to sensory perception, and are not commonly identified as a principal value contributing to management priorities for Aboriginal archaeological sites, except for art sites.
- *Historic Value*: Historic value refers to a site or place's ability to contribute information on an important historic event, phase or person.
- *Other Values*: The Burra Charter makes allowance for the incorporation of other values into an assessment where such values are not covered by those listed above. Such values might include Educational Value.

All sites or places have some degree of value, but of course, some have more than others. In addition, where a site is deemed to be significant, it may be so on different levels or contexts ranging from local to regional to national, or in very rare cases, international. Further, sites may either be assessed individually, or where they occur in association with other sites the value of the complex as a whole should be considered.

Social or cultural value

While the true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people, as a general concept, all sites hold cultural value to the local Aboriginal community. An opportunity to identify cultural and social value was provided to the RAPs for this proposal through the fieldwork and draft reporting process.

No social or cultural values were identified by the Aboriginal representatives either prior to or during site survey of the project area.

Scientific (archaeological) value.

The research potential of the project area is considered to be low. The land has undergone disturbance including vegetation clearing, farming and the introduction of the Ropes Creek Branch railway line and a significant amount of fill (approximately 2-3 meters across the majority of the site) has been introduced to the site, and. No sites were identified and therefore no scientific significance is attributed to the place. Further assessment of the site through excavation would not be appropriate due to the highly modified nature of the site.

Aesthetic value

No identified aesthetic values for the proposal area.

Other Values

There are no other known heritage values associated with the proposal area.

6 PROPOSED ACTIVITY

6.1 HISTORY AND LANDUSE

Desktop research and site survey have revealed that the project area has been subjected to changes and modification with the introduction of the Ropes Creek Branch railway line, as well as the introduction of significant fill (2-3 meters across the majority of the site) and railway ballast across the site.

The Ropes Creek line forms the western boundary of the project area, and large piles of fill material, including railway ballast and railway structural debris, are present across the site. It was noted during the site survey that soils in areas of minimal/no disturbance were silty yellow/orange loam, and the introduced fill consisted of a white sandy material.

6.2 PROPOSED DEVELOPMENT ACTIVITY

The proposed development includes the staged construction, and ultimate operation, of 9.6ha of the broader site for the St Marys Freight Hub, comprising an intermodal (road and rail) terminal and container park with an operating capacity of 300,000 TEU annual throughput.

The proposed development will facilitate the introduction of a new container rail shuttle between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail and relieving the regional and state road network of heavy vehicle and container traffic, including primary freight roads servicing Port Botany.

The proposed St Marys Freight Hub will be supported by a dedicated port rail shuttle service from Port Botany, with the road transport leg commencing at the St Marys site. The St Marys Freight Hub will be operated by an independent intermodal freight forwarding organisation, with containers transported between Port Botany and St Marys via up to five 650 metre Pacific National trains per day.

The proposed development includes the following works:

- Use of the rail infrastructure sidings for loading and unloading of trains, with access via the existing Dunheved Railway spur line traversing the site from the Great Western Railway line;
- Construction of hardstand areas for container storage and laydown, rail and vehicle loading and unloading areas;
- Construction of new internal access roads providing separate ingress and egress for light and heavy vehicles as follows:
    - To/from Lee Holm Road for heavy vehicles; and
    - To/from Forrester Road for light vehicles;
- Construction of:
    - Wash bay;
    - Office building site;
    - Fuel storage area;
    - Container shed (repair bay) site;
    - Transport shed site;
    - Staff and visitor light vehicle parking bays (parallel to the internal light vehicle access road connecting to Forrester Road); and

  - Heavy vehicle parking bays;
- Ancillary development includes:
  - Signage and landscaping;
  - Utility services to support the proposed development including drainage, portable water, water (for firefighting purposes), power, data, security and sewerage;
  - Minor realignment of a section of the Sydney Trains high voltage overhead power line at the southern end of the subject site;
  - Stormwater detention basin with bio-retention;
  - Minor clearing of areas of vegetation regrowth, remediation (if required) and minor earthworks; and
  - Electrical transformer.

See Figure 10 for the proposed St Marys construction works plan.

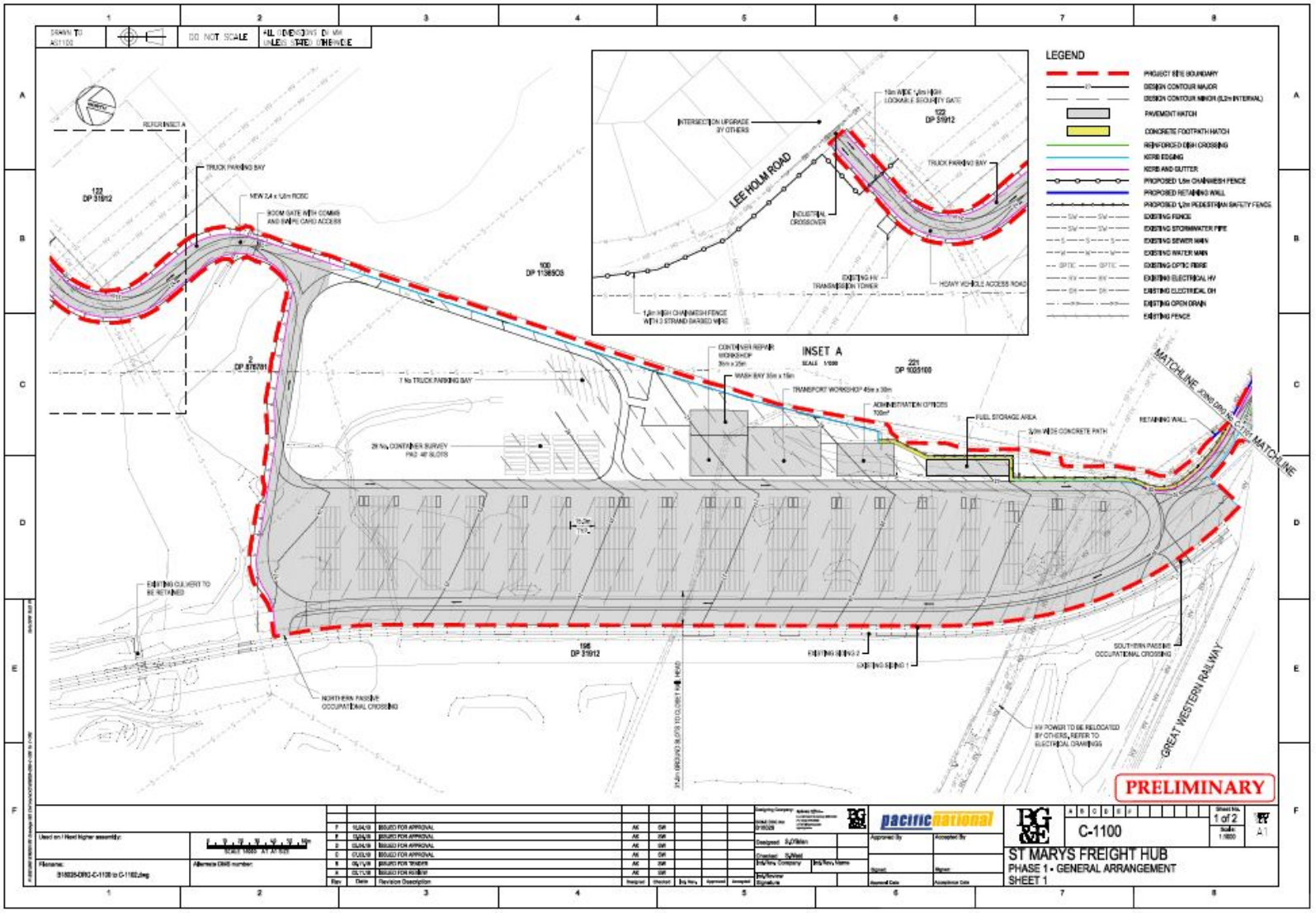


Figure 10. Proposed St Marys construction works.

6.3 ASSESSMENT OF HARM

There are no recorded Aboriginal heritage sites within the proposal area, and no new sites identified during the site survey. As the site has been identified as disturbed due to historical uses of the site and the introduction of fill material across the majority of the site, the proposed works are assessed as posing little harm to the site itself or its research potential.

6.4 ABORIGINAL STAKEHOLDER COMMENTS AND CONCERNS REGARDING THIS ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

This section includes details of the views of the Registered Aboriginal Parties (RAPs) in relation to this report and its recommendations.

6.4.1 Aboriginal Cultural Heritage Consultation - Stage 2 & 3

Stage 2 and 3 of the Aboriginal Cultural Heritage Consultation process involves obtaining feedback on the proposed methodology for the assessment of Aboriginal cultural heritage in relation to the proposed project.

In January 2019, NGH provided all of the 20 registered RAPs the proposed Aboriginal cultural heritage assessment methodology. NGH received sixteen responses, all of which supported the NGH methodology. No specific comments were made by any of the RAPs requesting a change in methodology or alerting NGH to any specific cultural places within the proposal area.

6.4.2 Aboriginal Cultural Heritage Consultation - Stage 4

Stage 4 of the Aboriginal Cultural Heritage Consultation process involves obtaining feedback on the draft Aboriginal Cultural Heritage Assessment report. NGH provided all 20 RAPs with the draft ACHAR in March 2019 and received 5 responses.

All 5 responses agreed with the conclusions of the report and did not feel the need for further testing to be completed due to the disturbed nature of the terrain.

Darug Aboriginal Land Care did note that they would like native plants to be used in the landscape and if artefacts are uncovered during works then works are to stop so they can be examined and salvaged (in line with Section 9 Recommendation 2 of this report). Darug Aboriginal Land Care requests that any salvaged artefacts are either reburied in a safe area on site or placed in the care of a Museum.

7 AVOIDING OR MITIGATING HARM

7.1 CONSIDERATION OF HARM

Mitigation of harm to cultural heritage sites generally involves some level of detailed recording to preserve the information contained within the site. Mitigation can be in the form of minimising harm through slight changes in the development plan or through direct management measures of the artefacts.

As there are no previously recorded AHIMS sites within the project area footprint, and no sites identified during the site survey, mitigation measures including salvage, detailed recording, or changes to the design footprint of the works are not considered necessary. The proposal area is located on a site of historical ground modification, minimising the potential for locating in-situ surface and subsurface artefacts.

Whilst AHIMS site #45-5-3141 was not located during the field survey, the coordinates for the site place it approximately 50 metres to the north of the project area and out of the impact zone.

8 LEGISLATIVE CONTEXT

Aboriginal heritage is primarily protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act) and as subsequently amended in 2010 with the introduction of the *National Parks and Wildlife Amendment (Aboriginal Objects and Places) Regulation 2010*. The aim of the NPW Act includes:

> The conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including but not limited to: places, objects and features of significance to Aboriginal people.

An Aboriginal object is defined as:

> Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.

Part 6 of the NPW Act concerns Aboriginal objects and places and various sections describe the offences, defences and requirements that harm an Aboriginal object or place. The main offences under section 86 of the NPW Act are:

- A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- A person must not harm an Aboriginal object.
- For the purposes of this section, "circumstances of aggravation" are:
    - that the offence was committed in the course of carrying out a commercial activity, or
    - that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.
- A person must not harm or desecrate an Aboriginal place.

Under section 87 of the NPW Act, there are specified defences to prosecution including authorisation through an Aboriginal Heritage Impact Permit (AHIP) or through exercising due diligence or compliance through the regulation.

Section 89A of the Act also requires that a person who is aware of an Aboriginal object, must notify the Director-General in a prescribed manner. In effect this section requires the completion of OEH AHIMS site cards for all sites located during heritage surveys.

Section 90 of the NPW Act deals with the issuing of an AHIP, including that the permit may be subject to certain conditions.

The EP&A Act is legislation for the management of development in NSW. It sets up a planning structure that requires developers (individuals or companies) to consider the environmental impacts of new projects. Under this Act, cultural heritage is considered to be a part of the environment. This Act requires that Aboriginal cultural heritage and the possible impacts to Aboriginal heritage that development may have are formally considered in land-use planning and development approval processes.

Under the NSW Planning legislation for this project, an Aboriginal Heritage Impact Permit (AHIP) from OEH would not be required for the project as under the State Significant Development regime the Department of Planning provides the approval. However, Aboriginal heritage still needs to be considered including conducting consultation with the Aboriginal community.

9 RECOMMENDATIONS

The recommendations are based on the following information and considerations:

- Results of the archaeological survey;
- Consideration of results from other local archaeological studies;
- Results of consultation with the registered Aboriginal parties;
- Appraisal of the proposed development, and
- Legislative context for the development proposal.

As a result of the field survey and consultation with the local Aboriginal community, it is recommended for the project, that:

1. The proposed works to the St Marys Freight Hub, St Marys NSW, do not require further investigation and the proposed construction works can proceed with caution.
2. As a State Significant development, an AHIP permit would not be required if works were to uncover Aboriginal material. However, in the unlikely event that previously undiscovered Aboriginal finds are identified during construction, works in the vicinity of the find should cease and a qualified archaeologist/heritage consultant called in to inspect the find and provide recommendations on proceeding.
3. In the unlikely event that human remains are discovered during the construction, all work must cease. OEH, the local police and Deerubbin LALC should be notified. Further assessment would be undertaken to determine if the remains are Aboriginal or non-Aboriginal.
4. Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation. This would include consultation with the RAPs for the project and may include further field survey and/or test excavation.
5. Continued consultation with the RAPs for the project should be undertaken if there are any major changes in project design or scope, further investigations or finds.

10 REFERENCES

Douglas Partners (2019) *Report on Preliminary Site Contamination Investigation*. Report to Pacific National (NSW) Pty Ltd.

GML Heritage. (2014) *Energy from Waste (EFW) Plant, Eastern Creek – Aboriginal Technical Report*. Report for The Next Generation NSW Pty Ltd.

Jo McDonald Cultural Heritage Management Pty Ltd. (2006) *Archaeological Survey for Indigenous Heritage along the proposed Fauna Fence at the former ADI Site, St Marys within the Penrith LGA*. Report to Delfin Lend Lease.

Navin Officer Heritage Consultants Pty Ltd. (2007) *Replacement Flows Project: Cultural Heritage Impact Assessment*. Report to Sydney Water.

OEH (2010a) *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.*

OEH (2010b) *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.*

OEH (2010c) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.*

OEH (2011) *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

OEH (2018) eSpade v.02: Soil Landscapes. Accessed 13.12.2018. <https://www.environment.nsw.gov.au/eSpade2Webapp>

Owen, T., and D. Cowie (2017) *Four Predictive Models to describe Aboriginal lithic artefact site patterning on the Cumberland Plain*. Journal of the Australian Association of Consulting Archaeologists 5:1-13.

Smith (1989) *Final Report: Site Survey and Site Analysis on the Northern Cumberland Plain*. Prepared for NPWS.

Smith, L. (1989) *Liverpool Release Area Archaeological Site Survey and Planning*. Prepared for Liverpool Council.

Veth, P. (1993) *Islands in the Interior: The Dynamics of Prehistoric Adaptations within the arid zone of Australia*. Archaeological Series 3. Ann Arbour: International Monographs in Prehistory.

White, B., and J. McDonald (2010) *Lithic Artefact Distribution in the Rouse Hill Development Area, Cumberland Plain, New South Wales*. Australian Archaeology 70:29-38.

APPENDIX A ABORIGINAL COMMUNITY CONSULTATION

ABORIGINAL CULTURAL HERITAGE CONSULTATION – STAGE 1: NOTIFICATION OF PROJECT PROPOSAL AND REGISTRATION OF INTEREST

Organisation	Contact	Action	Date Sent	Date replied	Replied by	Response
OEH	Susan Harrison	Emailed to request information on Registered Aboriginal Parties	8.11.2018	18.12.2018	Barry Gunther	Provided a list pf potential interested Aboriginal parties.
OEH	Barry Gunther	Email sent containing names of RAPs to OEH	24.1.2019			
Deerubbin Local Aboriginal Land Council		Emailed to request information on Registered Aboriginal Parties	8.11.2018			
Local Land Services Greater Sydney		Emailed to request information on Registered Aboriginal Parties	8.11.2018	3.12.2018	Des Dyer	Advise NGH make contact with OEH in regards to gaining names from interested parties.
National Native Title Tribunal		Emailed to request information on Registered Aboriginal Parties	8.11.2018	3.12.2018	Jodie Rikiti	Searched the Register of Aboriginal Owners and none listed for the project area. Suggest NGH contact Deerubbin Land Council.
Native Title Services Corp		Emailed to request information on Registered Aboriginal Parties	8.11.2018			
Office of the Registrar of Aboriginal Lands Rights Act		8.11.2018				
Penrith City Council		Emailed to request information on Registered Aboriginal Parties	8.11.2018			
The Daily Telegraph			20.12.2018			
OEH list of potential stakeholders						
Deerubbin Local Aboriginal Land Council	Kevin Cavanagh	3.1.2019 sent via registered post RPP44 63900 05100 00149 15602	3.1.2019			21.1.2019 Letter returned to sender as having moved from that address.
Darug Custodian	Justine Coplin	3.1.2019 sent via registered post 9452 587 48017 and via email	3.1.2019	4.1.2019	Justine Coplin	Would like to be registered for the project.

Aboriginal Corporation						
Darug Aboriginal Cultural Heritage Assessments	Celestine Everingham / Gordon Morton	3.1.2019 sent via Registered post 945258747010	3.1.2019	08.02.2019	Celestine	Would like to register for the project
Darug Land Observations	Jamie Workman and Anna Workman	3.1.2019 sent via Registered post 945258746013 and via email	3.1.2019	16.1.2019	Anna Workman	Would like to be registered for the project.
Des Dyer		3.1.2019 sent via Registered post 945258745016	3.1.2019			
A1 Indigenous Services	Carolyn Hickey	3.1.2019 sent via Registered post 945258744019 and via email	3.1.2019	7.1.2019	Carolyn Hickey	Would like to be registered for the project.
Gunjeewong Cultural Heritage Aboriginal Corporation	Cherie Carroll Turrise	3.1.2019 sent via Registered post 945258743012 and via email	3.1.2019	15.1.2019	Cherie Carroll Turrise	Would like to be registered for the project. Sent via letter.
Merrigarn Indigenous Corporation	Shaun Carroll	3.1.2019 sent via Registered post 945258742015	3.1.2019			26.2.2019 Letter returned to sender.
Corroboree Aboriginal Corporation	Steve Johnson	3.1.2019 sent via Registered post 945258760019	3.1.2019			
Murra Bidgee Mullangari Aboriginal Corporation	Darleen Johnson	3.1.2019 sent via Registered post 945258761016	3.1.2019			
Muragadi Heritage Indigenous Corporation	Jesse Johnson	3.1.2019 sent via Registered post 945258759013	3.1.2019			
Bidjawong Aboriginal Corporation	James Carroll	3.1.2019 sent via Registered post 945258758016	3.1.2019			

Phil Kahn		3.1.2019 sent via Registered post 945258756012	3.1.2019			
Wurrumay Consultancy	Kerrie Slater	3.1.2019 sent via Registered post 945258755015 and via email	3.1.2019			
Warragil Cultural Services	Aaron Slater	letter sent via email	3.1.2019	8.1.2019	Aaron Slater	Would like to be registered for the project.
Kawul Cultural Services	Vicky Slater	3.1.2019 sent via Registered post 945258754018 and via email	3.1.2019			
Tocomwall	Scott Franks	3.1.2019 sent via Registered post 945258753011	3.1.2019			
Amanda Hickey Cultural Services	Amanda Hickey	3.1.2019 sent via Registered post 945258752014 and via email	3.1.2019	3.1.2019	Amanda Hickey	Would like to be registered for the project.
Widescope Indigenous Group	Steven Hickey and Donna Hickey	3.1.2019 sent via Registered post 945258771015	3.1.2019	8.1.2019	Stevn Hickey	Would like to be registered for the project.
HSB Consultants	Patricia Hampton	3.1.2019 sent via Registered post 945258770018	3.1.2019			
Rane Consulting	Tony Williams	3.1.2019 sent via Registered post 945258769012 and via email	3.1.2019			
Anthony Williams		3.1.2019 sent via Registered post 945258768015	3.1.2019			
Dhinawan-Dhigaraa Culture & Heritage Pty Ltd	Ricky Fields and Athol Smith	3.1.2019 sent via Registered post 945258767018 and via email	3.1.2019			23.1.2019 Letter returned to sender.
Gunyuu	Kylie Ann Bell	letter sent via email	3.1.2019			
Walbunja	Hika Te Kowhai	letter sent via email	3.1.2019			
Badu	Karia Lea Bond	3.1.2019 sent via Registered post 945258766011	3.1.2019			

Goobah Developments	Basil Smith	3.1.2019 sent via Registered post 945258765014	3.1.2019			
Wullung	Lee-Roy James Boota	3.1.2019 sent via Registered post 945258764017	3.1.2019			21.1.2019 Letter returned to sender.
Yerramurra	Robert Parson	letter sent via email	3.1.2019			
Nundagurri	Newton Carriage	letter sent via email	3.1.2019			
Murrumbal	Mark Henry	letter sent via email	3.1.2019			
Jerringong	Joannne Anne Stewart	letter sent via email	3.1.2019			
Pemulwuy CHTS	Pemulwuy Johnson	3.1.2019 sent via Registered post 945258763010 and via email	3.1.2019			22.1.2019 Letter returned to sender.
Bilinga	Simalene Carriage	letter sent via email	3.1.2019			
Munyunga	Kaya Dawn Bell	letter sent via email	3.1.2019			
Wingikara	Hayley Bell	letter sent via email	3.1.2019			
Minnamunnung	Aaron Broad	3.1.2019 sent via Registered post 945258762013	3.1.2019			
Walgalu	Ronald Stewart	letter sent via email	3.1.2019			
Thauaira	Shane Carriage	letter sent via email	3.1.2019			
Dharug	Andrew Bond	letter sent via email	3.1.2019			
Bilinga Cultural Heritage	Robert Brown	letter sent via email	3.1.2019	3.1.2019	Undeliverable email address	

Technical Services						
Gunyuu Cultural Heritage Technical Services	Darlene Hoskins-McKenzie	letter sent via email	3.1.2019	3.1.2019	Undeliverable email address	
Munyunga Cultural Heritage Technical Services	Suzannah McKenzie	letter sent via email	3.1.2019	3.1.2019	Undeliverable email address	
Murrumbul Cultural Heritage Technical Services	Levi McKenzie-Kirkbright	letter sent via email	3.1.2019	3.1.2019	Undeliverable email address	
Wingikara Cultural Heritage Technical Services	Wandai Kirkbright	letter sent via email	3.1.2019	3.1.2019	Undeliverable email address	
Gulaga	Wendy Smith	letter sent via email	3.1.2019			
Biamanga	Seli Storer	letter sent via email	3.1.2019			
Callendulla	Corey Smith	letter sent via email	3.1.2019			
Murramarang	Roxanne Smith	letter sent via email	3.1.2019			
DJMD Consultancy	Darren Duncan	letter sent via email	3.1.2019			
Butucarbin Aboriginal Corporation	Jennifer Beale	3.1.2019 sent via Registered post RPP44 63900 05100 00149 14605 and via email	3.1.2019			

Didge Ngunawal Clan	Lillie Carroll and Paul Boyd	3.1.2019 sent via Registered post RPP44 63900 05100 00149 13608 and via email	3.1.2019	3.1.2019	Paul Boyd	Would like to be registered for the project.
Ginninderra Aboriginal Corporation	Krystle Carroll	3.1.2019 sent via Registered post RPP44 63900 05100 00149 12601 and via email	3.1.2019	7.1.2019	Lisa	Would like to be registered for the project.
Nerrigundah	Newton Carriage	letter sent via email	3.1.2019			
Wailwan Aboriginal Group	Philip Boney	letter sent via email	3.1.2019			
Barking Owl Aboriginal Corporation	Mrs Jody Kulakowski	3.1.2019 sent via Registered post RPP44 63900 05100 00149 11604 and via email	3.1.2019	5.1.2019	Jody Kulakowski	Would like to be registered for the project.
Yulay Cultural Services	Arika Jalomaki	3.1.2019 sent via Registered post 945258757019 and via email	3.1.2019	7.1.2019	Arika Jalomaki	Would like to be registered for the project.
Thoorga Nura	John Carriage	3.1.2019 sent via Registered post 945258751017 and via email	3.1.2019			22.1.2019 Letter returned to sender.
Darug Boorooberongal Elders Aboriginal Corporation	Gordon Workman	3.1.2019 sent via Registered post 945258750010 and via email	3.1.2019	8.1.2019	Gordon Workman	Would like to be registered for the project.
B.W. Consultants	Ralph Hampton and Nola Hampton	Contacted Ingrid via email asking to speak about the project over the phone. Ingrid attempted to call back on 7.1.2019 but did not get an answer. Sent email asking when an appropriate time to call back would be. A73	3.1.2019A73	6.1.2019	Ralph Hampton	Contacted Ingrid via email asking to speak about the project over the phone. Ingrid attempted to call back on 7.1.2019 but did not get an answer. Sent email asking when an appropriate time to call back would be. Spoke to Ingrid on the phone at 12pm on 7.1.2019 and would like to register interest for the project.

ABORIGINAL CULTURAL HERITAGE CONSULTATION – STAGE 2 & 3: 2) PRESENTATION OF INFORMATION ABOUT THE PROPOSED PROJECT; 3) GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

Organisation	Contact	Action	Date Sent	Date replied	Replied by	Response
Amanda Hickey Cultural Services	Amanda Hickey	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	30.1.2019, 22.2.2019 and 26.2.2018	Amanda	AHCS has read the methodology and is happy with it. Daily rates and insurances attached to email. Sent a further email on 26.2.2018 asking about the fieldwork. Ingrid advised that the methodology period ended on 28.2.2019 and RAPs for fieldwork would be contacted afterwards.
Didge Ngunawal Clan	Lillie Carroll and Paul Boyd	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	4.3.2019	Lillie	Asked to update address to 33 carlyle crescent Cambridge Gardens 2747.
Darug Custodian Aboriginal Corporation	Justine Coplin	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	6.2.2019	Justine	Agreed with the methodology and provided insurances.
Barking Owl Aboriginal Corporation	Mrs Jody Kulakowski	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	31.1.2019, 23.2.2019	Jody	Agreed with methodology and sent through rates and insurance details. 23.2.2019 sent through insurance and rate details.

B.W. Consultants	Ralph Hampton and Nola Hampton	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	22.2.2019, 25.2.2019, 6.3.2019	Ralph	Ingrid spoke over the phone and they mentioned that they were available for fieldwork and agreed with the methodology. 25.2.2019 Sent email asking if we had received their emails. Ingrid responded stating that we had not got them and asked them to send through insurance details and rates. 6.3.2019 Ralph emailed Ingrid asking about the fieldwork.
Yurrandaali Cultural Services	Bo Field	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	30.1.2019	1.2.2019	Confirmed methodology receipt and agreed.
Yulay Cultural Services	Arika Jalomaki	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	30.1.2019	1.2.2019	Confirmed methodology receipt and agreed.
Barraby Cultural Services	Lee Field	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	30.1.2019	1.2.2019	Confirmed methodology receipt and agreed.
A1 Indigenous Services	Carolyn Hickey	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	5.2.2019, 23.2.2019	Carolyn	Agreed with the methodology and would like to be considered for fieldwork. 23.2.2019 sent through insurance details.

Darug Land Observations	Jamie Workman and Anna Workman	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	22.2.2019	Anna	Agrees with the methodology and supports salvage of artefacts if recovered from site. Included insurance details and rates.
Ngambaa Cultural Connections	Kaarina Slater	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	31.1.2019, 1.2.2019, 24.2.2019 and 26.2.2019	Kaarina	Agreed with methodology and sent through insurance details.
Darug Aboriginal Land Care	Des Dyer	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	5.2.2019	Des	Agree with the methodology.
Darug Boorooberongal Elders Aboriginal Corporation	Gordon Workman	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019			
Widescope Indigenous Group	Steven Hickey and Donna Hickey	Methodology sent via registered post 604 47122978 091	30.1.2019	12.2.2019, 4.3.2019		Provided insurances and rates for the project. Agreed with the methodology. 4.3.2019 Krystle emailed asking about fieldwork.
Warragil Cultural Services	Aaron Slater	Methodology sent via email with a request	30.1.2019	11.2.2019 and 14.2.2019		Agreed with the methodology. Provided insurances and rates for the project.

		that RAPs open the attachment to ensure that they can access the file.				
Ginninderra Aboriginal Corporation	Krystle Carroll	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	22.2.2019	Lisa	Would like to be considered for fieldwork and provided daily rate of $850.
Gunjeewong Cultural Heritage Aboriginal Corporation	Cherie Carroll Turrise	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file. Methodology also sent via registered post due to Cherie's original registration being via letter - Registration no 604 47122977 094	30.1.2019		3.2.2019	Ingrid reviewed letter from Cherie stating that she has cultural knowledge of the area, agrees with the methodology, and would like to be included in the fieldwork. Cherie stated that her email address is being used illegally and to contact her via mail only.
Deerubbin Local Aboriginal Land Council	Kevin Cavanagh	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019	28.2.2019	Steven Randall	Ingrid spoke to Steven Randall on the phone. He mentioned that he could not provide his insurance details and rates today as he cannot access a computer, but that he would provide them tomorrow. A half day rate for a REP from Deerubbin will be approximately $500. Confirmed that he agreed with the methodology.

Aboriginal Archaeology Service	Andrew Williams	Methodology sent via email with a request that RAPs open the attachment to ensure that they can access the file.	30.1.2019			
Darug Aboriginal Cultural Heritage Assessments	Celestine Everingham / Gordon Morton	Methodology sent via express post 60445888484092	08.02.2019			
Reminding RAPS of closing date for methodology						
Amanda Hickey Cultural Services E115A126A104:E1A104:E113	Amanda Hickey	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			
Didge Ngunawal Clan	Lillie Carroll and Paul Boyd	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			

Darug Custodian Aboriginal Corporation	Justine Coplin	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			
Barking Owl Aboriginal Corporation	Mrs Jody Kulakowski	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			
B.W. Consultants	Ralph Hampton and Nola Hampton	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019	22.2.2019	Available for fieldwork and would like to be considered.	
Yurrandaali Cultural Services	Bo Field	Email sent reminding of closing date for comments, asking for insurance and rate info, and	22.2.2019	22.2.2019	Available for fieldwork and would like to be considered.	

		asking availability for the 11th March for fieldwork.				
Yulay Cultural Services	Arika Jalomaki	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019	22.2.2019	Available for fieldwork and would like to be considered.	
Barraby Cultural Services	Lee Field	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019	22.2.2019	Available for fieldwork and would like to be considered.	
A1 Indigenous Services	Carolyn Hickey	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			

Darug Land Observations	Jamie Workman and Anna Workman	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019	22.2.2019	Available for fieldwork and would like to be considered.	
Ngambaa Cultural Connections	Kaarina Slater	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			
Darug Aboriginal Land Care	Des Dyer	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			
Darug Boorooberongal Elders Aboriginal Corporation	Gordon Workman	Email sent reminding of closing date for comments, asking for insurance and rate info, and	22.2.2019			

		asking availability for the 11th March for fieldwork.				
Warragil Cultural Services	Aaron Slater	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019	22.2.2019	Phone conservation with Ingrid confirming that Aaron will be available for fieldwork.	
Ginninderra Aboriginal Corporation	Krystle Carroll	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019	22.2.2019	Krystle informed NGH that she was in the process of reviewing the methodology and would have the comments completed by the final date. They would be available for the fieldwork and would like to be considered.	
Deerubbin Local Aboriginal Land Council	Kevin Cavanagh	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for	22.2.2019	28.2.2019	Steven	Would like to attend fieldwork. Will provide insurances and rates tomorrow 1.3.2019.

		the 11th March for fieldwork.				
Aboriginal Archaeology Service	Andrew Williams	Email sent reminding of closing date for comments, asking for insurance and rate info, and asking availability for the 11th March for fieldwork.	22.2.2019			
Fieldwork						
Deerubbin Local Aboriginal Land Council	Steve Randall	Called on Friday 1.3.2019 to ask to participate in fieldwork. Sent email 6.3.2019 providing written fieldwork information. Final confirmation and PPE details arranged over the phone 08.03.2019 (9am)	1.3.2019 and 6.3.2019 and 08.03.2019			
A1 Indigenous Services	Carolyn Hickey	Called on Friday 1.3.2019 to ask to participate in fieldwork. Sent email 6.3.2019 providing written fieldwork information.	1.3.2019 and 6.3.2019 and 08.03.2019			

		Final confirmation and PPE details arranged over the phone 08.03.2019 (9am)				
Amanda Hickey Cultural Services	Amanda Hickey	Called on Friday 1.3.2019 to ask to participate in fieldwork. Sent email 6.3.2019 providing written fieldwork information. Final confirmation and PPE details arranged over the phone 08.03.2019 (9am)	1.3.2019 and 6.3.2019 and 08.03.2019	6.3.2019	Will be on site for the 11th.	
Informing RAPS of reduced footprint size						
Amanda Hickey Cultural Services	Amanda Hickey	Email sent informing of reduced footprint size.	12.3.2019			
Didge Ngunawal Clan	Lillie Carroll and Paul Boyd	Email sent informing of reduced footprint size.	12.3.2019			
Darug Custodian Aboriginal Corporation	Justine Coplin	Email sent informing of reduced footprint size.	12.3.2019			
Barking Owl Aboriginal Corporation	Mrs Jody Kulakowski	Email sent informing of	12.3.2019			

		reduced footprint size.				
B.W. Consultants	Ralph Hampton and Nola Hampton	Email sent informing of reduced footprint size.	12.3.2019			
Yurrandaali Cultural Services	Bo Field	Email sent informing of reduced footprint size.	12.3.2019			
Yulay Cultural Services	Arika Jalomaki	Email sent informing of reduced footprint size.	12.3.2019			
Barraby Cultural Services	Lee Field	Email sent informing of reduced footprint size.	12.3.2019			
A1 Indigenous Services	Carolyn Hickey	Email sent informing of reduced footprint size.	12.3.2019			
Darug Land Observations	Jamie Workman and Anna Workman	Email sent informing of reduced footprint size.	12.3.2019			
Ngambaa Cultural Connections	Kaarina Slater	Email sent informing of reduced footprint size.	12.3.2019			
Darug Aboriginal Land Care	Des Dyer	Email sent informing of reduced footprint size.	12.3.2019			
Darug Boorooberongal Elders Aboriginal Corporation	Gordon Workman	Email sent informing of reduced footprint size.	12.3.2019			

Widescope Indigenous Group	Steven Hickey and Donna Hickey	Email sent informing of reduced footprint size.	12.3.2019			
Warragil Cultural Services	Aaron Slater	Email sent informing of reduced footprint size.	12.3.2019			
Ginninderra Aboriginal Corporation	Krystle Carroll	Email sent informing of reduced footprint size.	12.3.2019			
Gunjeewong Cultural Heritage Aboriginal Corporation	Cherie Carroll Turrise	Letter sent via registered post #604 47122976 097	12.3.2019			
Deerubbin Local Aboriginal Land Council	Kevin Cavanagh	Email sent informing of reduced footprint size.	12.3.2019			
Aboriginal Archaeology Service	Andrew Williams	Email sent informing of reduced footprint size.	12.3.2019			
Darug Aboriginal Cultural Heritage Assessments	Celestine Everingham / Gordon Morton	Letter sent via registered post #604 47122975 090	12.3.2019			

ABORIGINAL CULTURAL HERITAGE CONSULTATION – STAGE 4: REVIEW OF DRAFT CULTURAL HERITAGE ASSESSMENT REPORT

Organisation	Contact	Action	Date Sent	Reply Date	Replied by	Response
DRAFT ACHA REPORT SENT						
Amanda Hickey Cultural Services	Amanda Hickey	Sent draft ACHAR for comment	28.3.2019			
Didge Ngunawal Clan	Lillie Carroll and Paul Boyd	Sent draft ACHAR for comment	28.3.2019			
Darug Custodian Aboriginal Corporation	Justine Coplin	Sent draft ACHAR for comment	28.3.2019			
Barking Owl Aboriginal Corporation	Mrs Jody Kulakowski	Sent draft ACHAR for comment	28.3.2019	4.4.2019	Jody	Read and agrees with the report and have no further comments or recommendations.
B.W. Consultants	Ralph Hampton and Nola Hampton	Sent draft ACHAR for comment	28.3.2019			
Yurrandaali Cultural Services	Bo Field	Sent draft ACHAR for comment	28.3.2019			
Yulay Cultural Services	Arika Jalomaki	Sent draft ACHAR for comment	28.3.2019			
Barraby Cultural Services	Lee Field	Sent draft ACHAR for comment	28.3.2019	29.3.2019	Lee	Received report.

A1 Indigenous Services	Carolyn Hickey	Sent draft ACHAR for comment	28.3.2019	7.4.2019	Carolyn	Emailed stating that she could not open the ACHAR file. Ingrid re-sent the ACHAR document.
Darug Land Observations	Jamie Workman and Anna Workman	Sent draft ACHAR for comment	28.3.2019	10.4.2019	Anna	Reviewed and supported the methodology and report.
Ngambaa Cultural Connections	Kaarina Slater	Sent draft ACHAR for comment	28.3.2019			
Darug Aboriginal Land Care	Des Dyer	Sent draft ACHAR for comment	28.3.2019	29.3.2019	Des	Read and agree with the report and recommendations. Request that native plants be used in the landscape. If artefacts are uncovered during works then works are to stop so that they can be examined and salvaged. Any artefacts uncovered should be reburied in a safe area or placed in the care of a Museum.
Darug Boorooberongal Elders Aboriginal Corporation	Gordon Workman	Sent draft ACHAR for comment	28.3.2019			
Widescope Indigenous Group	Steven Hickey and Donna Hickey	Sent draft ACHAR for comment	28.3.2019			
Warragil Cultural Services	Aaron Slater	Sent draft ACHAR for comment	28.3.2019			
Ginninderra Aboriginal Corporation	Krystle Carroll	Sent draft ACHAR for comment	28.3.2019			
Gunjeewong Cultural Heritage Aboriginal Corporation	Cherie Carroll Turrise	Sent draft ACHAR for comment	28.3.2019			

Deerubbin Local Aboriginal Land Council	Kevin Cavanagh	Sent draft ACHAR for comment	28.3.2019	5.4.2019	Steve	Steve noted that he had attended site for the fieldwork and that there had been a high disturbance of the soils across the site. Deerubbin LALC therefore had no objections to the St Marys Freight Hub proposal.
Aboriginal Archaeology Service	Andrew Williams	Sent draft ACHAR for comment	28.3.2019			
Darug Aboriginal Cultural Heritage Assessments	Celestine Everingham / Gordon Morton	Sent draft ACHAR for comment	28.3.2019	5.4.2019	Celestine	Celestine called and spoke to both Jakob and Ingrid to say that she is happy with the St Marys Draft ACHAR report and has no suggested amendments.

Advertisement placed in The Daily Telegraph 20.12.2019

Notification for registration of interest for Aboriginal stakeholders

NGH Environmental has been contracted by Urbanco (100 Harris Street PYRMONT NSW 2009) and SITE planning + Design (198 Stirling Street, Perth WA 6000) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the development of St Marys Intermodal Freight Terminal, located along Forrester Road, Lee Holm Road, and Christie Street, St Marys.

The proposed Intermodal is located within the local government area of Penrith and consists of three allotments - Lot 2 DP876781, Lot 3 DP876781, and Lot 196 DP31912. The total site has an area of 43ha with the area subject to the development (Stage 1) being approximately 15.87ha.

The purpose of the consultation with Aboriginal people is to assist the proponent in the preparation of the ACHA; to be involved in consultation regarding Aboriginal cultural heritage; and, to be involved in the assessment and management of potential impact to Aboriginal cultural heritage values, including the possible lodgement of an Aboriginal Heritage Impact Permit application.

In order to fulfil the requirements set out in the NSW Office of Environment and Heritage *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, NGH Environmental is seeking interested Aboriginal parties who hold cultural knowledge of the assessment area to register their interest in the consultation process for the project and to assist in the determination of cultural significance of any Aboriginal objects or places located there.

Registrations should be provided in writing to:

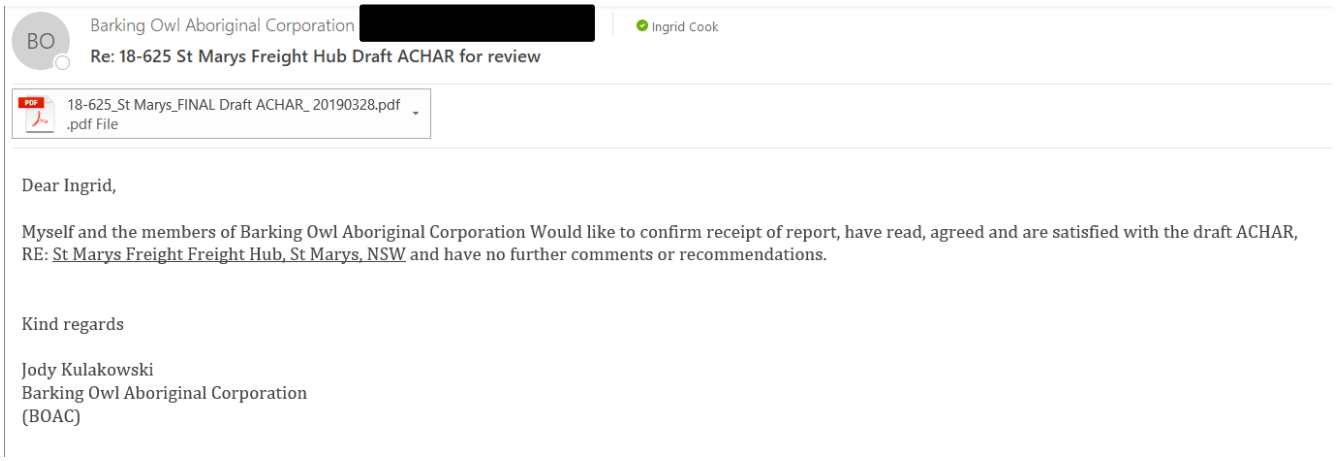
NGH Environmental Pty Ltd
Unit 18, 21 Mary Street
SURRY HILLS NSW 2010
Or via email to:
bronwyn.p@nghenvironmental.com.au, ingrid.c@nghenvironmental.com.au or
Jakob.r@nghenvironmental.com.au

Closing date for registration is **21 January 2019**

Those registering an interest will be contacted to discuss the project further. Those who do register are advised that their details will be provided to OEH and the Local Aboriginal Land Council, unless they specifically advise in writing that their details are not to be forwarded.

APPENDIX B CONSULTATION BETWEEN NGH AND RAPS ON THE ACHAR

Barking Owl Aboriginal Corporation – 4.4.2019



BO Barking Owl Aboriginal Corporation [redacted] Ingrid Cook

Re: 18-625 St Marys Freight Hub Draft ACHAR for review

18-625_St Marys_FINAL Draft ACHAR_ 20190328.pdf
.pdf File

Dear Ingrid,

Myself and the members of Barking Owl Aboriginal Corporation Would like to confirm receipt of report, have read, agreed and are satisfied with the draft ACHAR, RE: St Marys Freight Freight Hub, St Marys, NSW and have no further comments or recommendations.

Kind regards

Jody Kulakowski
Barking Owl Aboriginal Corporation
(BOAC)

Darug Land Observations – 10.4.2019

DARUG LAND
OBSERVATIONS PTY LTD
ABN 27 602 765 453

EMAIL: [redacted]

10th April 2019

Ingrid Cook
NGH Environmental Pty Ltd
[redacted]

Dear Ingrid,

RE: ST MARYS FREIGHT HUB, LOCATED ALONG FORRESTER ROAD, LEE HOLM ROAD & CHRISTIE STREET, ST MARYS

Aboriginal Cultural Heritage Assessment Report

Darug Land Observations Pty Ltd has reviewed the draft Aboriginal Cultural Heritage Assessment, and supports the methodology for the proposed construction of an Intermodal Freight Terminal of Lot 2 DP876781, Lot 3 DP876781 and Lot 196 DP31912**, located along Forrester Road, Lee Holm Road and Christie Street, in St Marys**.

Thank you, and look forward to working with you again, in the near future.

Yours sincerely,

Jamie Workman
Darug Land Observations Pty Ltd

Uncle Gordon Workman
Darug Elder

Darug Aboriginal Land Care – 29.3.2019

Darug Aboriginal Land care

Uncle Des Dyer

[redacted]

ABN 71 301 006 047

Ingrid Cook
Archaeologist
Ngh Environment
[redacted]
NSW

Re: Freight Hub St, Marys .

Dear Ingrid,

The Darug Aboriginal Land care/ Uncle Des Dyer, has no objections to the planned development.

We have read your report and agree with the recommendations, in your report. We agree with your Methodology.

We ask that native plants be used in the landscape .

We ask that while the development is in progress if any Artefacts are uncovered that work stops until the Artefacts can be salvaged and moved.

We make Recommendation that this is strongly heard to for projects !!!!!

We ask that all artefacts be reburied on site out of harm's way, that any rock cravens, and scared tree be preserved, were possible, and be recorded.

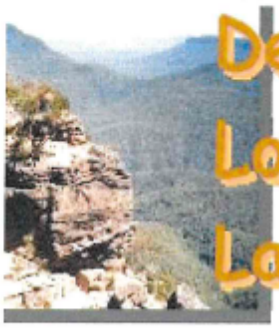
<u>If not Care and control</u> of Artefacts are put in the local museum, or displayed in the foyer of new building with signage on where they came from. If not we would like to see them in the <u>old Parramatta Goal….</u>

The Darug Aboriginal Land care have and always will hold all land specific social, spiritual and have a responsibility to look after the plants , animals creeks rivers on Darug land has cultural values to our organisation.

We are Traditional Owner, our members have lived on Darug land for most of their lives and worked in the area. We have been doing Cultural Heritage Assessments for over 20 years and still do today.

Respectfully yours,
Uncle Des Dyer
Darug Elder
Darug Aboriginal Land Care
Mobile [redacted]

Deerubbin Local Aboriginal Land Council – 5.4.2019



Deerubbin Local Aboriginal Land Council

[redacted]

ABN: 41 303 129 586

[redacted]

W: http://www.deerubbin.org.au

DMD Projects
C/- NGH Environmental
Unit 18, 21 Mary Street
SURRY HILLS NSW 2010

Our Ref: 3057

5 April 2019

SUBJECT: PROTECTION OF ABORIGINAL CULTURAL HERITAGE

Proposed St Marys Freight Hub
Lot 2 & 3 DP 876781 & Lot 196 DP 31912
St Marys NSW

Attention: Ingrid Cook,

A representative of the Deerubbin Local Aboriginal Land Council inspected the proposed St Marys Freight Hub site Monday, 11th March 2019. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact that proposed development has on the cultural heritage of the land.

High disturbance of earthworks from soil dumping to raise the level of the landscape. No intact soils remain in the study area and no Aboriginal cultural materials (in the form of stone artefacts, for example) were found.

Deerubbin Local Aboriginal Land Council therefore, has no objections for the proposed Freight Hub at St Marys NSW.

Yours Faithfully,

S Randall

(Steven Randall
Senior Aboriginal Cultural Heritage Officer)

C.c. Barry Gunther – Office of Environment & Heritage

Darug Aboriginal Cultural Heritage Assessments – 5.4.2019

Ingrid spoke to Celestine over the phone.

APPENDIX C UNEXPECTED FINDS PROCEDURE

An unexpected heritage item means any unanticipated discovery of an actual or potential heritage item, for which the Proponent does not have prior approval to disturb or does not have a safeguard in place to manage the disturbance.

These discoveries are categorised as either:

a) Aboriginal objects
b) Historic/non-Aboriginal heritage items
c) Human skeletal remains

If any of the above items are suspected or identified during construction activities then a series of steps must be followed. These are outlined below:

1. all work should cease in that area and notify a Project Manager or Supervisor immediately of the find;
2. A 'no-go' zone should be established around the find, using visibility fencing (where applicable);
3. Inform all on-site personnel and staff of the find and the demarcated 'no-go' zone;
4. Contact a qualified archaeologist/heritage consultant to inspect the find and provide recommendations.
5. In the event that human remains are identified, complete steps 1-3. Replace Step 4 by immediately contacting the local police to investigate if the find relates to a criminal investigation. The police may take command of part or all of the site.
6. Once clearance of the site has been given by either the qualified archaeologist/heritage consultant then works may proceed within the 'no-go' zone UNLESS specifically instructed by the professional that no further works can be completed.