PUBLIC ENVIRONMENT REPORT GUIDELINES

Kingston Pier Channel Construction Project, Norfolk Island (EPBC 2021/9124)

Environment Protection and Biodiversity Conservation Act 1999

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GUIDELINES FOR A DRAFT PUBLIC ENVIRONMENT REPORT

The following guidelines have been prepared for the Kingston Pier Channel Construction Project, Norfolk Island (project), which will be undertaken by the Department of Infrastructure, Transport, Regional Development and Communications (proponent).

Preamble

The proponent proposes to augment (deepen and widen) the existing channel bed in the harbour adjacent to Kingston Pier, Norfolk Island.

The proposed action involves the transfer of spoil from the channel dredging operation to an onshore disposal site at Old Cascade Quarry. The disturbance footprint at the dredge site (i.e., dredge footprint) is 0.5 ha of the 5 ha work area, and the disturbance footprint at the quarry is 0.3 ha. The purpose of the proposed action is to improve vessel access and safety and ensure that it meets required navigation standards and guidelines.

The proposed action would be located on land around Kingston Pier and in the water area and seabed in the channel adjacent to Kingston Pier. The land at Kingston Pier is located within the Kingston and Arthur's Vale Historic Area (KAVHA). KAVHA is listed on the UNESCO World Heritage List as one of the 11 places that make up the Australian Convict Sites World Heritage serial listing and is also listed on the National and Commonwealth Heritage Lists. The shipwreck site of HMS *Sirius*, located on the outer reef at Slaughter Bay off the coast of Norfolk Island, is listed on the National Heritage and Commonwealth Heritage Lists.

The proposal was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) to the Minister for the Environment on 17 February 2022. The delegate for the minister determined on 4 April 2022, that the action is a controlled action and approval is required as the action has the potential to have a significant impact on the following matters of national environmental significance (MNES) that are protected under Part 3 of the EPBC Act:

- The world heritage values of a declared World Heritage property (section 12 & section 15A)
- The heritage values of a National Heritage place (section 15B & section 15C)
- The environment of the Commonwealth marine area, or the environment as the proposal would take place in a Commonwealth marine area (section 23 & section 24A)
- The environment because the proposal is a Commonwealth action (section 28)

Following the provision of referral information, the delegate of the minister determined, on 4 April 2022, that the proposed activity be assessed by a Public Environment Report (PER).

Information about the action and its relevant impacts, as outlined below, is to be provided in the PER. This information should be sufficient to allow the minister to make an informed decision on whether or not to approve, under Part 9 of the EPBC Act, the taking of the action for the purposes of each controlling provision.

Contents

1 General overview

1.1 General content

The PER should be a document that focuses on the matters listed below:

- The world heritage values of a declared World Heritage property (section 12 & section 15A)
- The heritage values of a National Heritage place (section 15B & section 15C)
- The environment of the Commonwealth marine area, or the environment as the proposal would take place in a Commonwealth marine area (section 23 & section 24A)
- The environment because the proposal is a Commonwealth action (section 28).

It should contain sufficient information to avoid the need to search out previous or supplementary reports. The PER should take into consideration the EPBC Act Significant Impact Guidelines that can be downloaded from the following website: http://www.environment.gov.au/epbc/guidelines-policies.html.

The PER should enable interested stakeholders and the minister to understand the environmental consequences of the proposed development. Information provided in the PER should be objective, clear, and succinct and, where appropriate, be supported by maps, plans, diagrams or other descriptive detail. The body of the PER is to be written in a clear and concise style that is easily understood by the general reader. Technical jargon should be avoided wherever possible. Cross-referencing should be used to avoid unnecessary duplication of text but must be specific.

In assessing World Heritage matters, the PER should take into consideration the World Heritage Advice Note: Environmental Assessment that can be downloaded from the following website: https://www.iucn.org/sites/dev/files/import/downloads/iucn_advice_note_environmental_assessment_18_11_13_iucn_template.pdf

Detailed technical information, studies or investigations necessary to support the main text should be included as appendices to the PER. It is recommended that any additional supporting documentation and studies, reports or literature not normally available to the public from which information has been extracted be made available at appropriate locations during the period of public display of the PER.

After receiving the minister's approval to publish the report, the proponent is required to make the draft PER available for a period of public comment. Specific instructions regarding publication requirements will be provided as part of the minister's direction to publish.

If it is necessary to make use of material that is considered to be of a confidential nature, the proponent should consult with the department on the preferred presentation of that material, before submitting it to the minister for approval for publication.

The level of analysis and detail in the PER should reflect the level of significance of the expected impacts on the environment and heritage. Any and all unknown variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

The proponent should ensure that the PER assesses compliance of the action with principles of Ecological Sustainable Development as set out in the EPBC Act, and the objects of the Act at Attachment A. A copy of Schedule 4 of the EPBC Regulations, - *Matters to be addressed by draft public environment report and environmental impact statement* is at Attachment B.

1.2 Format and style

The PER should comprise three elements, namely:

- the executive summary
- the main text of the document
- appendices containing detailed technical information and other information that can be made publicly available.

The guidelines have been set out in a manner that may be adopted as the format for the PER. This format need not be followed where the required information can be more effectively presented in an alternative way. However, each of the elements must be addressed to meet the requirements of the EPBC Act and Regulations.

The PER should be written so that any conclusions reached can be independently assessed. To this end all sources must be appropriately referenced using the Harvard standard. The reference list should include the address of any Internet webpages used as data sources.

The main text of the PER should include a list of abbreviations, a glossary of terms and appendices containing:

- a copy of these guidelines
- a list of persons and agencies consulted during the PER
- contact details for the proponent
- the names of the persons involved in preparing the PER and work done by each of these persons.

Maps, diagrams and other illustrative material should be included in the PER. The PER should be produced on A4 size paper capable of being photocopied, with maps and diagrams on A4 or A3 size and in colour where possible.

The proponent should consider the format and style of the document appropriate for publication on the Internet. The capacity of the website to store data and display the material may have some bearing on how the document is constructed.

2 Introduction

2.1 General information

The content below has been determined in accordance with the requirements under Schedule 4 of the Regulations (Attachment A). The department notes that some of the information may have been provided as part of the EPBC Act referral. The information provided in the EPBC referral and associated documentation, including the Environmental Assessment Report, can be used to write the PER. Specific content requirements have been included under each section below.

2.2 Description of the action

The PER must include a description inclusive of the following information:

- the title of the action
- the full name and postal address of the designated proponent
- a clear outline of the objective of the action
- the location of the action
- the background to the development of the action
- how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action
- the current status of the action
- the consequences of not proceeding with the action.

This section must describe the proposed action in sufficient detail to allow an understanding of all relevant stages (including interdependencies between stages) and components, and to determine potential associated environmental impacts.

The various elements of the project must be described in the text and illustrated with maps, diagrams, plans (at a suitable scale) and other information as required to provide sufficient context and basis for the identification and assessment of impacts. Include precise location (including coordinates) of all elements of the action that may have impacts of Matters of National Environmental Significance (MNES).

The description of the action must also include details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those aspects of the structures or elements of the action that may have relevant impacts.

Include updated information if any changes have been made to the project since the referral documentation was submitted.

2.3 Feasible alternatives

Any feasible alternatives to the action to the extent reasonably practicable, including:

(a) if relevant, the alternative of taking no action

(b) a comparative description of the impacts of each alternative on the MNES protected by controlling provisions of Part 3 of the EPBC Act for the action

(c) sufficient detail to make clear why any alternative is preferred to another.

The PER should also discuss short, medium and long-term advantages and disadvantages of the options. If there are no feasible alternatives, provide sufficient information as to why this is the case and why there are not alternatives for constructing this project elsewhere.

3 Matters of national environmental significance

3.1 Description of the environment

A description of the environment, land uses and character of the proposal site and the surrounding areas that may be affected by the action. It is recommended that this includes the following information on matters of national environmental significance.

3.2 World Heritage values

Describe the World Heritage property relevant to the proposed action including but not limited to:

- a description of the World Heritage property, including the location, physical features, condition, historical context, current uses, and social, economic and cultural aspects of the property
- a description of the World Heritage values of KAVHA as described in the Statement of Outstanding Universal Value, and the values of any additional World Heritage properties and National Heritage places identified, including references to the listing criteria.

This may include baseline data derived from field surveys, scientific evidence derived from research papers and expert advice, public consultation, other approval processes, and information collected from desktop research (e.g., Commonwealth and state government databases/websites, outcomes of previous field surveys, modelling, scientific investigations, etc.).

3.3 National heritage

Describe the National Heritage Places relevant to the action, including but not limited to:

- a description of the National Heritage places, the criterion of values, including map/images, and archaeological surveys providing information about the archaeological potential of the national heritage places in relation to the proposed action
- a description of the National Heritage values of KAVHA and the HMS *Sirius* Shipwreck as described in the places' official values statements and the values of any additional National Heritage places identified, including references to the listing criteria.

3.4 Commonwealth Marine environment

Provide a description of the Commonwealth Marine Park values of Norfolk Marine Park that may be impacted by the construction and operation phase of the proposed action. Include information about location, physical features, condition, historical context, and current uses. This description should include a description of the nearby Slaughter Bay and Emily Bay.

The description of the Commonwealth Marine Park must include the following:

(a) ecosystems and their constituent parts, including people and communities

(b) a map detailing the bathymetrical characteristics of the proposed action area

(c) identification of coral structures within and adjacent to the proposed action area, including the nearby Slaughter Bay and Emily Bay

(d) a description of the Norfolk Marine Park environment relevant to the proposed action area including relevant hydrological character

(e) natural and physical resources within the Special Purpose Zone (IUCN Category VI) of the Norfolk Marine Park

(f) the qualities and characteristics of locations, places and areas within Special Purpose Zone (IUCN Category VI) of the Norfolk Marine Park

(g) the social, economic and cultural aspects of items mentioned in (a), (e) or (f)

(h) a description of any known underwater heritage including remains of vessels, aircraft or other.

3.5 Commonwealth agency

A description of the Commonwealth environment relevant to the action taken by a commonwealth agency. The description of the Commonwealth environment as described in the *Significant Impact Guidelines 1.2 Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth Agencies* (December 2013), should include impacts on landscapes and soils, coastal landscapes and processes, water resources, plants, animals and heritage.

Identify any Commonwealth lands relevant to the impacts of the action. If sites are identified, provide a description of the land, current usage and ownership (if known), along with any listed Commonwealth heritage sites and other relevant components of the environment on Commonwealth land.

Relevant policy includes the *Significant Impact Guidelines 1.2 Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* (2013) which states that in understanding the environmental context of the action, it is helpful to determine whether any components or features of the environment are “rare, endemic, unusual, important or otherwise valuable”. See also the *EPBC Act Policy Statement* - Definition of 'Environment' under section 528 of the EPBC Act.

4 Relevant impacts

The PER must include a description of all the relevant impacts of the action. Relevant impacts are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed in the preamble of this document). Should any other aspects of the environment be identified by the proponent that may or are likely to be significantly impacted, these need to be described and assessed in an appropriate manner and the department should be informed at the earliest opportunity.

4.1 Describe and assess relevant impacts

The PER must include a description of all the relevant impacts to the action (including direct, indirect and cumulative), including the magnitude, duration and frequency of the impacts. Relevant impacts are impacts that the action will have or is likely to have on MNES. Impacts during both the construction and operational phases of the project should be addressed, and the following information provided:

- a detailed assessment of the nature and extent of the likely short-term and long-term relevant impacts
- a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible
- analysis of the significance of the relevant impacts

- any technical data and other information used or needed to make a detailed assessment of the relevant impacts, including details of the scope, timing (survey season/s) and methodology for studies or surveys used to provide information.

(b) The PER should identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future expansions or developments by the proponent and other proponents in the region and vicinity).

The PER should also address the potential cumulative impact of the proposal on ecosystem resilience. The cumulative effects of climate change impacts on the environment must also be considered in the assessment of ecosystem resilience. Where relevant to the potential impact, a risk assessment should be conducted and documented.

(c) The PER should also provide a detailed assessment of any likely impact that this proposed action may facilitate on the following (at the local, regional, state, national and international scale):

- the World Heritage values of the KAVHA (Australian Convict Sites) World Heritage Area
- the National Heritage values of KAVHA and HMS *Sirius* shipwreck National Heritage places
- the Commonwealth marine environment
- Commonwealth Agency.

4.2 The World Heritage values of the KAVHA (Australian Convict Sites)

Information Required	
4.2.1	Description of the heritage values of KAVHA relevant to the proposed action area and the proposed action.
4.2.2	An assessment of the potential impacts to the Outstanding Universal Value of the World Heritage property, including but not limited to: • Criterion iv: to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates one or more significant stages in human history • Criterion vi: to be associated with events, living traditions, ideas or beliefs, with artistic and literary works of outstanding universal significance.

4.2.3	Information detailing the findings of the Heritage impact assessment.
4.2.4	Documentation considering the action against the *KAVHA Heritage Management Plan* (2016).
4.2.5	An assessment of the likely impacts associated with the construction and operation of the proposed action. Assess the impacts of the construction and operation of the action including, but not limited to: • deepening and widening of the channel approach to Kingston Pier • installation of a channel navigation aid • stabilisation of Kingston Pier and establishment of a temporary work area and temporary spoil stockpile area on Kingston Pier • transfer of dredged spoil from Kingston Pier to Old Cascade Quarry and stockpiling, earthworks and filling at the Old Cascade Quarry • disturbance and damage to archaeological deposits of KAVHA.
4.2.6	For World Heritage matters, discuss how the proposed action adheres to, and is not inconsistent with: • Australia's obligations under the World Heritage Convention and the provisions in the 2021 Operational Guidelines for the Implementation of the World Heritage Convention • the Australian World Heritage management principles (Schedule 5 of the EPBC Regulations) • the 2013 IUCN advice note on environmental assessments • the Australian Convict Sites: Strategic Management Framework (2018).

4.3 The National Heritage values of KAVHA and HMS *Sirius* shipwreck

Information Required	
4.3.1	Description of the heritage values of KAVHA and HMS *Sirius*, relevant to the proposed action area and the proposed action.
4.3.2	An assessment of potential impacts to the values of the National Heritage Place, KAVHA, including but not limited to the criterion: Criterion A (Events, Processes), B (Rarity), C (Research), D (Principal

	characteristics of a class of place), E (aesthetic characteristics), G (Social Value) and H (significant people).
4.3.3	An assessment of potential impacts to the values of the National Heritage Place, HMS *Sirius*, including but not limited to the criterion: Criterion A (Events, Processes), B (Rarity), C (Research), G (Social Value) and H (significant people).
4.3.4	Information detailing the findings of the Heritage Impact Assessment.
4.3.5	Documentation considering the action against the *KAVHA Heritage Management Plan* (2016).
4.3.6	An assessment of the likely impacts associated with the construction and operation of the proposed action. Assess the impacts of the operation of the action including, but not limited to: • deepening and widening of the channel approach to Kingston Pier • installation of a channel navigation aid • stabilisation of Kingston Pier and establishment of a temporary work area and temporary spoil stockpile area on Kingston Pier • transfer of dredged spoil from Kingston Pier to Old Cascade Quarry and stockpiling, earthworks and filling at the Old Cascade Quarry • how mitigation measures to manage the deposition of spoil and the potential sedimentation and runoff issues into waterways feeding into Cascade Bay and the potential impact on the Marine Park will be managed • disturbance and damage to archaeological deposits of KAVHA and the HMS *Sirius* shipwreck.
4.3.7	For National Heritage, discuss how the proposed action adheres to, and is not inconsistent with: • the National Heritage management principles (Schedule 5B of the EPBC Regulations) • an agreement to which the Commonwealth is party in relation to the National Heritage place.

4.4 Commonwealth marine environment

Describe and assess all direct, indirect, facilitated and cumulative impacts to the environment and values of the Norfolk Island Marine Park, including on any listed threatened species and ecological communities and listed migratory species that occur within the surroundings of the proposed area.

Information Required	
4.4.1	An assessment of likely impacts with consideration to the Norfolk Island Marine Park Management Plan.
4.4.2	A discussion of impacts on the natural, cultural, heritage and socio-economic values of the Norfolk Island Marine Park. This discussion must include, but not limited to, the consideration of: • habitats, species and ecological communities within marine park, and the processes that support their connectivity, productivity and function • the benefit of marine parks for people, businesses and the economy • living and cultural heritage recognising Indigenous beliefs, practices and obligations for country, places of cultural significance and cultural heritage sites • non-Indigenous heritage that has aesthetic, historic, scientific or social significance. • the heritage values of the historic shipwreck, HMS *Sirius*.
4.4.3	An assessment of the likely impacts associated with the construction and operation of the proposed action. Assess the impacts of the construction and operation of the action including, but not limited to: • an analysis of the impacts of the proposed action on the water quality and ecosystem health of the nearby Slaughter Bay lagoon • a discussion of the potential impacts to the health of corals in the surrounding area as a result of worst-case sediment dispersal scenarios, including demonstration of how the shifting coral spawning season window has been considered • a detailed description of the methodology to be implemented for the inspection of and cleaning of marine vessels to be used for the transportation of construction machinery and vehicles to the island and also the plant and equipment that will be used in the construction, dredging and pier stabilisation operations

	• a detailed description of proposed methodology (a maritime incident response plan) to be implemented for any maritime incidents/accidents involving vessels that will be used in the construction, dredging and pier stabilisation operations (e.g., grounding/sinking/fuel spills).
4.4.4	An assessment of the likely duration of impacts to MNES as a result of the proposed action.
4.4.5	A discussion on the potential impacts on marine species including but not limited to cetaceans, turtles, fish and marine invertebrates.
4.4.6	Any assessment of marine species and cetaceans should include, but not be limited to: • quantification of the habitat area to be impacted, as well as quantification of impacted individuals and populations, where feasible • discussion on whether species would continue to use the proposed action area and surrounds, including Slaughter Bay and Emily Bay, during construction and operation • how planning for the proposed action will take into account the shifting coral spawning season window • a detailed description of all biosecurity procedures to be implemented for the proposed action, including procedures for the cleaning and inspection of marine vessels carrying construction equipment and vehicles and the inspection of plant and equipment used in the construction, dredging and pier stabilisation works • quantification of the observation and exclusion zones to be implemented to mitigate underwater noise impacts on marine fauna, and the reasoning and justification for the chosen distances • discussion of the potential impacts arising from vessel strike as a result of the proposed action.

4.5 Commonwealth Agency

The following information should be collected with consideration for the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies*.

Information Required	
4.5.1	An assessment of the likely impacts on landscapes and soils resulting from the proposed action. This information must include, but is not limited to: • any erosion and sediment controls for stockpiles at the Old Cascade Quarry, and their efficacy in limiting sediment dispersal and runoff from the site (especially with regard to the nearby Cascade Bay) • clarification of the ownership of and lease agreements associated with the Old Cascade Quarry site • details on any rehabilitation requirements of the Old Cascade Quarry site, and whether the proposed action will interfere with these requirements.
4.5.2	An assessment of the likely impacts on coastal landscapes and processes resulting from the proposed action. This information must include, but is not limited to: • sediment movement resulting from dredging of the channel adjacent to the Kingston Pier.
4.5.3	An assessment of the likely impacts on water resources resulting from the proposed action. This information must include, but is not limited to: • the impacts of sediment on marine water quality within the proposed action area and adjacent areas, including Slaughter Bay and Emily Bay • the impacts of hazardous chemical, fuel and oil spills as a result of the proposed action on the marine water quality within the proposed action area and adjacent areas, including Slaughter Bay and Emily Bay • the impacts of sediment runoff into from the Old Cascade Quarry site into the nearby Cascade Bay marine environment and surrounds.
4.5.4	An assessment of the likely impacts on air quality and greenhouse gas emissions during construction.
4.5.5	An assessment of the likely impacts on native flora species resulting from the proposed action. This information must include but is not limited

	to: • potential impacts on marine flora from sedimentation in the proposed action area and adjacent areas, including Slaughter Bay and Emily Bay • the potential for the introduction and establishment of marine pests in the marine environment of Norfolk Island.
4.5.6	An assessment of the likely impacts on native fauna species resulting from the proposed action. This information must include but is not limited to: • analysis of the impacts of the proposed action on the usage of the area by native species, including algal-grazing fish species • discussion of the potential impacts from the proposed action on coral species in the proposed action area and surrounds, including consideration for the shifting coral spawning season window. For EPBC listed fauna include a justification, with supporting evidence, how the proposed action will not be inconsistent with: • Australia's obligations under the Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) • a recovery plan or threat abatement plan • any relevant conservation advice documents. Justify, with supporting evidence, how the proposed action will not be inconsistent with Australia's obligations under: • The Bonn Convention • China-Australia Migratory Bird Agreement • Japan-Australia Migratory Bird Agreement • International Agreement – Republic of Korea-Australia Migratory Bird Agreement • any international agreement approved under subsection 209(4) of the EPBC Act.
4.5.7	An assessment of the likely impacts on people and communities resulting from the proposed action.

4.5.8	An assessment of the likely impacts on heritage matters resulting from the proposed action. This information must include but is not limited to: • potential impacts on heritage sites in proximity to the Old Cascade Quarry, namely Fredick's Aege and Knight's Farm • potential impacts on heritage sites in proximity to Kingston Pier. The department notes additional information was provided by the proponent to the department. This information should be incorporated into the PER.

5 Avoidance and mitigation measures

The PER must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action, including those required by the Commonwealth, State and Local Government authorities. Committed language (e.g. 'will') rather than non-committal language (e.g. 'may', 'where possible', 'if required') must be used.

The PER must include and substantiate detailed descriptions of the proposed avoidance and mitigation measures, based on best available practices.

All proposed measures for MNES must be drafted to meet the 'S.M.A.R.T' principle:

- S – Specific (what and how)
- M – Measurable (baseline information, number/value, auditable)
- A – Achievable (timeframe, money, personnel)
- R – Relevant (conservation advices, recovery plans, threat abatement plans)
- T – Time-bound (specific timeframe to complete).

The PER must include a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action on MNES, including but not limited to:

- a description of the environmental outcomes the measures are expected to achieve including details of any baseline data or proposed monitoring to demonstrate progress towards achieving these outcomes
- a description of proposed safeguards and mitigation measures to deal with relevant impacts of the action, including mitigation measures proposed to be taken by State governments, local governments or the proponent
- assessment of the expected or predicted effectiveness of the mitigation measures

- any statutory or policy basis for the mitigation measures
- the cost of the mitigation measures where possible
- who will be responsible for implementing the mitigation measures and the timeframes for their delivery.

The PER must include a detailed outline of an Environmental Management Plan (EMP) that:

- sets out the framework for management, mitigation and monitoring of relevant impacts of the action, including any provisions for independent environmental auditing
- addresses the project phases (construction, operation) separately
- states the environmental objectives, performance criteria, monitoring, reporting, corrective action, responsibility and timing for each environmental issue
- describes contingencies for events such as failure of sewerage systems, heavy or prolonged rainfall, or saltwater intrusion into groundwater
- a response plan for maritime incidents/accidents involving vessels used in operations e.g., grounding/sinking/fuel spills.

The PER should also include the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program and who will be responsible for implementing these.

In addition to the general requirements for mitigation measures described above, the table below lists specific matters that were identified at the referral stage as requiring further detail in the development of mitigation measures.

Information Required	
5.1	Quantification of the observation and exclusion zones to be implemented to mitigate underwater noise impacts on marine fauna, and the reasoning and justification for the chosen distances for these zones.
5.2	Details about how mitigation measures to prevent vessel strike are consistent with the *EPBC Act Regulations Part 8 - Interacting with cetaceans and whale watching,* in addition to the *Australian National Guidelines for Whale and Dolphin Watching* (2017).
5.3	A detailed description of all biosecurity procedures to be implemented for the proposed action, including procedures for the cleaning and surveying of marine vessels carrying construction equipment and

	vehicles.
5.4	Development of the Kingston Pier Underwater Archaeological Management Plan, previously identified in the referral information as a mitigation measure, in accordance with the 'key principles' for an environmental management plan as outlined in the *Environmental Management Plan Guidelines* (Department of Environment, 2014). This plan should also apply to works associated with the stabilisation of Kingston Pier.

6 Other requirements

6.1 Other approvals and conditions

The PER must include information on any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. This must include:

(a) details of any local or State Government planning scheme, or plan or policy under any local or State Government planning system that deals with the proposed action, including:

  i. what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy

  ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts

(b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any conditions that apply to the action

(c) a statement identifying any additional approval that is required

(d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

6.2 Consultation

Any consultation about the action, including:

(a) any consultation that has already taken place

(b) proposed consultation about relevant impacts of the action

(c) if there has been consultation about the proposed action, any documented response to, or result of, the consultation

(d) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

6.3 Environmental record of person(s) proposing to take the action

The information provided must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

(a) the person proposing to take the action; and

(b) for an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.

6.4 Economic and social matters

The economic and social impacts of the action, both positive and negative, must be analysed. Matters of interest may include:

- details of any public consultation activities undertaken, and their outcomes
- projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies
- employment opportunities expected to be generated by the project (including construction and operational phases).

Economic and social impacts should be considered at the local, regional and national levels. Details of the relevant cost and benefits of alternative options to the proposed action, as identified in section 3 above, should also be included.

6.5 Information sources provided in the PER

For information given in a PER, the PER must state:

(a) the source of the information

(b) how recent the information is

(c) how the reliability of the information was tested

(d) what uncertainties (if any) are in the information.

7 Conclusion

An overall conclusion as to the environmental acceptability of the proposal should be provided, including discussion on compliance with principles of ESD and the objects and requirements of the EPBC Act. Reasons justifying undertaking the proposal in the manner proposed should also be outlined.

ATTACHMENT A

The objects and principles of the Environment Protection and Biodiversity Conservation Act 1999 (sections 3 and 3a)

3 Objects of the Act

(a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;

(b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;

(c) to promote the conservation of biodiversity;

(d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples;

(e) to assist in the co-operative implementation of Australia's international environmental responsibilities;

(f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and

(g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

3A Principles of Ecologically Sustainable Development

The following principles are principles of ecologically sustainable development.

(a) Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

(b) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(c) The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

(d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

(e) Improved valuation, pricing and incentive mechanisms should be promoted.

ATTACHMENT B

Matters that must be addressed in a PER and EIS (schedule 4 of the EPBC regulations 2000)

1 General information

The background of the action including:

(a) the title of the action

(b) the full name and postal address of the designated proponent

(c) a clear outline of the objective of the action

(d) the location of the action

(e) the background to the development of the action

(f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action

(g) the current status of the action

(h) the consequences of not proceeding with the action.

2 Description

A description of the action, including:

(a) all the components of the action;

(b) the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;

(c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;

(d) relevant impacts of the action;

(e) proposed safeguards and mitigation measures to deal with relevant impacts of the action;

(f) any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action;

(g) to the extent reasonably practicable, any feasible alternatives to the action, including:

i. if relevant, the alternative of taking no action;

ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action

iii. sufficient detail to make clear why any alternative is preferred to another;

(h) any consultation about the action, including:

i. any consultation that has already taken place;

ii. proposed consultation about relevant impacts of the action; and

iii. if there has been consultation about the proposed action — any documented response to, or result of, the consultation; and

(i) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

3 Relevant impacts

Information given under paragraph 2 (d) must include

(a) a description of the relevant impacts of the action;

(b) a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;

(c) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;

(d) analysis of the significance of the relevant impacts; and

(e) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

4 Proposed safeguards and mitigation measures

Information given under paragraph 2 (e) must include:

(a) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures

(b) any statutory or policy basis for the mitigation measures

(c) the cost of the mitigation measures

(d) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing

(e) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program; and

(f) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by State governments, local governments or the proponent.

5 Other Approvals and Conditions

Information given under paragraph 2 (f) must include:

(a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:

i. what environmental assessment of the proposed action has been, or is being carried out under the scheme, plan or policy

ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts

(b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action

(c) a statement identifying any additional approval that is required

(d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

6 Environmental record of person proposing to take the action

Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

(a) the person proposing to take the action

(b) for an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation — details of the corporation's environmental policy and planning framework.

7 Information sources

For information given the PER must state:

(a) the source of the information; and

(b) how recent the information is; and

(c) how the reliability of the information was tested; and

(d) what uncertainties (if any) are in the information.

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
DEPARTMENT OF INFRASTRUCTURE, TRANSPORT, REGIONAL DEVELOPMENT AND COMMUNICATIONS

LOCALITY PLAN
NTS

DRAWING LIST
CHANNEL WORKS

PIER WORKS

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
D	12.04.22	DWG-0011 ADDED TO DRAWING LIST	VIP	BSM	MD	BSM	BSM			
C	10.03.22	ISSUED FOR TENDER	PK	BMB	MD	BM	BM			
B	07.10.20	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	28.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
COVER SHEET, LOCALITY PLAN AND DRAWING LIST

DRG No 311015-00061-MA-DWG-0010
REV D

ADVISIAN_A1_C

LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\1.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-000061-MA-DWG-0010.DWG
USER NAME: vaughan.patrick
PLOT DATE & TIME: 24/5/2022 6:05:52 PM
SAVE DATE & TIME: 12/4/2022 5:02:06 PM

SITE ESTABLISHMENT PLAN

1:400

NOTE:

1. SURVEY INFORMATION PREPARED BY MACRO SURVEYORS, DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
3. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.

8 0 8 16 24 32 40m

1:400 (A1) 1:800 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
B	12.04.22	SITE BOUNDARY AND SERVICES ADDED	VIP	BSM	MD	BSM	BSM			
A	25.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group

CONSULT MARINE

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT

SITE ESTABLISHMENT PLAN

DRG No 311015-00061-MA-DWG-0011

REV C

ADVISIAN_A1_L

LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\1.0 DRAWINGS\DRGS\KINGSTON PIER DETAIL DESIGN\311015-000061-MA-DWG-0011-0100+0101+0210+0220.DWG

USER NAME: vaughan.patrick

PLOT DATE & TIME: 24/5/2022 5:51:10 PM

SAVE DATE & TIME: 24/5/2022 5:23:57 PM

CUT DEPTH				
Lower_value		Upper_value		Co
−3.2	to	−3	M	
−3.0	to	−2.8	M	
−2.8	to	−2.6	M	
−2.6	to	−2.4	M	
−2.4	to	−2.2	M	
−2.2	to	−2.0	M	
−2.0	to	−1.8	M	
−1.8	to	−1.6	M	
−1.6	to	−1.4	M	
−1.4	to	−1.2	M	
−1.2	to	−1.0	M	
−1.0	to	−0.8	M	
−0.8	to	−0.6	M	
−0.6	to	−0.4	M	
−0.4	to	−0.2	M	
−0.2	to	0	M	

N
NORTH

CHANNEL

TURNING CIRCLE

22.50

20.00

7.25

SURVEY BENCHMARK RL 4.67

BOMBORA

ROCK SHELF

WEST CARDINAL MARK
E787506.914
N6781944.372
REFER DWG-0220 FOR DETAILS

DESIGN DETAILS

DESIGN VESSEL DRAFT	:-	1m to 1.5m
DESIGN VESSEL LENGTH	:-	12m
DESIGN VESSEL BEAM	:-	5.3m
CHANNEL WIDTH	:-	20m
CHANNEL DEPTH	:-	-3.2m MSL
TURNING CIRCLE	:-	22.5m

TOTAL CUT VOLUME ESTIMATE
(EXCLUDES CUT TOLERANCE) :- 3723m^3

NOTE:

1. SURVEY INFORMATION PREPARED BY MACRO SURVEYORS, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
3. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.
4. CUT TOLERANCE IS +0/-200mm.

10 0 10 20 30 40 50m
1:500 (A1) 1:1000 (A3)

LEGEND

−6− – SURVEY CONTOUR MAJOR (1m INTERVAL)
5.00 – SPOT LEVEL
– ROCK FORMATION

KINGSTON CUT PLAN

1:500

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
F	25.05.22	MINOR CHANGES	VIP	BSM	BSM	LLF	BSM			
E	12.04.22	NAVIGATION AID AMMENDED	VIP	BSM	MD	BSM	BSM			
D	10.03.22	ISSUED FOR TENDER	PK	BB	MD	BM	BM			
C	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

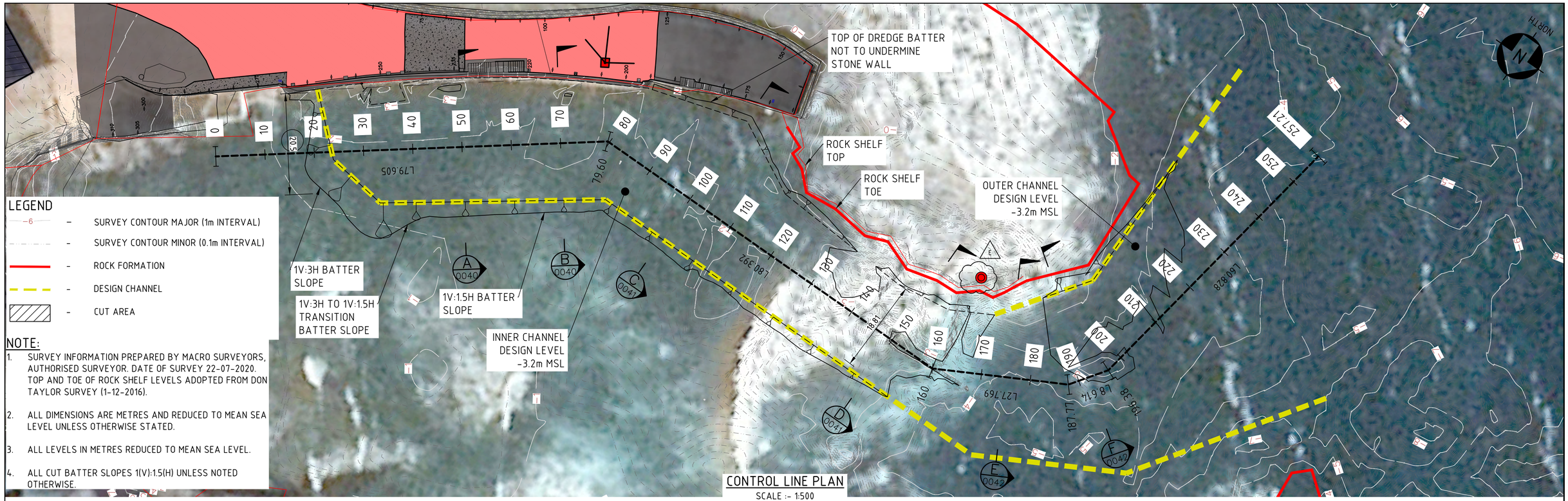
Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CUT PLAN

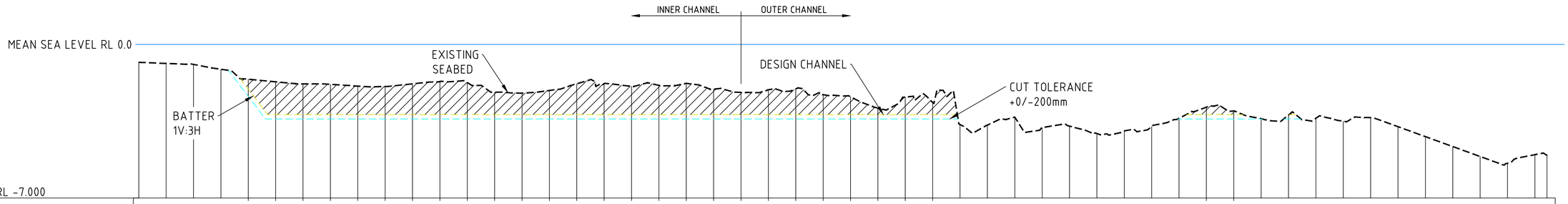
DRG No 311015-00061-MA-DWG-0020
REV F

ADVISIAN_A1_L

LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-000061-MA-DWG-0020.DWG
USER NAME: vaughanpatrick
PLOT DATE & TIME: 24/5/2022 5:52:32 PM
SAVE DATE & TIME: 24/5/2022 5:36:40 PM



CONTROL LINE PLAN
SCALE :- 1:500



DATUM RL -7.000

CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	257.2
EXISTING SEABED	-0.81	-0.87	-0.91	-1.13	-1.59	-1.71	-1.80	-1.82	-1.90	-1.92	-1.80	-1.69	-1.74	-2.18	-2.22	-2.10	-1.79	-1.79	-1.91	-1.87	-1.77	-2.04	-2.19	-2.07	-2.03	-2.29	-2.38	-2.90	-2.40	-2.64	-3.66	-3.68	-3.31	-3.79	-3.73	-4.06	-3.94	-3.75	-3.37	-2.86	-3.03	-3.38	-3.22	-3.37	-3.50	-3.34	-3.75	-4.20	-4.66	-5.11	-5.42	-5.03	-5.06
DESIGN CHANNEL					-2.04	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20	-3.20										-3.20	-3.20												
DEPTH BETWEEN SEABED AND DESIGN CHANNEL					0.45	1.49	1.40	1.38	1.30	1.28	1.40	1.51	1.46	1.02	0.98	1.10	1.41	1.41	1.29	1.33	1.43	1.16	1.02	1.14	1.17	0.91	0.82	0.30	0.80	0.56										0.34	0.10												

DESIGN CHANNEL - LONGITUDINAL SECTION
(HOR SCALE :- 1:400 VER SCALE :- 1:100)

HOR SCALE 8 0 8 16 24 32 40m — 1:400 (A1) 1:800 (A3)
10 0 10 20 30 40 50m — 1:500 (A1) 1:1000 (A3)
VER SCALE 2 0 2 4 6 8 10m — 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
F	25.05.22	MINOR CHANGES	VIP	BSM	BSM	LLF	BSM			
E	12.04.22	MINOR CHANGES	VIP	BSM	MD	BSM	BSM			
D	10.03.22	ISSUED FOR TENDER	PK	BB	MD	BM	BM			
C	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
LONGITUDINAL SECTION

DRG No 311015-00061-MA-DWG-0030
REV F

ADVISIAN_A1_C

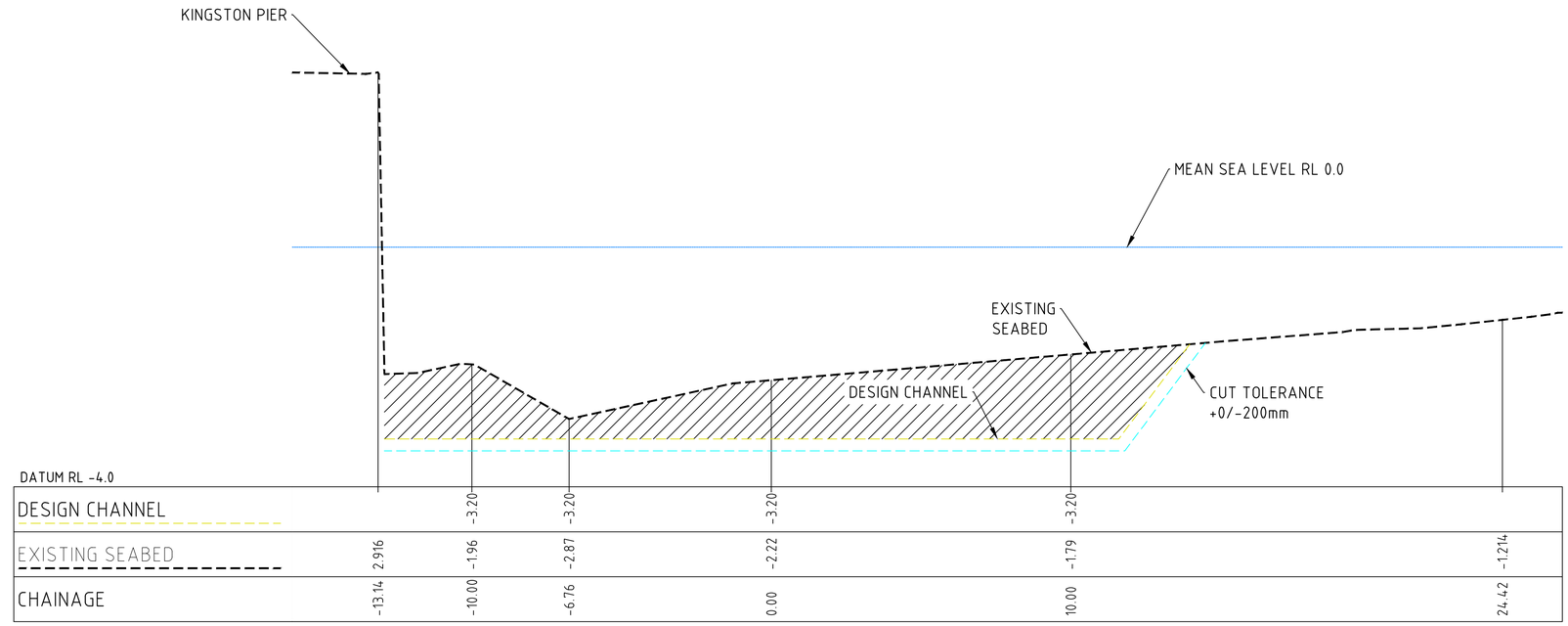
LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-000061-MA-DWG-0030-0040-0041-0042.DWG
USER NAME: vaughan.patrick
PLOT DATE & TIME: 24/5/2022 5:53:34 PM
SAVE DATE & TIME: 24/5/2022 5:35:32 PM

NOTE:

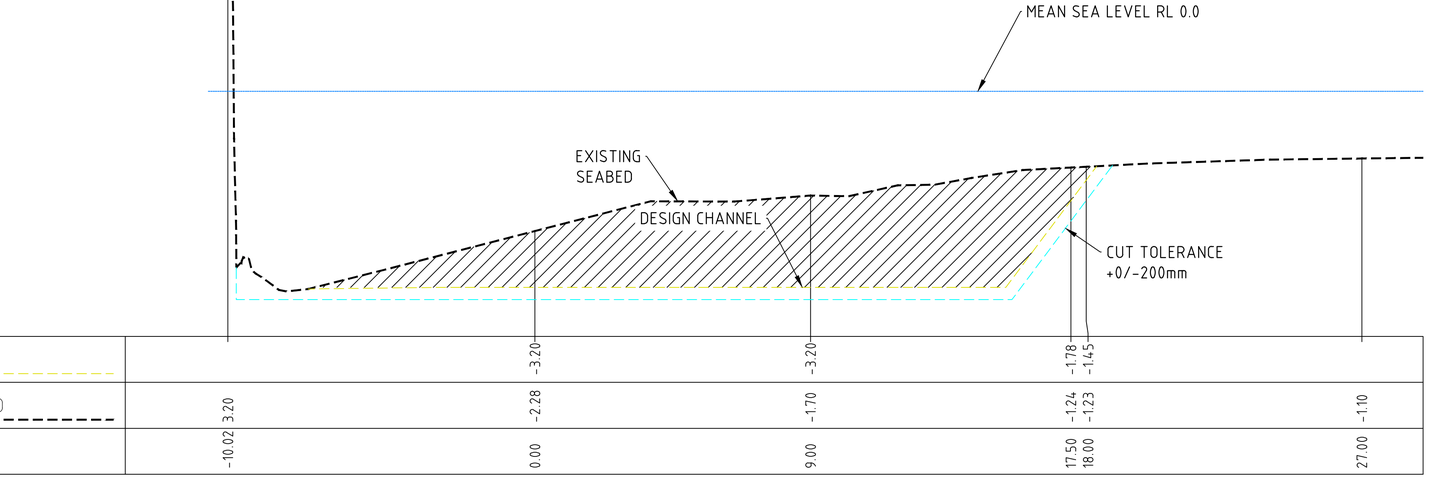
1. SURVEY INFORMATION PREPARED BY MACRO SURVEYORS, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES AND REDUCED TO MEAN SEA LEVEL UNLESS OTHERWISE STATED.
3. CROSS SECTIONS LOOKING SEAWARD.
4. ALL CUT BATTER SLOPES 1(V):1.5(H) UNLESS NOTED OTHERWISE.
5. PROPOSED PIER REMEDIATION DETAIL NOT SHOWN.

LEGEND

▨ - CUT AREA



SECTION B
1:100H 1:50V (0030)



SECTION A
1:100H 1:50V (0030)

VER. SCALE 1:50 (A1) 1:100 (A3)

HOR. SCALE 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
E	25.05.22	MINOR CHANGES	VIP	BSM	BSM	LLF	BSM			
D	10.03.22	ISSEUD FOR TENDER	PK	BB	MD	BM	BM			
C	06.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CROSS SECTIONS
CH : 50m & 70m

DRG No 311015-00061-MA-DWG-0040

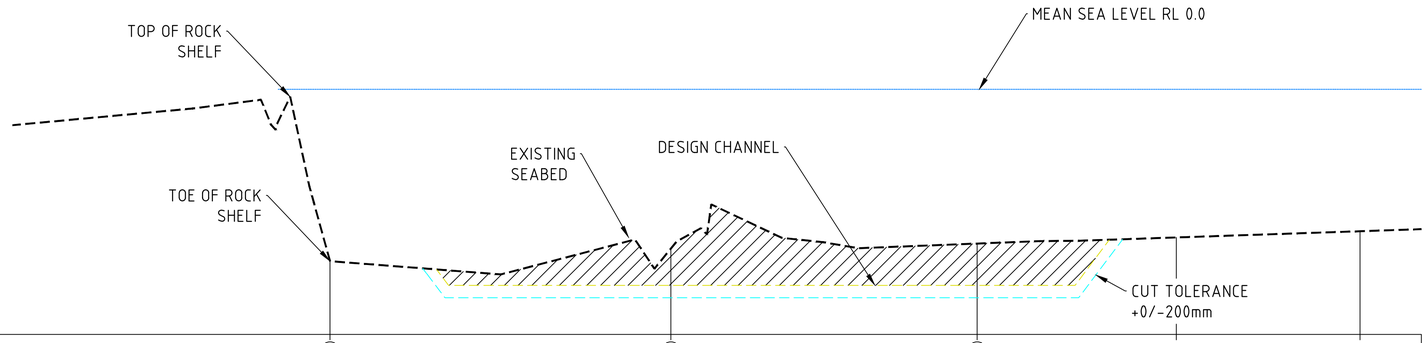
REV E

NOTE:

1. SURVEY INFORMATION PREPARED BY MACRO SURVEYORS, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES AND REDUCED TO MEAN SEA LEVEL UNLESS OTHERWISE STATED.
3. CROSS SECTIONS LOOKING SEAWARD.
4. ALL CUT BATTER SLOPES 1(V):1.5(H) UNLESS NOTED OTHERWISE.

LEGEND

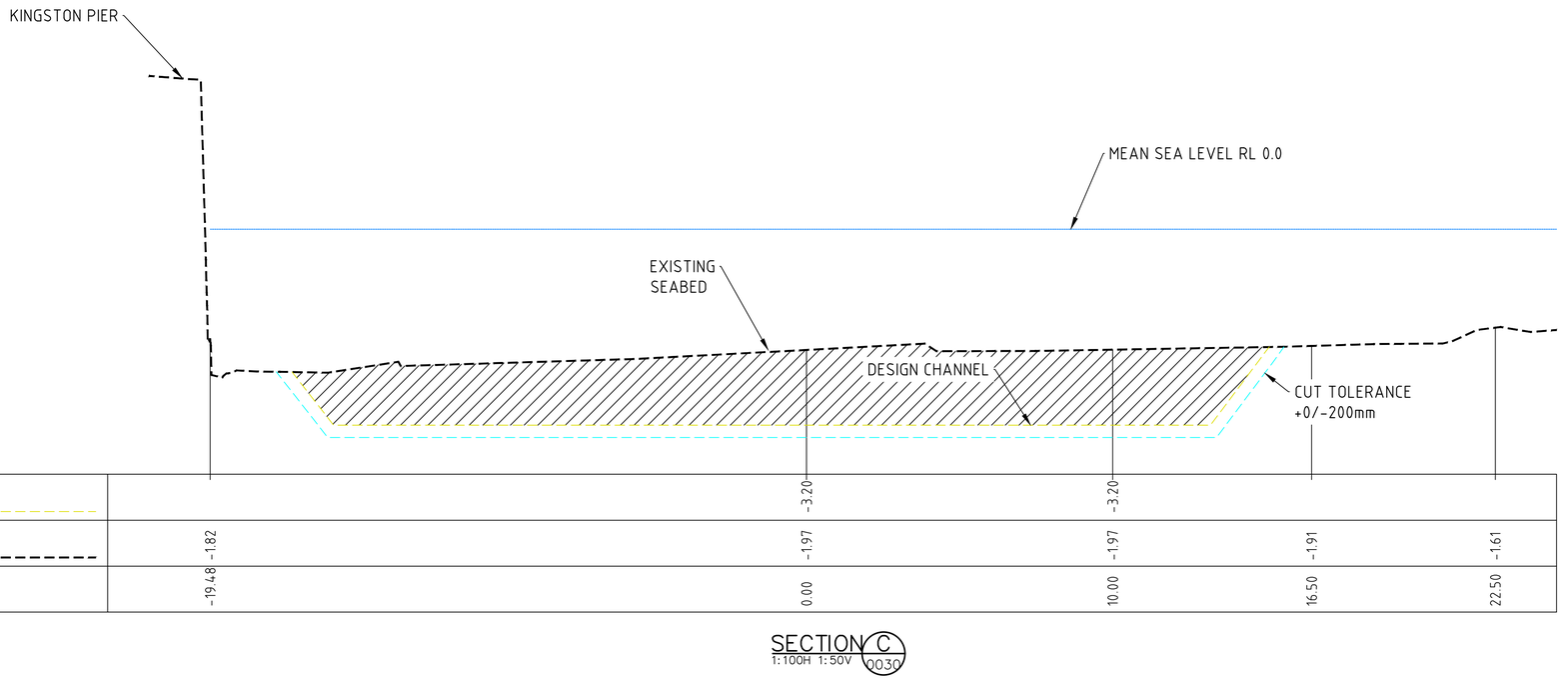
- CUT AREA



DATUM RL -4.0

DESIGN CHANNEL	-2.80	-3.20	-3.20			
EXISTING SEABED	-0.95	-2.60	-2.52	-2.42	-2.32	
CHAINAGE	-11.13	0.00	10.00	16.50	22.50	

SECTION D
1:100H 1:50V (0030)



DATUM RL -4.0

DESIGN CHANNEL		-3.20	-3.20		
EXISTING SEABED	-1.82	-1.97	-1.97	-1.91	-1.61
CHAINAGE	-19.48	0.00	10.00	16.50	22.50

SECTION C
1:100H 1:50V (0030)

1 0 1 2 3 4 5m
VER. SCALE 1:50 (A1) 1:100 (A3)

2 0 2 4 6 8 10m
HOR. SCALE 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
E	25.05.22	MINOR CHANGES	VIP	BSM	BSM	LLF	BSM			
D	10.03.22	ISSUED FOR TENDER	PK	BB	MD	BM	BM			
C	07.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CROSS SECTIONS
CH : 100m & 150m

DRG No 311015-00061-MA-DWG-0041
REV E

ADVISIAN_A1_C

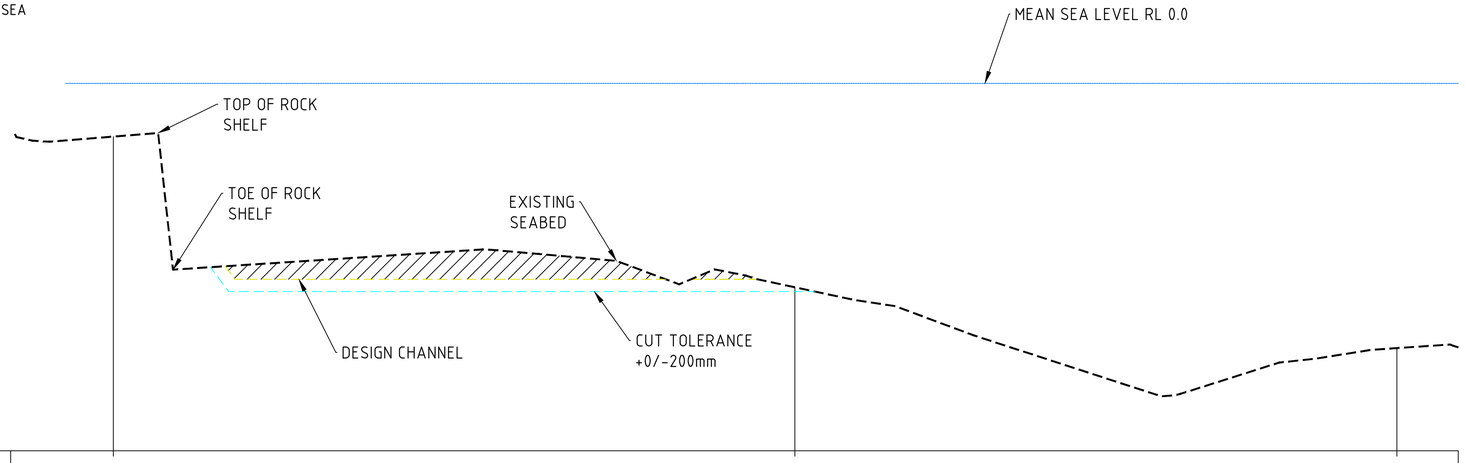
PLOT DATE & TIME: 24/5/2022 5:55:26 PM
SAVE DATE & TIME: 24/5/2022 5:35:32 PM
USER NAME: vaughan.patrick
LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-000061-MA-DWG-0030-0040+0041+0042.DWG

NOTE:

1. SURVEY INFORMATION PREPARED BY MACRO SURVEYORS, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES AND REDUCED TO MEAN SEA LEVEL UNLESS OTHERWISE STATED.
3. CROSS SECTIONS LOOKING SEAWARD.
4. ALL CUT BATTER SLOPES 1(V):1.5(H) UNLESS NOTED OTHERWISE.

LEGEND

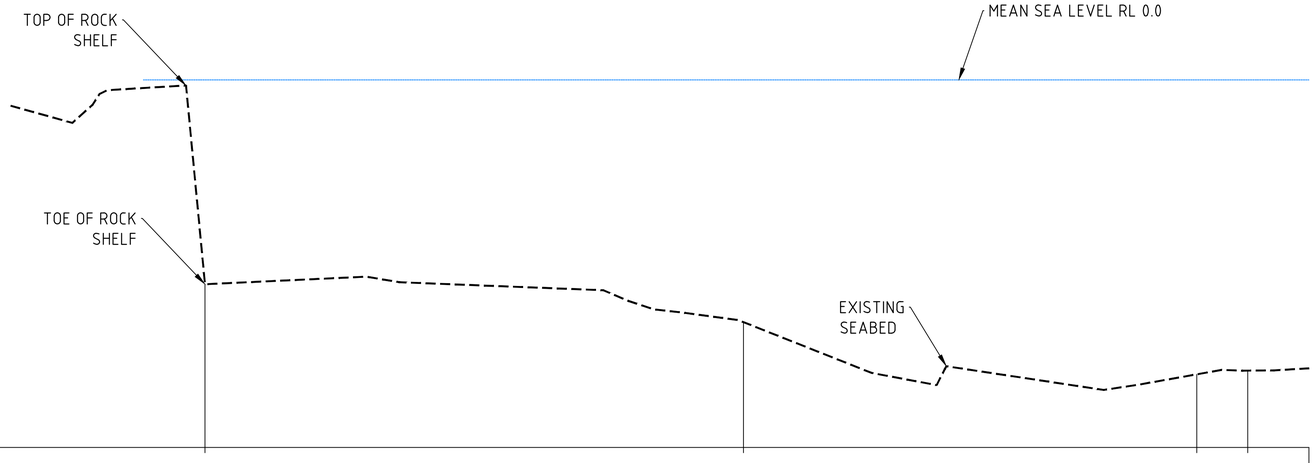
- CUT AREA



DATUM RL -6.0

DESIGN CHANNEL			
EXISTING SEABED	-0.87	-3.33	-4.32
CHAINAGE	-22.26	0.00	19.66

SECTION F
1:100H 1:50V (0030)



DATUM RL -6.0

DESIGN CHANNEL				
EXISTING SEABED	-3.34	-3.95	-4.81	-4.75
CHAINAGE	-17.59	0.00	14.81	16.47

SECTION E
1:100H 1:50V (0030)

VER. SCALE 1:50 (A1) 1:100 (A3)

HOR. SCALE 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
E	25.05.22	MINOR CHANGES	VIP	BSM	BSM	LLF	BSM			
D	10.03.22	ISSUED FOR TENDER	PK	BB	MD	BM	BM			
C	07.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CROSS SECTIONS
CH : 175m & 192m

DRG No 311015-00061-MA-DWG-0042

REV E

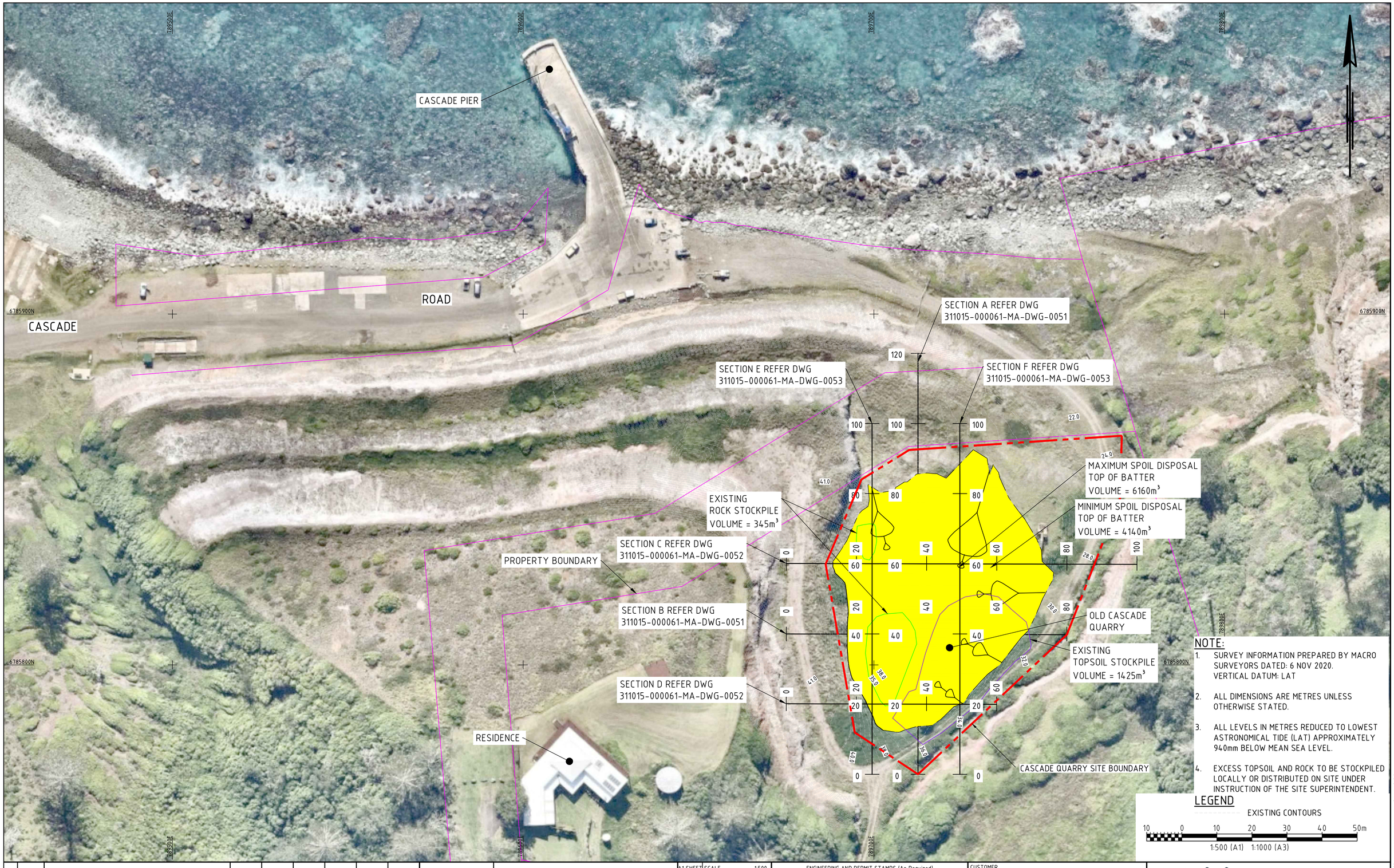
ADVISIAN_A1_L

LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-00061-MA-DWG-0030+0040+0041+0042.DWG

USER NAME: vaughan.patrick

PLOT DATE & TIME: 24/5/2022 5:56:05 PM

SAVE DATE & TIME: 24/5/2022 5:35:32 PM



NOTE:

1. SURVEY INFORMATION PREPARED BY MACRO SURVEYORS DATED: 6 NOV 2020. VERTICAL DATUM: LAT
2. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
3. ALL LEVELS IN METRES REDUCED TO LOWEST ASTRONOMICAL TIDE (LAT) APPROXIMATELY 940mm BELOW MEAN SEA LEVEL.
4. EXCESS TOPSOIL AND ROCK TO BE STOCKPILED LOCALLY OR DISTRIBUTED ON SITE UNDER INSTRUCTION OF THE SITE SUPERINTENDENT.

LEGEND

EXISTING CONTOURS

10 0 10 20 30 40 50m

1:500 (A1) 1:1000 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
F	12.04.22	MINOR CHANGES	VIP	BSM	MD	BSM	BSM			
E	10.03.22	ISSUED FOR TENDER	PK	BMB	MD	BM	BM			
D	06.07.21	RE-ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
C	10.12.20	RE-ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM		311015-00061-MA-DWG-0053	FILL SECTIONS (OLD CASCADE QUARRY) - SHEET 3 OF 3
B	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM		311015-00061-MA-DWG-0052	FILL SECTIONS (OLD CASCADE QUARRY) - SHEET 2 OF 3
A	06.10.20	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ				311015-00061-MA-DWG-0051	FILL SECTIONS (OLD CASCADE QUARRY) - SHEET 1 OF 3

A1 SHEET SCALE 1:500

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

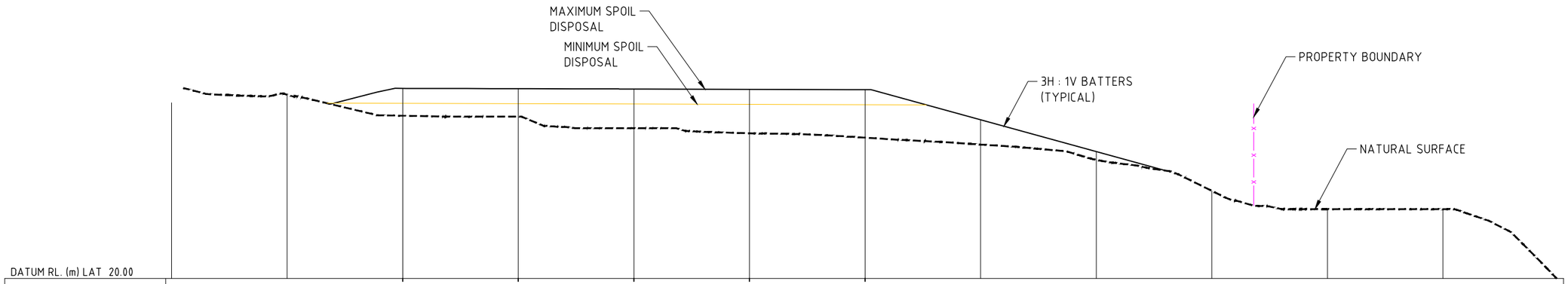
Advisian Worley Group

KINGSTON PIER CHANNEL CONSTRUCTION PROJECT FILL PLAN (OLD CASCADE QUARRY)

DRG No 311015-00061-MA-DWG-0050 REV F

ADVISIAN_A1_C

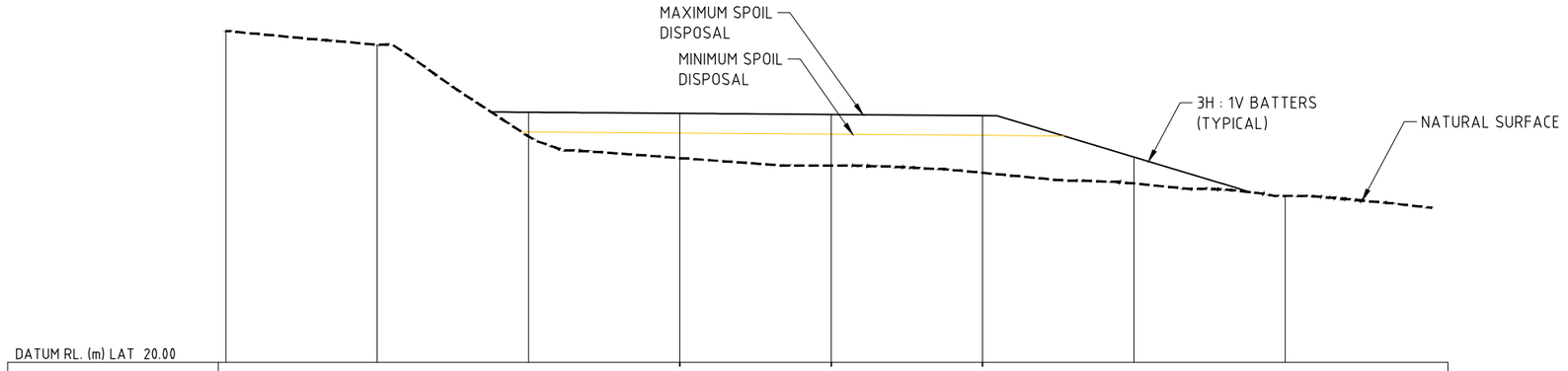
PLOT DATE & TIME: 24/5/2022 6:10:04 PM
SAVE DATE & TIME: 12/4/2022 5:01:35 PM
USER NAME: vaughan.patrick
LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-00061-MA-DWG-0050+0051+0052+0053+0054+0055.DWG



DATUM RL. (m) LAT 20.00												
MINIMUM SPOIL DISPOSAL VOLUME			35.148	35.121	35.094	35.067	35.040					
MAXIMUM SPOIL DISPOSAL VOLUME			36.449	36.422	36.396	36.369	36.342	33.728	30.977			
NATURAL SURFACE		35.902	34.083	34.000	33.000	32.565	32.184	31.586	30.261	27.578	26.000	26.000	19.897
CHAINAGES (m)	0	10	20	30	40	50	60	70	80	90	100	110	120

SECTION A

SCALE :- 1:200H
1:200V



DATUM RL. (m) LAT 20.00								
MINIMUM SPOIL DISPOSAL VOLUME			35.227	35.151	35.076	35.000		
MAXIMUM SPOIL DISPOSAL VOLUME			36.529	36.453	36.378	36.302	33.571	
NATURAL SURFACE	41.905	41.000	34.932	33.501	33.000	32.525	31.820	31.000
CHAINAGES (m)	0	10	20	30	40	50	60	70	80

SECTION B

SCALE :- 1:200H
1:200V

NOTE:

1. REFER DWG. 311015-00061-MA-DWG-0050 FOR NOTES.
2. TOPSOIL RESPREAD OMITTED FROM SECTIONS.

4 0 4 8 12 16 20m
1:200 (A1) 1:400 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
E	10.03.22	ISSUED FOR TENDER	PK	BMB	MD	BM	BM			
D	06.07.21	RE-ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
C	10.12.20	RE-ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
B	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	06.10.20	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ				311015-00061-MA-DWG-0050	FILL PLAN (OLD CASCADE QUARRY)

A1 SHEET SCALE 1:200

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ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

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Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

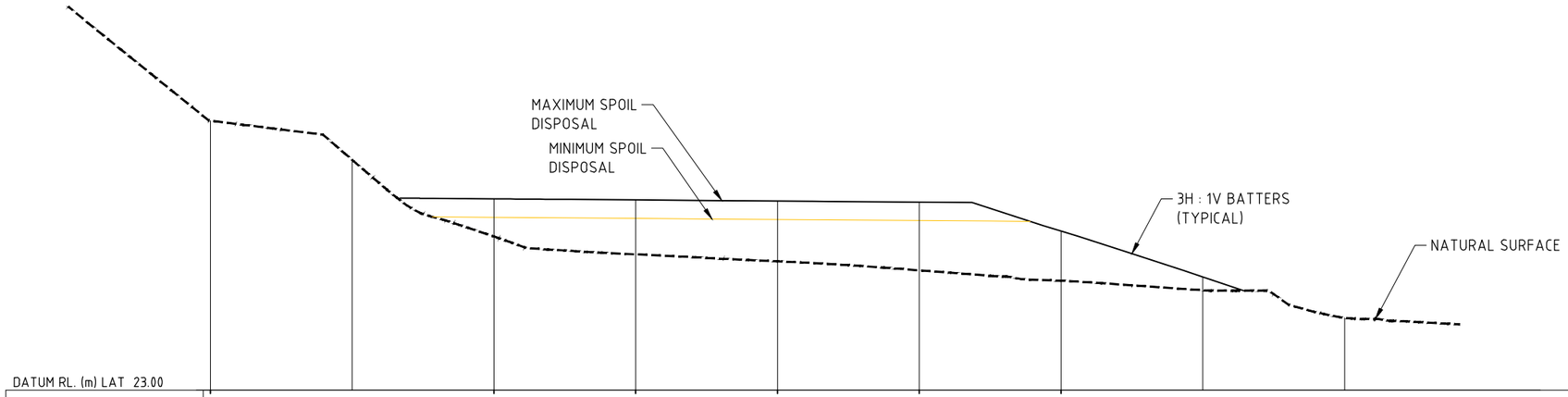
Advisian

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
FILL SECTIONS (OLD CASCADE QUARRY)
SHEET 1 OF 3

DRG No 311015-00061-MA-DWG-0051 REV E

ADVISIAN_A1_C

PLOT DATE & TIME: 24/5/2022 6:10:51 PM
SAVE DATE & TIME: 12/4/2022 5:01:35 PM
USER NAME: vaughan.patrick
LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-000061-MA-DWG-0050+0051+0052+0053+0054+0055.DWG

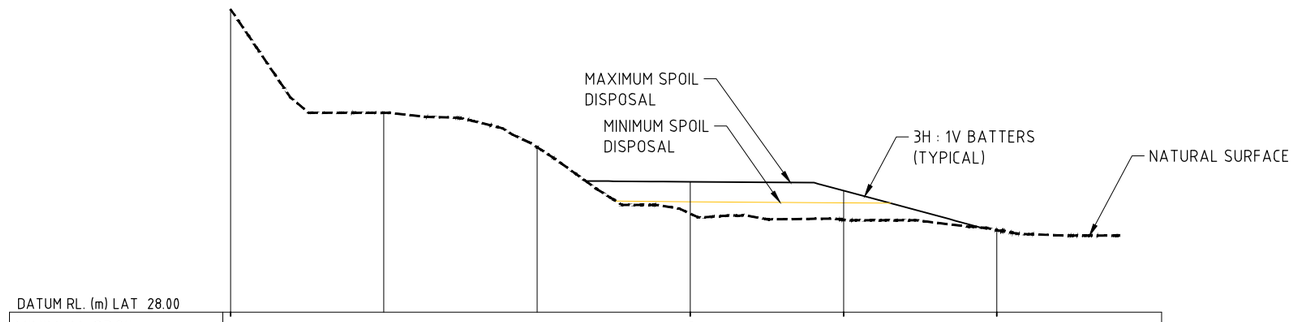


DATUM RL. (m) LAT 23.00

CHAINAGES (m)	0	10	20	30	40	50	60	70	80	90	100
NATURAL SURFACE	41.984	39.225	33.823	32.563	32.070	31.439	30.702	30.033	28.092		
MAXIMUM SPOIL DISPOSAL VOLUME			36.476	36.399	36.323	36.247	34.205	30.969			
MINIMUM SPOIL DISPOSAL VOLUME			35.174	35.098	35.022	34.946					

SECTION C

SCALE :- 1:200H
1:200V



DATUM RL. (m) LAT 28.00

CHAINAGES (m)	0	10	20	30	40	50	60
NATURAL SURFACE	47.760	41.000	38.765	34.424	34.019	33.352	
MAXIMUM SPOIL DISPOSAL VOLUME				36.506	35.930		
MINIMUM SPOIL DISPOSAL VOLUME				35.205	35.129		

SECTION D

SCALE :- 1:200H
1:200V

NOTE:

1. REFER DWG. 311015-00061-MA-DWG-0050 FOR NOTES.
2. TOPSOIL RESPREAD OMITTED FROM SECTIONS.

4 0 4 8 12 16 20m
1:200 (A1) 1:400 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	10.03.22	ISSUED FOR TENDER	PK	BMB	MD	BM	BM			
B	06.07.21	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	26.05.21	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ				311015-00061-MA-DWG-0050	FILL PLAN (OLD CASCADE QUARRY)

A1 SHEET SCALE 1:200

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ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

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Department of Infrastructure, Transport, Regional Development and Communications

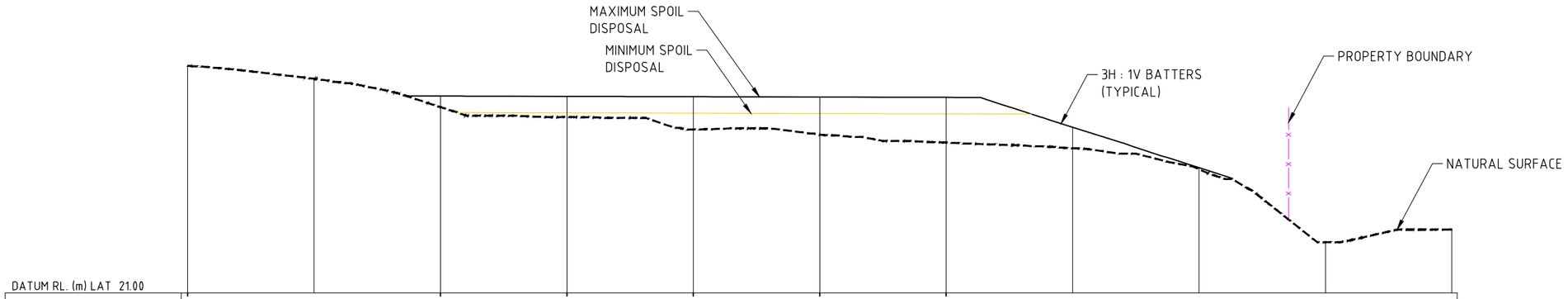
"This drawing is prepared solely for the use of the contractual customer of Advisian and Advisian assumes no liability to any other party for any representations contained in this drawing."

Advisian

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
FILL SECTIONS (OLD CASCADE QUARRY)
SHEET 2 OF 3

DRG No 311015-00061-MA-DWG-0052
REV C

ADVISIAN_A1_(

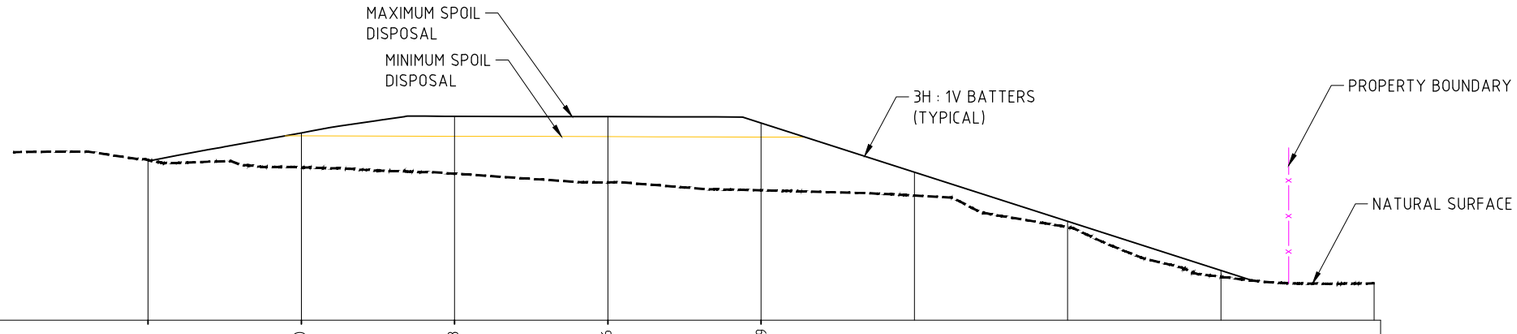


DATUM RL. (m) LAT 21.00

CHAINAGES (m)	0	10	20	30	40	50	60	70	80	90	100
NATURAL SURFACE	38.936	37.919	35.673	34.889	33.904	33.503	32.870	32.425	30.764	25.000	26.000
MAXIMUM SPOIL DISPOSAL VOLUME			36.548	36.521	36.495	36.468	36.441	34.083	30.891		
MINIMUM SPOIL DISPOSAL VOLUME				35.220	35.193	35.166	35.140				

SECTION E

SCALE :- 1:200H
1:200V



DATUM RL. (m) LAT 23.00

CHAINAGES (m)	0	10	20	30	40	50	60	70	80	90	100
NATURAL SURFACE			33.452	32.970	32.565	32.000	31.478	31.137	29.068	25.835	25.407
MAXIMUM SPOIL DISPOSAL VOLUME				35.225	36.305	36.278	35.867	32.661	29.456	26.251	
MINIMUM SPOIL DISPOSAL VOLUME				35.030	35.003	34.976	34.949				

SECTION F

SCALE :- 1:200H
1:200V

NOTE:

1. REFER DWG. 311015-00061-MA-DWG-0050 FOR NOTES.
2. TOPSOIL RESPREAD OMITTED FROM SECTIONS.

4 0 4 8 12 16 20m
1:200 (A1) 1:400 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	10.03.22	ISSUED FOR TENDER	PK	BMB	MD	BM	BM			
B	06.07.21	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	26.05.21	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ				311015-00061-MA-DWG-0050	FILL PLAN (OLD CASCADE QUARRY)

A1 SHEET SCALE 1:200

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

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Department of Infrastructure, Transport, Regional Development and Communications

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Worley Group

KINGSTON PIER CHANNEL CONSTRUCTION PROJECT FILL SECTIONS (OLD CASCADE QUARRY) SHEET 3 OF 3

DRG No 311015-00061-MA-DWG-0053
REV C

ADVISIAN_A1_C

NOTE:

1. SURVEY INFORMATION PREPARED BY MACRO SURVEYORS DATED: 6 NOV 2020. VERTICAL DATUM: LAT
2. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
3. ALL LEVELS IN METRES REDUCED TO LOWEST ASTRONOMICAL TIDE (LAT) APPROXIMATELY 940mm BELOW MEAN SEA LEVEL.

LEGEND:

MAXIMUM SPOIL DISPOSAL CONTOURS
MINIMUM SPOIL DISPOSAL CONTOURS
EXISTING CONTOURS

4 0 4 8 12 16 20m
1:200 (A1) 1:400 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
E	10.03.22	ISSUED FOR TENDER	PK	BMB	MD	BM	BM			
D	06.07.21	RE-ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
C	10.12.20	RE-ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
B	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	06.10.20	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ				311015-00061-MA-DWG-0055	TYPICAL SECTIONS

A1 SHEET SCALE 1:200

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ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian

KINGSTON PIER CHANNEL CONSTRUCTION PROJECT GRADING PLAN

DRG No 311015-00061-MA-DWG-0054 REV E

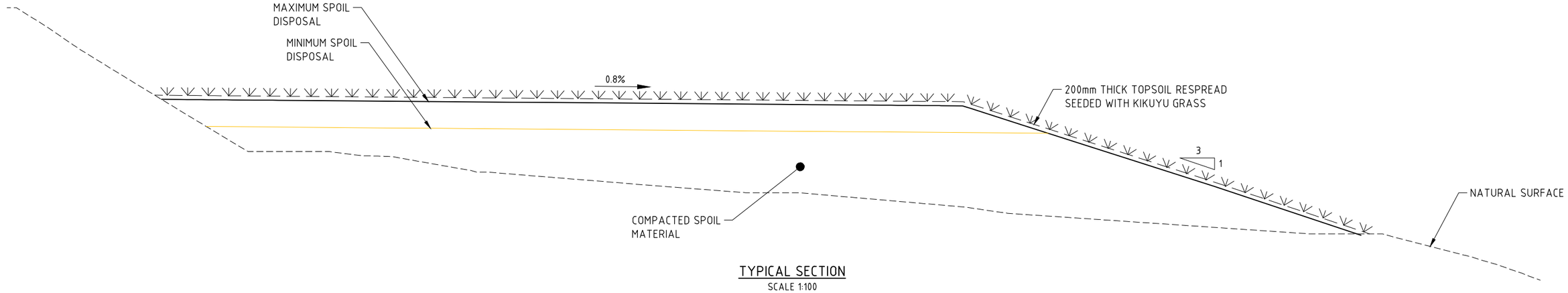
ADVISIAN_A1_C

LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\DRGS\CHANNEL 0010-0055\311015-000061-MA-DWG-0050+0051+0052-0053+0054+0055.DWG

USER NAME: vaughan.patrick

PLOT DATE & TIME: 24/5/2022 6:12:47 PM

SAVE DATE & TIME: 12/4/2022 5:01:35 PM



TYPICAL SECTION

SCALE 1:100

2 0 2 4 6 8 10m

1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	10.03.22	ISSUED FOR TENDER	PK	BMB	MD	BM	BM			
B	06.07.21	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	24.05.21	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ					

A1 SHEET SCALE 1:100

OneWay™ empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

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Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
TYPICAL SECTION

DRG No 311015-00061-MA-DWG-0055

REV C

ADVISIAN_A1_C

LEGEND:

PEDESTRIAN AREA
5KPa OR 20kN POINT LOAD ON 150mm x 150mm AREA.

CRANE PAD
10KPa OR 500kN POINT LOAD ON 700mm x 700mm AREA.

CARGO AREA
10KPa OR 25kN WHEEL LOAD.

VERTICAL LIVE LOAD PLAN (POST PIER REMEDIATION)

1:250

NOTE:

1. PIER SURVEY INFORMATION PREPARED BY DON TAYLOR, AUTHORISED SURVEYOR. DATE OF SURVEY 27.12.2004. DATUM MEAN SEA LEVEL (ORIGIN BM No. 1 R.L. 4.67)
2. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
3. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.
4. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.

5 0 5 10 15 20 25m

1:250 (A1) 1:500 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

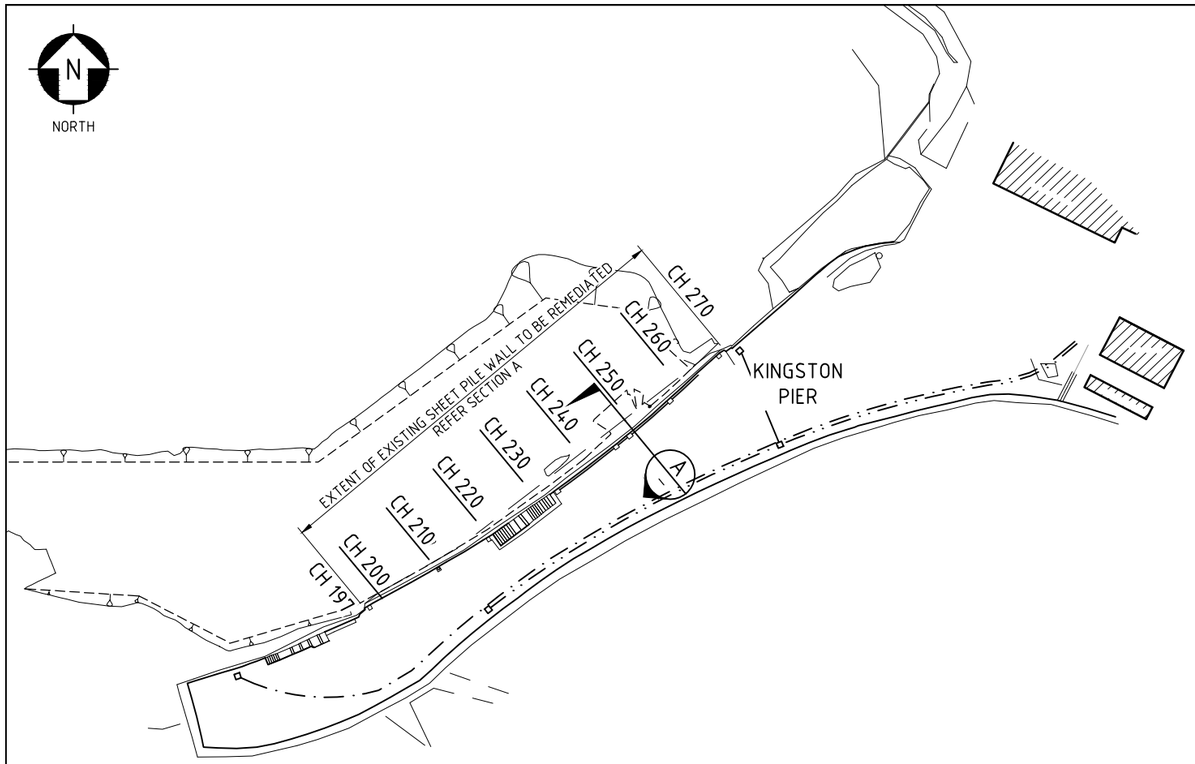
Advisian Worley Group
CONSULT MARINE

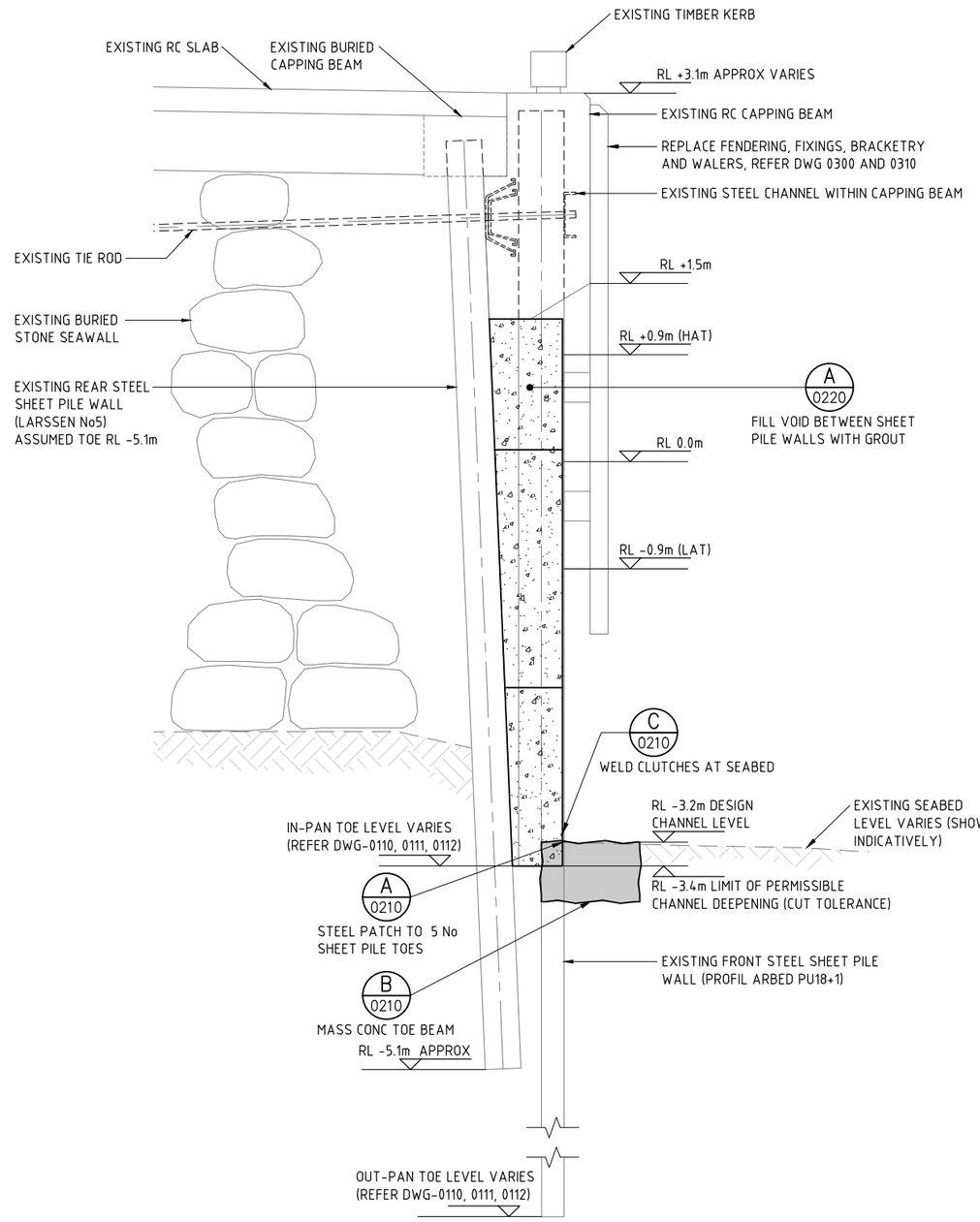
KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
SHEET PILE WALL
PIER VERTICAL LIVE LOAD PLAN

DRG No 311015-00061-MA-DWG-0100
REV B

ADVISIAN_A1_(

LOCATION: W:_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\1.0 DRAWINGS\DRGS\KINGSTON PIER DETAIL DESIGN\311015-000061-MA-DWG-0011-0100+0101+0210+0220.DWG
USER NAME: vaughan.patrick
PLOT DATE & TIME: 24/5/2022 5:57:04 PM
SAVE DATE & TIME: 24/5/2022 5:23:57 PM





SHEET PILE WALL PLAN
1:500

WORK SCHEDULE				
STAGE	WORK ITEM	LOCATION	QUANTITY	DRAWING REFERENCE
1	REPAIR EXPOSED SHEET PILE TOES WITH STEEL PATCH	CH210 - 215	1	DWG-0110 TO 0112 AND 0210
		CH220 - 225	1	
		CH230 - 235	3	
2	GROUT-FILL EXISTING GRAVEL-FILLED CAVITY BETWEEN SHEET PILE WALLS	CH197 - 269	CONTRACTOR SHALL DETERMINE	DWG-0220
3	INSTALL MASS CONC TOE BEAM	CH202-262	60 LINEAL METRES	DWG-0110 TO 0112 AND 0210
4	WELD SHEET PILE CLUTCHES ABOVE SEABED	CH197-269	ALL CLUTCHES	DWG-0210
5	REMOVE AND REPLACE EXISTING HARD FENDERING	CH197.5 - 257	75 No TIMBER STRIPS (INCLUDING 4 SPECIALS AT TIDAL STAIR) LENGTH VARIES CONTRACTOR SHALL DETERMINE QUANTITIES FOR FIXINGS, BRACKETS AND WALERS	DWG-0300 AND 0310

TYPICAL SHEET PILE WALL SECTION
SECTION A
1:25

500 0 500 1000 1500 2000 2500mm
1:25 (A1) 1:50 (A3)
10 0 10 20 30 40 50m
1:500 (A1) 1:1000 (A3)

NOTE:
1. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
2. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

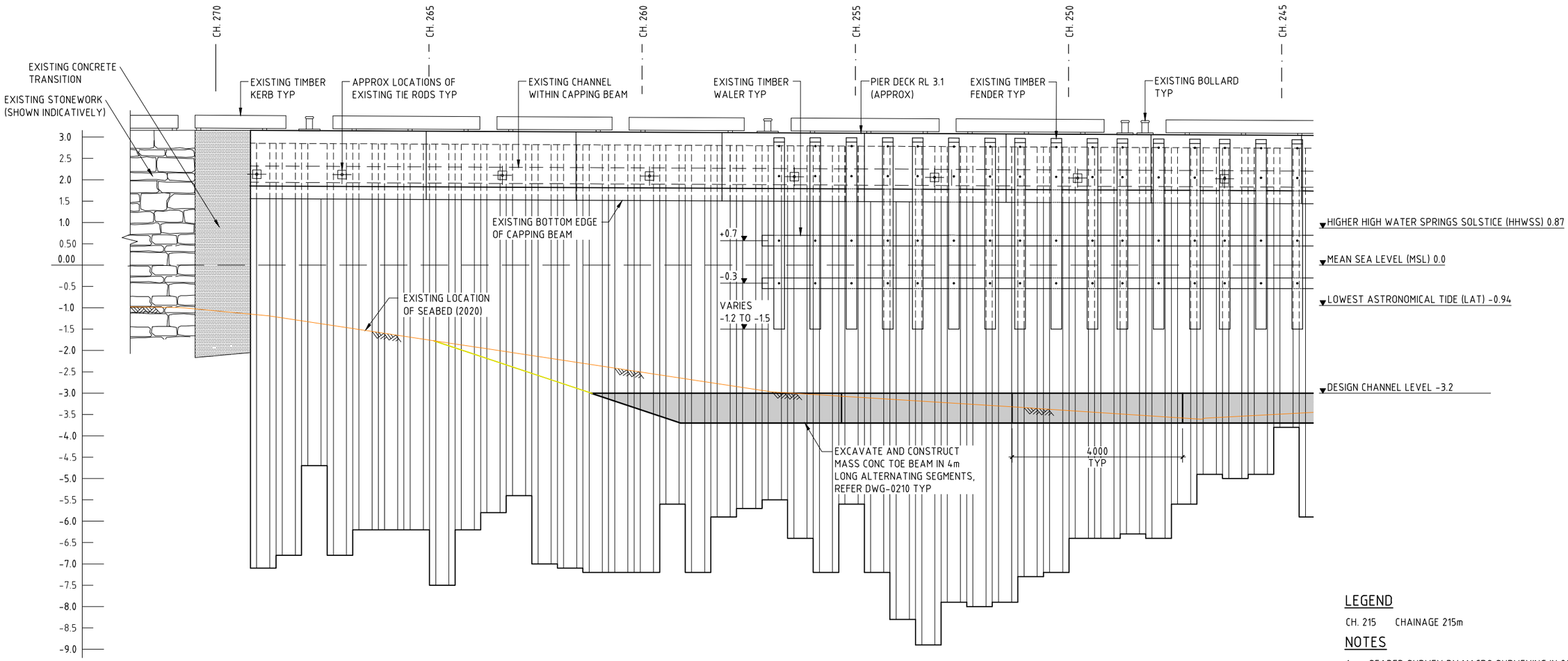
Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group
CONSULT MARINE

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
SHEET PILE WALL
GENERAL SCOPE OF WORK PLAN AND SECTION

DRG No 311015-00061-MA-DWG-0101
REV B

ADVISIAN_A1_C



SHEET PILE WALL ELEVATION - SHEET 1

1:50

LEGEND

CH. 215 CHAINAGE 215m

NOTES

1. SEABED SURVEY BY MACRO SURVEYING IN 2020.
2. LEVELS IN METRES TO MEAN SEA LEVEL (MSL) UNO.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.

1000 0 1000 2000 3000 4000 5000mm

1:50 (A1) 1:100 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	J'OR	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

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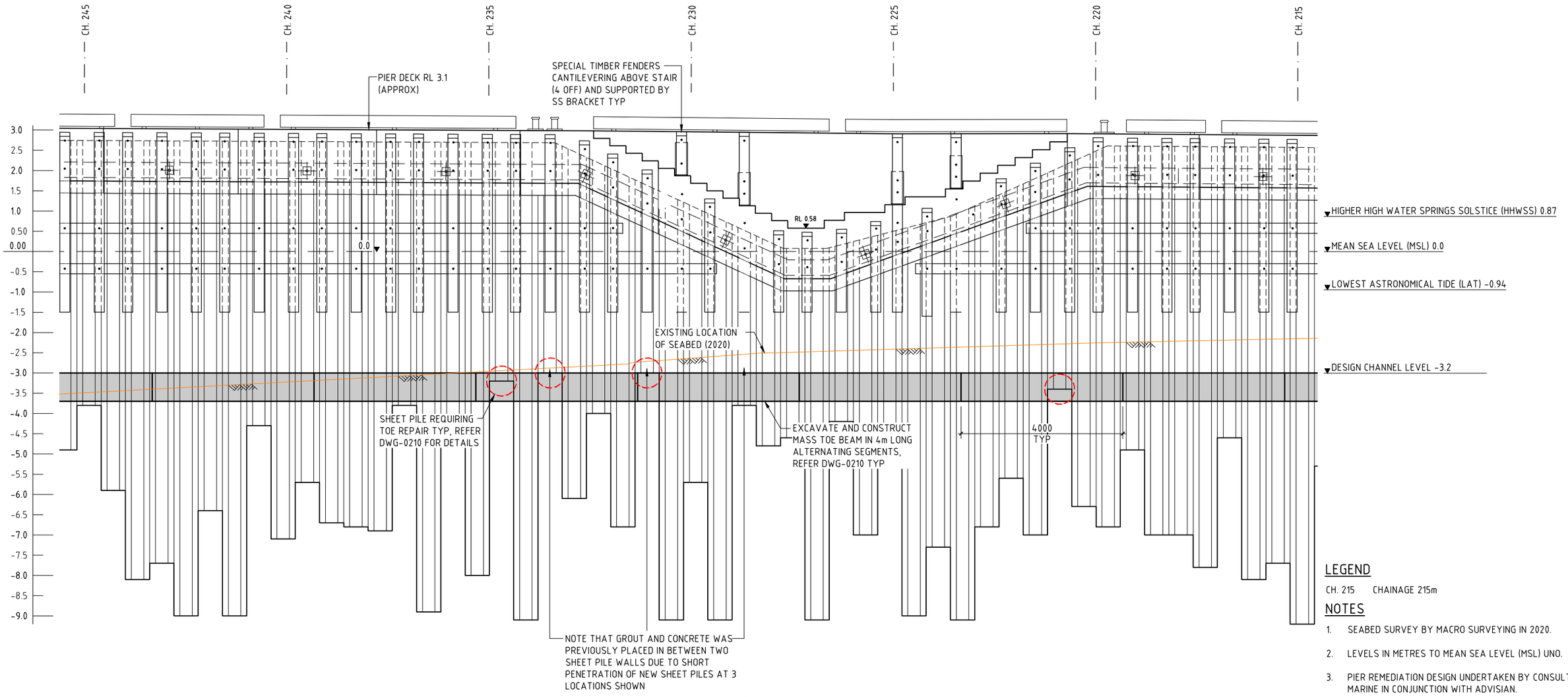
KINGSTON PIER CHANNEL CONSTRUCTION PROJECT SHEET PILE WALL ELEVATION CHAINAGE 270 - 245 SHEET 1

DRG No 311015-00061-MA-DWG-0110 REV B

ADVISIAN_A1_C



SHEET PILE WALL ELEVATION - SHEET 2

1:50

LEGEND

CH. 215 CHAINAGE 215m

NOTES

1. SEABED SURVEY BY MACRO SURVEYING IN 2020.
2. LEVELS IN METRES TO MEAN SEA LEVEL (MSL) UNO.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.

1000 0 1000 2000 3000 4000 5000mm

1:50 (A1) 1:100 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	J'OR	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group

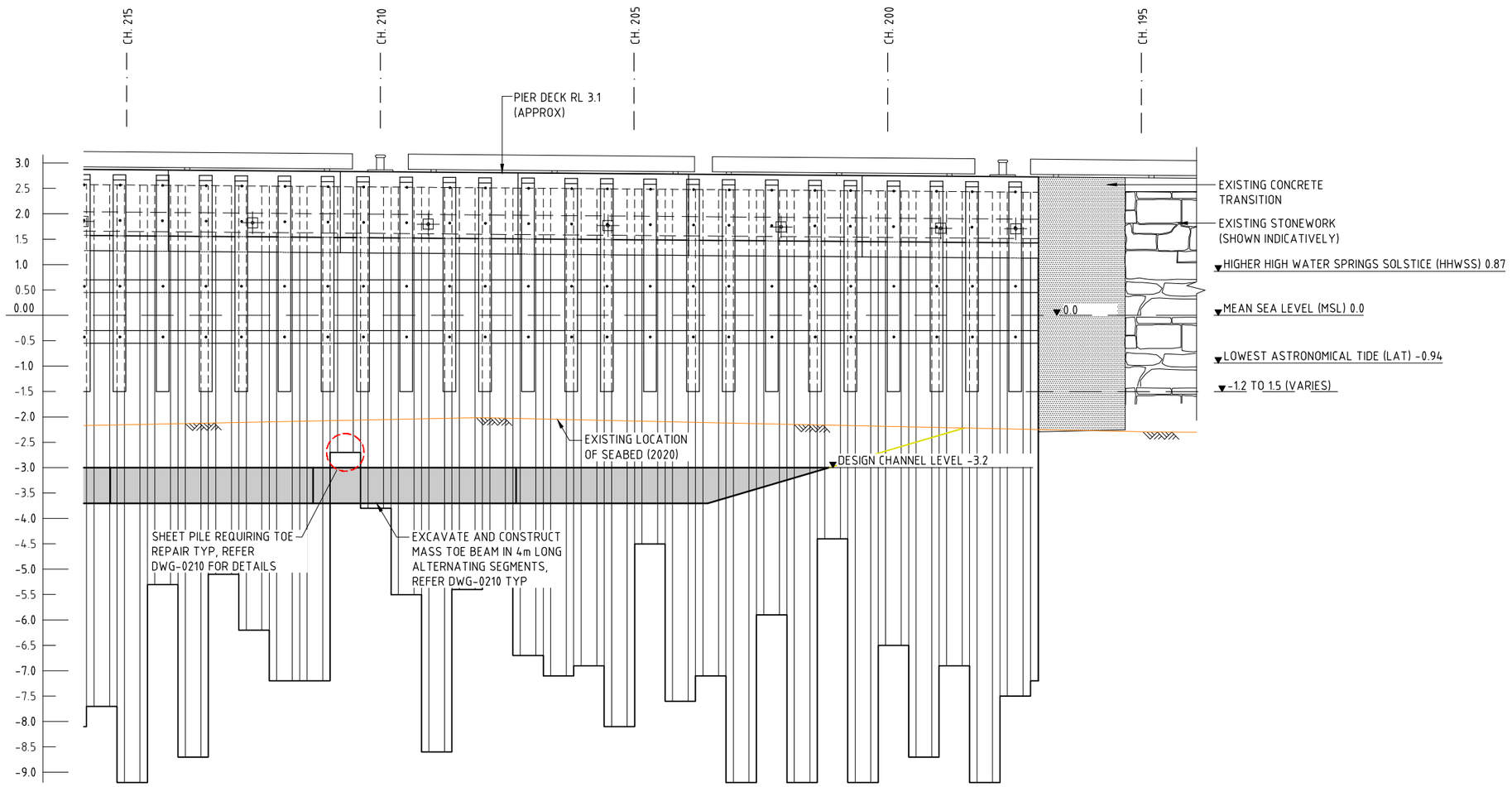
CONSULT MARINE

KINGSTON PIER CHANNEL CONSTRUCTION PROJECT SHEET PILE WALL ELEVATION CHAINAGE 245 - 215 SHEET 2

DRG No 311015-00061-MA-DWG-0111

REV B

ADVISIAN_A1_C



SHEET PILE WALL ELEVATION - SHEET 3

1:50

LEGEND

CH. 215 CHAINAGE 215m

NOTES

1. SEABED SURVEY BY MACRO SURVEYING IN 2020.
2. LEVELS IN METRES TO MEAN SEA LEVEL (MSL) UNO.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.

1000 0 1000 2000 3000 4000 5000mm

1:50 (A1) 1:100 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	J'OR	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No.

311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group

CONSULT MARINE

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
SHEET PILE WALL ELEVATION
CHAINAGE 215 - 195 SHEET 3

DRG No 311015-00061-MA-DWG-0112

REV B

ADVISIAN_A1_C

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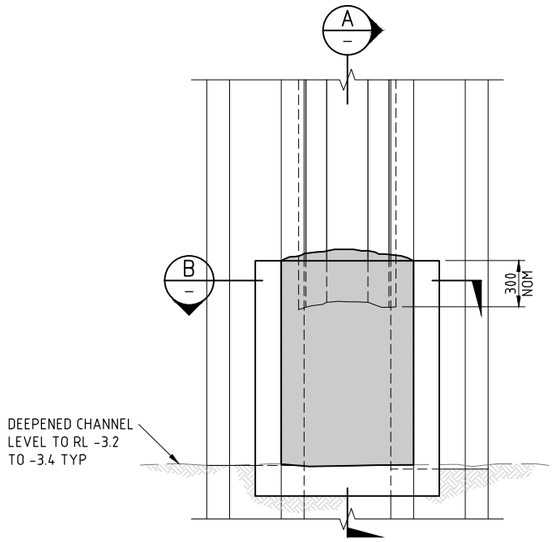
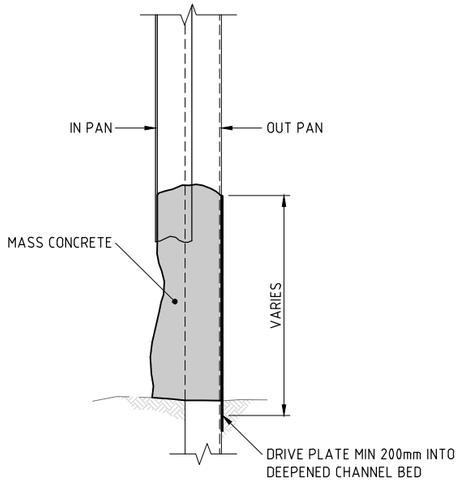


TYPICAL SHEET PILE TOE REPAIR ELEVATION

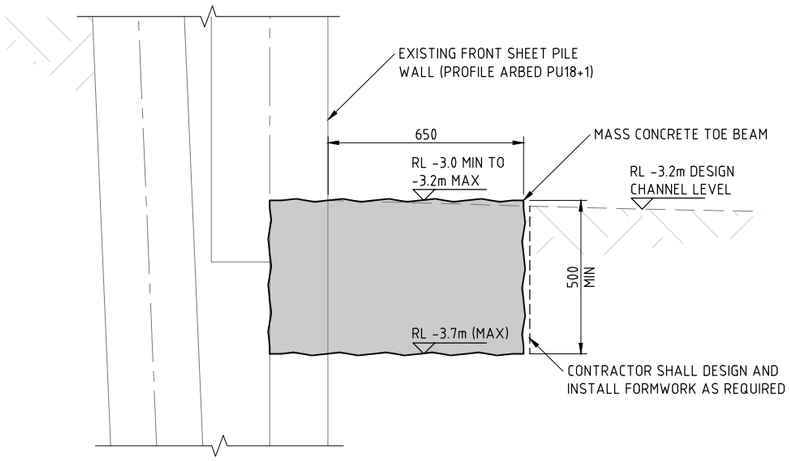
DETAIL A 0101

1:20



SECTION A –

1:20

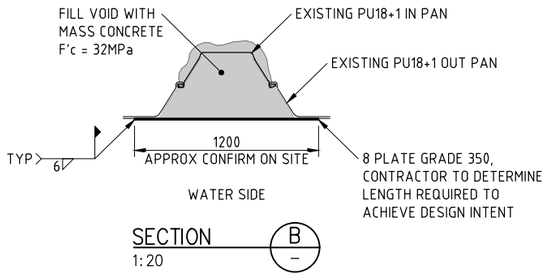


TYPICAL MASS CONCRETE TOE BEAM

DETAIL B 0101

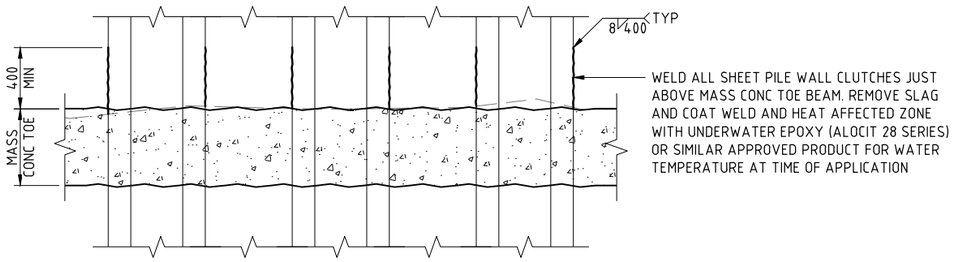
1:10

NOTE: MASS CONC TOE BEAM SHALL BE PLACED IN 4m LENGTHS. THE ADJACENT 4m SEABED SECTION (EITHER SIDE) SHALL NOT BE EXCAVATED UNTIL 24 HOURS AFTER CONCRETE PLACEMENT. CONCRETE STRENGTH TO BE f'c = 32 MPa, SCMs = 25% FLYASH, REFER SPECIFICATION FOR FURTHER DETAILS



SECTION B –

1:20



TYPICAL SHEET PILE WALL CLUTCH WELDING

DETAIL C 0101

1:20

NOTE: ELECTRODE Ft ≥ 410MPa WELD CATEGORY GP

NOTE:

1. ALL DIMENSIONS ARE MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.

400 0 400 800 1200 1600 2000mm

1:20 (A1) 1:40 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group

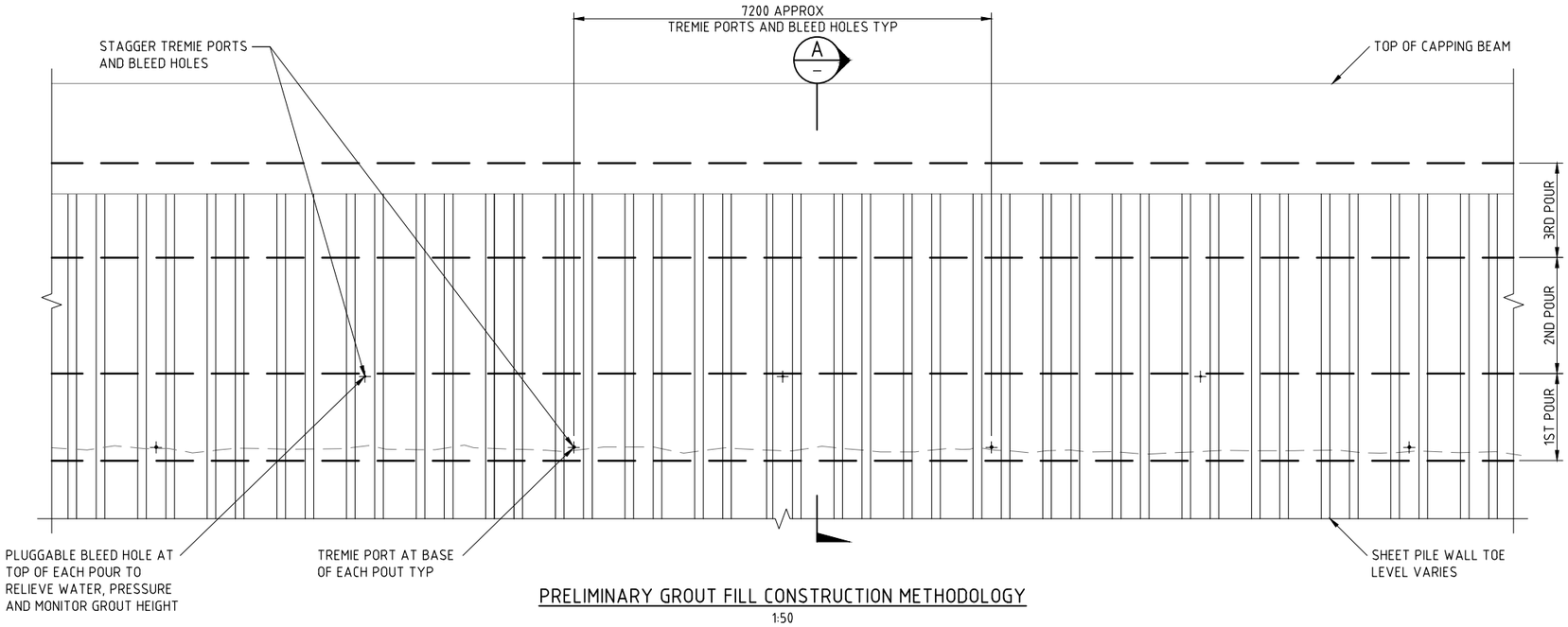
CONSULT MARINE

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
SHEET PILE WALL DETAILS
SHEET 1

DRG No 311015-00061-MA-DWG-0210

REV B

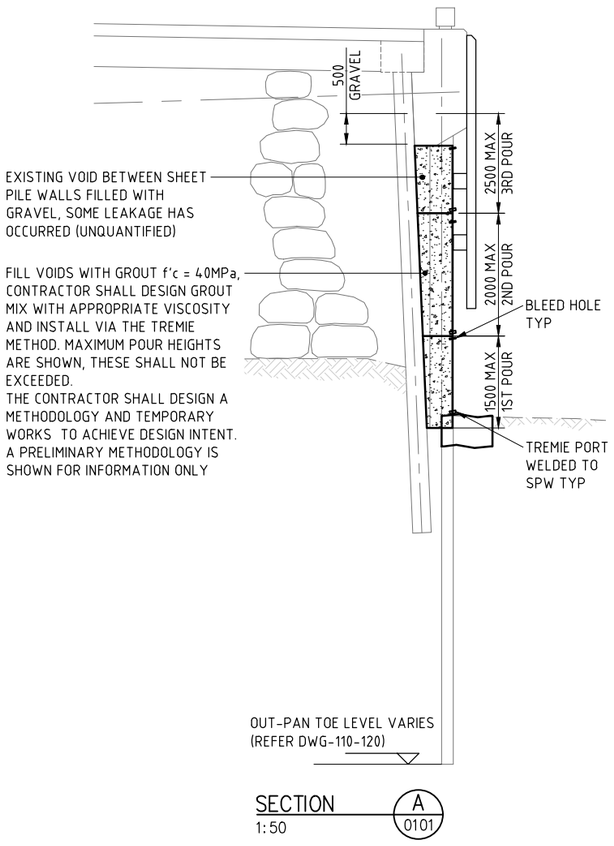
ADVISIAN_A1_C



PRELIMINARY GROUT FILL CONSTRUCTION METHODOLOGY

1:50

(NOTE: TREMIE PORTS AND BLEED HOLES SHOWN FOR 1ST POUR ONLY)



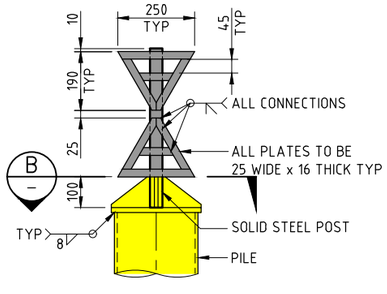
SECTION A 0101
1:50

FRONT ELEVATION

1:20

SECTION A
1:10

SECTION B
1:10



WEST CARDINAL MARK FRONT ELEVATION

1:10

(ALL STEELWORK TO BE FULLY BUTT WELDED UNO)

(EXPOSED STEEL TO BE PAINTED, REFER TO NOTES)

NOTE:

1. ALL DIMENSIONS ARE MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.
4. REFER TO SPECIFICATION FOR INSPECTION AND TEST PLAN (ITP) REQUIREMENTS RELATED TO GROUT FILLING OF THE CAVITY BETWEEN THE TWO EXISTING SHEET PILE WALLS.
5. ALL STEEL TO BE COATED WITH INTERZONE 954 IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS AND TO THE COLOUR AS SHOWN.

200 0 200 400 600 800 1000mm
1:10 (A1) 1:20 (A3)

400 0 400 800 1200 1600 2000mm
1:20 (A1) 1:40 (A3)

1000 0 1000 2000 3000 4000 5000mm
1:50 (A1) 1:100 (A3)

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C	12.04.22	NAVIGATION AID ADDED	VIP	BSM	BSM	MJT	BSM			
B	25.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group

CONSULT MARINE

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
SHEET PILE WALL DETAILS
SHEET 2

DRG No 311015-00061-MA-DWG-0220

REV D

ADVISIAN_A1_C

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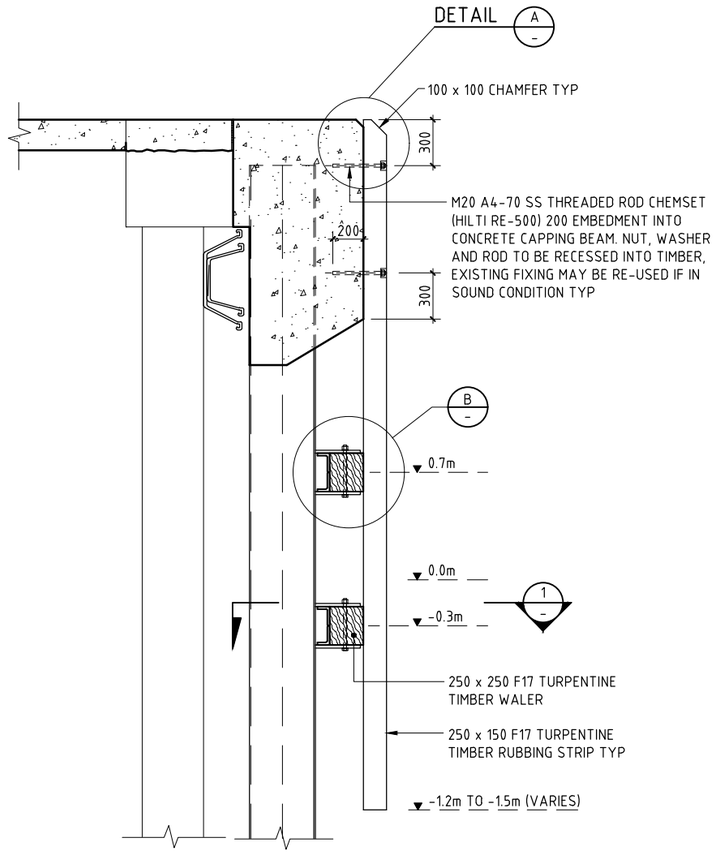
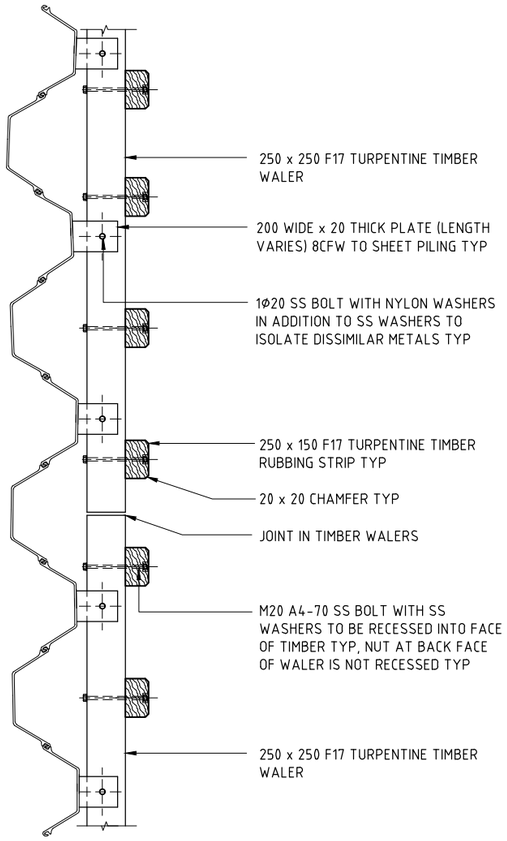
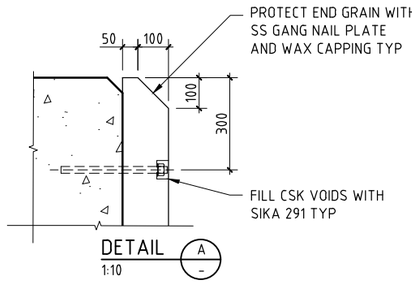
SAVE DATE & TIME: 24/5/2022 5:23:57 PM



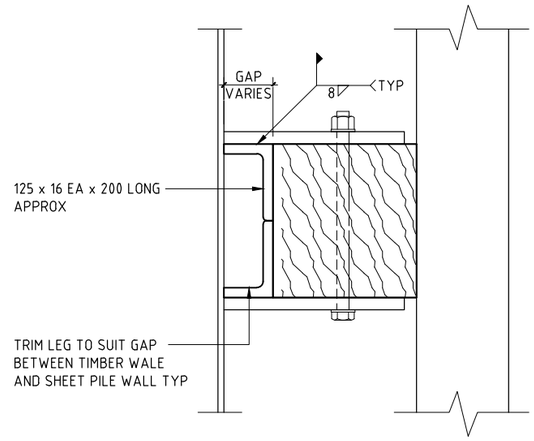
SIDE ELEVATION OF TIMBER FENDER
1:20



SECTION 1
1:20



DETAIL A
1:10



DETAIL B
1:5

NOTE:
THIS DRAWING IS TO BE USED AS A REPRESENTATION FOR REPLACEMENT OF ALL TIMBER FENDERS AND TIMBER WALERS

NOTE:

1. ALL DIMENSIONS ARE MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.
4. EXISTING BRACKETS AND CLEATS MAY BE RE-USED IF IN SOUND CONDITION AND GREATER THAN 80% SECTION IS REMAINING. PRESERVE INSITU WITH AN APPROVED COATING.
5. ALL EXISTING TIMBER SHALL BE DEMOLISHED AND DISPOSED OF.
6. ALL TIMBER END GRAIN SHALL AT ALL TIMES REMAIN SEALED TO PREVENT LOSS OF MOISTURE FROM THE TIMBER AND SUBSEQUENT CHECKING.

100 0 100 200 300 400 500mm
1:5 (A1) 1:10 (A3)

200 0 200 400 600 800 1000mm
1:10 (A1) 1:20 (A3)

400 0 400 800 1200 1600 2000mm
1:20 (A1) 1:40 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	25.05.22	ISSUED FOR TENDER	VIP	BSM	BSM	LLF	BSM			
A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group
CONSULT MARINE

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
RE-FENDERING
SECTIONS AND DETAILS SHEET 1

DRG No 311015-00061-MA-DWG-0300
REV B

ADVISIAN_A1_C

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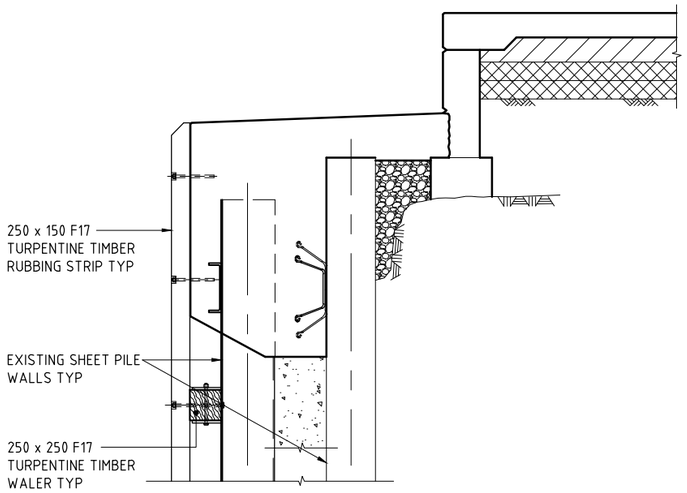
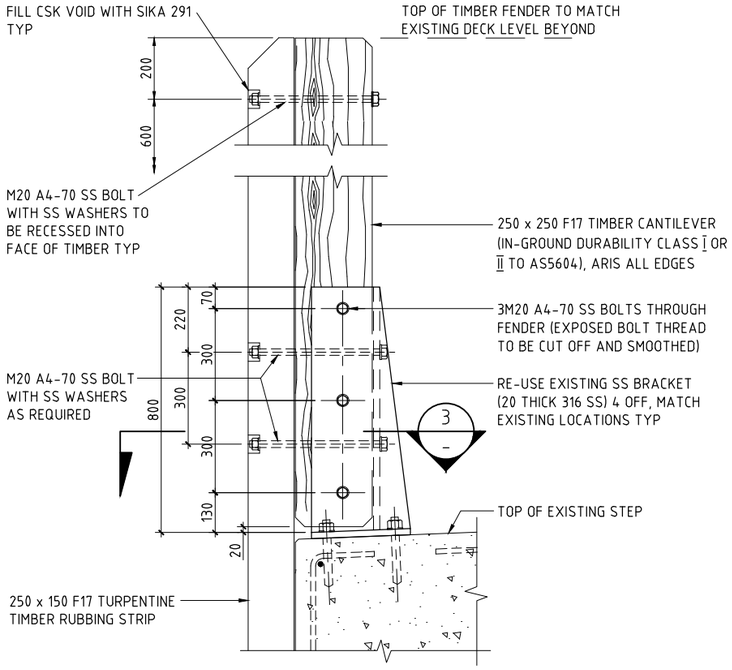
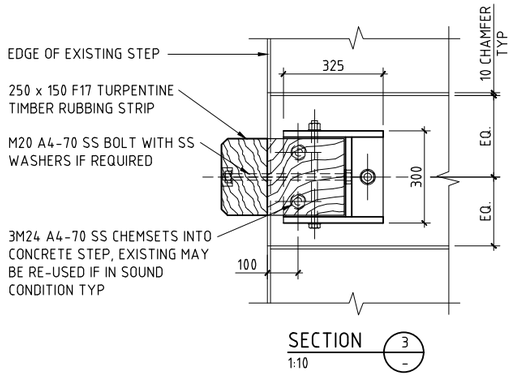


TYPICAL FENDER DETAIL AT TIDAL STAIR
1:25



SPECIAL FENDER DETAIL AT TIDAL STAIR
1:10

NOTE:
THIS DRAWING IS TO BE USED AS A REPRESENTATION FOR REPLACEMENT OF ALL TIMBER FENDERS



SECTION 3 -
1:10

NOTE:

1. ALL DIMENSIONS ARE MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.
3. PIER REMEDIATION DESIGN UNDERTAKEN BY CONSULT MARINE IN CONJUNCTION WITH ADVISIAN.
4. EXISTING BRACKETS AND CLEATS MAY BE RE-USED IF IN SOUND CONDITION AND GREATER THAN 80% SECTION IS REMAINING. PRESERVE INSITU WITH AN APPROVED COATING.
5. ALL EXISTING TIMBER SHALL BE DEMOLISHED AND DISPOSED OF.
6. ALL TIMBER END GRAIN SHALL AT ALL TIMES REMAIN SEALED TO PREVENT LOSS OF MOISTURE FROM THE TIMBER AND SUBSEQUENT CHECKING.

200 0 200 400 600 800 1000mm
1:10 (A1) 1:20 (A3)

500 0 500 1000 1500 2000 2500mm
1:25 (A1) 1:50 (A3)

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A	09.03.22	ISSUED FOR CLIENT REVIEW	VIP	BSM	JO'R	MJT	BSM			

A1 SHEET SCALE

OneWay
empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

ISSUED FOR TENDER

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian Worley Group
CONSULT MARINE

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
RE-FENDERING
SECTIONS AND DETAILS SHEET 2

DRG No 311015-00061-MA-DWG-0310
REV B

ADVISIAN_A1_C

COSMOS ARCHAEOLOGY

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A.B.N. 83 082 211 498

Norfolk Island
Kingston Pier

Underwater Archaeological Test Excavation Report

(in fulfilment of Underwater Cultural Heritage Act Permit No. 100527)

Norfolk Island

April 2021

Norfolk Island Kingston Pier

Underwater Archaeological Test Excavation Report

(in fulfilment of with Underwater Cultural Heritage Act Permit No. 100527)

Prepared for:

Advisian

By:

Cos Coroneos

Jane Mitchell

Connor McBrian

April 2021

Cosmos Archaeology Job Number J20/03

Cover image: Vessels near Kingston Pier looking south (Image taken 7 November 2020)

Revision	Description	Date	Originator	Reviewer	Approver
V0.0	Draft Test excavation report	27/11/2020	JM	CC	CC
V0.1	Artefact Registrar analysis added	28/01/2021	CM	JM	CC
V0.2	DITRDC comments incorporated	25/02/2021	JM	CC	CC
V1.0	Advisian comments incorporated	12/03/2021	JM	CC	CC
V1.1	CA assessment clarified	22/03/2021	CM	CC	CC
V1.2	Final comments addressed & finalised	30/03/2021	JM & CC	CC	CC
V.13	Additional comments addressed	22/04/2021	CC	CC	CC

EXECUTIVE SUMMARY

The Commonwealth Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) is proposing to improve the shipping capabilities of Kingston Pier, Norfolk Island. This will involve deepening the approach and berthing areas of the Kingston Pier to provide safer access for vessels at all tides.

Cosmos Archaeology was commissioned in February 2020 to prepare a Statement of Heritage Impact (SoHI) arising from the proposed works. The Statement found that the identified underwater archaeological resource within the construction envelope is interwoven with the cultural heritage values of World Heritage listed Kingston and Arthur's Vale Historic Area. These values state that archaeological remains pre-dating the transfer of Norfolk Island's governance to Australia (1897) as being of critical cultural heritage significance while material cultural relating to WWII defence works, tourism, use of earlier structures and modifications is of secondary significance.

The non-disturbance dive inspection in February 2020 did not identify any culturally significant artefacts, however it was assessed that culturally significant artefacts could be concentrated and buried within gullies, gutters, cracks and fissures within the calcarenite and possibly volcanic tuff substrate that would be removed by the proposed works and as such a test excavation was recommended.

The underwater archaeological test excavation was undertaken in November 2020 adjacent to Kingston Pier. The purpose of the test excavation was to obtain a better understanding of the extent, frequency, variety, condition and significance of the underwater cultural resource. As it was anticipated that archaeological remains protected by the *Underwater Cultural Heritage Act 2018* would be disturbed, a permit was sought and approved – Permit No. 100527.

Four test trenches were excavated over seven days recovering 1,442 artefacts, the overwhelming majority being from the 20th and 21st century. Twenty-three artefacts were assessed as being potentially 19th century or earlier. These artefacts are in the possession of KAVHA, the remainder (1,399 artefacts) were discarded after cataloguing.

The test excavation found that there is a very little likelihood of substantial archaeological deposits associated with activities and events pre-dating 1898 to be present in the vicinity of Test Trench (TT) 1, 2 and 3. However, there is still the possibility for the presence, in very low frequencies, of culturally significant artefacts in these zones.

The seabed around TT4, where there is calcarenite reef and boulders has a very high likelihood for the presence of localised archaeological deposits containing culturally significant artefacts associated with shipwrecks and activities related to the Pier and the Landing Place.

Good conditions permitted a dive survey to be conducted on the outer edge of the reef where dredging has been proposed. While no cultural material was observed during the video survey of the end of Kingston Pier, the deep fissures and cracks in the seabed along the rock platform and the broken reef to the south will possibly contain artefacts associated with shipwrecks and has therefore been assessed of medium cultural sensitivity

The proposed action – seabed removal to Option 3a as outlined in Annex E – without acceptable mitigation, will have a significant impact because it will permanently remove, destroy, damage or substantially disturb a portion of an underwater archaeological resource assessed to have critical cultural heritage significance values in relation to World Heritage listed KAVHA. In fact, this resource could be considered to be unique to KAVHA in that there is no other location elsewhere within and without KAVHA which formed a constant and longstanding cultural nexus between the land and the sea. The Commonwealth *Underwater Cultural Heritage Act 2018* automatically protects remains of shipwrecks of 75 years old and it is probable that the proposed works will disturb such remains.

To mitigate the impact of the proposed works on the cultural heritage significance of the underwater archaeological remains a limited archaeological excavation prior to the works commencing and a monitoring programme throughout the works is required. For the mitigation to be successful a well-prepared plan covering all aspects of the archaeological investigation, from its focus, the recovery, recording, management and publicising of the artefacts as well as the data collected, this plan would be called the Kingston Pier Underwater Archaeological Management Plan (KPUAMP).

Based on the above findings the following recommendations are made:

Recommendation 1 – Prepare and implement the Kingston Pier Underwater Archaeological Management Plan for the proposed works.

The implementation of this plan would be a condition of Approval (see recommendation 2) under the EPBC Act 1999 if a referral is required and the permit (see recommendation 3) under the UCHA Act 2018.

Recommendation 2 – Submit a referral under the* EPBC *Act 1999.

The proposed action – seabed removal (Option 3a), without acceptable mitigation, will have a significant impact because it will permanently remove, destroy, damage or substantially disturb a portion of an underwater archaeological resource assessed to have critical cultural heritage significance values in relation to World Heritage Listed KAVHA. In fact, this resource could be considered to be unique to KAVHA in that there is no other location elsewhere within and without KAVHA which formed a constant and longstanding cultural nexus between the land and the sea.

It is believed that this action could potentially have a significant impact on a matter of national environmental significance and may require approval from the Australian Government Minister for the Environment.

The study area is located within the Norfolk Marine Park which is protected under the Act.

Recommendation 3 – Apply for a permit under the Underwater Cultural Heritage Act 2018 (Cth) to undertake proposed works.

As there is a reasonable probability that wreckage associated with vessels that were wrecked more than 75 years ago will likely be impacted by the proposed works it would be prudent to obtain a permit under Part 3, Division 1, Subsection 23 of the UCHA 2018.

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background

The Commonwealth Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) is proposing to improve the shipping capabilities of Kingston Pier, Norfolk Island. This will involve deepening the approach and berthing areas of the Kingston Pier to provide safer access for vessels at all tides.

Advisian prepared an environmental assessment for the proposed works and Cosmos Archaeology Pty Ltd prepared the Statement of Heritage Impact (SoHI) for the underwater cultural heritage.[1]

Historical research found that the area of the proposed works has been in constant use since 1788 as the primary landing place for Norfolk Island. This cultural activity has resulted in objects being discarded, both accidently and deliberately within the waters of the study area. A number of vessels have been wrecked outside, with some possibly inside, the proposed envelopes for the channel augmentation, but it can be expected that wreckage from one or more shipwrecks, including that of HMS *Sirius*, would have floated into the areas proposed for seabed removal.

The non-disturbance archaeological dive inspection carried out on 26th and 27th February 2020 did not identify any culturally significant artefacts, however it was assessed that culturally significant artefacts would likely be concentrated and buried within gullies, gutters, cracks and fissures within the calcarenite and possibly volcanic tuff substrate that would be removed by the proposed works. It was also thought possible that there may be artefacts encased in the calcarenite as demonstrated during previous works on HMS *Sirius.*

The identified underwater archaeological resource is adjacent to, and interwoven with, the cultural heritage values of the Kingston and Arthur's Vale Historic Area (KAVHA). The underwater archaeological resource pre-dating the transfer of Norfolk Island's governance to Australia is potentially of critical significance while material cultural relating to WWII defence works, tourism, use of earlier structures and modifications is of secondary significance. Dredging in the 1980s truncated this significant underwater archaeological resource but has not removed it.

The SoHI found that the proposed action will potentially have a significant impact as it will permanently remove, destroy, damage or substantially disturb an underwater archaeological resource assessed to have critical cultural heritage significance values in relation to World Heritage Listed KAVHA. In fact, this resource could be considered to be unique to KAVHA in that there is no other location elsewhere, within and without KAVHA, which formed a constant and longstanding cultural nexus between the land and the sea. As such as it is believed that this action could potentially have a significant impact on a matter of national environmental significance and may require approval from the Australian Government Minister for Agriculture, Water and the Environment as required under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

To mitigate the impact of the proposed works on the cultural heritage significance of the underwater archaeological remains, an extensive archaeological excavation and monitoring programme would be required. For the mitigation to be successful a well-prepared plan covering all aspects of the archaeological investigation, including its focus, the recovery, recording, management and publicising of the artefacts as well as the data collected. This plan would be called the Kingston Pier Underwater Archaeological Management Plan

[1] **Cosmos Archaeology Pty Ltd, June 2020,** *Kingston Pier Channel Construction Project: Statement of Heritage Impact,* prepared for Advision.

(KPUAMP). Some of the elements of this plan have already been incorporated into the 80% construction plan.[2]

However, at present the underwater archaeological significance within the study area was modelled with the absence of sub-surface archaeological investigations. A plan to conduct an underwater archaeological test excavation was developed to refine the predictions made in the SoHI with respect to the extent, condition, frequency and variety of archaeological remains. Cosmos Archaeology prepared the Kingston Pier Underwater Archaeology Test Excavation Management Plan (KPUATEMP) to manage the excavation.[3]

The results outlined in this report will, in turn, inform the KPUAMP with regards to the methodology and conduct of the archaeological mitigation as well as providing more accurate estimates for the costs of storing, conserving and curating the artefacts recovered prior to and during the proposed works.

1.2 Study Area

The study area for this text excavation is the maximum extent of proposed dredging with a further approximate 10 m buffer extending from the seaward edge of the dredge envelope of the seabed removal option with the greatest extent (Figure 1 and Figure 2).

Figure 1: Location of study area. (Base image: Google Maps).

[2] **Advisian Pty Ltd, January 2021,** *Kingston Pier Channel Construction Project; 8 0% Design Report.* Report for the Department of Infratructure, Transport, Regional Development and Communications (DITRDC).
[3] **Cosmos Archaeology Pty Ltd, September 2020**, *Kingston Pier Underwater Test Excavation Management Plan*. Report prepared for Advision.

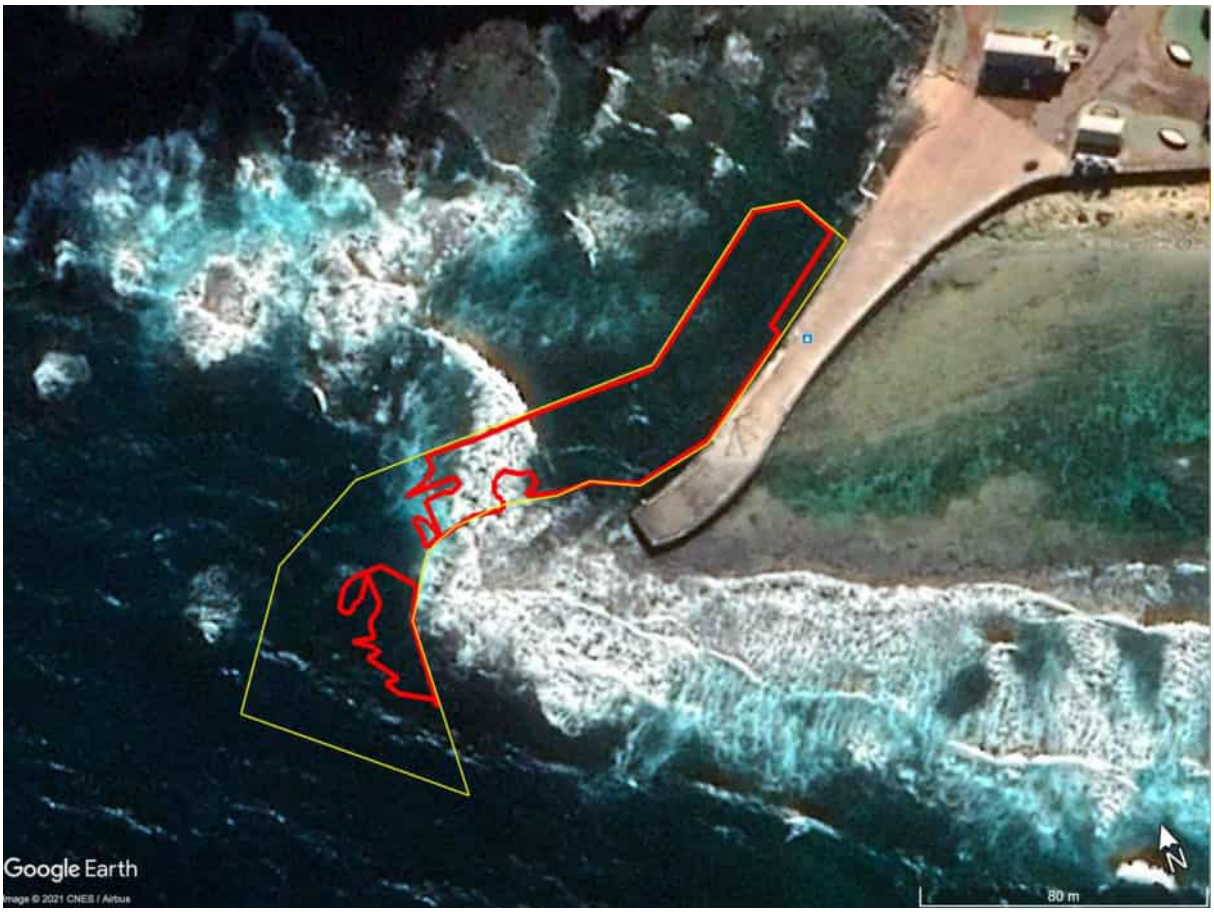

Figure 2: Footprint (in yellow) of the navigation channel for the Kingston Pier upgrade. Red is outlined of proposed dredging areas and the study area for the test excavation. (Base image: Google Earth).

1.3 Objectives

The underwater archaeological significance within the study area was modelled with the absence of sub-surface archaeological investigations. Therefore, the objectives of the underwater test excavation were to:

a) Estimate the number and type of artefacts that would be recovered prior to and during the proposed works and plan and prepare how these are to be managed by the KAHVA/Museums/Commonwealth;

b) Determine which are the most efficient diver-based excavation techniques;

c) Determine whether diver based archaeological excavation prior to construction phase would add any heritage value, based on the nature of the archaeological deposit;

d) Obtain an understanding of artefact density across the proposed dredge envelope so as to explore the options for a sampling strategy as opposed to 100% recovery and sieving of all material;

e) Reduce the risk of unexpected finds during the construction phase, and;

f) Provide additional information on the nature of the underwater archaeological resource to be impacted by the proposed works which would better inform the mitigation strategy and implementation, prior to, during and after the completion of the proposed works.

The excavation also aimed to answer the following research questions:

1) What is the extent, variety, frequency, condition and significance of artefacts recovered?
2) Is there any stratigraphical context to the archaeological resource?
3) What is the approximate burial depth of the archaeological resource?
4) Are there artefacts encased within calcarenite and how are they best recovered?

1.4 Abbreviations

ADAS	Australian Diving Accreditation Scheme
AR	Artefact Registrar
AUCHD	Australasian Underwater Cultural Heritage Database
AZMP d2019	draft September 2019 Archaeological Zoning and Management Plan
BOM	Bureau of Meteorology
BP	Before Present
CE	Common Era
DAWE	Department of Agriculture, Water and the Environment
DITRDC	Department of Infrastructure, Transport, Regional Development and Communications
ED	Excavation Director
EPBC	*Environment Protection and Biodiversity Conservation Act 1999*
KAVHA	Kingston and Arthur's Vale Historic Area
KPUAMP	Kingston Pier Underwater Archaeological Management Plan
KPUATEMP	Kingston Pier Underwater Archaeological Test Excavation Management Plan
MSL	Mean Sea Level
OH&S	Occupational Health and Safety
PDS	Professional Diving Services
Regulations	*Environment Protection and Biodiversity Conservation Regulations 2000*
SCUBA	Self-Contained Underwater Breathing Apparatus
SoHI	Statement of Heritage Impact
SSBA	Surface-Supplied Breathing Apparatus
UAS	Underwater Archaeology Supervisor
UCHA	*Underwater Cultural Heritage Act 2018*

2 OVERVIEW OF HISTORICAL BACKGROUND AND SIGNFICANCE

The following is a brief historical summary of key historical events with a particular focus on events around Sydney Bay and KAHVA on the southern edge of Norfolk Island.

2.1 Polynesian settlement c. 1150 – 1450

Kingston and Arthur's Vale Historic Area (KAVHA) was initially inhabited by Polynesian settlers from c. 1150 to c. 1450 AD, likely during a single phase of occupation. They appear to have migrated from either New Zealand or the Cook Islands-Society Islands area of East Polynesia, during an expansion to the west. Evidence of this settlement era was the discovery of bananas growing in Arthur's Vale in 1788, human remains and stone artefacts (Figure 3).[4] The Norfolk museum holds a collection of Polynesian artefacts from KAHVA.

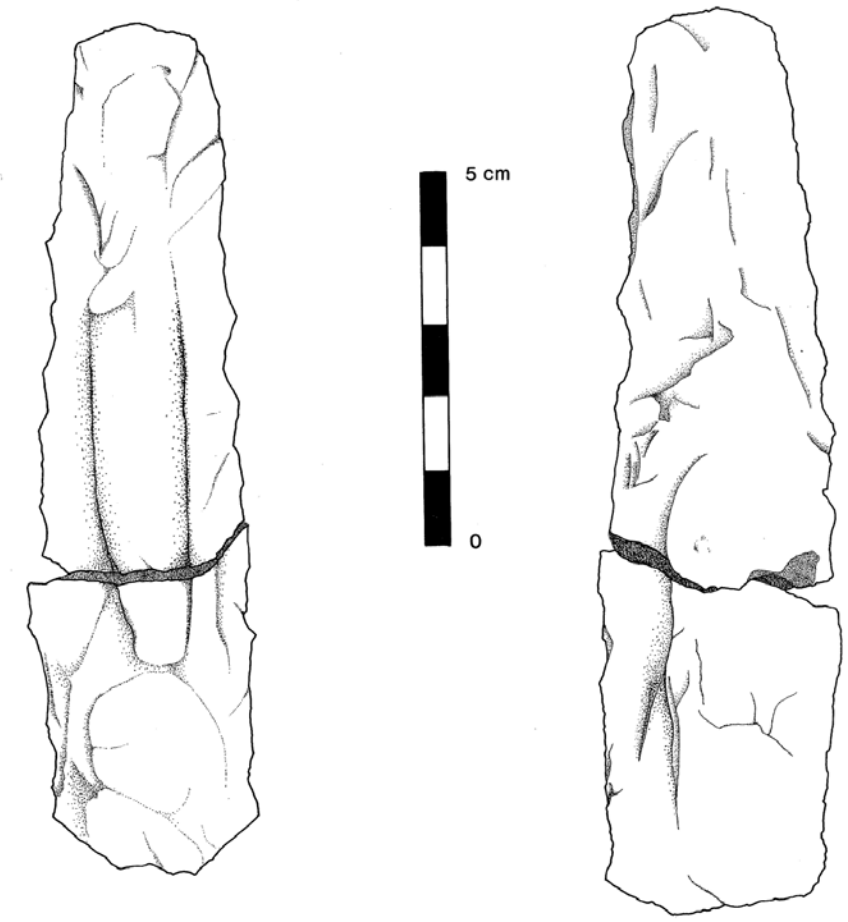

Figure 3: An example of a Norfolk Island stone artefact: Stone tool #4 found by B. Tofts underwater near Kingston/Cemetery Bay, Norfolk Island.[5]

[4] **Jean Rice Architect, Context Pty Ltd, and GML Heritage Pty Ltd. 2016**. *Kingston and Arthur's Vale Historic Area: Heritage Management Plan*, p. 24.
[5] **Specht, J, 1993,** Additional evidence for pre-1788 visits by Pacific Islanders to Norfolk Island, South-West Pacific, in Records of the Australian Museum (1993) Supplement 17, p. 152.

2.2 1st (Colonial) settlement 1788 - 1814

The first instance of Europeans sighting the future landing site on Norfolk Island was by Captain Cook and the crew of HMS *Resolution* on 10th October 1774. The island was at that stage uninhabited and on 11th October, Cook landed on the northeast side of the island with two boats, along with his officers, to undertake a quick exploration and survey of the island. Cook and his crew took floral and faunal samples, noting the similarities of plants and animals to those in New Zealand.[6]

On the morning of 12th October, the landing party returned to the *Resolution* and set sail for New Zealand. As they rounded the southern side of Norfolk Island, Cook recorded the first observation of what would become known as the Landing Place at Kingston:

> *Next morning at sunrise, we made sail, stretching to S.S.W., and weathered the island; on the south side of which lie two isles… On this, as also on the S.E. side, is a sandy beach; whereas most of the other shores are bounded by rocky cliffs… A bank of coral sand, mixed with shells, on which we found from nineteen to thirty-five or forty fathoms water, surrounds the isle, and extends, especially to the South, seven leagues off.*[7]

The first European settlement of Norfolk Island was established five weeks after the arrival of the First Fleet at Botany Bay in 1788. Instructions given to Captain Arthur Phillip from King George III instructed him to establish a settlement on Norfolk to “secure” the island for England and to “prevent it being occupied by the subjects of any other European Power.” To accomplish this end, Philip Gidley King was appointed by Phillip as superintendent and commandant of Norfolk Island. King embarked with a group of 20, including four military officers, four civil officers, and fifteen convicts.[8] The site chosen by King for settlement was the same southern site described by Cook 15 years earlier, which had fresh water, flat ground and a place to land boats.[9] More people arrived in the following two years to help relieve starvation and overcrowding on the mainland (Figure 4).

By the early 1800s the Island was no longer needed as a penal colony had been set up in Van Diemen's Land, and the settlement was steadily reduced over the years. Rough seas and suitable landing sites posed difficulties in supplying provisions and communications and the settlement on the mainland was becoming more established. By 1810 the population had decreased to 117 and in 1813 plans were put in place for the abandonment of the Island. It was finally deserted in February 1814.

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[6] **M. Hoare**, **1999**, Norfolk Island: A Revised and Enlarged History 1774-1998, p.4.
[7] **Cook**, 12th October 1774, from A Voyage Towards the South Pole and Round the World, Vol.2.
[8] Op. Cit., **M. Hoare**, **1999**, p.7.
[9] Op. Cit., Jean Rice Architect, Context Pty Ltd, and GML Heritage Pty Ltd. 2016, p. 24.

Figure 4: View of the Town Sydney on Norfolk Island c. 1792.[10]

2.2.1 First ssettlement shipwrecks

The shipwreck that had the most impact on the fledgling first Norfolk Island settlement was the wrecking of HMS *Sirius.* In March 1790, HMS *Sirius* was sent to Norfolk with a contingent of supplies, convicts and marines to relieve the overcrowding at Sydney Cove. On Friday March 19th, Captain John Hunter steered HMS *Sirius* in for Sydney Bay (Kingston) between the main Island and Nepean Island.

On 19th March 1790, HMS *Sirius* and HMS *Supply* sailed close to shore to unload supplies. A strong western current pushed both vessels towards Point Ross, forcing them to make sail and attempt to leave the bay. HMS *Supply* was successful but HMS *Sirius* lost control and momentum as it turned into the wind. The small bower anchor was dropped but the vessel struck the reef stern first before the anchor cable could check it.

The vessel held this position for several days, during which people and supplies were rescued (Figure 5). On March 28th, high winds snapped the anchor chain, and the vessel was turned shoreward and thrown more than its own length nearer to shore. The vessel remained here until it fully disintegrated almost two years later.

Along with HMS *Sirius*, two smaller boats are also recorded as having wrecked during this time:

- **1788** – a boat was wrecked at the end of the reef while assisting another boat to deliver provisions from HMS *Supply.* Three out of four crew on the boat drowned.[11]
- **1790** – a cutter belonging to HMS *Sirius* was wrecked while transporting supplies and convicts from the *Justinian* and *Surprise* onto shore. Two seamen, one convict man, three convict women and one child were drowned.[12]

[10] **King, P., Gidley 1861** View of the Town Sydney on Norfolk Island [picture]. [ca. 1792], available at https://viewer.slv.vic.gov.au/?entity=IE1500270&mode=browse, accessed 18 December 2020.
[11] Op. Cit., **Bradley, 1802**, p. 123.
[12] Op. Cit., **Bradley, 1802**, pp. 210-211.

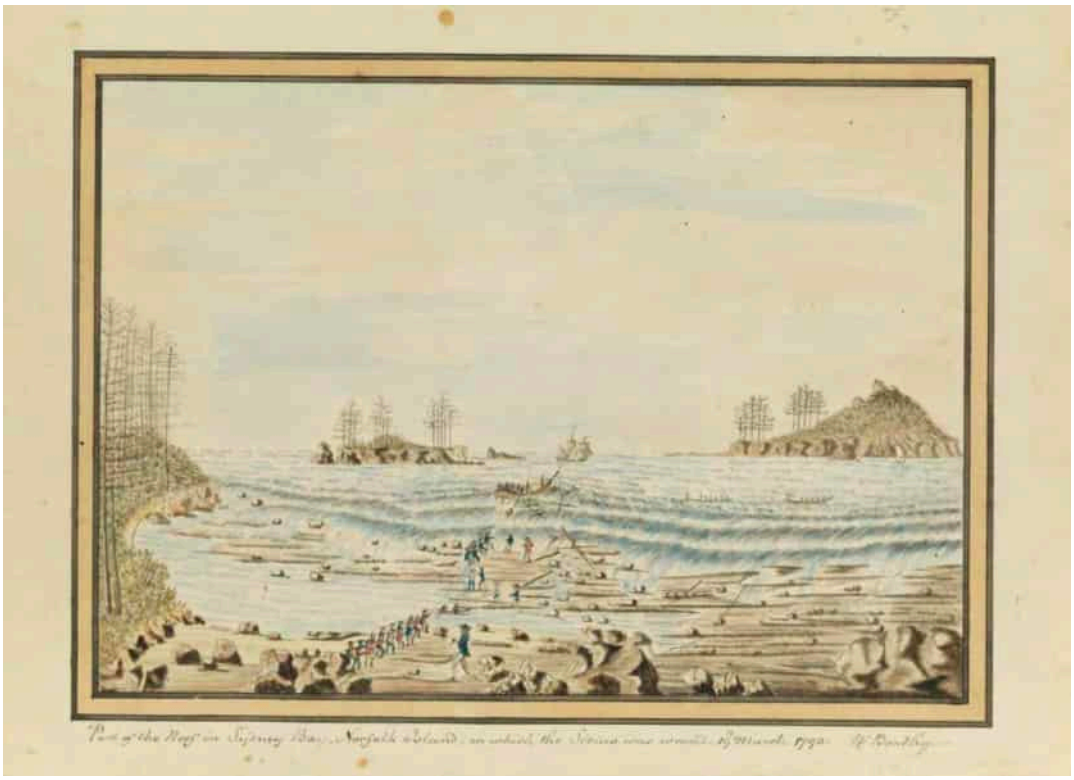

Figure 5: Wreck of HMS* Sirius *drawn by William Bradley.[13]

2.3 2nd (Penal) settlement 1825 - 1855

In July 1824 the Governor of New South Wales, General Sir Thomas Brisbane, was instructed to reopen Norfolk Island as a penal settlement on the principles of a 'great hulk or penitentiary' as a means of secondary punishment. Norfolk Island was re-established as a convict settlement in 1825, and quickly built a reputation as one of the harshest in all of the British Empire. Uprisings and escape attempts were common. Ambitious building works and large-scale clearing for agriculture began (Figure 6 and Figure 7).[14]

[13] Op. Cit., **Bradley, 1802**, p. 195.
[14] **Parks Australia, 2020,** *Norfolk Island National Park History,* available at https://parksaustralia.gov.au/norfolk/discover/history/#:~:text=Early%20settlement&text=The%20island%20was%20settled%20by,flax%20as%20good%20for%20sails, accessed 12 Decmber 2020.

Figure 6: Plan of the settlement and Garrison Farm c 1829 and left detail of Landing Place. [15]

By 1833, there were 600 convicts and 130 troops. An official report of the time described convicts working in building and agriculture from dawn to dusk. Convicts were given land to produce food and responsible positions in return for good behaviour.[16]

[15] **Wakefield, C, May 1829,** *Plan of the settlement and Garrison Farm* NRS 13859 Map 6321, NSW State Archives and Records.
[16] Op. Cit., Jean Rice Architect, Context Pty Ltd, and GML Heritage Pty Ltd. 2016, p. 26.

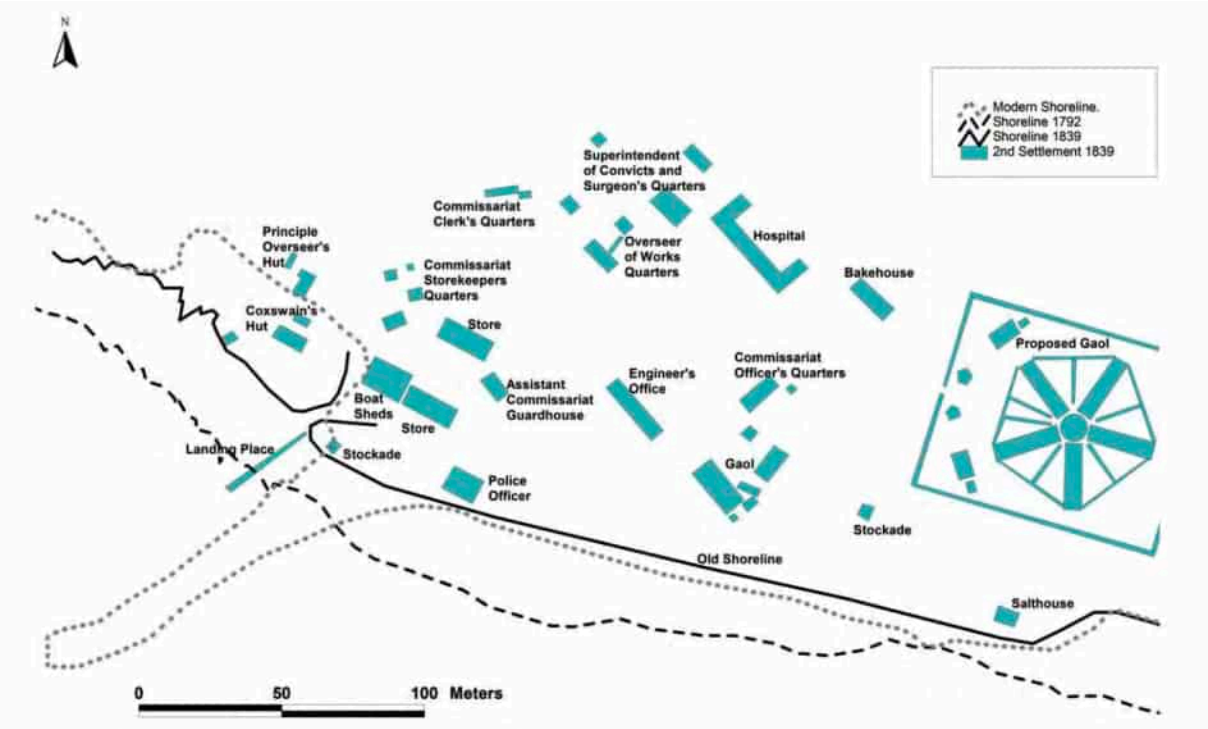

Figure 7: Kingston (second settlement). Based on H. W. Lugard 1839, Plan of the Settlement, Norfolk Island. Tasmanian archives, Plan PWD 266/1/1940.[17]

In 1847, Britain's Secretary of State for the Colonies ordered the Governor of New South Wales to abolish the settlement of Norfolk Island and the settlement on Norfolk was slowly wound down. The majority of convicts were transferred to Tasmania by mid-1856, apart from a small group who overlapped with the arrival of the Pitcairners and helped familiarise them with the local landscape.[18]

2.3.1 Construction of Kingston Pier 1839

Construction of the Kingston Pier began in 1839 to improve the port facilities. The Pier was designed by Royal Engineers, chiefly Lt. Henry Lugard and RG Hamilton, and was constructed during low tide on the western edge of the reef (Figure 8). It was built using large stone blocks as foundation, fastened together with metal clamps. The upper courses were built out of cut stone keyed together using perpendicular stone blocks.[19] The rough conditions prevented the full construction of the intended length, as the stone foundations were continually washed away. Construction of the Pier was halted almost 50 metres from the end of the reef.[20] A timber slipway constructed at the Landing Place in the 1830s was replaced in 1853 with a stone slipway for launching boats, and sea walls were constructed on the shoreline on either side of the Pier.[21]

[17] **Gibbs, M., B. Duncan and R. Varman, 2017,** The free and unfree settlements of Norfolk Island: an overview of archaeological research, in Australian Archaeology 83:3, p. 88.
[18] Op. Cit., Gibbs, M., B. Duncan and R. Varman, 2017, p. 90.
[19] **Baskerville, B., 2013**, "Kingston Pier and Landing Place", *HistoryMatrix.* https://historymatrix.wordpress.com/2013/07/07/kingston-Pier-and-landing-place/ Accessed 15 April 2020.
[20] **Van Pel 1959**, "Report on the Fisheries of Norfolk Island", Report prepared for the South Pacific Commission. p.34.
[21] Op. Cit. Baskerville, 2013.

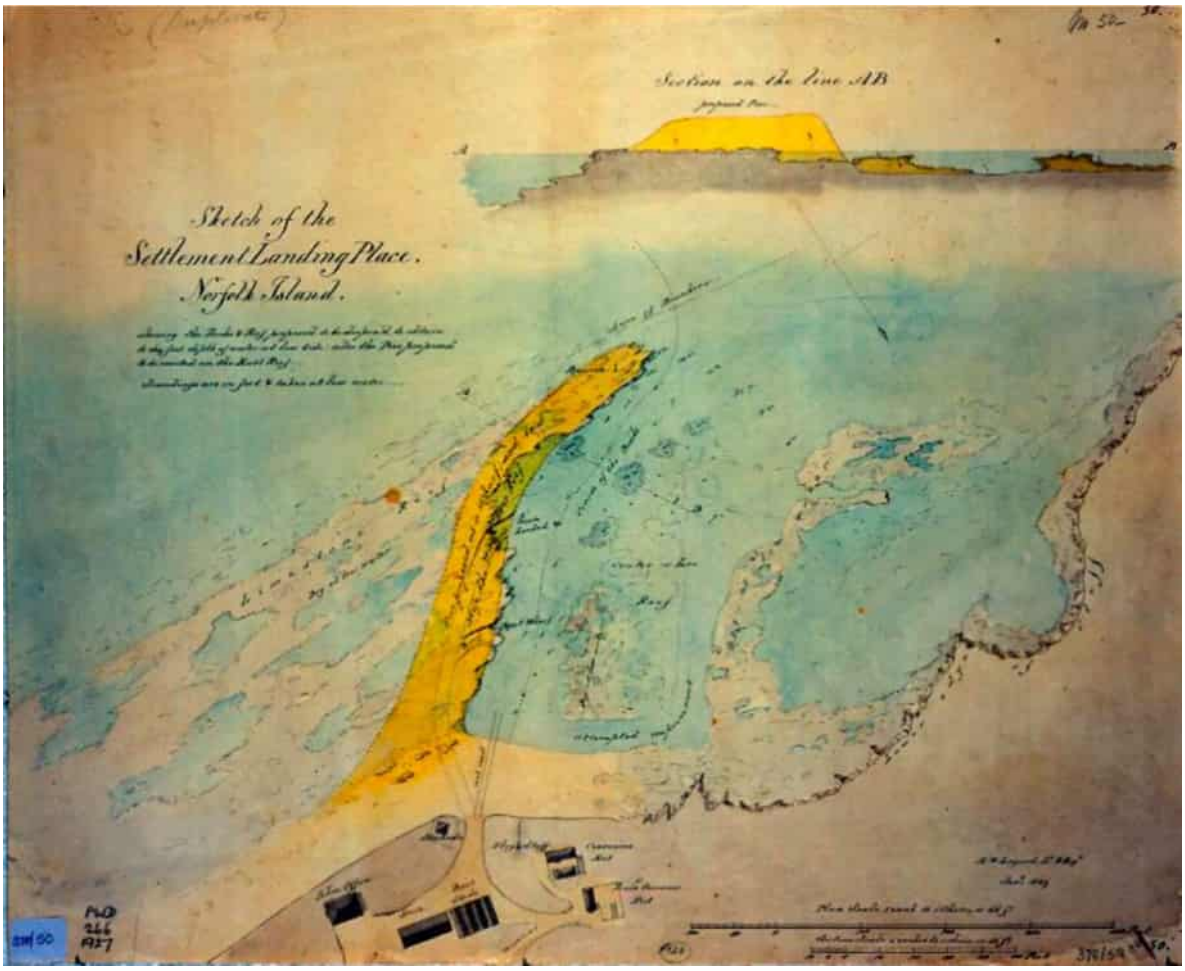

Figure 8: An un-dated sketch of Kingston Pier showing the structure overlaying the western edge of the fringing reef that stretches across Slaughter Bay.[22]

Unloading cargo operated under similar methods as it had before the construction of the Pier. Large ships would anchor well south of Norfolk Island and send goods and people on small boats to the Pier. Cargo would then be removed from the boats via crane, where it would be placed into horse-drawn carts and delivered (Figure 9). The location of ship anchorage is indicated in contemporary charts as being roughly halfway between Norfolk and Phillip Islands (Figure 10).

[22] **Hogan, R. November 2011**, Kingston Pier Refurbishment, Norfolk Island. Paper presented at the 16th Engineering Heritage Australia Conference, Hobart November 2011, photo 4.

Figure 9: Kingston Pier, c.1910, cargo ship anchored in background, lighters unloading cargo via crane onto horse-drawn carts. [23]

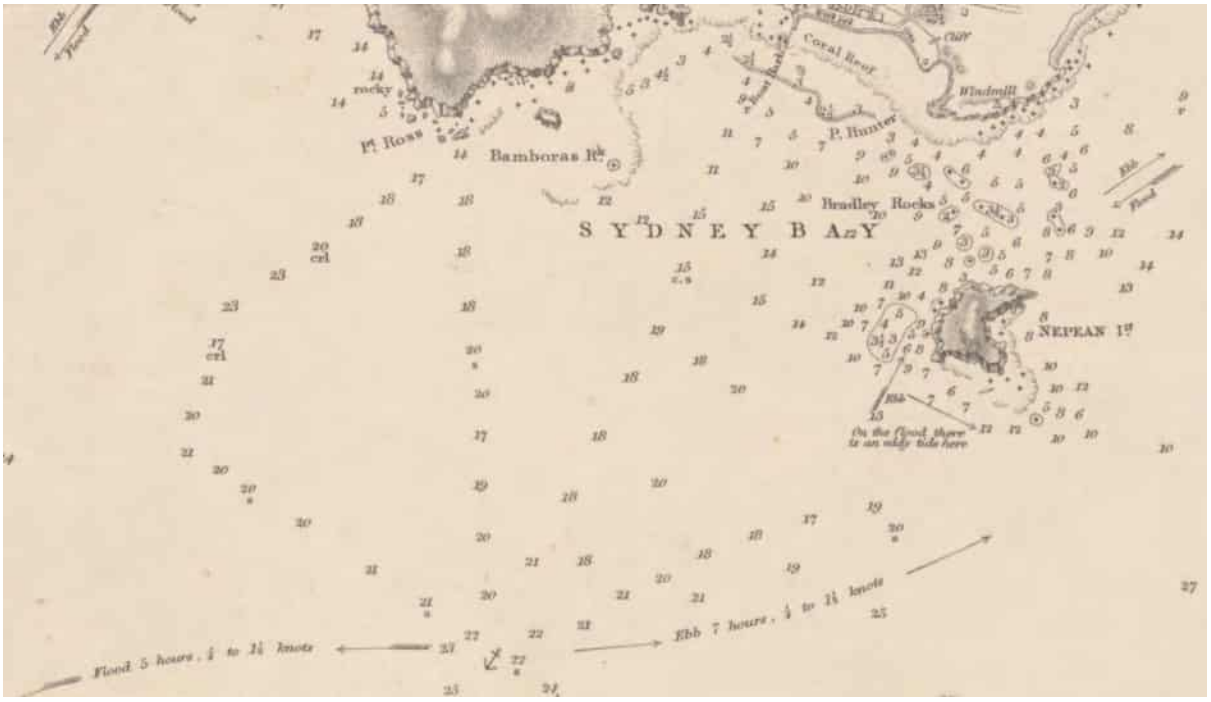

Figure 10: 1855 chart showing ship anchorage (indicated by anchor) approximately 3 km southwest of Kingston. [24]

[23] **Anon, 1910**, Kingston Pier, horses on the landing, Crankmill, boat store ruins and a ship at a distance, Norfolk Island, approximately 1910, https://trove.nla.gov.au/work/237389426 accessed 16 April 2020.
[24] **Hydrographic Department, Great Britain, 1856**, *Pacific Ocean. Norfolk and Philip Islands,* viewed 16 April 2020 http://nla.gov.au/nla.obj-231292577

2.3.2 Second settlement shipwrecks

2.3.2.1 Friendship (1835)

Friendship was an 88 ton wooden hulled schooner. The vessel had three decks, measured 58 feet (17.68m) in length, 19 feet (5.79m) wide and had a draft of 10 feet (3.05m). *Friendship* was built by J. White in Barnstable England in 1824 and had been chartered by Henry Bull of Sydney to convey himself and his family to Tahiti to establish a sugar plantation. The commander of the vessel, Captain Harrison, was part owner in the venture as well.

Friendship attempted to reach the moorings south of Kingston harbor but was unable to due to due to a strong SW breeze. As the wind picked up, the vessel was forced to pull anchor and sail through the channel between Nepean and Norfolk Islands.

On Saturday, 16th May, *Friendship* was successful in reaching the mooring. However, the wind was still blowing from the SW and the mooring was precarious. Norfolk Island's Commandant, Major Anderson, sent a whale boat to the vessel in case of accident as *Friendship* had lost its only boat on the passage around Nepean Island.

At daylight on Sunday morning, it was seen that *Friendship* was drifting towards the breakers and the shallow reef, on a lee shore (blowing towards land) wind and heavy surf. The drift was caused by a faulty mooring buoy, which had been installed the previous year in July 1834.

The crew struggled to keep the vessel off the reef by raising the sails, but as the vessel came directly across from the Commissariat Store, they struck the reef and lost the vessel's rudder and came to a spot directly opposite the landing place (presumably where the Pier now exists).

The masts were then cut away from the vessel to form a bridge and hawser to facilitate rescue. At this point the tide was still low enough for a large number of prisoners on the beach to wade out to the stranded vessel and rescue the 50 passengers, crew, and prisoners aboard. To affect this rescue, the prisoners carried a whale boat over the reef and alongside the *Friendship* to rescue its passengers.

Over the next two days, prisoners were engaged in salvaging as much cargo and personal effects as could be managed.[25]

The location of wrecking is an extremely high energy environment, and it is realistic to assume that the majority of the vessel was broken up with wreckage washed towards shore.

2.3.2.2 Mary Hamilton (1873)

Mary Hamilton was a 218 ton wooden hulled whaling barque built by Barr & Shearer in Ardrossan, Scotland in 1857. The vessel was registered in Melbourne upon its arrival in 1872 and was fitted out for whaling purposes. On 1st August 1872, *Mary Hamilton* left Melbourne under the command of Captain Barker for a 12-month sperm whaling expedition with a crew of 21 sailors. After returning to Sydney for repairs to replace the bowsprit, the vessel set sail on 9th December and reached Norfolk Island on 19th April 1873.

Boats were sent ashore at Cascade in Norfolk Island to gather wood, water and other supplies. On 6th May, the *Mary Hamilton* circled around the south of Norfolk Island to send a boat to Kingston to pick up Captain Glover, who had made his way across the island for business purposes. At approximately 2pm, *Mary Hamilton* struck a submerged rock to the

[25] **Anon, 1835** 'Domestic and Miscellaneous Intelligence.', *The Australian (Sydney, NSW: 1824 - 1848)*, 21 August, p. 2, available at http://nla.gov.au/nla.news-article42008860, viewed 15 Apr 2020.

southeast of Nepean Island, just south of Kingston. The wrecking event comes from accounts given by both the Captain and the First Mate, Mr. D.W. Glover.[26]

Glover, in command, recorded feeling a slight bump, and noticing sheets of copper coming off the keel of the vessel. Upon checking the hold, it was determined that the vessel was quickly taking on water and would soon sink.

When Captain Barker boarded the vessel at 5:30 pm, it was determined that the best course of action would be to unload the vessel's cargo to a nearby schooner, *Ivanhoe,* and make preparations to beach the sinking vessel near Kingston Pier.

In the morning of the 7th May, *Mary Hamilton* was beached at the Landing Place. Over the next seven days supplies and parts were salvaged from the beached vessel until waves eventually broke the vessel in half. It was noted by the Captain that the surf and tides were relatively mild, with little heavy surf and spring tides, which assisted in the salvage operation.

2.3.2.3 Bittern (1868)

Bittern was a 40-ton timber hulled cutter, registered in Auckland, and involved in the trade of timber and livestock between Auckland, Norfolk Island, and Noumea. The vessel was built in 1865 in Mahurangi, New Zealand, and measured 53.4 feet (16.28 m) long and 17.6 feet (5.36 m) wide.

Bittern arrived at Norfolk Island on 13th July 1868 from Noumea, after delivering a load of cattle and sheep for that port. On 16th July, the vessel anchored at Cascade Bay and delivered a portion of its cargo. During the night, the wind shifted to the north and *Bittern* left its anchorage to avoid being blown onto shore. The crew moved the vessel to the south side of the island, making anchorage off Kingston on the 18th July and finished unloading the vessel's cargo.

The wrecking was recorded in contemporary newspapers as occurring on the 19th May: [27]

At approximately 7:00 am, the wind suddenly shifted to the southeast, bringing *Bittern* on a lee shore breeze. The cutter immediately attempted to raise anchor and sail further out to sea, but the increased swell caused the anchor to break off "short of the crown". The vessel attempted to sail into the wind, but was unsuccessful in tacking, possibly due to a length of anchor chain hanging from the hawsepipe.

As the wind continued to increase, *Bittern* was blown onto the reef a short distance to the left of the channel entering the boat harbour. After striking the reef several times, the crew abandoned the vessel, rescued by islanders in whale boats and *Bittern* was smashed. Almost nothing was saved from the wreck except a chronometer and the vessel's papers.

The reported wrecking location indicates that the wreck may have occurred near an area known as the "blow hole", immediately to the west of the Kingston Pier and Landing Place.

2.3.2.4 Other smaller vessels

Two small boats were also recorded as having wrecked near the Landing Place:

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[26] **1873** 'Shipping Intelligence. Port of Auckland', *Daily Southern Cross (Auckland, NZ)*, 31 May 1873, p.1. viewed 15 Apr 2020, https://paperspast.natlib.govt.nz/newspapers/DSC18730531.2.4
1873 'WRECK OF THE MARY HAMILTON.', *The Hay Standard and Advertiser for Balranald, Wentworth, Maude...(Hay, NSW : 1871 - 1873; 1880 - 1881; 1890 - 1900)*, 18 June, p. 4. , viewed 15 Apr 2020, http://nla.gov.au/nla.news-article145704895

[27] **1868** 'TOTAL LOSS OF THE CUTTER BITTERN AT NORFOLK ISLAND.', *The Cornwall Chronicle (Launceston, Tas. : 1835 - 1880)*, 31 October, p. 4. Available at http://nla.gov.au/nla.news-article66463295, accessed 15 April 2020 and
1868 'NOFOLK ISLAND. – THE WRECK OF THE 'BITTERN.' (FROM A CORRESPONDENT.)', *Daily Southern Cross (Auckland, NZ),* 22 September, p.3. Available at https://paperspast.natlib.govt.nz/newspapers/DSC18680922.2.18, accessed 15 April 2020.

- **1826** – a whale boat returning to the landing place from a brig, possibly the *Amity,* was upset on the reef. 7 persons on board were able to swim to shore, but the boat was a total loss.[28]
- **1840** – an anonymous boat, returning from Philip Island, was upset by "tremendous rollers" upon its return to Kingston. All three on board were drowned.[29]

2.4 3rd (Pitcairn) settlement 1856 - present

In 1852, following several years of negotiation, the British Home Office decided to relocate the people of Pitcairn Island to Norfolk Island. The people of Pitcairn Island, a community of descendants of mutineers from the HMS *Bounty* and Tahitians, had outgrown Pitcairn Island. With Norfolk Island's penal settlement closure imminent, it was deemed to be a suitable place for resettlement.[30]

The people of Pitcairn Island voted to make the transfer. They sailed on the *Morayshire* and landed at Kingston on 8 June 1856. The Pitcairn Islanders first stayed in 'barracks', and by 1857 they were in possession of the Kingston buildings that were left vacant when the penal settlement ended. Around 1858, each household head was allocated a fifty-acre lot, away from Kingston.

As the Pitcairners settled into their new surroundings, they began to look for ways to earn money through trade. Early industries included whaling, which would become a mainstay of the Islanders. By 1859, 33 Islanders had formed a whaling company and bought boats and whaling gear from an American whaler.[31]

Whaling continued on and off through the 19th and 20th centuries. A 1959 report on the situation of the Norfolk Island fishing and whaling industries indicated that nine commercial fishing boats were operational, employing several dozen Islanders.[32] By this point, the fishing industry was already in decline, with both the processing company and the fishermen failing to make significant profit. Boats continued to be launched via crane at both Cascade and Kingston Piers, while whales were either processed at sea, or drawn onto the beach for processing at Cascade and Ball Bay.[33] Whale oil processed by the Islanders was pumped onto tankers that brought petrol from Australia.[34]

Throughout this period Norfolk Island, and Kingston specifically, remained an important strategic point for South Pacific trade. Cargoes transported between Norfolk, Australia, New Zealand, New Caledonia and other south seas islands was extremely varied, but chief among imports to Norfolk were manufactured goods that could not be produced on the island. *Oscar Robinson* was travelling from Auckland to Noumea via Norfolk and carried as cargo[35]:

- For Noumea: blasting powder, sporting powder, candles and jams
- For Norfolk Island: drapery, tea, sugar, candles, dates, kerosene, starch, flour, groceries, mattresses, bags, photo goods, stationery, earthenware, soda, paper, and saddlery

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[28] **Anon, 1826** 'Norfolk Island.', *Colonial Times and Tasmanian Advertiser (Hobart, Tas. : 1825 - 1827)*, 3 February, p. 2. Available at http://nla.gov.au/nla.news-article2447070, accessed 12 April 2020.
[29] **Anon, 1840** 'Original Correspondence.', *Australasian Chronicle (Sydney, NSW : 1839 - 1843)*, 17 March, p. 2. Available at http://nla.gov.au/nla.news-article31727834, accessed 15 April 2020.
[30] Op. Cit., Jean Rice Architect, Context Pty Ltd, and GML Heritage Pty Ltd. 2016, p.29.
[31] Op. Cit., **Hoare,** p.85.
[32] Op. Cit., **Van Pel**, p.8.
[33] Op. Cit., **Hoare, 1999**, p. 85.
[34] Op. Cit., **Van Pel, 1959**, pp. 5-7.
[35] **Sydney Morning Herald** (NSW : 1842 - 1954), Saturday 12 February 1898, p. 9.

- For Lord Howe Island: furniture, groceries, drapery, sheet iron, bags, hardware, books, rattans.

During WWII, Norfolk Island became militarised as a location for Australian, New Zealand, and American armed forces to monitor South Pacific waters. The chief development of this period was the aerodrome, later to become the Norfolk Island airport. The aerodrome was constructed between 1942 and 1943 under the supervision of American and Australian military engineers.[36] Military garrisons were regularly supplied by American, Australian and New Zealand ships, including sailing schooners drafted into armed service. One of these vessels, *Ronaki* IX-94, wrecked near Kingston Pier in 1943. *Ronaki* was carrying war supplies to Norfolk Island, including a large quantity of electrical equipment, possibly for use in construction of the aerodrome, when it ran aground on the reef.

Kingston Pier was significantly damaged during the war as a result of landing supplies and operating heavy machinery in the construction of the aerodrome. Further damage was caused to the seawalls, which were breached in order to undertake salvage operations on *Ronaki.*[37]

2.4.1 Third settlement shipwrecks

2.4.1.1 Ronaki IX-94 (1943)

Ronaki was a 255 ton, timber hulled, twin diesel engine, three-masted auxiliary schooner built in Auckland in 1922. The vessel was owned by the Northern Steam Ship Company prior to WWII and was intended to operate in the coastal cement trade in New Zealand. On 21st October 1942, *Ronaki* was transferred to the US government as a store ship for US troops in the Pacific War Zone and redesignated IX-94.[38] *Ronaki* was involved in the supply of Allied forces stationed on Norfolk Island during the war years, indicated by its cargo which included war supplies, including munitions and a large quantity of electrical goods.[39]

On 18 June 1943, *Ronaki* foundered in a violent storm and washed onto the reef south east of Kingston Pier. A line was extended from the vessel to shore and the vessel was pulled up high onto the reef only 50 m east of Kingston Pier. An access was cut through the sea wall nearest to the vessel, and over several days the vessel was successfully salvaged (Figure 11). According to local informants consulted during the 1985 HMS *Sirius* Expedition, the wooden hull of *Ronaki* was burned and most of the structural iron was removed to the base of a cliff near Bloody Bridge.[40] Several artefacts from *Ronaki* were examined by researchers in 1985, along with several items in the Norfolk Island museum.

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[36] Op. Cit. Hoare 1999 : 130.
[37] Op. Cit. KAVHA Heritage Management Plan, April 2016, p.38.
[38] **Mooney, J. ed., 1976**, *Dictionary of American Naval Fighting Ships, Vol.VI,* p.154. Naval History Division, Dept. of the Navy. Washington, DC.
[39] "WWII Merchant Ship Movement Records, *Ronaki* to *Samuel Heintzelman",* Royal Australian Navy Naval History Section, available at https://www.navy.gov.au/sites/default/files/documents/RONAKI_TO_SAMUEL_HEINTZELMAN.pdf accessed 15 April 2020.
[40] **Henderson, G., M. Stanbury, 1985**, Report to the Australian Bicentennial Authority on the February – March 1985 Bicentennial Project Expedition to the Wreck of HMS Sirius (1790) at Norfolk at Norfolk Island, Report prepared for Department of Maritime Archaeology, Western Australian Maritime Museum No.24: p.21.

Figure 11: Ronaki IX-94 run aground on reef immediately east of Kingston Pier. Salvage efforts underway. Note the Pier is visible in the right of image.[41]

2.4.1.2 Other smaller vessels

Two small boats were also recorded as having wrecked near Kingston Pier:

- **1907** – a whaleboat belonging to the No.3 Whaling Company was wrecked on the reef sticking out from the end of Kingston Pier. The crew were rescued, but the boat was destroyed on the rocks opposite the Pier.[42]
- **1922** – a whaleboat was destroyed on the rocks while loading timber. [43]

2.5 Summary of predicted archaeological potential

The KPUATEMP provided an analysis of the archaeological potential found within the proposed works area.[44] This was summarised as follows :

- *It can be expected that there would be an increasing concentration of artefacts associated with the Landing Place closer to the stone ramp on the Pier. This resource would have been truncated by the dredging that took place in the 1980s.*
- *It can be expected that there would be an increasing concentration of artefacts associated with the Pier closer to the western edge. This resource would have been truncated by the dredging that took place in the 1980s.*

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[41] **AUCHD** wreck ID 7955 https://dmzapp17p.ris.environment.gov.au/shipwreck/public/wreck/wreck.do?key=7955, accessed 18 December 2020.
[42] **Anon, 1907,** 'WHALE-BOAT CAPSIZES.', *The Argus (Melbourne, Vic. : 1848 - 1957)*, 24 July, p. 6. Available at http://nla.gov.au/nla.news-article10136833, viewed 15 April 2020.
[43] **Anon, 1922** 'Whaleboat Smashed to Pieces.', *The Age (Melbourne, Vic. : 1854 - 1954)*, 6 February, p. 6. , viewed 15 Apr 2020, http://nla.gov.au/nla.news-article205750810
[44] Op. Cit., **Cosmos Archaeology Pty Ltd, September 2020 :** Section 2.1

- *It could be expected that any wreck-related materials would be distributed across the study area with perhaps an increasing concentration closer to the entrance to the channel leading into the berth.*
- *The majority of artefacts could be concentrated in gutters, gullies, crevasses and cracks in the seafloor and buried with sediment ranging from coarse sand to cobbles.*
- *Such artefacts could be concreted into ferrous masses or possibly even into recently formed calcarenite.*
- *It cannot be stated with confidence at this stage as to the depth of the gutters and gullies which is a factor in determining the quantity and condition of any artefacts present.*
- *There would be a tendency for smaller or highly fragmented artefacts, including ceramics and glass, to be present.*
- *Timber wreckage is unlikely to be present unless rapidly buried in the apparent deeper sediments in the entrance to the channel.*
- *The timber remains of the slipway are very unlikely to be present within the study area though parts of slipways could be buried under the Pier.*
- *The footings of the beacon are likely to be present but difficult to identify.*

2.6 Summary of preliminary archaeological significance

The KAVHA Archaeological Zoning and Management Plan (AZMP) states that with respect to archaeological significance;

> *KAVHA is a rare surviving settlement that provides tangible evidence of a range of different forms of human occupation extending over a period of almost one thousand years. The archaeological remains have significant potential to contribute to understanding of the site's continuous development during each period of occupation.*
>
> *The values detailed in the statement of significance cover a wide range of existing and potential resources. These may vary in their ability to contribute to the core reasons for conserving and interpreting the site.*[45]

The archaeological resource within KAVHA has been assessed in the AZMP as follows in Table 1 (text not in italics has been added by the authors). This assessment at present also applies to the underwater archaeological resources within the study area, including shipwreck remains other than HMS *Sirius.* The updated archaeological potential and significance assessment can be found in Section 6 and Section 7 respectively.

Table 1: Archaeological - terrestrial and preliminary underwater - significance.

Occupation Phase	Occurrence	Condition	Historical relevance	Research value	Resource	Key value
Polynesian settlement c.1150 - c. 1450	*Rare*	*Potentially a high degree of integrity*	Tracing Polynesian settlement	*High*	*All physical evidence*	*Critical*

[45] **Extent, June 2020** *Kingston and Arthur's Vale Historic Area (KAVHA) : Archaeological Zoning and Management Plan*, pg. 65.

			across the Pacific			
The First (Colonial) Settlement 1788 - 1814	*Rare*	*Relatively undisturbed*	*Key part of the broader operation of the British penal system*	*High*	*All physical evidence*	*Critical*
The Second (Penal) Settlement 1825 - 1855	Rare	Relatively undisturbed	*The ultimate expression of Britain's global system of penal discipline*	*High*	*All physical evidence*	*Critical*
The Third (Pitcairn) Settlement 1856 - 1897	Rare	Not assessed	*The operation of a culturally distinct Polynesia/European community living within a broader European context*	*High*	*All physical evidence*	*Critical*
The Third (Pitcairn) Settlement 1898 to present	Common	Not assessed		*Limited*	*Evidence relating to WWII defence works, tourism, use of earlier structures and modifications*	*Secondary*

3 TEST EXCAVATION METHODOLOGY

3.1 Dates and Personnel

The Kingston Pier Test Excavation took place over seven days from 7th to 13th November, 2020. Cosmos Coroneos was the Excavation Director (ED) and was responsible for the organisation of the maritime archaeological divers, coordinating the work and liaising with Advisian, KAHVA, the Commonwealth and the NI Regional Council. The ED was responsible for ensuring the excavation methodology was maintained and all data was collected to the highest possible standard. Jane Michell was the Underwater Archaeology Supervisor (UAS) and was responsible for implementing the excavation methodology from the seabed to the sieve station. The UAS was also responsible for the management, organisation and backing-up of all data on a daily basis.

Connor McBrian was the Artefact Registrar (AR). The AR was responsible for coordinating the sieving of the dredge spoil that was brought up onto the working platform. The AR managed the process of ensuring the artefacts were bagged, labelled, photographed and catalogued. The AR also managed a team of Norfolk Islanders who assisted with the sieving operations.

Diving support was provided by Professional Diving Services in the form of supply of three divers/dive supervisors, Self-Contained Underwater Breathing Apparatus (SCUBA) and Surface Supplied Breathing Apparatus (SSBA) equipment and all excavation tools. They were also responsible for maintenance of the diving equipment throughout the works. All equipment was stored in the boatshed at the northern end of the Pier when not in use. Air cylinders and weights were supplied by Mitch Graham from Norfolk Island Diving. Sieving personnel were supplied through GP Services labour hire.

The personnel involved in the Kingston Pier Test Excavation are outlined in Table 2.

Table 2: Personnel involved in the Kingston Pier Test Excavation.

Name	Title	Company
Cosmos Coroneos	Excavation Director	Cosmos Archaeology
Jane Mitchell	Underwater Archaeology Supervisor	Cosmos Archaeology
Connor McBrian	Artefact Registrar	Cosmos Archaeology
Malcolm Venturoni	Dive Supervisor / Diver	Professional Diving Services
James Parkinson	Dive Supervisor / Diver	Professional Diving Services
Jason Blackwell	Dive Supervisor / Diver	Professional Diving Services
Mitch Graham	Dive support	Norfolk Island Diving
George Parsons	Labour and equipment support	GP Services
Ebony Parsons	Sieve worker	GP Services
Jeht Nobbs	Sieve worker	GP Services
Jess Tierney	Sieve worker	GP Services

In addition, a number of permits were required for the works. These permits are listed in Table 3 and can be found in Annex E.

Table 3: Permits obtained for the Kingston Pier Test Excavation.

Permit Number	Permit	Issued by	Valid Dates
N/A	Permit to use Pier	Norfolk Island Regional Council	6/11/2020 – 14/11/2020
100527	Permit to Impact Underwater Cultural Heritage	Australian Government Department of Agriculture, Water and the Environment	23/10/2020 - 31/12/2021
PA2020-00076-1	Australian Marine Park Activity Permit	Australian Government Director Of National Parks	5/11/2020 – 2/05/2021
S30/2020	Permit to extract sand from Cemetery Bay	Norfolk Island Regional Council	3/11/2020 – 3/12/2020
100527	Permit to Impact Underwater Cultural Heritage – amendment*	Australian Government Department of Agriculture, Water and the Environment	12/11/2020 – 31/12/2021

*Note: The original UCH permit allowed for the excavation within the four test trenches only, when two trenches were extended, an amendment was sought and approved.

3.2 Tides and weather

Diving conditions on the western side of Kingston Pier are heavily affected by the weather. The prevailing SW winds with the topography of the seabed can create large swells, making underwater work difficult. Tides also have an effect with high tide providing some relief from the swell largely due to the divers being under a greater water volume. Conversely, as the tide recedes, the exposed reef at the southern end of Kingston Pier dampens the swell to an extent. Dives were planned to work within these tidal and swell constraints. The weather conditions that were taken into consideration for the excavation are outlined in Table 4 and Table 5.

Table 4: Wind and swell conditions for the period of the test excavation.[46]

Date	Temperature (°C)	Swell (height m)	Wind 09:00 (km/h)	Wind 15:00 (km/h)
7 November 2020	19.2 – 24.0	2.7 - 3	26 NW	37 W
8 November 2020	18.4 – 22.0	3.6 – 4.3	30 WSW	31 SW
9 November 2020	14.5 – 20.6	4 - 5	26 SW	28 SW
10 November 2020	15.3 – 21.4	3.2 – 3.9	22 SSW	19 S
11 November 2020	14.9 – 21.3	2.4 – 3.2	13 S	17 SE
12 November 2020	15.5 – 21.6	2.1 – 2.4	20 SE	24 E
13 November 2020	15.7 – 23.2	2 – 2.1	20 E	30 ENE
17 November 2020	16.7 – 22.7	1 – 1.2	9 SSE	17 SW

[46] **Bureau of Meteorology, Australian Government 2020,** Norfolk Island November 2020 Daily weather observations, available at http://www.bom.gov.au/climate/dwo/202011/html/IDCJDW2100.202011.shtml, accessed 3 December 2020.

Table 5: Tides for the duration of the Test Excavation.[47]

7 November 2020	**Time**	2422	0629	1313	1927
	Height (m Lat)	1.4	0.5	1.5	0.7
8 November 2020	**Time**	0113	0722	1413	2030
	Height (m Lat)	1.3	0.6	1.4	0.7
9 November 2020	**Time**	0223	0830	1523	2143
	Height (m Lat)	1.3	0.6	1.5	0.7
10 November 2020	**Time**	0349	0948	1631	2255
	Height (M Lat)	1.3	0.6	1.5	0.6
11 November 2020	**Time**	0508	1103	1732	2358
	Height (M Lat)	1.3	0.6	1.6	0.5
12 November 2020	**Time**	0613	1208	1827	
	Height (M Lat)	1.5	0.5	1.7	
13 November 2020	**Time**	1250	0707	1305	1916
	Height (M Lat)	0.4	1.6	0.4	1.7
17 November 2020	**Time**	0345	1015	1627	2222
	Height (M Lat)	0.2	1.9	0.4	1.7

3.3 Excavation approach

In general, diving was carried out using SCUBA, unless the diver was operating the venturi dredge, when SSBA was used. As such, the diver was tethered to the Pier and able to communicate via communication lines with the crew on the Pier at all times.

The excavation was carried out with a diver-operated water induction dredge across 4 test trenches, with each trench measuring 2m x 2m in size. The depth limit of excavation in all trenches was the tuff/basalt substrate which is culturally sterile. Sediment was hand-fanned into the dredge, with the material collected into a sediment box. When full, the sediment box was raised to the surface using a lift bag and derrick and was then raised to the Pier deck.

All personnel working on the Pier deck adhered to social distancing measures and practiced good hygiene measures in line with COVID-19 protocols.

3.3.1 Considerations

The excavation approach for this investigation was shaped by taking the following critical factors into account:

1) The waters around the southern end of Norfolk Island can be rough, creating turbulence and severe surge. This of course limits what can be achieved when compared to a terrestrial excavation. It also means only one diver at a time can effectively work in a trench to avoid confusion and disturbance. Crucial to the success of the excavation programme was the use of trained, experienced and well-briefed divers as well as constant communication between the diver and the surface using hard wire communications.

[47] **Bureau of Meteorology, Australian Government 2020,** Tide Predictions for Norfolk Island, available at http://www.bom.gov.au/australia/tides/#!/offshore-norfolk-island, accessed 3 December 2020.

2) The water depth, of less than 6 m, is shallow enough to avoid concerns of nitrogen build-up and the need for excessive decompression stops, meaning that a diver can stay underwater for a whole day with only short breaks. Such a regimen over a period of days would be fatiguing and, in any case, the threat of hyperthermia would limit a diver to working underwater for between 2 to 4 hours a day. This means that a trench will have more than one diver working in separate shifts on it each day. Further to what was stated above, having divers well briefed as to the objectives and methods of the excavation, as well as being briefed by the preceding diver before commencing their shift, will be crucial.
3) Weather conditions over the site can fluctuate hourly. This limited the length of diving on some days.
4) As the excavation took place in turbulent water, the diver had limited ability to recover artefacts on the seabed. As such, all material, including archaeological material, was brought up to the Pier. This was achieved using a diver operated induction dredge with material deposited into a sediment box. These boxes were then raised, and the material sieved.

3.4 Excavation methodology

3.4.1 Test Trenches

The proposed test trench locations outlined in the Kingston Pier Test Excavation Management Plan (KPTEMP) were positioned with the intention of sampling different seabed contexts across the study area and to excavate in areas where it was thought artefacts were more likely to be concentrated (Figure 12). Test trenches 1, 3 and 4 were to be positioned in areas where there were narrow gutters and/or sand filled depressions and their positions were determined by the transect lines run during the February dive inspection.[48] Test trench 2 was to be located within the 1980s dredge zone. The purpose of this test trench is to examine whether any 19th century artefacts have migrated into this area due to wave action.[49]

The indicative trench positions were originally measured in using the Google Earth ruler tool (Figure 12). TT1 and TT2 were measured from the base of the boat ramp running seaward along the Pier. TT1 was 19 m along the Pier and 15 m to the east, while TT2 was 31 m along the Pier and 5 m to the east.

TT3 and TT4 were measured from the shoreward end of the southern stairs. TT3 was 21 m running towards the shore along the Pier, 15 m to the east. TT4 was 16 m running south along the Pier and 17 m out to the east.

[48] **Cosmos Archaeology Pty Ltd, June 2020**, *Kingston Pier Test Excavation Management Plan*, report prepared for Advisian, pg 13-14.
[49] Op. Cit., **Cosmos Archaeology Pty Ltd**, **June 2020**, p. 12.

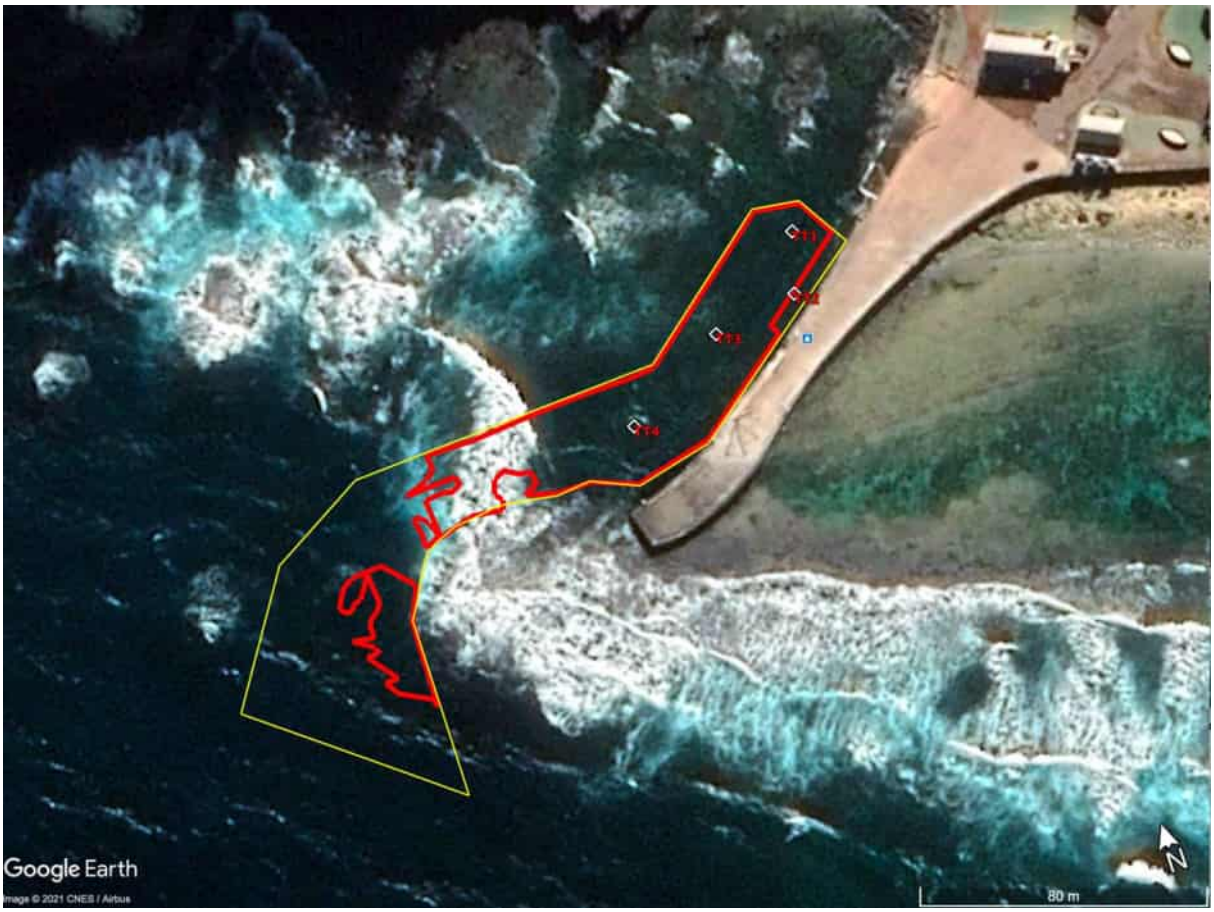

Figure 12: Indicative location of test trenches prior to test excavation works. Yellow outline is navigation channel, red is outline of proposed dredging area. TT2 was sited when the earlier design options included seabed removal along the whole length of the Pier. (Base image Google Earth).

To locate the indicative position of the trenches, two divers entered the water with a tape measure and a lead weight with flagging tape attached. Another tape measure was run along the Pier (Figure 13). The divers swam to the location of TT1 along the Pier, indicated by a person standing on the mark. One diver than swam out the requisite distance to the east. When the mark was reached, the lead weight was dropped. An equal mark was left on the Pier to indicate the Trench position (Figure 14).

While the areas for the trenches had been defined as being in sandy depressions or gullies, a further consideration was evidence of potential artefacts. Using the waterproof Minelab Excalibur II metal detector, the area surrounding the lead weight was surveyed for areas of greatest contact (Figure 15). When a suitable area was found, a 5mm eye bolt was drilled into the seafloor to indicate the trench position (Figure 16).

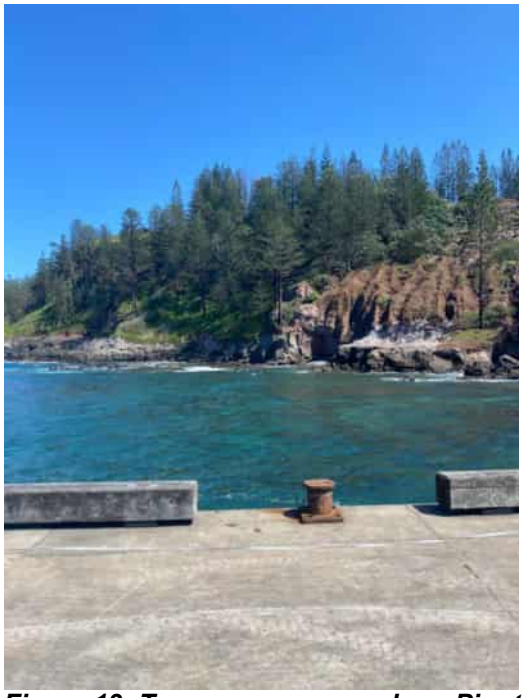

Figure 13: Tape measure run along Pier to provide indicative trench positions. (Image taken 7 November 2020.)

Figure 14: Trench positions were also marked along the Pier with electrical tape; TT2 is indicated with red arrow. (Image taken 7 November 2020).

Figure 15: Diver using metal detector to assist in locating test trench 3. (Image taken 7 November 2020.)

Figure 16: Diver indicating direction of trench. (Image taken 7 November 2020.)

Prior to excavation, a 2 m x 2 m grid frame was laid down to provide the boundary of the trench. The frame was made of PVC pipe and marked at 200 mm intervals. Initially, the frame was to be tied to the seafloor using the 5 mm eye bolts, but the softness of the tuff did not allow the eyebolts to solidly hold the frame in the rough conditions. The eyebolts were replaced with galvanised steel rod, approximately 300 mm long, that could be hammered into the seafloor to a depth that would hold the frame in place. The frame was then cable tied to the bolts. Each trench was located and excavated before moving the frame to the next trench.

During installation of the frame, the trenches were shifted slightly to allow for better attachment to the seafloor, a more defined sandy gully or to take advantage of a natural overhang. Figure 17 indicates the final position of the test trenches in relation to the original location.

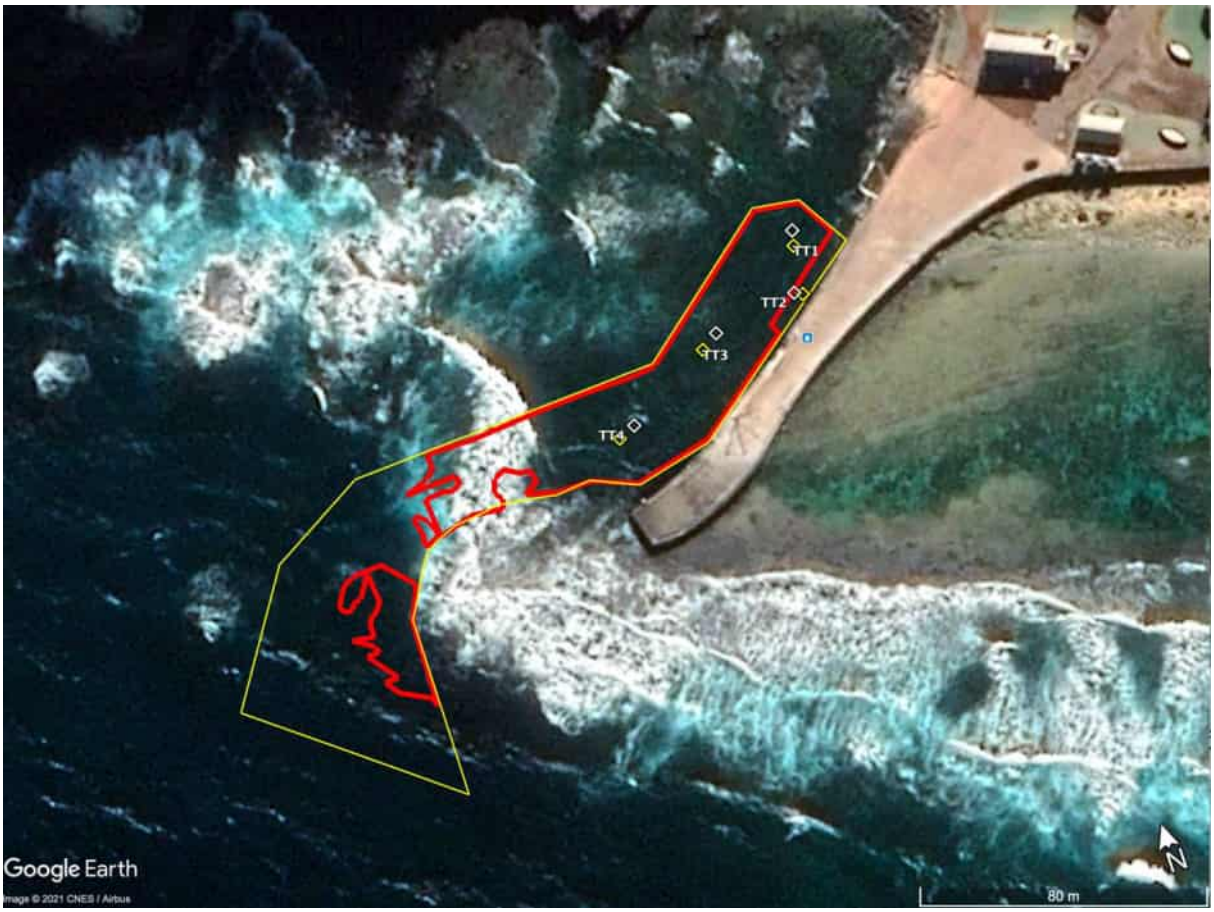

Figure 17: Final positions of test trenches (in yellow). TT2 was sited when the earlier design options included seabed removal along the whole length of the Pier. Base image on Google Earth.

Once the frame was in place, the trench was excavated by divers wearing SSBA dive equipment and using a surface powered water dredge. Detailed video recording was taken prior to, and after completion, of each context or trench.

The sediment in each trench was dredged to a sediment box. When the box was full, the intention was that it was to be lifted using a lift bag and slings and dragged over to the derrick to be craned to the surface.

The uneven surface of the seabed provided some challenges to this system. A rise in the seafloor near the base of the derrick, meant the sediment boxes could not be lifted over to reach the crane. A small crane truck was provided to lift the boxes for TT1 and TT2. The derrick was used for TT3 and TT4 (Figure 18 and Figure 19).

Figure 18: Method of extracting sediment boxes using a small crane truck. (Image taken 8 November 2020).

Figure 19: Method of extracting sediment boxes using Pier derrick. (Image taken 11 November 2020).

3.4.2 Test Trench Extensions

The objective of the trench extensions was to hand excavate in crevices, gullies and under large rocks where a trench grid or dredge head could not fit. As the original UCH permit was for excavation within four test trenches only, an amendment to the UCH permit was requested and received on 12 November 2020 (See Annex E).

Test Trench 1 and Test Trench 4 were extended to see if further finds could be found without the use of the water dredge. A small cut gully to the west of TT3 was also inspected for cultural material.

For each trench, divers were allocated an area outside the trench grid frame and provided with a catch bag. All finds located during the search were placed into each diver's catch bag and labelled as ground finds. One diver also used the metal detector and hand excavated any 'hits' (Figure 20 and Figure 21).

Figure 20: Hand fanning underneath overhang in TT4. (Image taken from video 201113_Hand fanning under overhang, 00:12).

Figure 21: Using a metal detector to search under rocks and gullies in TT4. (Image taken from video 201113_Metal Detector inside gullies, 00:06)

3.4.3 Sieving

Sediment boxes were raised onto the bed of a flat-bed truck, either by use of the boat derrick or by small crane truck and were then delivered to the sieve station. The sieve station was established at the top of the ramp at the landward end of the pier. The station consisted of a custom made sieve table and a modified fish cleaning table. 5 mm steel mesh was used on the tables as well as inside the sediment boxes (Figure 22). To facilitate sieving, a small battery operated water pump was installed on the fish cleaning table with a spray hose and water tank. Water was brought up to the tank from the ocean with buckets on ropes.

One of the conditions of obtaining the Marine Park Permit (Annex E) was the requirement to clean and filter the water prior to returning it back to the sea.

A two-step sediment capture system was implemented on the boat ramp, including arranging a number of sandbags to capture the bulk of the sediment, combined with a sediment fence at the middle of the ramp (above high tide water level) to polish/filter the water prior to entering the water column.[50]

Sediment was transported from the sediment boxes to the sieve tables with buckets, typically directly from box to table. In those instances when boxes were needed immediately back at the test trenches, they would be emptied onto tarpaulins laid out near the sieve table. Each sediment box and context was photographed upon arrival at the sieving station (Figure 23).

Larger rocks, chunks of volcanic tuff and calcarenite, and marine organisms were redeposited immediately into the water next to the ramp. Artefacts were collected from the sieve and sorted. The sieving team consisted of the artefact registrar and three local islanders employed under subcontract. Select pieces of calcarenite were also broken up and examined for artefacts.

[50] **Advision, 2020,** Memorandum: Norfolk Island Test Excavation for Australian Marine Park Permit application, p. 12.

Figure 22: Sieving station with tables and silt curtain in relation to pier and underwater excavations.

Figure 23: Sediment prepared for sieving on sieve table.

3.4.4 Video Survey

A survey of the rock platform at the southern end of Kingston Pier was conducted on 17th November, 2020 (Figure 24). The aim of the survey was to examine the rocky reef platform to the southern end of the Pier within the proposed dredging footprint, for any potential cultural material.

Figure 24: Video survey, inspecting seabed at proposed southern end of Kingston Pier in navigation channel. Orange track correlates with video 201117_Kingston Pier Video survey JM, purple equates to video 201117_Kingston Pier Video survey JB. (Base image Google Earth).

3.5 Artefact Recording

Excavation of each archaeological unit – context, spit and / or feature – commenced with a new sediment box. Before boxes arrived at the sieving station, they were tagged with the test trench number, context number, box number and date. Box numbering re-started at 1, at the beginning of each day.

As the sediment of each unit was processed, artefacts were collected from the sieve and placed directly into pre-labelled plastic bags filled with fresh sea water – thus keeping the artefacts in a similar environment in order to maintain artefact stability throughout the recovery and recording process. In an effort to reduce the risk of galvanic corrosion and streamline the recording process, artefacts from each context were also sorted directly at the sieve into material groups (such as ferrous, copper alloy, lead, glass, ceramic, faunal etc.), with each different material type placed in separate bags. Each bag was labelled with waterproof tags containing provenance information – including site name, trench number, context number, box number, and the date of excavation.

In some instances, sediment samples and examples of rocks that appeared to be non-local in origin were also collected from the sieve for geological testing and identification. These samples were also bagged and labelled with site name, trench number, context number, box number and date.

At the completion of sieving of each box, the sieve was cleared with brushes and pans, and all non-cultural objects that had captured in the sieve, such as natural gravels and cobbles, were dropped over the side of the seawall and returned to the seafloor.

3.5.1 Artefact curation

At the end of each day, the artefacts were placed in black plastic tubs, each tub corresponding to a specific test trench. The tubs were covered with a yellow lid, labelled with the site name, test trench number, and date of excavation. The water in the plastic bags the artefacts were stored in was replaced with fresh sea water, and fresh sea water was placed into the plastic tubs. Tubs were stored in the courtyard of Building 11 on Quality Row until photography and recording could take place.

Every artefact was photographed during the course of the excavation to assist with the registration and for future reference after artefacts had been relocated or discarded. The photography of the artefacts at this stage was not meant to be to publication standard. The process for photography was to remove the artefact(s) and context tag from its plastic bag and place it on plain background. Registration of artefacts was conducted simultaneously with photography, and each artefact (or grouping of similar artefacts) was assigned a catalogue number and catalogue tag. The first photograph would show the artefact, its context tag, its catalogue tag, and scale bar. Select artefacts such as rings and coins were photographed from different angles while all artefacts were photographed with a scale. For small pieces of ceramic, glass or copper alloy removed from the same context, images were taken in groups. Once photographed, the artefacts were returned to their water filled bags, with each artefact's catalogue number written on pink flagging tape and placed in the bag with the artefact and its context tag. Artefacts were then sorted into "retain" and "de-accession" tubs, based on the criteria outlined in Table 6.

Concurrently with photography, brief artefact cataloguing took place, limited to catalogue number, short item description, and measurements. The reason for this limited recording on site was due to the short time frame available to work on the Island coupled with the inability to take artefacts off Norfolk Island. More detailed artefact cataloguing was conducted in December and January based on photographs and notes taken during photography. This catalogue was built using Filemaker Pro software, and provides data on shape, material, completeness, count, minimum item count, description, dimensions, conjoins, and temporal placement. Artefacts were catalogued according to a system developed by La Trobe University and adapted to be consistent with other nationally recognised cataloguing systems.

During cataloguing, artefacts were separated into two categories – retention and de-accession in accordance with the approved artefact retention policy. Artefacts in the *Retention* category were set aside to be retained by the Norfolk Island Museum and delivered to the collections officer, Bethany Holland on 20th November 2020. Artefacts in the *De-Accession* category were deemed to have no further research potential, based on a number of factors such as deterioration, corrosion, fragmentation and/or the inability to identify the form or function of the artefact. These artefacts were secured in sealed containers and disposed of at the Norfolk Island waste management facility.

As with terrestrial excavations, not all artefacts recovered are of high archaeological research or interpretative value. Modern materials such as plastics make a contribution to the understanding of site formation processes but apart from that have little research value to merit their retention. Fragmentary or undiagnostic artefacts also have limited further research value that would warrant their retention after they have been recorded.

The artefacts recovered during the excavation were, after recording, subjected to an assessment as to whether they are to be retained or discarded. The basic principles to guide what is to be done with a recovered artefact once it has been recorded are:

- Cultural heritage significance
- Rarity
- Representativeness
- Condition.

The above principles are applied in the following table which served as a guide for the retention or discard of objects recovered during the excavation. Note this was amended from the KPUATEMP to address artefacts associated with the first forty years of the Third (Pitcairn) Settlement.

Table 6: Retain/discard policy.

Action	Criteria	Example
Retain	Artefacts associated with the early Polynesian settlement through to the second Penal settlement – 1825 to 1855.	Material associated with HMS *Sirius* or the Landing Place.
	Artefacts associated with The Third (Pitcairn) Settlement from 1856 - 1897.	Includes material associated with the use of the Pier.
	Uncommon objects in good condition associated with The Third (Pitcairn) Settlement from 1898 to present.	For example, personal items such as pre-decimal coins, combs, jewellery. Also, unusual examples of glass or ceramic patterns, makers marks or styles.
Discard	Undiagnostic artefacts	Unidentified artefacts, small broken and undiagnostic
	Common objects associated with The Third (Pitcairn) Settlement from 1898 to present.	Beer cans, plastic shoes, concrete, fish bones, stainless steel

There were 23 artefacts retained. The majority were from the 19th century, while some could not be clearly identified and were kept for further investigation.

4 FINDINGS OF TEST EXCAVATION

4.1 Test Trench 1

Test Trench 1 was located close to the eastern boundary of the proposed dredge footprint and was the closest trench to the original shore landing in use from 1788 to 1856. The majority of the artefacts found in this trench were modern with a very few dating to the 19th century. The sand depression in which the trench was sited did not lead into a deep gully but bottomed out within 320 mm onto the grey tuff. This material is very soft and does not lend itself to the creation of deep gullies or fissures which could trap artefacts.

CXT 1 (surface layer) is a matrix of heavy sand and sediment approximately 10 mm thick covering the entire trench (Figure 25 and Figure 26). This layer contained some loose rubble and two or three large grey cobbles, approximately the size of a fist. Once on the surface the 'grey cobbles' were determined to be volcanic tuff. A total of 40 artefacts were recovered from this context, the majority of which were modern artefacts including aluminium can scraps, fragments of glass bottles, and fish bones. Two artefacts were retained, a fragment of a leather belt [ID:0148] and a piece of lead sheet [ID:0163] (Figure 27 and Figure 28).

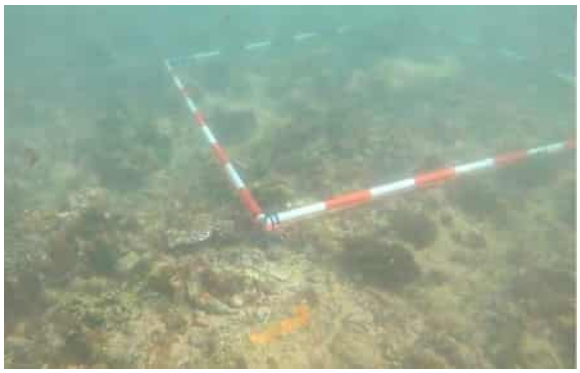

Figure 25: TT1 prior to commencing excavation. Image taken from video 201110_Pre-dredge video survey TT1, 00:04) Grid scale in 200 mm increments.

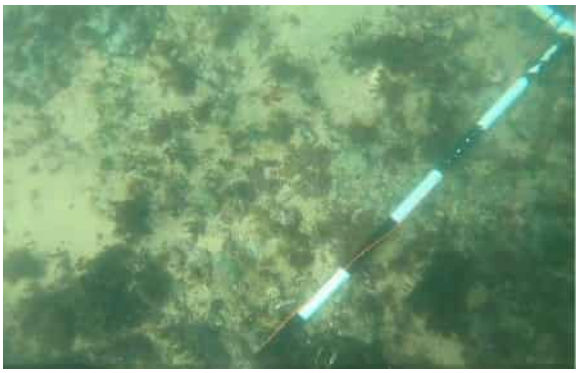

Figure 26: Detail of TT1 pre-excavation. Image taken from video 201110_Pre-dredge video survey TT1, 01:34).

Figure 27: Object ID:0148, fragment of leather belt.

Figure 28: Object ID:0163, lead sheet.

Once TT1 CXT1 was cleared, a gutter was identified, located in the western half of TT1. The contents of the gutter was identified as CXT2. It is estimated the 90% of TT1 CXT2 was excavated from this gutter.

CXT 2 consisted of small loose rubble and stone up to 250 mm across (Figure 29 and Figure 30). Some of the rubble was discoloured and stained an orange and / or black colour. A total of 89 artefacts were recovered from this context, the majority of which were modern artefacts including fragments of glass bottles, aluminium can scrap, animal bones, asbestos, bits of plastic and rubber, and several ferrous concretions. One artefact was retained, a piece of "black glass" from an early to mid 19th century bottle [ID:0157] (Figure 31).

Figure 29: Top of CXT 2 in TT1, note much larger rocky cobbles. (Image taken from video 201110_Video survey start CX2, 00:12).

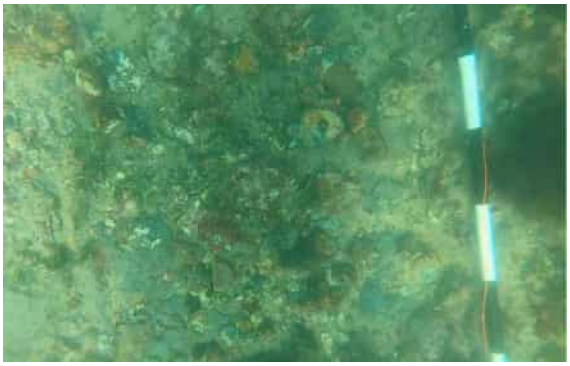

Figure 30: Top of CXT 2 in TT1, note that the tuff is already exposed in some areas. (Image taken from video 201110_ Video survey start CX2, 01:31).

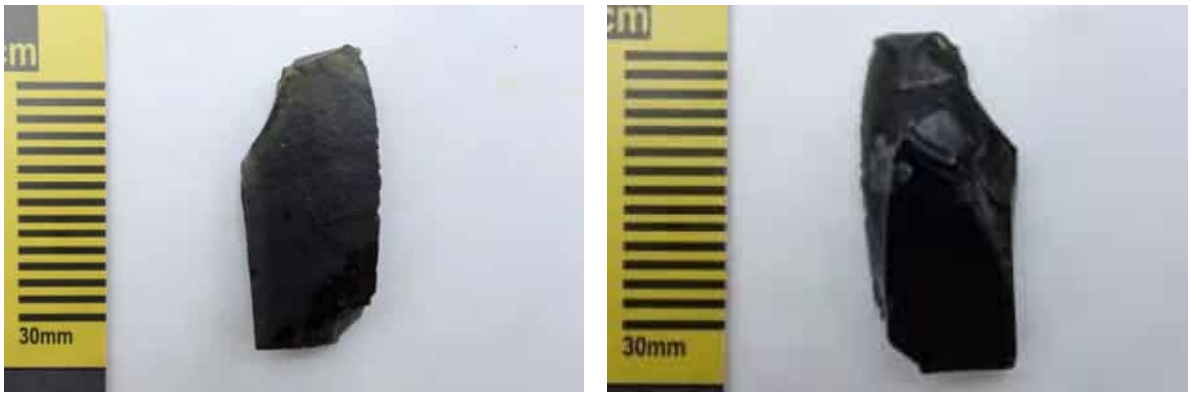

Figure 31: Object ID:0157, fragment of black glass from early 19th century bottle.

Underneath CXT2 was a layer of soft to hard volcanic tuff. The exposed gutter was approximately 800 mm wide at the northern end of the trench and 800 – 900 mm wide at the southern end (Figure 32). The deepest point in the gutter was 320 mm (Figure 33). The gutter may continue to the south but will gradually get shallower as the southern face of the trench is approximately 1.5 m away from a wall of tuff 1.5 m high. The 'reef' surrounding this trench is an encrusted or hardened grey tuff rind which breaks apart easily revealing softer material. No calcarenite was observed in the vicinity of TT1.

For a digital representation of TT1 post-excavation see Figure 34.

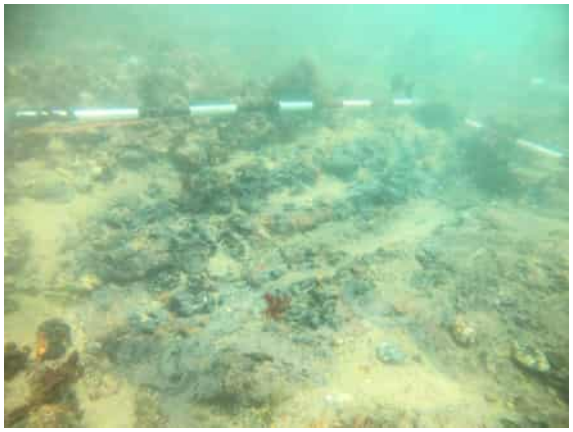

Figure 32: View of gutter in TT1, facing NW. (Image taken 10th November 2020).

Figure 33: Detail of grey tuff at base of TT1. (Image taken 10th November).

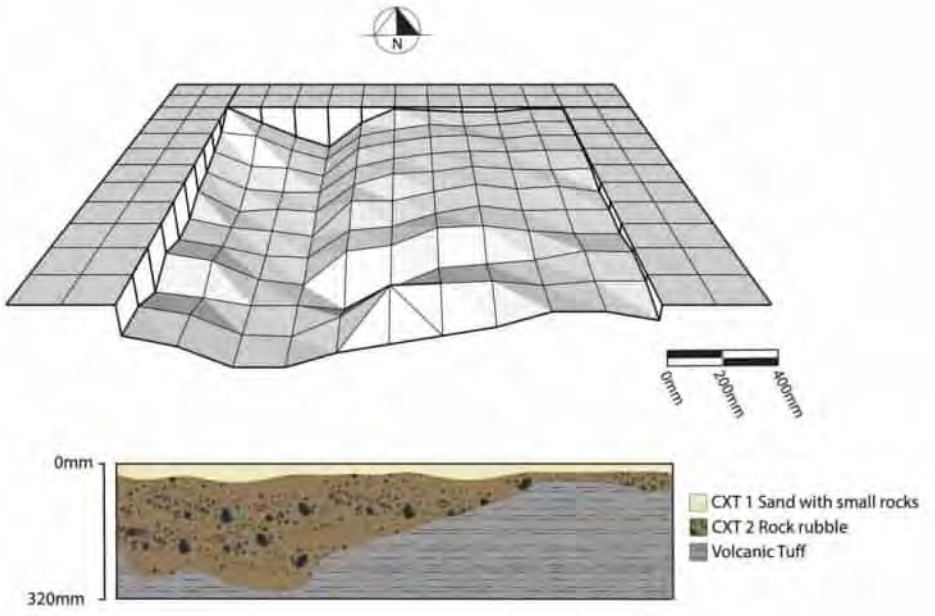

Figure 34: Profile depths post-excavation across TT1 (above) and through deepest section (below).

4.1.1 TT 1 extension

The reef around, and to the west, of TT1 does not have distinct gutters. Instead, there are shallow sandy depressions, similar to what was exposed inside the TT1 trench grid. The reef is very soft grey tuff that breaks apart easily by hand (Figure 35).

A total of 41 artefacts were recovered from the TT1 extension, the majority of which are modern artefacts including glass bottles and bottle fragments, animal bones, fish cleaning implements, concreted ferrous bolts, and lead sinkers. Two artefacts were retained, a ceramic sherd (ID:0181) and an engine tappet shim [ID:0189] (Figure 36 and Figure 37). Based on the curatorial criteria listed in Table 6, the engine shim would have been discarded, however, it could not be identified before the team left Norfolk Island, and was

retained to make a positive identification. To the west there is a slipway rail, approximately 2 metres long (Figure 38). It was not recovered.

Figure 35: Overview of TT1 extension. (mage taken from video 201113_Overview of TT1 extension, 00:13).

Figure 36: Object ID:0181, white glazed ceramic stoneware, fragment from bowl.

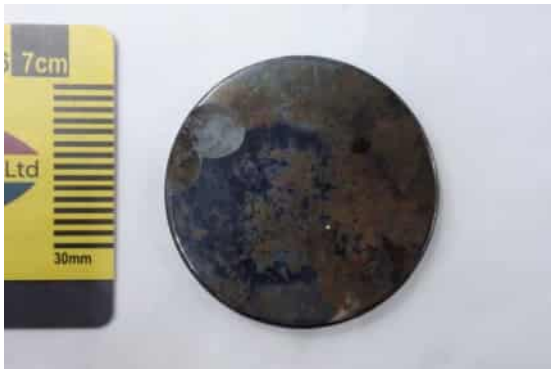

Figure 37: Object ID:0189, metallic engine tappet shim. Material unidentified, non-ferrous/magnetic.

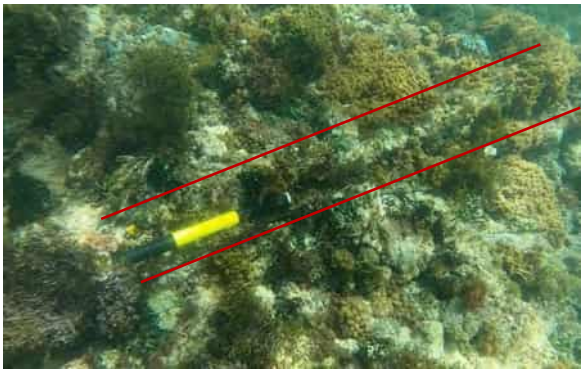

Figure 38: Potential slipway rail to the west of TT1 (indicated in red). Scale in 100 mm increments. (Image taken from video 201107_Survey of TT1 location, 00:14).

4.2 Test Trench 2

Test Trench 2 was sited adjacent to the Pier in the area that had been dredged in the 1980s and again in 2005 (Figure 39). Only one context was identified within the trench. The dredged sediment from the trench consisted of a gravelly sand matrix with small rocks (Figure 40). Some blackened rocks that potentially contained iron were placed into the dredge head. The diver noted that the grey tuff sediment at the base of the trench was very uneven, ranging from 100 mm to 500 mm deep, and generally the trench sloped downwards towards the Pier (Figure 41 and Figure 42).

For a digital representation of profiles of TT2 see Figure 43.

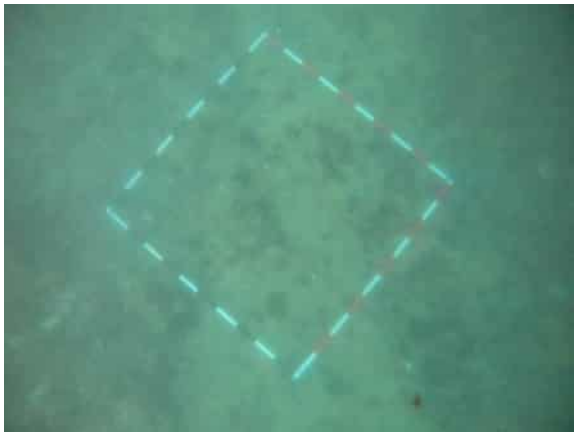

Figure 39: Established frame for TT2 prior to dredging. (Image taken 7th November 2020).

Figure 40: Ferrous concretion lying loose in SE corner of TT2 prior to dredging. (Image taken 7th November 2020).

Figure 41: TT2 post-excavation, facing slightly to the NW. Note the trench slopes down towards the Pier. (Image from: 201108_Video survey of TT2 post dredge_1; 00:04).

Figure 42: Detail of grey tuff covering base of TT2. (Image from: 201108_Video survey of TT2 post dredge_1; 00:19).

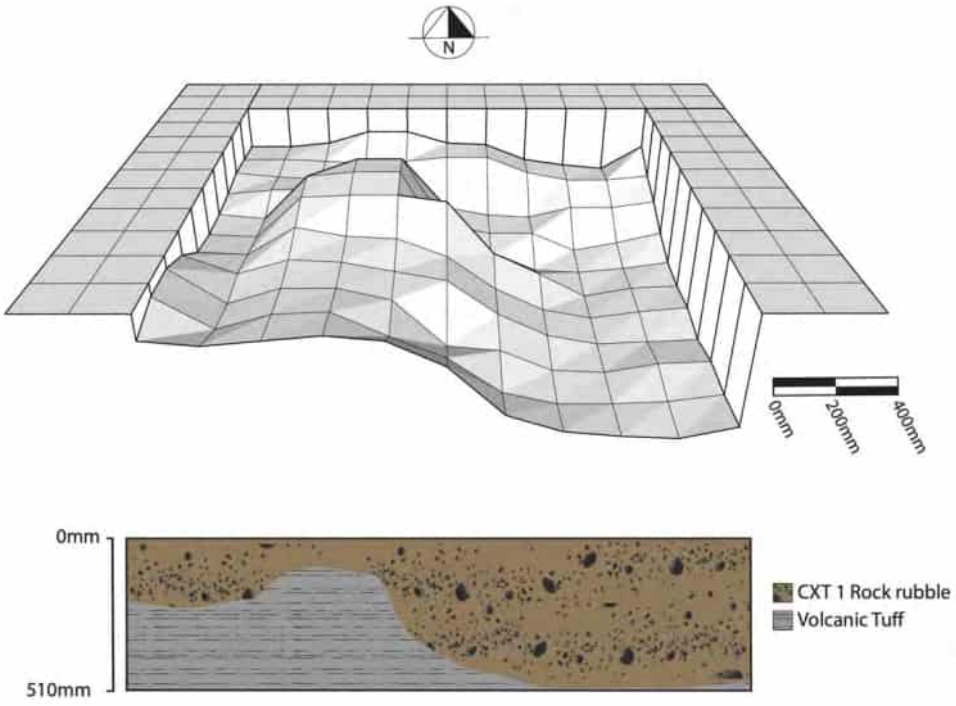

Figure 43: Profile depths across TT2 (above) and through deepest section (below).

Test Trench 2 had by far the most artefacts from any test trench, 959 individual artefacts. Artefacts included 360 bones – predominantly fish, but some mammal and bird bones, 378 individual glass fragments, a modern folding knife, scraps of beer cans, bottle top seals, ferrous bolts, a spark plug and pieces of broken glass. A small calibre cartridge was located and one worn coin, the size of a 20 cent piece. Although the denomination was indecipherable, but “Australia” and “Queen Elizabeth” were visible. The findings from this trench suggest that there is little likelihood of earlier artefacts having migrated into this dredged zone in heavy seas. Only one artefact was retained, a circular puck-shaped stone believed to possibly be a whetstone [ID:0007] (Figure 44).

Figure 44: Object ID:0007, circular stone, possibly whetstone. Indeterminate age but likely modern.

4.3 Test Trench 3

Test Trench 3 was similar to TT1 in that it was located within a sandy depression within the hardened grey tuff ‘reef’ surroundings (Figure 45 and Figure 46). It was noted early in the excavation process that TT3 did not have distinct contexts. The trench bottomed out onto the grey tuff after 100 to 200 mm.

The sediment was composed of approximately 50% grey tuff, in chunks ranging in size from 20 to 150 mm, although the average size was 30 to 50 mm (Figure 47). The rest of the sediment consisted of rocks, cobbles and pebbles of similar size to the tuff, some of which were discoloured orange from iron staining (Figure 48). There were also some small round pebbles 30 to 60 mm in size and broken coral pieces.

Test Trench 3 had the fewest number of artefacts, with only 47 individual artefacts recovered. There were lead sinkers, assorted fishing tackle, aluminium can fragments, a few fragments of glass, a 200 mm length of heavily corroded open link chain, a few flakes of iron/steel, a single chicken bone and other modern discards. No artefacts from Test Trench 3 were retained.

For a digital representation of profiles of TT3 see Figure 49.

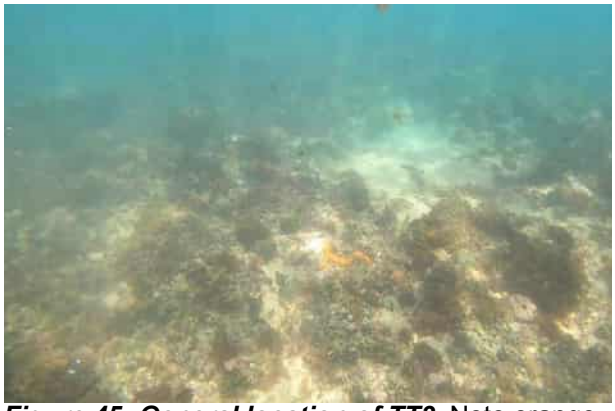

Figure 45: General location of TT3. Note orange tag in centre is approximate planned location of TT1. (Image taken from 201107_TT3 location, 00:23)

Figure 46: TT3 pre-excavation. (Image taken from video 201111_ Pre-dredge TT3, 00:21).

Figure 47: TT3 post-excavation, showing same corner of grid frame as Figure above. (Image taken from video 201111_TT3 post dredge_5, 00:13).

Figure 48: Close-up of tuff with small orange stained rocks at base of TT3. (Image taken from 201111_TT3 post dredge_2, 00:25).

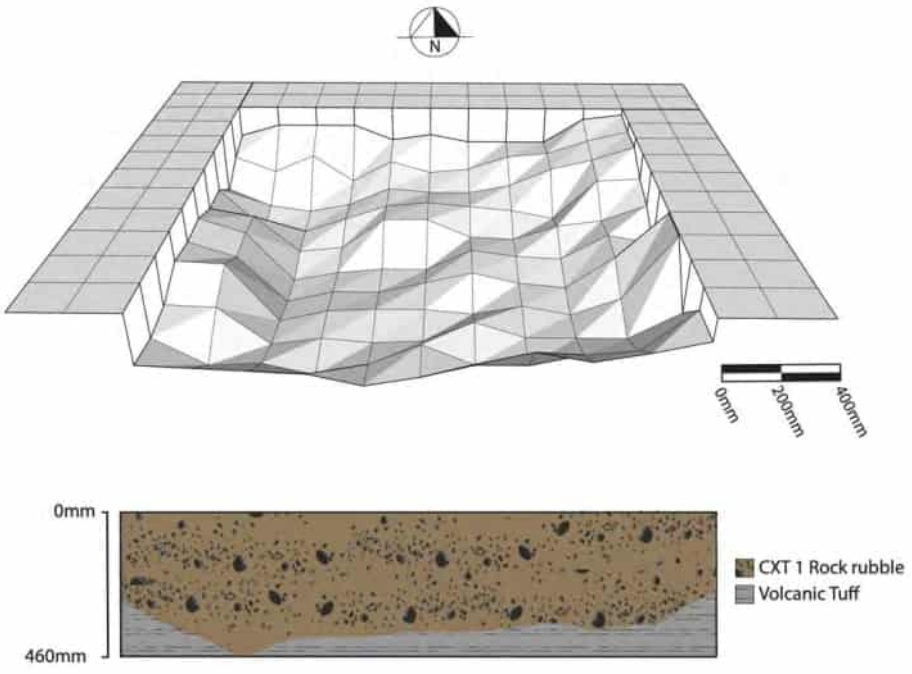

Figure 49: Profile depths across TT3 (above) and through deepest section (below).

4.4 Test Trench 4

Test Trench 4 was located at the bottom of a wide sandy gully at the channel entrance and the inshore side of the reef (Figure 50 and Figure 51). At this location the seabed is dominated by broken up calcarenite boulders of various sizes. As with the other trenches, TT4 also bottomed out onto grey tuff after 100 to 300 mm (Figure 52 and Figure 53). However, within the trench there were three large calcarenite rocks, two of which could not be moved.

Figure 50: TT4 pre-excavation, note calcarenite rocks across the centre of trench grid. (Image taken 12 November 2020).

Figure 51: Sediment in TT4 was a sand matrix with cobbles. Image facing SW. (Image taken 12 November 2020).

Figure 52: Overview of TT4, post dredging. Note two calcarenite rocks still in-situ. (Image taken 12 November 2020).

Figure 53: Tuff substrate in SW corner of TT4, post-excavation. (Image taken 12 November 2020).

For a digital representation of profiles of TT4 see Figure 54.

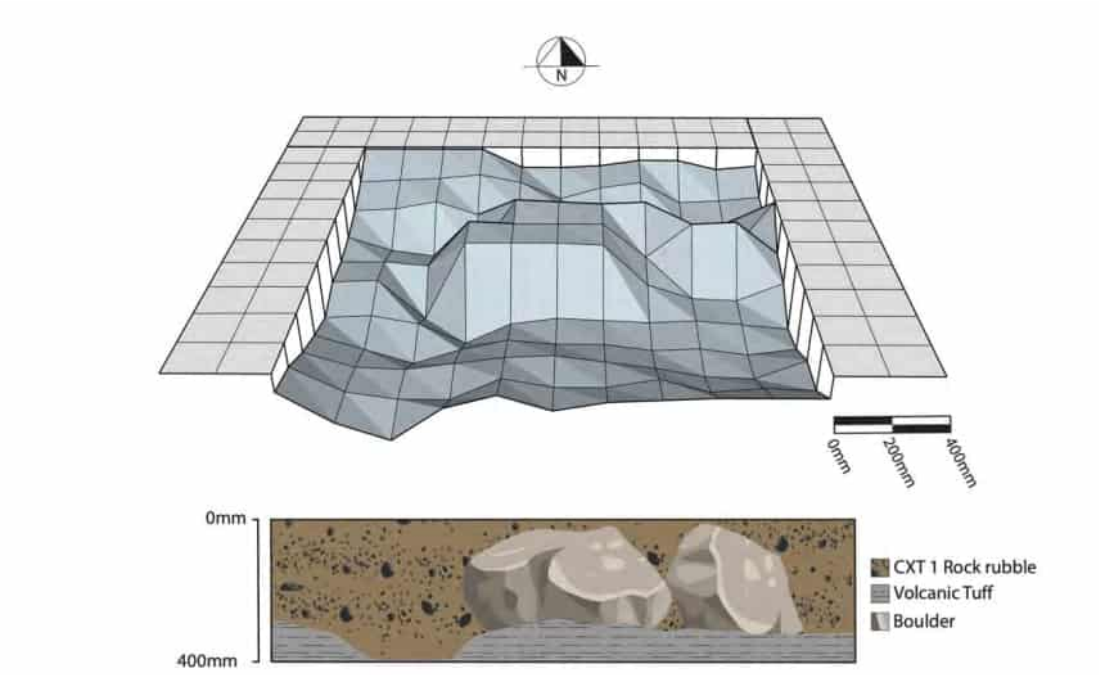

Figure 54: Profile depths across TT4 (above) and through deepest section (below).

171 individual artefacts were recovered from Test Trench 4, the second highest amount from any trench. The majority of these artefacts were flakes of ferrous material (78) and fragments of glass bottles (55). Other artefacts included lead sinkers, fishhooks, fishing lures, and fishing tackle. A total of 10 artefacts were retained, including slate fragments, three slate pencil tips (Figure 55 to Figure 58), a ceramic sherd (Figure 59), and a copper alloy nail or tack. The copper alloy nail is perhaps the most significant artefact, as it bears close resemblance to those nails found on the wreck of HMS *Sirius* (Figure 60).

Figure 55: Object ID:0076, slate (below) and ID:0077, slate pencil tip (above).

Figure 56: Object ID:0089, three pieces of flat slate.

Figure 57: Object ID:0103, two slate pencil tips.

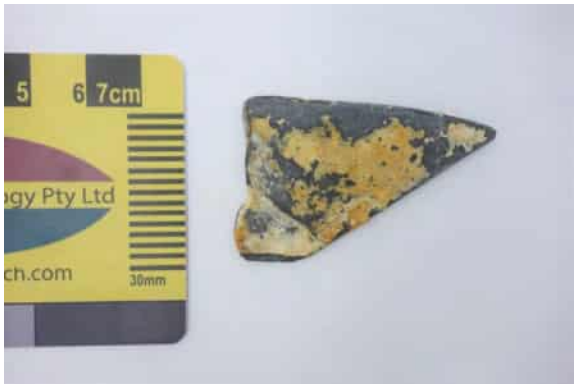

Figure 58: Object ID:0104, slate fragment.

Figure 59: Object ID:0107, white stoneware ceramic sherd. Portion of small bowl or teacup with partial rim.

Figure 60: Object ID:0118, copper alloy tack or nail. Square shank, round flat head, 40 mm long.

4.4.1 TT 4 extension

Investigation continued by excavating under the boulder within the grid frame as well as under the overhang which formed the eastern boundary of TT4 (Figure 61). The small gullies and depressions to the north of the trench were also investigated (Figure 62). The metal detector was used on the SW to NW side of the grid frame ranging up to 8 m away.

Throughout the area, the grey tuff was visible through the shallow depressions and fissures. The tuff in these areas was rubbed smooth indicating that it is exposed and burnished regularly.

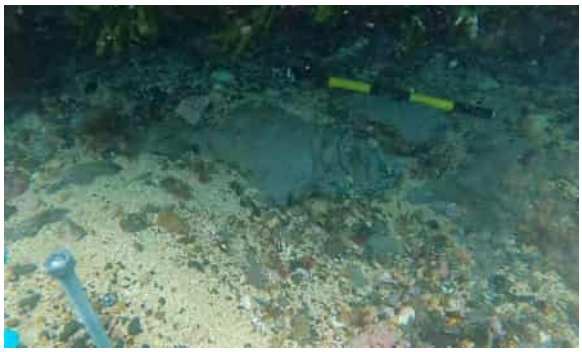

Figure 61: Smooth grey tuff underneath eastern overhang. (Image taken from video 201113_Eastern boundary overhang, 00:003).

Figure 62: Example of fissures and gutters to the north of TT4. (Image taken from video 201113_Example of gutters north of TT4, 00:03).

A total of 46 artefacts were recovered from Test Trench 4 extension. Artefacts recovered included modern glass fragments, bottles, sinkers, ammunition, ferrous concretions, aluminium cans, and a large D-shackle. Because of the opportunistic recovery, a higher proportion of artefacts from TT4 extension were retained than any other trench. Nine artefacts were retained: three fragments of “black” glass [ID:0086, 0092, 0203], a lead bollard [ID:0109], a ceramic sherd [ID:0210], a lead sinker or blind pull [ID:0206], a copper coin or token [ID:0110], a glass stopper [ID:0204], and the mouthpiece from a horse bridle bit [ID:0213] (Figure 63 to Figure 72).

Figure 63: Object ID:0086, fragment of "black" glass.

Figure 64: Object ID:0092, fragment of "black" glass bottle base.

Figure 65: Object ID:0109, lead bollard.

Figure 66: Object ID:0110, copper alloy coin or token, no legible markings.

Figure 67: Object ID:0203, fragment of "black" glass.

Figure 68: Object ID:0204, glass stopper.

Figure 69: Object ID:0206, lead sinker or possibly blind pull.

Figure 70: Object ID:0210, ceramic fragment of saucer or small plate.

Figure 71: Object ID:0213, single jointed mouthpiece from a horse bridle bit.

Figure 72: Alternate view of ID:0213.

Finally, one artefact was recovered near the ladder and stairs where divers exited the water. This opportunistic find was retrieved as divers were returning from conducting the Test Trench 4 Extension artefact search. The item is the head and partial shaft of a copper alloy nail or tack (ID:0217). The nail has a round flat head, 9 mm diameter, and a square shank, 4 mm thick (Figure 73).

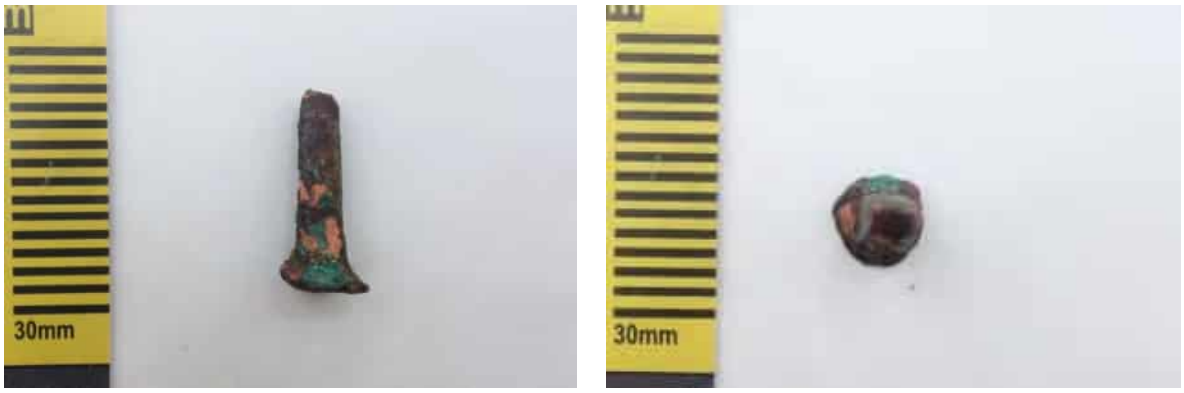

Figure 73: Object ID:0217, copper alloy nail or tack.

4.5 Video survey

On 17 November a swim survey was taken at the southern end of Kingston Pier. The seabed from the end of the Pier is a large flat rock platform, with deep fissures and gullies, varying between 500 – 1000 mm deep and 200 – 500 mm wide (Figure 74). This rocky platform has a definitive edge, where it drops away. The platform gives way to a broken up rocky reef which consists of gullies and rocky boulders (Figure 76 and Figure 77). The survey did not locate any cultural heritage remains; however, it is possible artefacts may have become wedged into the cracks and gullies.

Figure 74: Rock platform running out from the southern end of Kingston Pier. A large fissure or crack is at bottom left. (Image taken from video 201117_ End Kingston Pier survey JM, 00:12).

Figure 75: Edge of the rock platform south of Kingston Pier. (Image taken from 201117_End Kingston Pier survey JB, 02:03).

Figure 76: Rocky reef extending out from rock platform, platform to right of image. (Image taken from video 201117_ End Kingston Pier survey JM, 01:56)).

Figure 77: Rock reef with fissures developing as water depth increases. (Image taken from 201117_End Kingston Pier survey JB, 02:43).

5 ARTEFACT ANALYSIS

A total of 1,442 individual artefacts were recovered across the four test trenches and two test trench extensions. A broad sorting of artefacts sorted by material type can be seen in Table 7.

Table 7: Number of artefacts by material type.

Artefact Material type	Artefact Number
Glass	527
Faunal	440
Metal	313
Synthetic	60
Stone	49
Multi-material	24
Mineral	11
Organic (other than faunal)	9
Ceramic	7

5.1.1 Faunal artefacts

Of the 440 faunal remains recovered, 19 were shark teeth, which commonly feed on remains of fish cleaned by Norfolk fisherman. A further 14 artefacts were determined to be worm-tubes. Since these artefacts do not relate to human discard or loss, they have been removed from the totals. 95% of all faunal remains were recovered from TT2, 4% from TT1 and 1% from TT4.

Of the remaining 411 faunal artefacts, 324 were individual fish bones. These bones are most likely the remains of fish cleaned by Norfolk fishermen and fed to the sharks. Fish are commonly cleaned on the Pier, with frames, heads and other scraps thrown into the harbour and eaten by sharks. Fish bones were only found in Test Trenches 1 and 2 indicating a possible pattern of movement of artefacts discarded from the Pier.

Of the remaining 87 faunal remains, 31 were mammal bones, including portions of rib bones, cut long bones, and vertebrae. Mammal bones show signs of butchering and/or burning, indicating their use as food. All mammal bones were recovered from Test Trenches 1 and 2.

19 bird bones were recovered. The majority of bird bones appear to be chicken leg bones, wing bones and ribs. Seventeen of the 19 bones were found in Test Trenches 1 and 2, one bone was found it TT3 and one in TT4.

29 mollusc shells were recovered, all from Test Trench 2. The shells recovered were scallops (5), mussels (14), and oyster (10). As these animals are not local to the area, it is assumed that they represent food waste discard.

The final faunal remains are 4 fragments of what appear to be mammal teeth, although a positive identification has not been made.

5.1.2 Metal artefacts

316 individual metal artefacts were recovered. The material of these elements was largely classified by type metal into four categories: aluminium, copper alloy, ferrous, and lead. Three other artefacts were made of unidentified metals, including two AA batteries.

Aluminium

95 artefacts were aluminium, consisting primarily of fragments of drink cans and pull tabs, along with one tuna can lid and a wine bottle capsule. 49 aluminium artefacts were recovered from TT1, 41 from TT2, 4 from TT3, and 1 from TT4 (Figure 78). This correlates with the concentration of fish and animal bones in Test Trenches 2 and 3, indicating that small, lightweight artefacts were concentrated in near shore areas suggesting a general movement of artefacts towards shore. Only one complete can was found, other fragments ranged in size from 7 to 73 mm.

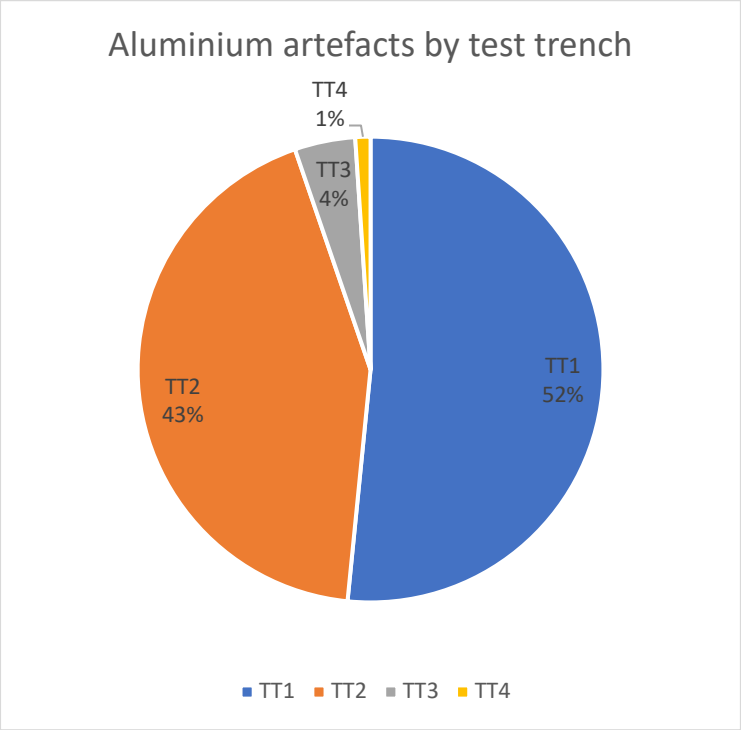

Figure 78: Number of aluminium artefacts by test trench.

Lead

26 lead artefacts were recovered, consisting primarily of sinkers, either machine made or improvised. In addition to the 24 sinkers recovered, a piece of lead strapping or sheathing was recovered, along with a bollard or hitch (ID:0163 and 0109 respectively). Both artefacts were retained. 3 lead artefacts (2 sinkers and the lead strap) were recovered from TT1, 1 sinker was recovered from TT2, 5 sinkers were recovered from TT3. 17 lead artefacts were recovered from TT4, including 16 sinkers and the bollard (Figure 79). In addition to the bollard, one sinker was retained due to its unusual shape, resembling a blind pull or possible other piece of hardware (ID:0206).

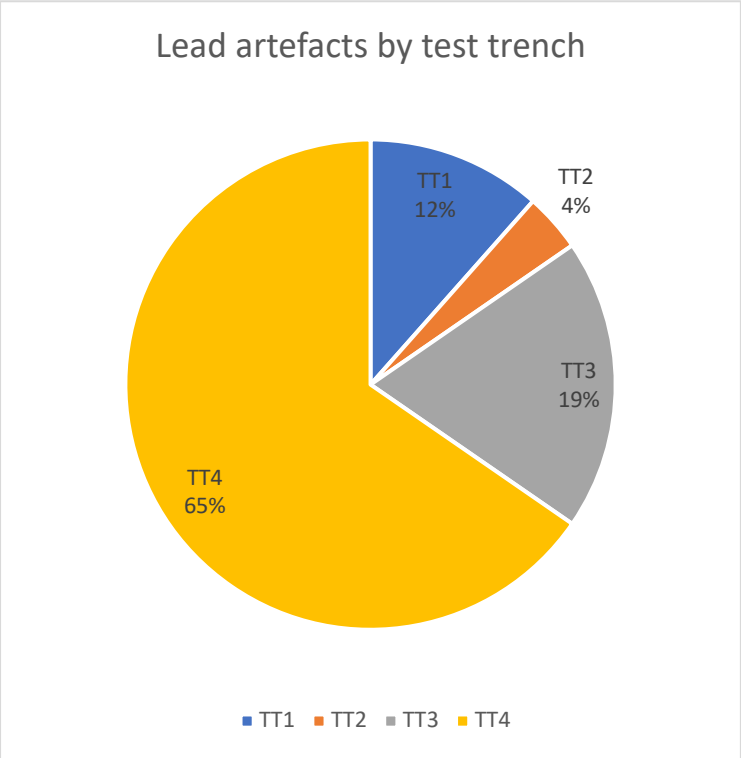

Figure 79: Number of lead artefacts by test trench.

Ferrous

179 ferrous artefacts were recovered. Objects recovered ranged in size from a large, concreted D-shackle and iron bolts to small flakes of ferrous material and small bits of fishing tackle. The vast majority of individual artefacts recovered were small fragments or flakes of ferrous material, highly corroded. 127 fragments were recovered, measuring in size from about 10 mm to 50 mm in length. These fragments occasionally had dark blue paint on one side and was suggested by local Islanders that these may be fragments from the side of modern cargo ships. The majority of these fragments (78) were recovered from TT4, 30 from TT2, 17 from TT3, and 2 from TT1. 50% of all ferrous artefacts, including ferrous fragments, were recovered from TT4, 32% from TT2, 11% from TT3 and 7% from TT1 (Figure 80).

Concreted ferrous hardware comprised the second largest quantity of ferrous artefacts recovered, 32 in total. Hardware recovered included 8 threaded steel bolts with hex heads. Complete bolts measured 240 mm in total length, with 15 mm thick shafts and 25 mm width for hex heads. These bolts were very similar to modern bolts used in constructing the sheet piling on the pier. Bolts were found in TT1 (3), TT2 (4), and TT4 (1). Other items found include hex nuts, metal rings, washers, a screw, a nail, wire, a D shackle, unidentifiable concretions, and a portion of open link chain. Most concretions were heavily corroded, with little to no metal actually remaining within the artefacts. Distribution of ferrous hardware was as follows: TT2 – 56%, TT1 – 31%, TT4 – 10%, TT3 – 3%. Ferrous hardware was typically the heaviest and largest of artefacts recovered, and can mostly be identified as modern in origin, likely dating to the installation of sheet piling and other wharf repairs.

The third most frequent category of ferrous artefacts were fishing implements, with 17 individual artefacts recovered. Most numerous were small pieces of fishing tackle including snaps and swivels (12). Other items recovered included two fishhooks, two spinner lures, and a portion of a fish scaler. Fishing implements were found in TT2 – 41%, TT4 – 41%, TT3 – 12%, and TT1 – 6%.

The remaining three ferrous artefacts recovered were a portion of a razor blade (TT2), a fork (TT4), and the hook end of a bungee cord (TT2).

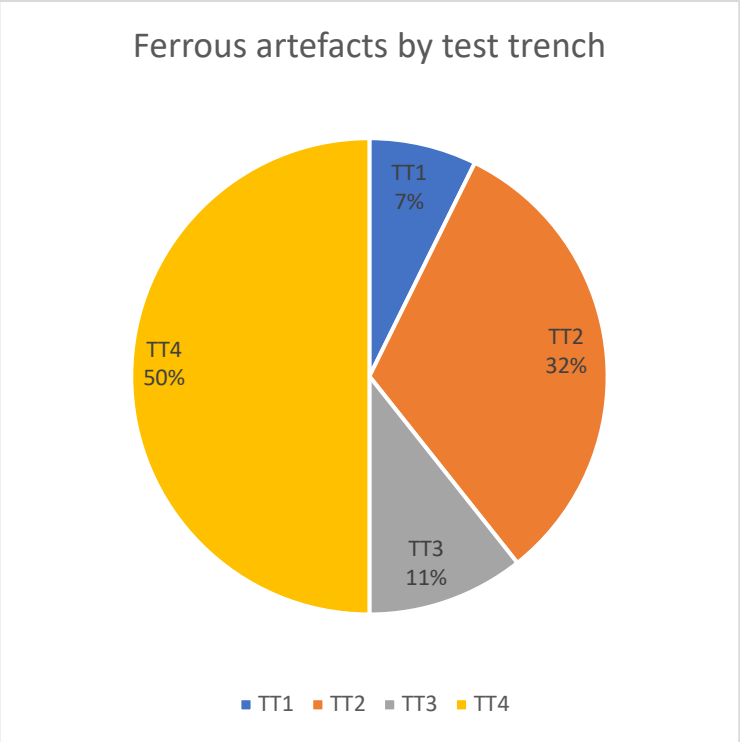

Figure 80: Number of ferrous artefacts by test trench.

Copper alloy

Only 13 copper alloy artefacts were recovered, with 10 artefacts recovered from TT4 and 2 from TT2, while one was recovered near the stairs by divers exiting the water. Copper alloy artefacts recovered included 4 rounds of ammunition (two complete cartridges and 2 shell casings), two coins, the mouthpiece to a snaffle bit (part of a horse bridle), a small elbow section of copper pipe modified for use as a sinker, some copper wiring and two copper alloy nails.

One of the copper alloys nails [ID:0118] closely resembles cast tin-bronze sheathing nails (SI 592) from the wreck of HMS *Sirius*. Of interest is the that the shank close to the head is rounded becoming squarer as it tapers to a point. Unfortunately, no measurements of the cast tin-bronze nails were taken or reported in Stanbury's illustrated catalogue of HMS *Sirius* artefacts, so direct comparison of measurements is not possible. Several lead sheathing nails recovered from HMS *Sirius* were measured, and their measurements are comparable to ID:0118 in length and head diameter. Shank measurements for the lead sheathing nails indicates that they were thicker than ID:0118, measuring 6 to 12 mm in thickness, opposed to 4 mm maximum thickness for ID:0118.[51]

[51] **Stanbury, M. 1994** *HMS* Sirius *1790: An Illustrated Catalogue of Artefacts recovered from the wrecksite at Norfolk Island*, Australian Institute for Maritime Archaeology. Special Publlication No 7, p. 38.

***Figure 81: Cast tin-bronze sheathing nails (SI 592) recovered from HMS* Sirius *(left) and a copper alloy nail recovered from TT4 [ID:0118] (right).*[52]**

This nail appeared to the KAVHA collections officer, Bethany Holland, to be similar to those found in the HMS *Sirius* collection and Graeme Henderson, Excavation Director of the HMS *Sirius* projects in the 1980s and 1990s thought the nail had similarities with the SI 592 group of nails or the sheathing nail SI 36 which was found in Site 5, to the west of the study area.[53] The similarities of ID:0118 with nails found on the site of HMS *Sirius* does not conclusively demonstrate that the artefact is associated with the wreck but at least demonstrates that it is very likely contemporary.

The other copper nail found, ID:0217, is only partial, having lost the distal end of the nail. This nail features the square shank, along its whole length, and flat round head of ID:0118, with similar dimensions for both. However, the condition of ID:0217 is much better preserved and appears machine made (extruded), indicating that the nail may be more modern in use. Several derelict remains of wooden lighters around the boathouse near Kingston Pier show that these lighters were fastened with similar copper alloy nails.

The other significant copper alloy artefact recovered is a mouthpiece from a snaffle bit or other horse bridle. This object, ID:0213, consists of two curved arms connected in the center by a ringed joint. This type of mouthpiece has been in use for centuries up through the present day. Brand new mouthpieces available for purchase on eBay have little difference to colonial era mouthpieces recovered at archaeological sites in Australia and the United States. Because of this, mouthpieces are a poor artefact for dating archaeological deposits.[54] It can probably be assumed, however, that the presence of a mouthpiece at Kingston Pier likely relates to the common use of horses to pull carts of goods either being unloaded or loaded onto lighters servicing cargo ships. With the first automobiles arriving on Norfolk in 1927, it seems likely that the mouthpiece dates somewhere from the 19th century to the first arrival of cars on the island in 1927.[55] Given its find spot it cannot be discounted that the object may have been associated with a wrecking event.

5.1.3 Glass Artefacts

Glass artefacts comprised the largest category of recovered artefacts, with 527 individual artefacts recovered. The vast majority of glass artefacts were recovered from TT2 (380), followed by TT4 (80), TT1 (49), and TT3 (8) (Figure 82). The largest proportion of glass artefacts consisted of fragments of bottle glass, most likely from alcohol and soft drink bottles. 507 fragments were identified as portions of glass bottles, along with 4 complete

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[52] Op.Cit., **Stanbury, 1994,** fig.52.
[53] **Henderson, G.** *pers comm.* email 1st December 2020.
[54] **Hilliard, T.C., 2013,** *Telling Time with Equines: A Study of Bridle Bits,* Master's thesis, Monmouth University, ch.5 p.3.
[55] Op. Cit., **Hoare, 1999,** p.126.

glass bottles recovered. The remaining 16 individual artefacts were mostly clear plate glass of various sizes (12). Other artefacts included a shard of glass mirror (1), a piece of clear glass pipette (1), a glass mason jar (1), and a frosted green glass stopper (1).

While the vast majority of glass artefacts were determined to be of modern manufacture (post 1898), there were several notable older pieces. Four pieces of “black” bottle glass were recovered, all relatively thick and heavy, measuring from 4 to 9 mm in thickness. These pieces are from one or more bottles, and include a portion of bottle base, portion of bottle neck, and two portions of bottle body. These artefacts were dated between 1700 and 1850, indicating that they most likely date from the penal settlement eras of Norfolk Island history. Three of the four pieces were found by divers in TT4 extension, while one piece was recovered from TT1.

The majority of glass recovered was in small fragments, with the only complete glass artefacts recovered from TT1 extension and TT4 extension.

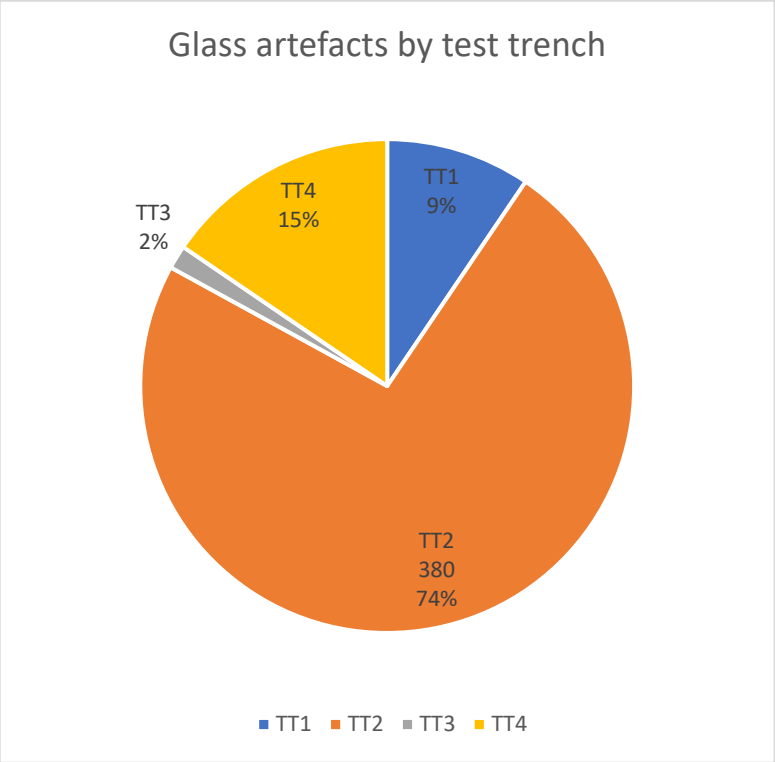


Figure 82: Number of glass artefacts by test trench.

5.1.4 Ceramic Artefacts

7 ceramic artefacts were recovered, including 3 ceramic tiles and 4 sherds from dinnerware. Most ceramic artefacts were recovered from TT2 (3) and TT4 (3), with one artefact recovered from TT1. All ceramic artefacts were fragmentary, except for one small ceramic tile which was complete.

5.1.5 Synthetic Artefacts

A total of 60 synthetic artefacts were recovered. All synthetic artefacts were determined to be modern, and consisted mostly of mass-produced plastic and rubber objects. Nearly half of all synthetic artefacts (28) were plastic seals from bottle caps, where the metal bottle cap had corroded away. Other synthetic artefacts included golf balls, fishing implements, and plastic

and rubber scraps. The majority of synthetic artefacts were recovered from TT2 (58%), followed by TT1 (28%) and TT3 (14%). No synthetic artefacts were recovered from TT4 (Figure 83).

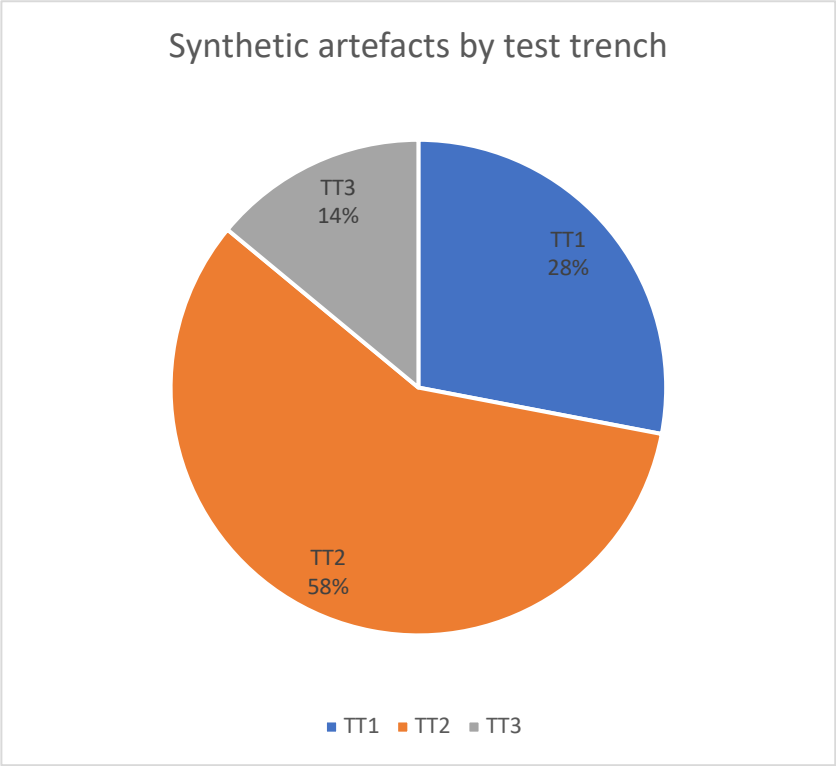


Figure 83: Number of synthetic artefacts by test trench.

5.1.6 Organic Artefacts

9 organic artefacts were recovered, consisting of seeds, bits of charcoal, and a portion of a leather belt. 6 seeds were recovered, including 5 peach, or other stone fruit, pits and one coconut shell, all recovered from TT2. Two small pieces of charcoal were recovered from TT4. A small portion of a leather belt was recovered from TT1 and retained [ID:0148].

5.1.7 Stone Artefacts

A total of 49 stone samples and artefacts were recovered. A large portion of these (40) are not considered artefacts, but natural formations. These samples were recovered for further examination, but were determined to not be cultural in origin. Samples of natural stones comprised volcanic basalt in smooth rounded pebbles, varying in size from 40 to 200 mm in length, as well as chunks of dark red ironstone.

The nine stone artefacts determined to be cultural in origin consisted of small pieces of slate, the tips of slate pencils, and a circular stone believed to possibly be a whetstone. All pieces of slate and slate pencils were recovered from TT4. These slate artefacts may have been part of a ship or boat master's inventory for recording observations, although other officers would likely have carried these items as part of their personal equipment. Slate pencils were used for writing notes or calculations onto a writing slate. The writing could be rubbed off the slate when no longer required. Such an activity can also have taken place on the Pier where tallies of items being moved across to and from boats would have been required.

Slate pencils were in common use until the mid-20th century and have a form that varies little over time. Having said that a small section of slate pencil similar to the three recovered from TT4 was recovered from HMS *Sirius.* Its size and dimensions are roughly similar to those recovered at the pier (Figure 84).

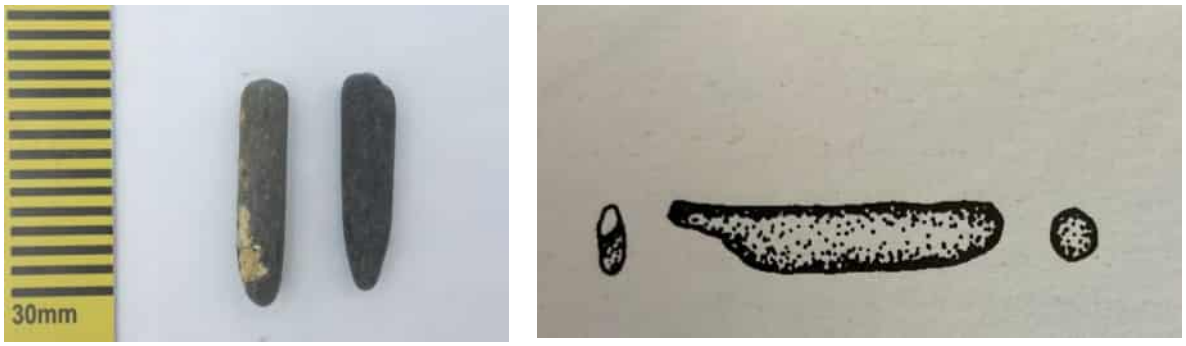


Figure 84: Slate pencils recovered from TT4 (ID:0103, left), and a drawing of a slate pencil recovered from HMS Sirius (SI 300, right).[56] ***The pencil fragments from both sites are approximately equal in length and diameter.***

[56] Op. Cit., **Stanbury M. 1994** p. 67, Fig. 120.

6 REVISED ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

The following section presents a revised assessment of archaeological potential from that presented in the KPUATEMP, based on the results from the test excavation.[57]

The majority of artefacts located during the test excavation have been identified as post-dating 1898. Twenty-five objects were assessed as either likely or possibly pre-dating 1898 and were retained. These objects included 'black' bottle glass, slate pencils, a snaffle bridle bit, a copper token or penny and a copper alloy nail very similar to those found on the wreck site of HMS *Sirius*.

Test Trench 1 contained the second highest number of artefacts. Located close to the eastern boundary of the proposed dredge footprint, this trench was closest to the original shore landing from 1788 to 1856. The majority of the artefacts found in this trench were also modern with some very few dating to the 19th century. There was one example of black bottle glass (<1898) found in this trench.

The majority of the artefacts recovered were from Test Trench 2 and were all modern materials. This was expected as this trench was sited adjacent to the Pier and had been dredged in the 1980s and excavated again in 2005.[58] The findings from this trench suggest that there is little likelihood of earlier artefacts having migrated into this dredged zone in heavy seas.

Test Trench 3 was similar to Test Trench 1, in that it was located within a sandy depression within the hardened grey tuff 'reef' surroundings. However this trench had the least amount of artefacts (47) which were predominantly modern (> 1898). None of the artefacts from TT3 were retained.

Test Trench 4 was located at the bottom of a wide sandy gully at the channel entrance and the inshore side of the reef. At this location the seabed is dominated by broken up calcarenite boulders of various sizes. As with the other trenches, TT4 also bottomed out onto grey tuff after 100 to 300 mm. This trench had a moderate amount of artefacts, a higher proportion of which are 19th century manufacture or earlier. A copper alloy nail of similar form to those found on the wreck site of HMS *Sirius* was also recovered.

Further artefacts were found around TT4 by hand excavation, including three pieces of "black" bottle glass, all relatively thick and dense, measuring from 4 to 9 mm in thickness. These pieces are from one or more bottles, and include a portion of bottle base, portion of bottle neck and a portion of bottle body. These artefacts were dated between 1700 and 1850, indicating that they most likely date from the penal settlement eras of Norfolk Island history.

It is interesting to note that there was a larger concentration of light material such as bones, aluminium scraps and synthetic material across Test Trenches 2 and 3 indicating that small, lightweight artefacts are concentrated in near shore areas. Of the heavier artefacts, such as lead, copper alloy and heavy black glass the more significant of these came from Test Trench 4 indicating that heavier items appear to drop into the gullies and fissures and stay there.

Timber wreckage was not found during the text excavation, however it may exist if it was rapidly buried in the apparent deeper sediments in the entrance to the channel. There was no evidence of the timber remains of the slipway, however what appeared to be a slip rail was located on the seafloor in TT1.

There was no cultural material located in the area towards the entrance to the channel and to the south and south west of Kingston Pier where a video survey was undertaken. However deep fissures and gullies were noted in the rock platform and rocky reef to the

[57] Op, Cit. **Cosmos Archaeology Pty Ltd, June 2020** : Section 2.1
[58] **Parsons, George, 2020** *pers. comms*. 8th November

south that may contain artefacts from shipwrecks that have wrecked at the southern edge of the reef.

The footings of the beacon are likely to be present but were not identified as part of the test excavation or video survey and may be difficult to identify.

The results of the test excavation indicate the majority of culturally significant artefacts appear to be concentrated in gutters, gullies, crevasses and cracks in the seafloor and under and around hard calcarenite overhangs and boulders on either side of the existing channel . The area around TT1 and TT3 is a soft reef-like tuff which does not appear to harbour culturally significant artefacts in appreciable quantities. It is thought that the wave activity and morphology of the immediate area sees artefacts eventually migrate towards shore and even dragged back out into the reef. This would explain the dominance of recent artefacts in this area.

The cultural heritage sensitivity of the archaeological resource – a combination of the extent, variety, frequency, condition and significance – has been assessed per trench as outlined in Table 8.

Table 8: Cultural heritage sensitivity as determined by the test excavation.

Area	Description	Total artefacts	Retained	Cultural heritage sensitivity
TT1	Sandy depression surrounded by hardened grey 'tuff' reef	129	3	Low
TT1 ext.	Sandy depression surrounded by hardened grey 'tuff' reef	41	2*	Low
TT2	Sandy depression within the footprint of the 1980s and 2005 dredging footprint	959	1	Low
TT3	Sandy depression surrounded by hardened grey 'tuff' reef	47	0	Low
TT4	Area characterised by broken up calcarenite boulders with fissures and gullies	171	10	High
TT4 ext.	Area characterised by broken up calcarenite boulders with fissures and gullies	46	9	High
SW end Pier	Rocky platform leading to rocky reef with deep gullies and fissures	N/A	N/A	Medium

* One artefact was later diagnosed as an engine shim and would have been discarded as per the artefact retention policy.

Based on the above assessment the areas or sectors of cultural heritage sensitivity can be extrapolated across the study area. These sectors are defined as follows and are depicted in Figure 85.

Sector	Location	Seabed characteristics	Cultural heritage sensitivity
A	Within current berth area	Includes previously dredged area adjacent to the Pier and grey tuff seabed with shallow sandy patches	Low

B	Existing channel through reef at western end of Pier.	Broken up calcarenite reef atop of grey tuff.	High
C	Approaches to channel outside of reef.	Rock rubble on reef platform with deep fissures and gullies.	Medium

Though no test excavation took place within the Sector C it has been conservatively assessed to be of medium cultural heritage sensitivity because of the known wreck events that have taken place in the area.

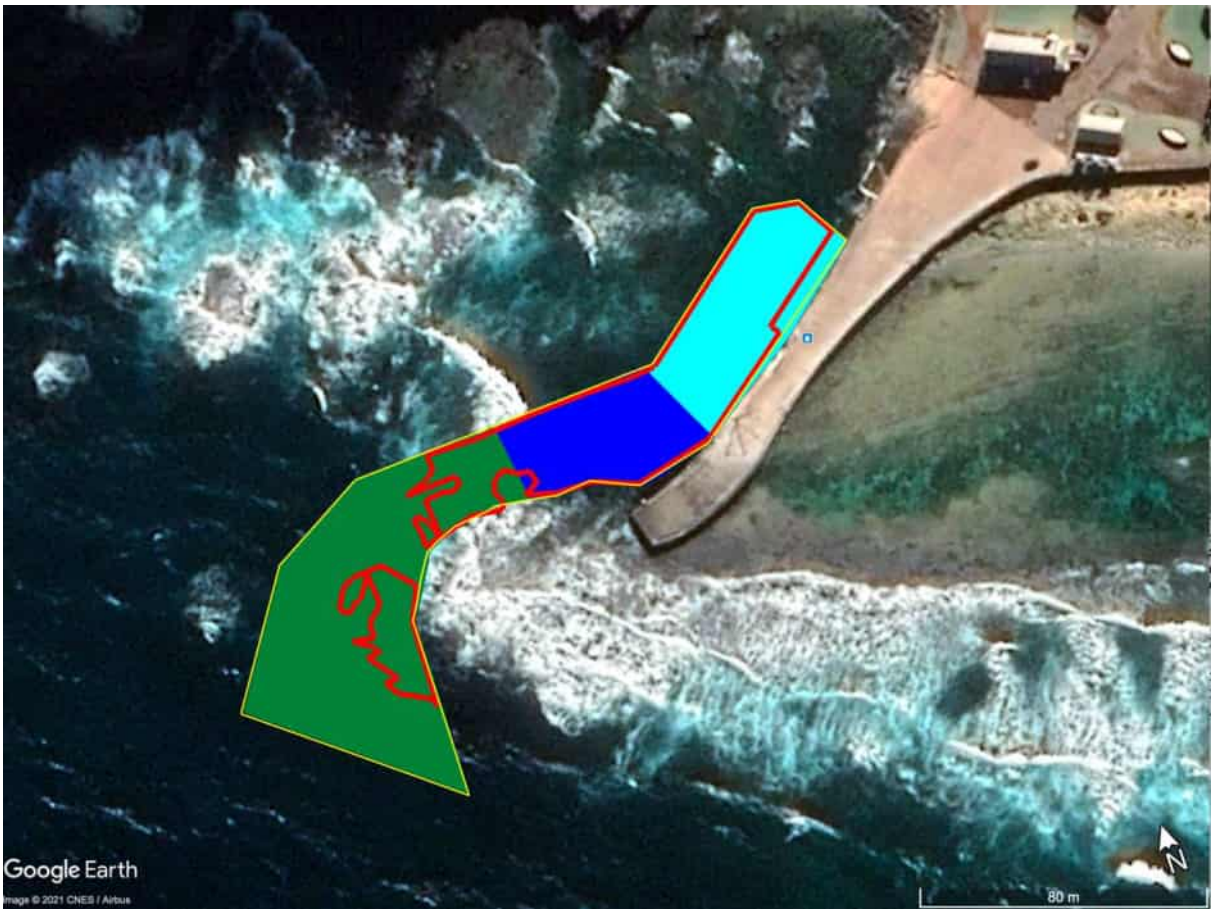


Figure 85: Areas of cultural heritage sensitivity as determined by the test excavation. Light blue is low cultural heritage sensitivity (Sector A), dark blue is high cultural heritage sensitivity (Sector B), and green is tested only through video survey and therefore considered to have medium cultural heritage sensitivity (Sector C). Yellow outline is navigation channel and red outline is Option 3a dredging footprint.

The findings of the test excavation can provide some indication as to the quantity of artefacts that may be present within the study area. The following estimates are for Sectors A and B only as no excavation took place in Sector C (Table 9). The calculations are based only on the finds within the test trenches not the extensions. This is because the extent of the seabed examined for artefact recovery that took place outside the trenches was not measured and therefore not readily quantifiable.

Table 9: Estimated potential quantity of artefacts within sectors A and B.

Sector	Approx. size in m^2	Area excavated in m^2	Artefacts recovered / artefacts per m^2	Potential quantity of artefacts
A	1,200	12	1,135 / 95	114,000
B	720	4	171 / 43	31,000

These figures are large and subject to a large margin of error given the sample size. With regards to Sector A, the overwhelming majority of the artefacts will have low cultural heritage values as they will post date 1897. It should be noted that excavations within Sector A took place in sand patches which did not cover the whole sector and so perhaps the frequency of artefacts present may be around 25% less than what Table 9 shows for Sector A. Furthermore around 84% of the artefacts recovered from this sector was from within the previously dredged area which has been demonstrated to have very low cultural heritage significance.

The artefact distribution across Sector B will vary greatly. There will be areas where there will be no artefacts, such as where there is calcarenite rock but then it is expected that there will be concentrations of artefacts in cracks and crevices. Of the 171 artefacts recovered from TT4 within Sector B, 10 were considered sufficiently significant for retention. Extrapolating this from the estimated figure of 31,000 artefacts within Sector B, there may be potentially around 3,000 artefacts present that may have merit for retention and even conservation treatment.

7 REVISED ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The KAVHA Archaeological Zoning and Management Plan (AZMP) states that with respect to archaeological significance;

> *KAVHA is a rare surviving settlement that provides tangible evidence of a range of different forms of human occupation extending over a period of almost one thousand years. The archaeological remains have significant potential to contribute to understanding of the site's continuous development during each period of occupation.*
>
> *The values detailed in the statement of significance cover a wide range of existing and potential resources. These may vary in their ability to contribute to the core reasons for conserving and interpreting the site.*[59]

The archaeological resource within KAVHA has been assessed in the AZMP as follows in Table 10 (text not in italics has been added by the authors). This assessment also applies to the underwater archaeological resources within the study area, including shipwreck remains other than HMS *Sirius.* This assessment has not changed as a result of the test excavation but rather the extent of the potential significant (critical) archaeological resource within the study area has been more clearly defined (see Section 7).

Table 10: Cultural heritage significance and sensitivity of underwater archaeological resource by Sector within study area.

Occupation Phase	Occurrence	Condition	Historical relevance	Research value	Resource	Key value	Sensitivity by Sector
Polynesian settlement c.1150 - c. 1450	*Rare*	*Potentially a high degree of integrity*	Tracing Polynesian settlement across the Pacific	*High*	*All physical evidence*	*Critical*	*A - Low* *B - Low* *C - Low*
The First (Colonial) Settlement 1788 - 1814	*Rare*	*Relatively undisturbed*	*Key part of the broader operation of the British penal system*	*High*	*All physical evidence*	*Critical*	*A - Low* *B – High* *C - Medium*
The Second (Penal) Settlement 1825 - 1855	Rare	Relatively undisturbed	*The ultimate expression of Britain's global system of penal discipline*	*High*	*All physical evidence*	*Critical*	*A - Low* *B – High* *C - Medium*
The Third (Pitcairn) Settlement 1856 - 1897	Rare	Not assessed	*The operation of a culturally distinct Polynesia/Eu*	*High*	*All physical evidence*	*Critical*	*A - Low* *B – High* *C - Medium*

[59] **Extent, June 2020** *Kingston and Arthur's Vale Historic Area (KAVHA) : Archaeological Zoning and Management Plan*, pg. 65.

The Third (Pitcairn) Settlement 1898 to present	Common	Not assessed	*ropean community living within a broader European context*	*Limited*	*Evidence relating to WWII defence works, tourism, use of earlier structures and modificatio ns*	*Secondary*	*A -Low* *B – Low* *C - Low*

The majority of artefacts located during the test excavation were from the Third (Pitcairn) Settlement. No artefacts were identified from the Polynesian settlement. However, those artefacts retained from TT4 appear to be from the first and / or second penal settlement as well as the early phase of The Third (Pitcairn) Settlement, which includes black bottle glass and copper alloy tacks.

8 ADDRESSING THE RESEARCH DESIGN

The test excavation aimed to answer the following questions:

What is the extent, variety, frequency, condition and significance of artefacts recovered?

A total of 1,442 individual artefacts were recovered. The overwhelming majority of artefacts recovered were identified as post-dating 1898. Twenty-five objects were assessed as either likely or possibly pre-dating 1898. The variety of objects recovered included fishing related equipment such as lead sinkers, bottle glass, ceramics, animal bone, slate pencils, a snaffle bridle bit, a copper token or penny and 2 copper alloy nails, one of which was very similar to those found on the wreck site of HMS *Sirius*.

The artefacts ranged in material type from glass (forming the majority), animal bones, metal (mostly lead and copper), synthetic (mostly plastics), stone and other minerals, composites, organics and ceramics. The condition of the artefacts varied with some being in an excellent state of preservation.

It would appear that the relatively less dense objects migrate towards the shoreward areas along the Pier, with a secondary movement drawing some cultural material towards the sea and becoming trapped within the calcarenite reef. The majority of modern synthetic materials and animal bone discard were found between the areas of TT1 and TT3.

TT4 and its extension contained the most culturally significant artefacts, predominantly located in fissures and gullies in and around calcarenite boulders and reef. These artefacts were also heavier in nature, being metallic or relatively dense bottle glass.

Is there any stratigraphical context to the archaeological resource?

The only trench to have any obvious stratigraphy was TT1. CXT 1 (the surface layer) was a matrix of heavy sand and sediment approximately 10 mm thick covering the entire trench and all artefacts located within this context were modern. CXT 2 consisted of small loose rubble and stone up to 250 mm across. There was only one potentially significant artefact found in CXT 2 – a piece of black bottle glass – otherwise the remaining artefacts were considered modern. No separate stratigraphy was observed in the other test trenches.

Rather than stratigraphy, the archaeological resource appears to be contained within a particular type of seabed. Test Trench 4, which contained the most significant artefacts, was located at the bottom of a wide sandy gully at the channel entrance and the inshore side of the reef and was dominated by broken up calcarenite boulders of various sizes.

The sand depressions in which TT1-TT3 were sited all bottomed out onto grey tuff. This material is very soft and does not lend itself to the creation of deep gullies or fissures as the material erodes at a relatively quick rate. It can be imagined that the shallow depressions are scoured during heavy seas thereby emptying them of artefacts, only to be 'refilled' when the sea state starts to abate. TT1 and TT3 were surrounded by a 'reef' that is an encrusted or hardened grey tuff rind which breaks apart easily revealing the softer material.

What is the approximate burial depth of the archaeological resource?

The test excavation revealed that the volcanic tuff is generally not far below the rocky rubble. The deepest trench was TT2 which bottomed out at 500 mm. Generally, where not already exposed the tuff was on average 100 - 300 mm below sandy patches.

From the results of the test excavation, it would appear that the more culturally significant archaeological resource is predominantly located in fissures and gullies nearer and within the calcarenite reef.

Are there artefacts encased within calcarenite and how are they best recovered?

The breaking up of samples of calcarenite during the test excavation did not reveal encased artefacts. There were some artefacts, mostly ferrous, that were recovered heavily concreted. When these concretions were broken open, it was found that many of the artefacts had corroded away, with only the imprint remaining.

9 REVISED IMPACT ASSESSMENT

Information on the proposed works has been provided in the 80% Design Report for the Kingston Pier Channel Construction Project.[60] The proposed works involve locally deepening and widening the channel approach and berthing area adjacent to the Pier to provide safer access to vessels at all tides. The proposed works were updated in August 2020 and this revised impact assessment assesses the updated option [Option 3a] (Figure 86) and incorporates the findings of the test excavation.

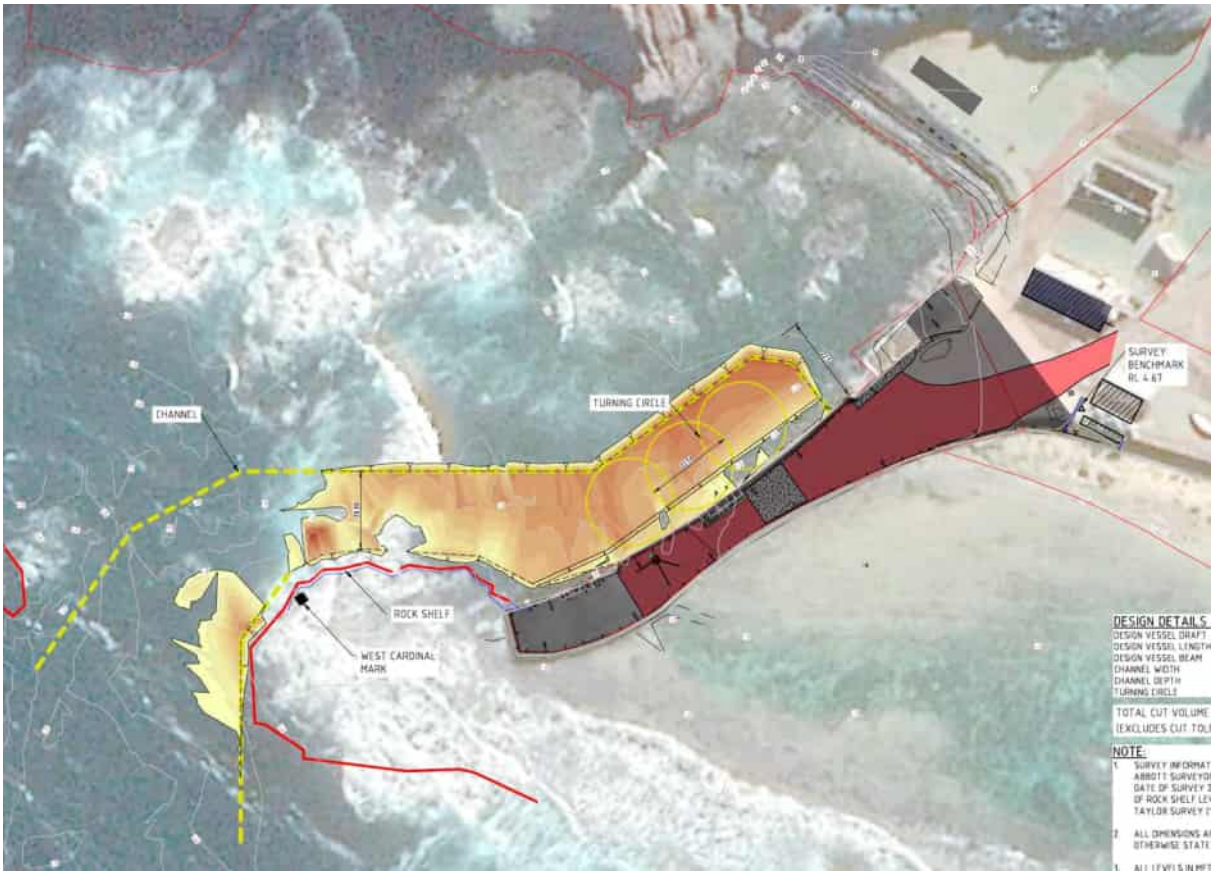


Figure 86: Kingston Pier Channel Construction Cut Channel, Option 3a. (Advisian October 2020).

The areas of cultural sensitivity are overlaid onto the proposed works in Figure 87.

[60] **Advisian, January 2021** Kingston Pier Channel Construction Project: 80% Design Report.

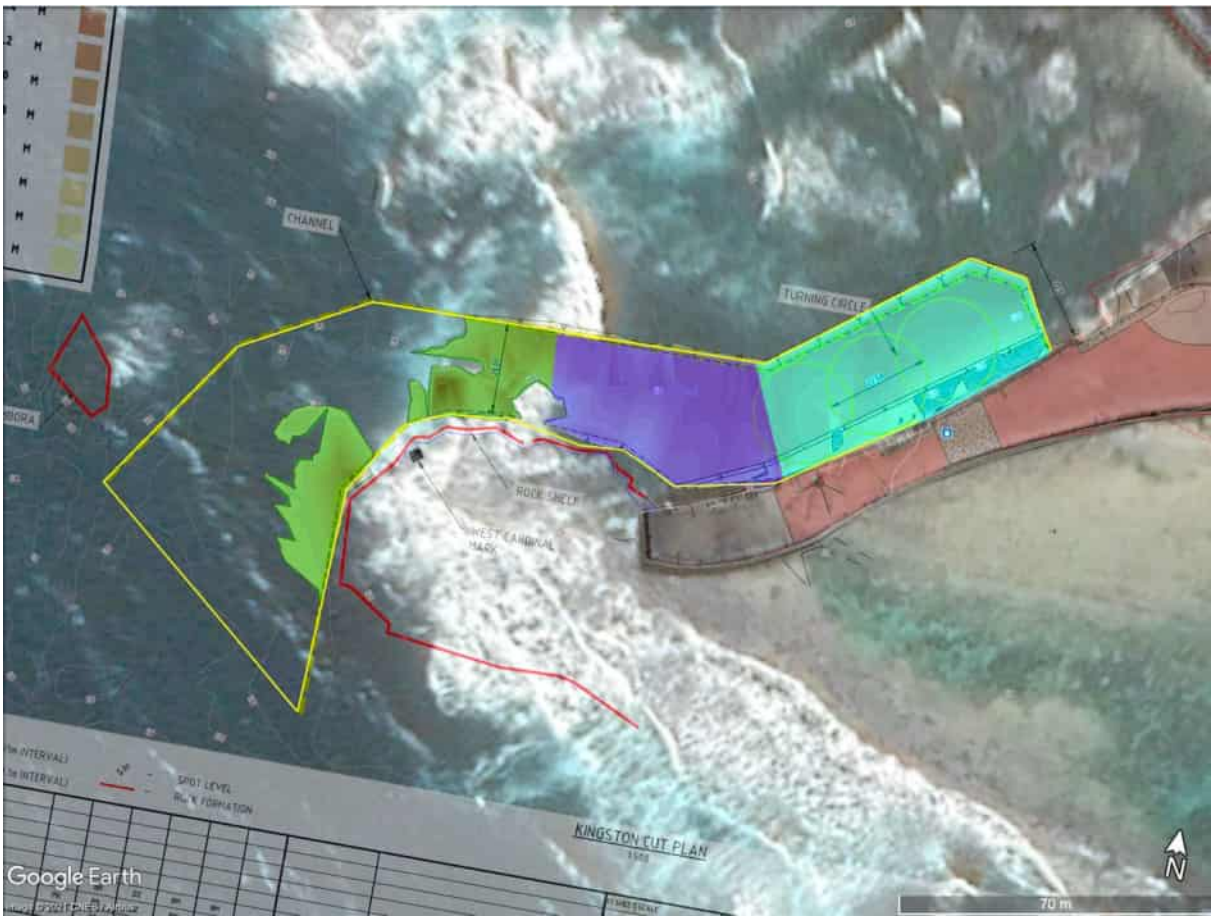


Figure 87: Option 3a overlaid with locations of cultural sensitivity. Light blue is low cultural heritage sensitivity (Sector A), dark blue is high cultural heritage sensitivity (Sector B), and green is tested only through video survey and therefore considered have medium cultural heritage sensitivity (Sector C). Yellow outline is navigation channel.

Based on the understanding of the proposed works (Option 3a) as it relates to the underwater archaeological resource, the impacts are as follows:

Seabed removal will remove and potentially destroy any cultural material within the project envelope. The full extent of the option is such that almost all of the remaining underwater archaeological resource associated with the Landing Place and Pier would be lost. Any shipwreck artefacts within the dredge envelope would also be lost.

Anchoring and spuds from a jack-up barge could impact (break up and/or destroy) archaeological remains.

Channel marker installation could impact the remains of the earlier convict period beacon – if any project machinery is to be installed on top of the reef beyond the Pier.

The severity of the impacts depends on the probability of the impact occurring and the scale of impact, in this case seabed disturbance on the identified resource. A scale range of impact on the archaeological significance is presented in Table 11 while terms for defining probability of impact are presented in Table 12.

Table 11 Scale range of impact on heritage sensitivity

Scale of Impact – Cultural Heritage sensitivity	Negligible	Minor	Moderate	Major	Extreme
High	No discernible alterations to existing natural and human processes already impacting on underwater archaeological remains.	Detectable impact with the underwater archaeological resource remaining largely intact.	Partial reduction in the cultural heritage value of the underwater archaeological resource.	Substantial reduction in the cultural heritage value of the underwater archaeological resource.	Complete or near complete loss of the cultural heritage value of the underwater archaeological resource.
Medium	Detectable impact with the underwater archaeological resource remaining largely intact.	Partial reduction in the cultural heritage value of the underwater archaeological resource.	Substantial reduction in the cultural heritage value of the underwater archaeological resource.	Complete or near complete loss of the cultural heritage value of the underwater archaeological resource.	N/A
Low	Partial reduction in the cultural heritage value of the underwater archaeological resource.	Substantial reduction in the cultural heritage value of the underwater archaeological resource.	Complete or near complete loss of the cultural heritage value of the underwater archaeological resource.	N/A	N/A

Table 12 Terms defining probability of impact

Term	Probability
Definite	100%
Highly probable	85–99%
Probable	50–84%
Improbable	25–49%
Highly improbable	1–14%
Almost impossible	< 1%

The scale of impact is assessed on the basis that it does not include the mitigation proposed in the 80% design construction methodology and in Section 10. For this impact assessment artefacts associated with shipwrecks and activities associated with the Pier and Landing Place have been grouped together. This is because the test excavation, especially in Sector B, could not always determine if an item was from a wreck event or lost from activities around the Pier.

Based on the findings of the test excavation and our understanding of the 80% design for Option 3a, the proposed works will have a definite impact on the archaeological resource within the design envelope (Table 13). Within Sector A the archaeological resource is encapsulated within a relatively thin layer sediments above grey tuff. The seabed removal within this Sector is expected to remove all sediments, therefore all artefacts, overlaying the

tuff substrate. Approximately 90% of this resource within Sector A will be removed as a narrow corridor a few metres wide adjacent to the Pier will not be fully excavated (see Figure 87).

Within Sector B we consider that up to 80% of the archaeological resource will definitely be impacted. This assessed lesser scale of impact is based on the understanding that some areas within this sector may not be excavated down to the grey tuff substrate. This would thereby allow archaeological deposits to remain intact within surviving sections of the calcarenite reef. For Sector C up to 50% of the sector will be potentially impacted by seabed removal with the likelihood of the potential archaeological resource of being impacted assessed as improbable.

Table 13 Impact to underwater archaeological resource Option 3a without mitigation

Impact to underwater archaeological resource Option 3a without mitigation			
Cultural Sensitivity	Estimated extent of impact	Probability of impact	Scale of impact
Low (Sector A)	90 % removal of archaeological resource	Definite	Moderate
Medium (Sector C)	Up to 50% removal of archaeological resource	Improbable	Moderate
High (Sector B)	Up to 80 % removal of archaeological resource	Definite	Major
Anchoring	< 1% of archaeological resource	Highly improbable	Minor
Beacon	100% of remains of earlier beacon	Highly improbable	Major

The potential impact to the archaeological remains within the study area have been assessed from Moderate to Major. This level of impact is considered **unacceptable without mitigation.** Acceptable mitigation is proposed in Section 9.1 and incorporates the mitigation presented in the 80% design construction methodology.

9.1 Proposed Mitigation

To mitigate the impact of the proposed works on the cultural heritage significance of the underwater archaeological remains a limited archaeological excavation prior to the works commencing and a monitoring programme throughout is required.

For the mitigation to be successful a well-prepared plan covering all aspects of the archaeological investigation, from its focus, the recovery, recording, management and publicising of the artefacts. This plan would be called the Kingston Pier Underwater Archaeological Management Plan (KPUAMP).

9.1.1 Preparation of Kingston Pier Underwater Archaeological Management Plan

The objective of preserving and promoting the significance of the underwater archaeological resource would be achieved by the formulation and implementation of the KPUAMP.

The KPUAMP will comprise five key parts which are:

- *Focus*
- *Recovery*
- *Record*
- *Manage*
- *Publicise*

Focus refers to establishing the direction of the underwater archaeological excavation by identifying and prioritising the significant elements of the resource as well as positing questions that the resource could answer in relation to the understanding of the cultural development of KAVHA and Norfolk Island, maritime infrastructure related sites and site formation processes in general.

Establishing a focus for the mitigation will dictate the approach and methodologies for the remaining key parts. Having a clear focus will provide a reference point for decision making in the event that unexpected finds and/or situations arise during the implementation of the KPUAMP.

Recovery refers to the removal of artefacts from within the proposed project envelope in a manner that minimises any loss of contextual (and therefore significant) information. Artefact recovery would take the form of a combination of diver-based activities as well as monitoring and sampling of removed seabed.

There is no diver-based excavation required within Sector A as it has been assessed as low cultural sensitivity (Figure 88). However, significant artefacts may still be located within this area and as such monitoring of the works will be required. This monitoring should take the form of sample sieving the material excavated by machine to check for artefacts. The amount of sampling is currently proposed to be 1 in 10 buckets or 10% of the loose rubble and calcarenite. Once the fresh tuff is reached, sample sieving can cease. If more artefacts are being found than expected further sieving may be required and vice versa if less artefacts are located. The thresholds for altering the required amount of sample sieving required will be outlined in the KPUAMP.

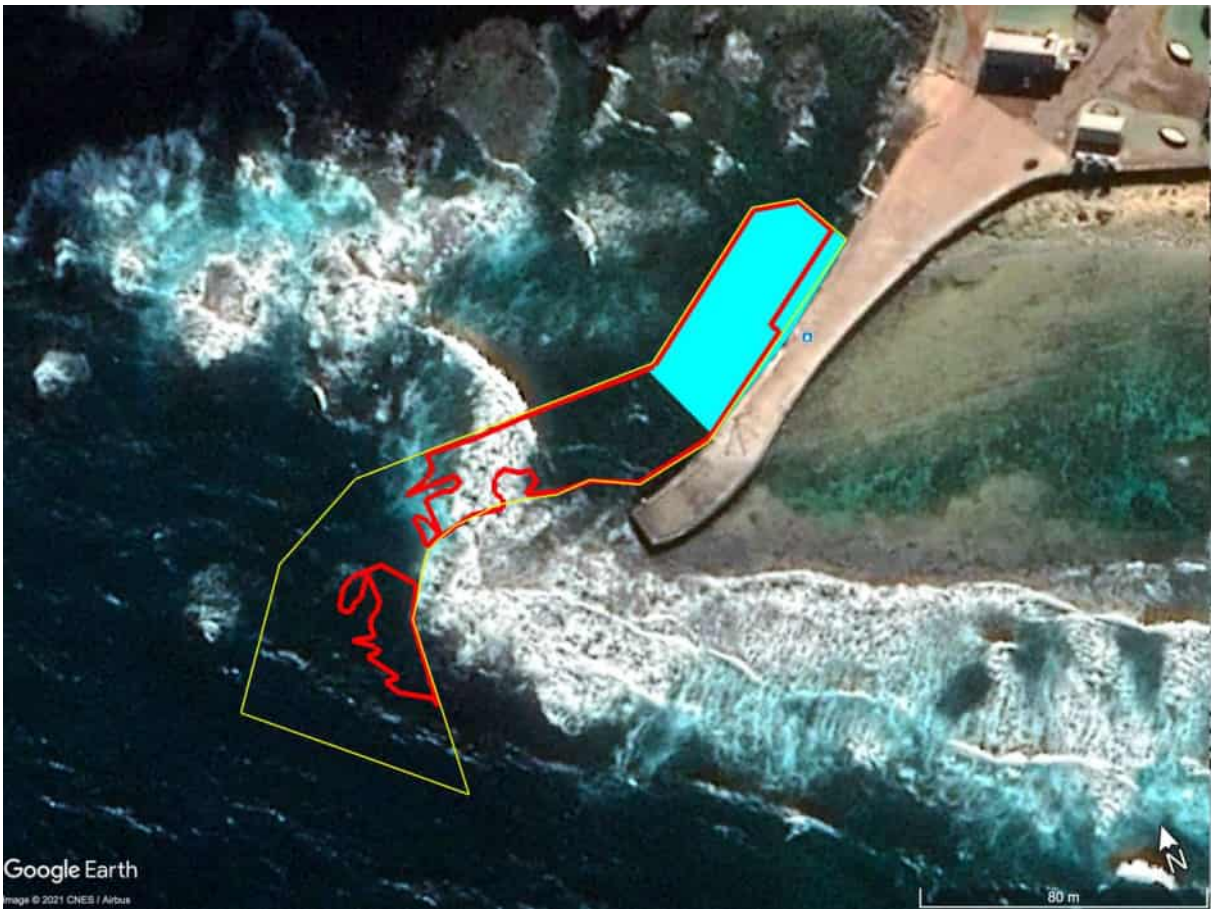


Figure 88: Extent of Sector A within proposed dredging outline, stretching from the edge of the navigation channel to the shoreward end of the second set of stairs.

There is a requirement for diver-based excavation in Sector B, considered of high cultural sensitivity (Figure 89). It is proposed that this excavation be conducted using a mixture of SSBA/water dredge and SCUBA/manual excavation/metal detector, which will allow for flexibility on locations and conditions on the day. This excavation may take up to two weeks. Diver based excavation is required to remove the risk of damaging significant artefacts through the use of a bucket dredge.

Once the divers have finished excavations in and around the area, 100% of material raised during the main part of the works is to be sieved and checked for artefacts. Once the fresh tuff is reached, sieving can cease.

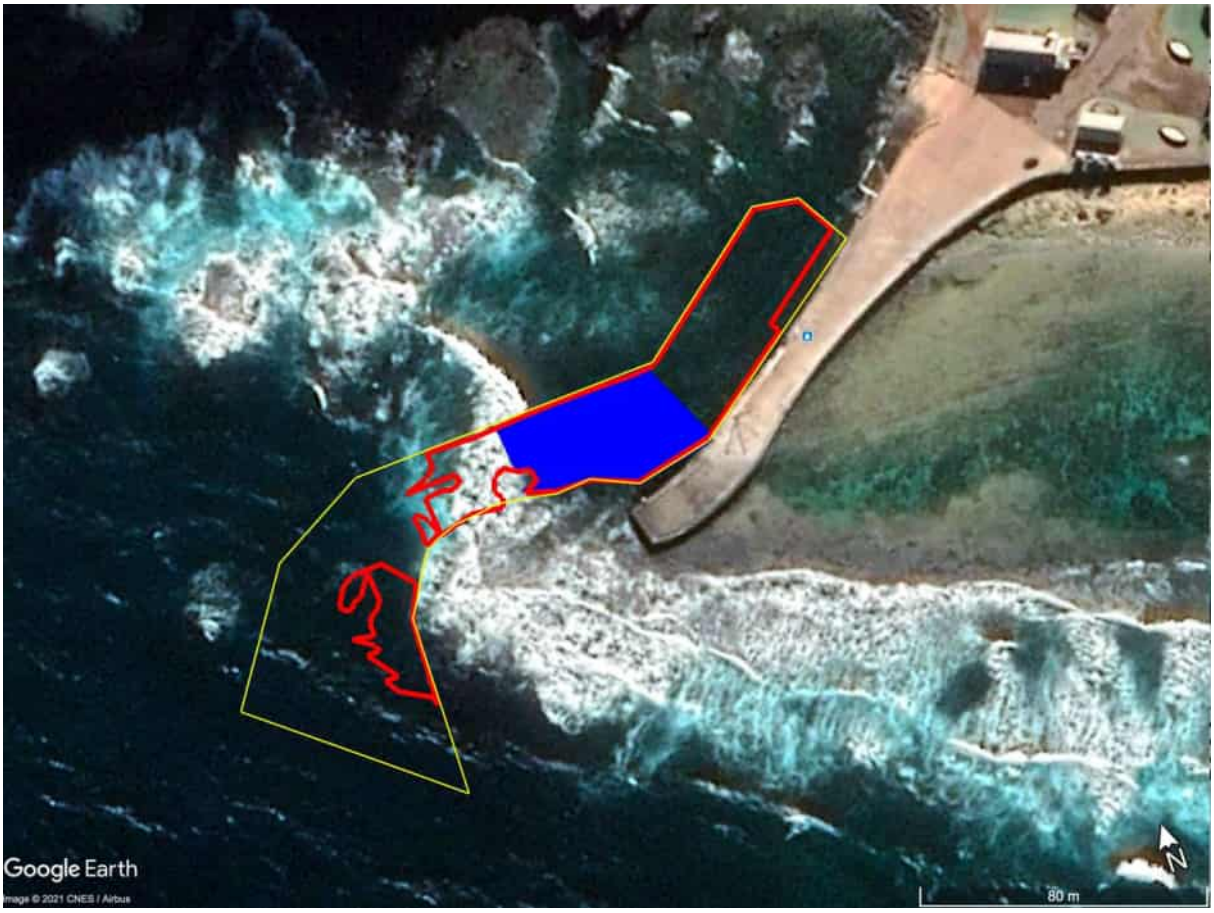


Figure 89: Extent of Sector B within proposed dredging outline, stretching from the shoreward end of the second set of stairs to the reef at the channel entrance.

Diver based excavation in Sector C would be difficult to manage unless diving conditions were considered perfect (Figure 90). Therefore, mitigation for these areas is to be sample sieving of 50% of loose rubble and calcarenite raised during the main works. Once the tuff is reached, sample sieving can cease. If more artefacts are being found than expected further sieving may be required and vice versa if less artefacts are located. The thresholds for altering the required amount of sample sieving required will be outlined in the KPUAMP.

At all times the location and contexts from where artefacts were recovered will be tracked, whether it be from within excavation areas or from the area where the excavator bucket will be operating.

Sediments containing artefacts will be pumped by venturi suction pipe into a sealed container on the seabed which would be lifted onto the Pier when full. Sediment and rock will be examined for artefacts at a sieve station by the sieve team. Artefacts may also be collected by individual divers within areas considered to be high cultural sensitivity.

Figure 90: Extent of Sector B within proposed dredging areas in the channel and outside the rock platform to the south west of Kingston Pier.

The KPUAMP will detail the methodology for the artefact recovery such as the size and location of diver-based excavation grids or zones, position fixing, information to be documented from each area, consideration of stratigraphical relevance, handling of artefacts recovered, handling of sediments and rock from the site to the sieve station(s). It will also include monitoring protocols including a system for tracking removed seabed, managing runoff from the sieving, sampling strategies, roles and responsibilities of the archaeology team which includes divers and people working on the sieve.

Record refers to how the artefacts will be documented, that is, descriptions, photographed, bagged and tagged. All artefacts will be recorded to a standard level so as to create an inventory of finds.

The KPUAMP will detail such things as the information that will be recorded for each artefact, methods of recording, how the information will be catalogued, processed and stored (paper forms, photo labelling, databases, etc..), recording sequence, where recording will take place, photography standards, roles and responsibilities of those undertaking the recording. Consideration could be given to retaining samples of non-cultural material such as marine animal bones or corals that could be used for other scientific studies.

Manage refers to how the artefact collection is to be treated with respect to storage, conservation or de-accessioning. In the first instance all artefacts recovered will need to remain in sea water, which would need to be changed regularly, until such time as their status in curation is determined.

The KPUAMP will contain an artefact retention policy which will guide the archaeologists as to which artefacts are to be retained and those which could be de-accessioned after recording has been completed. What is meant by de-accessioning is that such designated

artefacts leave the controls set by the KPUAMP and are in effect discarded. Broadly speaking the artefacts that would be retained would be those associated with the critical significance values of the resource – those which can be dated to the 18th and 19th centuries.

Those artefacts that would be de-accessioned would be recent 21st century objects while those artefacts from the 20th century would be retained or discarded on account of their association with the secondary significance values and/or their inherent rarity.

The artefact retention policy worked well during the test excavation and it is proposed that the same policy be retained for the KPUAMP.

The KPUAMP will detail the locations where retained artefacts will be stored pending the commencement of conservation treatment. It will also detail the process for determining which retained artefacts are prioritised for conservation based on factors such as rarity or representativeness of objects displayed in the Island's museums, or their relevance to planned exhibitions.

It is possible that the volume of artefacts retained could exceed existing wet storage capacity and/or initial conservation budgets. An option to be considered in the KPUAMP would be the in-water storage or reburial of the artefacts. The creation and management of underwater repositories for artefacts recovered from a marine environment, is either being undertaken or considered by agencies responsible for the management of underwater cultural heritage.

For artefacts to be reburied successfully they require to be returned to a similar environment from which they were recovered. For example, if recovered from a gravelly seabed at 3 m of water and is subject to surge, a similar environment should be sought. This usually means that they should not be re-buried far from where they were found. The artefacts should also be buried at a depth to effect anaerobic conditions, which can dramatically slow down fabric degradation. Wrapping the artefacts in geofabric facilitates the creation of an anaerobic environment. The KPUAMP would examine suitable locations for an underwater repository taking into consideration the security of the artefacts. What is meant by security is safeguarding a buried cache from disturbance from surge and from theft.

The KPUAMP will also contain basic protocols for monitoring the collection prior to and during conservation treatment, as well as addressing budget estimates for conservation and curation. Most critically the KPUAMP will detail the roles and responsibilities of the dredging contractors, the archaeologists, the Commonwealth and the KAVHA Authority, including a well-defined chain of custody for the management of the artefacts.

Publicise refers to the dissemination of the conduct and findings of the archaeological investigations. This includes the preparation of a comprehensive technical excavation report with specialist reports as required as well as associated project records such as images, videos, databases, mapping. Also, to be prepared would be a shorter and well-illustrated 'plain English' report.

The KPUAMP will outline options for further promotion in the form of displays, video, publications and other multi-media that would be addressed in an Interpretation Plan that would be prepared after the archaeological excavation and cataloguing has been completed. In addition, the KPUAMP will include a construction environmental sub-plan documenting procedures to negate impacts on the environment such as the controls placed on reducing turbidity or fuel spills.

The KPUAMP will need to be prepared in consultation with key stakeholders from the Norfolk Island Council, Community, KAVHA and the Commonwealth. It is the intention that the KPUAMP forms part of the conditions of approval required under the Underwater Cultural Heritage and EPBC Acts.

10 CONCLUSION AND RECOMMENDATIONS

This assessment of the impact of the proposed works on the cultural heritage significance of the identified underwater archaeological remains within the construction envelope of Option 3a found that:

- The proposed works area has been in constant use since 1788 as the primary landing place for Norfolk Island;
- This cultural activity has resulted in objects being discarded, both accidently and deliberately within the waters of the study area;
- A number of vessels have been wrecked outside, and possibly inside, the proposed construction envelopes but it can be expected that wreckage from one or more shipwrecks, including that of HMS *Sirius*, would likely have floated into the areas proposed for seabed removal;
- The identified underwater archaeological resource is adjacent to and interwoven with the cultural heritage values of KAVHA;
- The underwater archaeological resource pre-dating the transfer of Norfolk Island's governance to Australia is potentially of critical significance while material cultural relating to WWII defence works, tourism, use of earlier structures and modifications is of secondary significance;
- Dredging in the 1980s truncated this significant underwater archaeological resource;
- The non-disturbance dive inspection in February 2020 did not identify any culturally significant artefacts, however it was assessed that culturally significant artefacts would likely be concentrated and buried within gullies, gutters, cracks and fissures within the calcarenite and possibly volcanic tuff substrate that would be removed by the proposed works and as such a test excavation was recommended;
- The test excavation in November 2020 found that there is a very little likelihood of substantial archaeological deposits associated with activities and events pre-dating 1898 to be present in the vicinity of Test Trench 1, 2 and 3. However, there is still the possibility for the presence, in very low frequencies, of culturally significant artefacts in these zones.
- The seabed around TT4, where there is calcarenite reef and boulders has a very high likelihood for the presence of localised archaeological deposits containing culturally significant artefacts associated with shipwrecks and activities related to the Pier and the Landing Place.
- While no cultural material was observed during the video survey of the end of Kingston Pier, the deep fissures and cracks in the seabed along the rock platform and the broken reef to the south will likely contain artefacts associated with shipwrecks and has therefore been assessed of medium cultural sensitivity.
- The proposed works – unmitigated – we consider will definitely have major impacts to the critical significance of the underwater archaeological resource which would be unacceptable from a heritage standpoint;
- The Commonwealth *Underwater Cultural Heritage Act 2018* automatically protects remains of shipwrecks of 75 years old and it is definite that the proposed works will disturb such remains;
- The proposed action – seabed removal to Option 3a as outlined in Annex F – without acceptable mitigation, will have a significant impact because it will permanently remove, destroy, damage or substantially disturb a portion of an underwater archaeological resource assessed to have critical cultural heritage significance values in relation to World Heritage listed KAVHA. In fact this resource could be considered

to be unique to KAVHA in that there is no other location elsewhere within and without KAVHA which formed a constant and longstanding cultural nexus between the land and the sea.

- As such as it is believed that this action could potentially have a significant impact on a matter of national environmental significance and will require approval from the Australian Government Minister for the Environment as required under the Commonwealth *EPBC Act 2018*;
- To mitigate the impact of the proposed works on the cultural heritage significance of the underwater archaeological remains to an acceptable level a limited archaeological excavation prior to the works commencing and a monitoring programme throughout the works is required; and
- For the mitigation to be successful a well-prepared plan covering all aspects of the archaeological investigation, from its focus, the recovery, recording, management and publicising of the artefacts as well as the data collected, this plan would be called the Kingston Pier Underwater Archaeological Management Plan (KPUAMP).

Based on the above findings the following recommendations are made:

Recommendation 1 – Prepare and implement the Kingston Pier Underwater Archaeological Management Plan for the proposed works.

The implementation of this plan would be a condition of Approval (see Recommendation 2) under the EPBC Act 1999 if a referral is required and the permit (see Recommendation 3) under the UCHA Act 2018.

Recommendation 2 – Submit a referral under the* EPBC *Act 1999.

The proposed action – seabed removal (Option 3a), without acceptable mitigation, will have a significant impact as it will permanently remove, destroy, damage or substantially disturb a portion of an underwater archaeological resource assessed to have critical cultural heritage significance values in relation to World Heritage Listed KAVHA. In fact, this resource could be considered to be unique to KAVHA in that there is no other location elsewhere within and without KAVHA which formed a constant and longstanding cultural nexus between the land and the sea.

It is believed that this action could potentially have a significant impact on a matter of national environmental significance and may require approval from the Australian Government Minister for the Environment.

The study area is located within the Norfolk Marine Park which is protected under the Act.

Recommendation 3 – Apply for a permit under the Underwater Cultural Heritage Act 2018 (Cth) to undertake proposed works.

As there is a reasonable probability that wreckage associated with vessels that were wrecked more than 75 years ago will be impacted by the proposed works it would be prudent to obtain a permit under Part 3, Division 1, Subsection 23 of the UCHA 2018.

REFERENCES

Advisian Pty Ltd, January 2021, *Kingston Pier Channel Construction Project; 80% Design Report.* Report for the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC).

Anon, 1826 'Norfolk Island.', Colonial Times and Tasmanian Advertiser (Hobart, Tas. : 1825 - 1827), 3 February, p. 2. Available at http://nla.gov.au/nla.news-article2447070.

Anon, 1835 'Domestic and Miscellaneous Intelligence.', The Australian (Sydney, NSW: 1824 - 1848), 21 August, p. 2, available at http://nla.gov.au/nla.news-article42008860.

Anon, 1840 'Original Correspondence.', Australasian Chronicle (Sydney, NSW : 1839 - 1843), 17 March, p. 2. Available at http://nla.gov.au/nla.news-article31727834.

Anon, 1907, 'WHALE-BOAT CAPSIZES.', The Argus (Melbourne, Vic. : 1848 - 1957), 24 July, p. 6. Available at http://nla.gov.au/nla.news-article10136833.

Anon, 1910, Kingston Pier, *horses on the landing, Crankmill, boat store ruins and a ship at a distance, Norfolk Island, approximately 1910*, https://trove.nla.gov.au/work/237389426.

Anon, 1922, 'Whaleboat Smashed to Pieces.', The Age (Melbourne, Vic. : 1854 - 1954), 6 February, p. 6. Available at http://nla.gov.au/nla.news-article205750810.

AUCHD wreck ID 7955 available at https://dmzapp17p.ris.environment.gov.au/shipwreck/public/wreck/wreck.do?key=7955, accessed 18 December 2020.

Bradley, William. & Gritton, E. C. & Rand Corporation, 1969, *A voyage to New South Wales, the journal of Lieutenant William Bradley RN of HMS Sirius, 1786-1792*. Sydney : Trustees of the Public Library of New South Wales in association with Ure Smith.

Cosmos Archaeology Pty Ltd, June 2020, *Kingston Pier Channel Construction Project: Statement of Heritage Impact,* prepared for Advision.

Cosmos Archaeology Pty Ltd, September 2020, *Kingston Pier Underwater Archaeology Test Excavation Management Plan,* prepared for Advision.

Extent, June 2020, *Kingston and Arthur's Vale Historic Area (KAVHA) : Archaeological Zoning and Management Plan.*

Gibbs, M., B. Duncan and R. Varman, 2017, *The free and unfree settlements of Norfolk Island: an overview of archaeological research,* in Australian Archaeology 83:3.

Henderson, G., M. Stanbury, 1985, *Report to the Australian Bicentennial Authority on the February – March 1985 Bicentennial Project Expedition to the Wreck of HMS Sirius (1790) at Norfolk at Norfolk Island,* Report prepared for Department of Maritime Archaeology, Western Australian Maritime Museum No.24: p.21.

Hogan, R. November 2011, Kingston Pier Refurbishment, Norfolk Island. Paper presented at the 16th Engineering Heritage Australia Conference, Hobart November 2011.

Hydrographic Department, Great Britain, 1856, Pacific Ocean. Norfolk and Philip Islands viewed 16 April 2020 http://nla.gov.au/nla.obj-231292577.

Jean Rice Architect, Context Pty Ltd, and GML Heritage Pty Ltd. 2016. *Kingston and Arthur's Vale Historic Area: Heritage Management Plan*.

King, P., Gidley, 1861, *View of the Town Sydney on Norfolk Island* [picture]. [ca. 1792], available at https://viewer.slv.vic.gov.au/?entity=IE1500270&mode=browse, accessed 18 December 2020.

Mooney, J. ed., 1976, *Dictionary of American Naval Fighting Ships*, Vol.VI, p.154. Naval History Division, Dept. of the Navy. Washington, DC.

Parks Australia, 2020, *Norfolk Island National Park History*, available at https://parksaustralia.gov.au/norfolk/discover/history/#:~:text=Early%20settlement&text=The%20island%20was%20settled%20by,flax%20as%20good%20for%20sails, accessed 12 December 2020.

Professional Diving Services, 2020, *Dive Project Plan for Kingston Pier Channel Construction Project,* prepared for Cosmos Archaeology Pty Ltd.

Specht, J, 1993, Additional evidence for pre-1788 visits by Pacific Islanders to Norfolk Island, South-West Pacific, in Records of the Australian Museum (1993) Supplement 17.

Wakefield, C, May 1829, *Plan of the settlement and Garrison Farm* NRS 13859 Map 6321, NSW State Archives and Records.

ANNEX A – DIVE LOG

Date	Diver/s	Max depth (m)	Objective of dive	Left surface	Left bottom	Total bottom time (min)
07/11/2020	J. Parkinson C. Coroneos	4	Positioning four test trenches.	1003	1115	72
07/11/2020	J. Parkinson J.Mitchell	4	Setting up frame for TT2	1604	1620	16
07/11/2020	J. Parkinson J.Mitchell	4	Setting up frame for TT2	1640	1725	45
08/11/2020	M. Venturoni	4	Dredge TT2 and raise sediment boxes.	0747	1059	192
10/11/2020	J. Parkinson	4	Move frame from TT2 to location of TT1. Dredge sediment and raise sediment boxes.	0838	1219	229
11/11/2020	J. Parkinson	4	Establish frame at TT3. Dredge sediment and raise sediment boxes.	0838	1140	162
11/11/2020	J. Parkinson	4	Continue dredging TT3.	1155	1322	87
12/11/2020	J. Parkinson	4	Establish frame at TT4. Dredge sediment and raise sediment boxes.	0914	1343	269
12/11/2020	C. Coroneos	4	Inspection of TT4, video taken of tuff.	1245	1322	37
13/11/2020	C. Coroneos M. Venturoni J. Mitchell	4	Extension of TT4 with metal detector.	0909	1009	60
13/11/2020	J. Mitchell C. McBrian J. Blackwell	4	Extension of TT1 with metal detector.	1105	1215	70
13/11/2020	J. Mitchell M. Venturoni	4	Extension of TT4 with metal detector, including a small cut gully near TT3.	1355	1445	50
17/11/2020	J. Mitchell M. Venturoni J. Blackwell	8	Video survey at southern end of Kingston Pier.	1213	1229	16
Total Dives	23			Total bottom time		1305

ANNEX B – EXCAVATION VIDEO LOG

Name	Description	File Type	Size (MB)	Length
KP TT1 - Trench Location				
201107_Survey of TT1 location	Overview of TT1 planned location	MP4	136.1	00:00:24
201107_Direction of trench	Indicating planned direction of trench	MP4	228.9	00:00:40
KP TT1 – Pre-dredge CXT 1				
201110_Pre-dredge video survey TT1	Seabed before dredging with grid frame in place	MOV	248.4	00:02:04
KP TT1 – Pre-dredge CXT 2				
201112_video survey start CXT 2	Detail of TT1 CXT 2 pre dredging	MP4	869.3	00:02:34
KP TT1 – Post dredge				
201110_video survey post CXT 2_1	Detail of TT1 post dredging	MP4	1170	00:03:27
201110_video survey post CXT 2_2	Detail of TT1 post dredging	MP4	407.4	00:01:12
201110_timewarp of profile measurements	Example of measuring profile depths	MP4	414.2	00:00:55
KP TT1 Extension				
201113_Overview to TT1 extension	Overview of TT1 extension area	MP4	166.3	00:00:29
KP TT2 - Trench Location				
201107_TT2 location	Overview of TT2 planned location	MP4	358.5	00:01:03
201107_Direction of TT2	Indicating planned direction of trench	MP4	22.4	00:00:04
KPTT2 – Frame set up				
201107_SW_corner_JP	Setting up the grid frame SW corner	MP4	32.5	00:00:06
201107_Video overview TT2	Video overview with diver	MP4	53.4	00:00:09
201107_video survey while JP hammers	Overview of TT2 while diver completes set-up	MP4	152.2	00:00:27
KP TT2 – Pre-dredge				
201107_Video survey	Detail of TT2 pre dredging	MP4	257.4	00:00:45
201107_High level overview	TT2 grid frame overview	MP4	13.1	00:00:02
KP TT2 – Mid-dredge				
201108_Video survey of TT2 mid dredge_1	Detail of TT2 mid dredging	MP4	364.1	00:01:04
201108_Video survey of TT2 mid dredge_2	Detail of TT2 mid dredging	MP4	389.5	00:01:09
201108_Video survey of TT2 mid dredge_3	Detail of TT2 mid dredging	MP4	431.8	00:01:16
KP TT2 – Post-dredge				
201108_Video survey of TT2 post dredge_1	Detail of TT2 post dredging	MP4	387.4	00:01:08
201108_Video survey of TT2 post dredge_1	Detail of TT2 post dredging	MP4	381.1	00:01:07
201108_Video survey of TT2 post dredge_1	Detail of TT2 post dredging	MP4	1050	00:03:36
201110_video survey of backfill TT2	Video of TT2 two days after dredging complete highlighting natural back fill.	MP4	561.8	00:01:39
KP TT3 - Trench Location				
201107_TT 3 location	Overview of TT3 planned location	MP4	135.6	00:00:24
KP TT3 – Pre-dredge				
201111_ Pre-dredge TT3	Overview of TT3 grid frame pre-dredge	MP4	665	00:01:57

Name	Description	File Type	Size (MB)	Length
KP TT3 – Mid-dredge				
201111_TT3 mid dredge_1	Detail of TT3 mid dredging	MP4	625.6	00:01:50
201111_TT3 mid dredge_2	Detail of TT3 mid dredging	MP4	1031	00:03:51
KP TT3 – Post-dredge				
201111_TT3 post dredge_1	Detail of TT3 post dredging	MP4	152.1	00:00:27
201111_TT3 post dredge_2	Detail of TT3 post dredging	MP4	332.9	00:00:59
201111_TT3 post dredge_3	Detail of TT3 post dredging	MP4	333.1	00:00:59
201111_TT3 post dredge_4	Detail of TT3 post dredging	MP4	119.6	00:00:21
201111_TT3 post dredge_5	Detail of TT3 post dredging	MP4	258.2	00:00:46
KP TT4 – Trench location				
201107_Locating TT4	Indicating planned direction of trench	MP4	585.3	00:01:43
201112_General overview in and around TT4	Overview of TT4 planned location	MP4	1960	00:05:46
KP TT4 – Pre-dredge				
201112_overview of frame in TT4	Overview of TT4 grid frame	MP4	328.1	00:00:58
KP TT4 – Post-dredge				
201112_Overview of TT4	Detail of TT4 post dredging	MP4	397.5	00:01:10
KP TT4 – extension				
201113_Beerbottle TT4	Beer bottle in	MP4	10.2	00:00:05
201113_Cos hand fanning under overhang	Example of technique in extensions	MP4	150.3	00:00:27
201113_Eastern boundary overhang	Overhang showing smoothed tuff	MP4	346.9	00:01:01
201113_Example of gutters to north TT4	Gutters in TT4	MP4	86.4	00:00:15
201113_Example of overhang in TT4	Overhang in TT4	MP4	192.7	00:00:34
201113_Metal Detector inside gullies	Example of using metal detector in gullies	MP4	171.9	00:00:30
201113_TT4 extension north JM	Example of seabed north of TT4	MP4	228.5	00:00:40
201113_TT4 find with metal detector	Highlighting find through metal detector	MP4	48.6	00:00:09
KP TT4 – ground finds				
201112_black glass near TT4	Example of black glass with scale	MP4	83.1	00:00:15
201112_breaking free the crownie	Pulling a beer bottle free of a gutter	MP4	513.7	00:01:31
201112_sinker near TT4	Modern sinker on seabed	MP4	132.7	00:00:23
201113_TT4 snaffle bit	Snaffle bit found with metal detector	MP4	60.8	00:00:11
End of Kingston Pier Survey				
201117_End Kingston Pier Survey JB	Video run of southern end Kingston Pier at end of rock platform running west to east.	MP4	719.9	00:07:55
201117_End Kingston Pier Survey JM	Video run of southern end Kingston Pier at end of rock platform running west to east.	MOV	621.3	00:05:13

ANNEX C – ARTEFACT CATALOGUE

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0001	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Golf ball

Description

Titlest 4 golf ball

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	40	Thickness	40	Diameter	40
Width	40	Height	40	Weight (kg)	

Material Class	Synthetic	**Quantity**	1
Material SubClass	plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	white
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0002	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Tuna can lid

Description

Rectangular tuna can lid with remains of pull tab. Slightly bent.

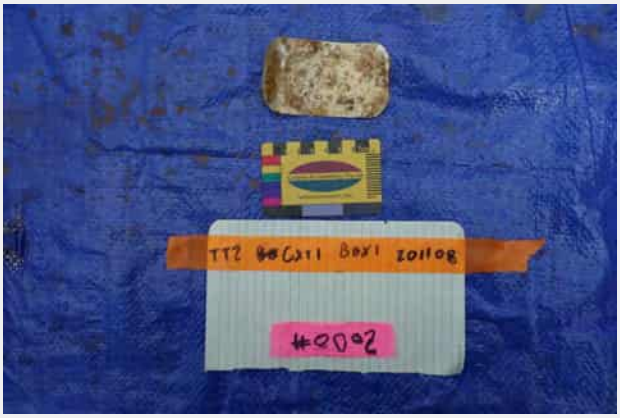
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	90	Thickness	<1	Diameter	
Width	50	Height		Weight (kg)	



Material Class	Metal	**Quantity**	1
Material SubClass	aluminium	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	partial	**Colour**	
Percentage	10-20%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0003	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Spark plug

Description

Marine spark plug, tip extending from concretion.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	90	Thickness	50	Diameter	
Width	50	Height		Weight (kg)	

Material Class	Multi-material	**Quantity**	1
Material SubClass	ferrous, plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	complete	**Colour**	
Percentage	100%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0004	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Bungee cord end

Description

Blue metal wire hook end from a bungee cord. Tip of hook is broken off, no cord remaining.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	80	Thickness	5	Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	partial	**Colour**	blue
Percentage	0-10%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0005	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Battery

Description

AA battery, no brand identifiable.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	50	Thickness		Diameter	14
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	complete	**Colour**	dark grey
Percentage	100%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0006	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Tile

Description

Small red rectangular ceramic tile, cross hatch texture on back.

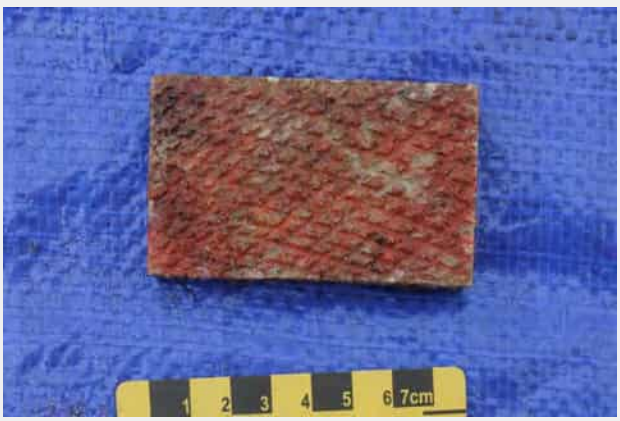
Year From		**Year To**		**Artefact Retained**	No

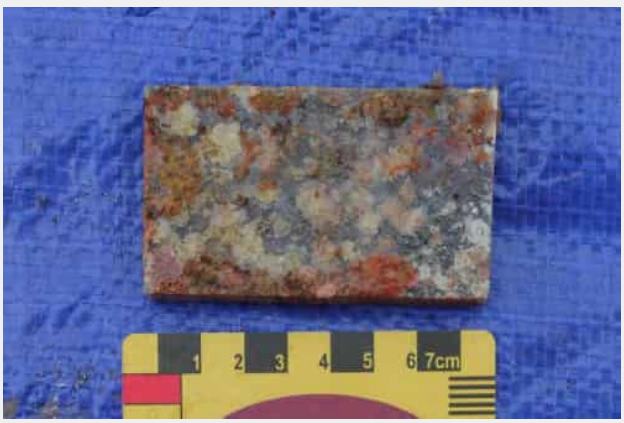
Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	82	Thickness	7	Diameter	
Width	50	Height		Weight (kg)	





Material Class	Ceramic	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	complete	**Colour**	red
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0007	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Circular stone

Description

Puck shaped dark grey stone, possible whetstone or other use. Worm tube attached to one side. Flat on both sides with rounded edges.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	20	Diameter	84
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	dark grey
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0008	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Glass

Description

Six fragments of clear plate glass, probably window glass. Fragments range in size from ~25mm to 260mm in length. Fragments are uniform thickness and free of marine growth except for two pieces.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	25-260	Thickness	5	Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	6
Material SubClass	plate glass	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Various	**Modification**	yes, some marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0009	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Glass

Description

42 fragments of green bottle glass, ranging from olive green to light green to dark green. Mostly thin, probably from beer bottles or wine bottles. Fragments range in size from several mm to 90mm in length. No distinguishing marks or labels, at least one piece is from the base of a bottle.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	4-90	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	42
Material SubClass	bottle glass	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	green
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0010	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Glass

Description

102 fragments of brown bottle glass, ranging in size from 4mm to 72mm. two pieces have distinguishing marks on them, one has the raised logo of a Crown Lager bottle, and the other piece has concentric circles, probably from the base of a beer bottle. Other pieces include the base portions of bottles, and one piece has the neck and rim intact with a screw top.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	4-72	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	102
Material SubClass	bottle glass	**MIC**	9
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0011	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Glass

Description

95 fragments of clear bottle glass, ranging in size from 8mm to 86 mm. No distinguishing marks or makers marks, some pieces from screw top rims and base pieces. Light marine growth on some fragments.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	8-86	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	95
Material SubClass	bottle glass	**MIC**	8
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Various	**Modification**	yes, some marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0012	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Wristwatch

Description

Tissot PRC 200 Chronograph. Round stainless steel case, scratch-resistant sapphire crystal, grey stainless steel strap with safety clasp. Retailing online for $800 AUD. Watch is mostly complete, however one end of the strap has detached from the body and the majority of the watch hands have fallen off of their bases. Mild corrosion.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	41	Thickness		Diameter	
Width	42	Height		Weight (kg)	

Material Class	Multi-material	**Quantity**	1
Material SubClass	glass and ferrous metal	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	complete	**Colour**	grey steel
Percentage	100%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0013	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Coconut shell

Description

Partial coconut shell, hollowed out.

Year From		**Year To**		**Artefact Retained**	No

Period

☒ Polynesian settlement 1150 - 1450
☒ 1st Settlement 1788 - 1814
☒ 2nd Settlement 1825 - 1855
☒ 3rd Settlement 1856 - 1897
☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	5	Diameter	130
Width		Height		Weight (kg)	

Material Class	Organic	**Quantity**	1
Material SubClass	seed	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	partial	**Colour**	brown
Percentage	50-60%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0014	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Peach pit

Description

Two peach pits or other stone fruit pits.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	24	Thickness	18	Diameter	
Width	18	Height		Weight (kg)	

Material Class	Organic	**Quantity**	2
Material SubClass	seed	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	complete	**Colour**	brown
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0015	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Aluminium can scrap

Description

24 scraps of aluminium beer cans, including three base pieces and two rim pieces, one with an intact mouth and pull tab. Beer brands are identifiable on two pieces, one with a XXXX Gold label and one with a Toohey's New label. Other pieces contain portions of labels. One piece is partially concreted in what appears to be iron concretion. Scraps range in size from 9mm to 73mm across.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	9-73	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	24
Material SubClass	aluminium	**MIC**	6
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Various	**Modification**	yes, some pieces concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0016	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Fishing line

Description

Three lengths of heavy gauge fishing line about 130mm long. One piece comprises two separate lines tied together at one end. One piece has been wound around and tied off at one end.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	130	Thickness	1.5	Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	3
Material SubClass	plastic	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	partial	**Colour**	clear
Percentage	Unknown	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0017	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Fishing tackle

Description

Six pieces of fishing tackle, small stainless steel, consisting of some wire and hook holders.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	6
Material SubClass	ferrous	**MIC**	6
SubFabric		**Integrity**	Individual Element(s)
Portion	various	**Colour**	
Percentage	various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0018	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Fish hook

Description

SIngle barbed fishhook with loop at end for fishing line. Some corrosion product along length.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	complete	**Colour**	
Percentage	100%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0019	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Shell

Description

Nine pieces of oyster shell, six half shells and three fragments, measuring between 100 mm and 30 mm long and 70 mm to 20 mm wide.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	30-100	Thickness		Diameter	
Width	20-70	Height		Weight (kg)	

Material Class	Faunal	**Quantity**	9
Material SubClass	shell	**MIC**	9
SubFabric		**Integrity**	Individual Element(s)
Portion	various	**Colour**	mottled dark brown and light
Percentage	various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0020	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Shell

Description

5 pieces of scallop shell. three pieces mostly complete half-shells, two fragments. Two of the half shells have holes through the middle, unk how the holes were made (natural or artificial). Largest shell measures 84 mm wide, 88 mm long, smallest fragment measures 52 x 50 mm.

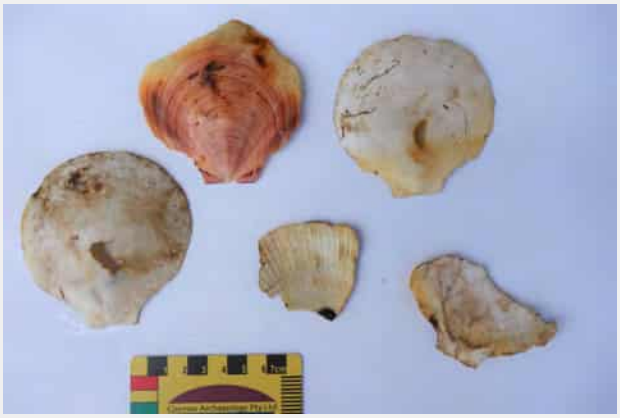
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	52-88	Thickness		Diameter	
Width	54-84	Height		Weight (kg)	



Material Class	Faunal	**Quantity**	5
Material SubClass	shell	**MIC**	5
SubFabric		**Integrity**	Individual Element(s)
Portion	various	**Colour**	mostly white, one shell light
Percentage	various	**Modification**	yes, hole in centre of two shells

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0021	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Shell

Description

10 pieces of mussel shell, mostly fragments and partial half-shells, but with one complete half-shell. Shell fragments measure from 34 mm to 108 mm long, 25 mm to 47 mm wide

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	34-108	Thickness		Diameter	
Width	25-47	Height		Weight (kg)	

Material Class	Faunal	**Quantity**	10
Material SubClass	shell	**MIC**	10
SubFabric		**Integrity**	Individual Element(s)
Portion	various	**Colour**	mottled, mostly dark brown with
Percentage	various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0022	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Plastic and rubber scrap

Description

15 pieces of modern plastic and rubber rubbish, scraps. Pieces include black plastic arm off a pair of sunglasses, a black rubber stopper, two rubber o-rings, tiny orange fragment from a light (ie brake light), a white plastic collar with threading, and nine pieces of unidentified rubber/plastic scraps.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	15
Material SubClass	rubber/plastic	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	various	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0023	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Shell

Description

One oyster half-shell, complete.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	112	Thickness		Diameter	
Width	52	Height		Weight (kg)	

Material Class	Faunal	**Quantity**	1
Material SubClass	shell	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	partial	**Colour**	mottled white and orange/tan
Percentage	40-50%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0024	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Shell

Description

Four fragments of mussel shell

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	4
Material SubClass	shell	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	partial	**Colour**	mottled, mostly dark brown with
Percentage	various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0025	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Ferrous fragment

Description

Seven fragments of ferrous material, probably steel. Material is thin but appears to have layering.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	7
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	unknown	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0026	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Bottle cap

Description

Sixteen bottle caps in various states of decomposition. Including one pull cap (such as from Bundaberg soda), 12 bottle cap seals (plastic), and three corroded metal bottle caps with plastic seals attached.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	16
Material SubClass	ferrous, Al, plastic	**MIC**	16
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	various	**Modification**	yes, corrosion

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0027	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Pull tab

Description

Two aluminium pull tabs from aluminium cans.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	2
Material SubClass	aluminium	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0028	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Razor blade

Description

Piece of a stainless steel straight razor blade, with significant corrosion but with part of the blade edge exposed.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	25	Thickness		Diameter	
Width	24	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	partial	**Colour**	
Percentage	40-50%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0029	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Pipette

Description

Single piece of a thin glass tube or pipette. Glass is clear, tube is 6 mm in diameter, 33 mm long. Glass walls are less than 1 mm thick. A small band of marine growth circles the pipe around the middle.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	6
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	glass tube	**MIC**	
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	clear
Percentage	Unknown	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0030	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Ceramic sherd

Description

Single ceramic sherd, cyan blue colour. Measurements 25 x 20 x 3 mm.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	25	Thickness	3	Diameter	
Width	20	Height		Weight (kg)	

Material Class	Ceramic	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	cyan
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0031	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Bone

Description

Twelve bird bones, probably chicken mostly, majority are likely leg bones with some wing bones as well. Bones range from 31 mm to 94 mm long, 24 mm to 3 mm thick.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	12
Material SubClass	Bone	**MIC**	
SubFabric	Chicken bones	**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	No

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0032	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Shark teeth

Description

Nine shark teeth. Eight from the upper jaw of Galapagos sharks, one from the lower jaw.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	9
Material SubClass	bone - teeth	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0033	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Bone

Description

Twenty mammal bones. Various portions, parts, and animals. bones include leg bones, vertebrae and ribs among others. Most likely cow and sheep/goat. Some bones clearly butchered.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	20
Material SubClass	Bone	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	Yes, cuts

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0034	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Bone

Description

233 individual fish bones, various sizes from large vertebrae to small ribs and bone fragments.

Note: more bones photographed in artefact photo catalogue.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	233
Material SubClass	bone	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0035	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Glass

Description

Twenty-seven fragments of green coloured glass. At least two pieces appear to be from a case gin bottle (squared, dark green), remainder probably from wine bottles or beer bottles. Two pieces are dark green, eight pieces are light green, and the remainder are olive green.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	27
Material SubClass	Bottle glass	**MIC**	5
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	green
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0036	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Glass

Description

Forty-six fragments of clear bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	46
Material SubClass		**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0037	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Mirror

Description

One small fragment of mirrored glass. Fragment is 25 mm x 16 mm.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	25	Thickness		Diameter	
Width	16	Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	mirror	**MIC**	
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	clear/mirrored
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0038	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Glass

Description

Sixty fragments of brown bottle glass, some bases and neck pieces, mostly body pieces. Fragments range in size from 92 mm to 11 mm

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	11-92	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	60
Material SubClass	bottle glass	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	Brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0039	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Bolt

Description

Three concreted ferrous bolts. Upon recovery, the bolts were partially de-concreted at the sieve table, revealing a threaded end, round shaft, and hexagonal head. The three bolts are all approximately the same size, and closely resembled other bolts used on constructing the wharf piles. Bolts measured 240 mm in length, 15 mm diameter, while the hex heads were 25 mm across.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	240	Thickness		Diameter	15
Width	25	Height		Weight (kg)	

Material Class	Metal	**Quantity**	3
Material SubClass	Ferrous	**MIC**	3
SubFabric	Steel?	**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	yes, marine concretion

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0040	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Washer

Description

Concreted steel washer. 40 mm total diameter, 10 mm width, 3 mm thick.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	3	Diameter	40
Width	10	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	Ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0041	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Bolt

Description

Partial steel bolt, probably the same as item 0039. Hex head and partial shaft ~30% of the length of a full bolt. Concreted. 70 mm long, 15 mm diameter, hex head 25 mm across.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	70	Thickness		Diameter	15
Width	25	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	Ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	30-40%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0042	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Hex nut

Description

Concreted steel hex nut broken into four pieces in deconcretion attempt. Nut is approximately 60 mm across and 6 mm thick.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	6	Diameter	
Width	60	Height		Weight (kg)	

Material Class	Metal	**Quantity**	4
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	90-100%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0043	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Hex nut

Description

Steel hex nut, less concreted than 0042 with same dimensions.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	6	Diameter	
Width	60	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0044	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Metal ring

Description

Small ferrous ring with partial concretion. Possible piece of iron nail embedded in concretion. Ring is 35 mm diameter, 5 mm wide, 3 mm thick.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	3	Diameter	35
Width	5	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	Ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0045	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Wire

Description

Ferrous wire with partial concretion.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	95	Thickness	2	Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0046	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Ferrous fragment

Description

Seventeen fragments of ferrous material, probably steel. Material is thin but appears to have layering.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	17
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0047	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Stone

Description

Three pieces of dark gray basalt with some lighter marine growth. Pieces are about 40 mm in length, one is rounded and smooth, the other two are angular.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	40	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	3
Material SubClass	basalt	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	dark grey
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0048	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Concretion

Description

Four pieces of unidentified ferrous concretions. The largest piece was deconcreted to reveal a portion of a metal screw (item 0049).

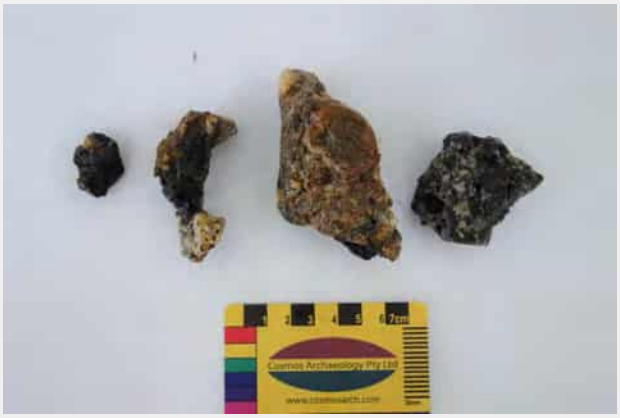
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	4
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0049	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Screw

Description

Flathead screw fragment, consisting of the proximate end with head intact. Removed from concretion (0048). Screw is 15 mm long, 4 mm shaft thickness, 7 mm head diameter.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	15	Thickness	4	Diameter	7
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	20-30%	**Modification**	

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0050	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Ferrous fragment

Description

Two fragments of ferrous material, probably steel. Material is thin but appears to have lamination.

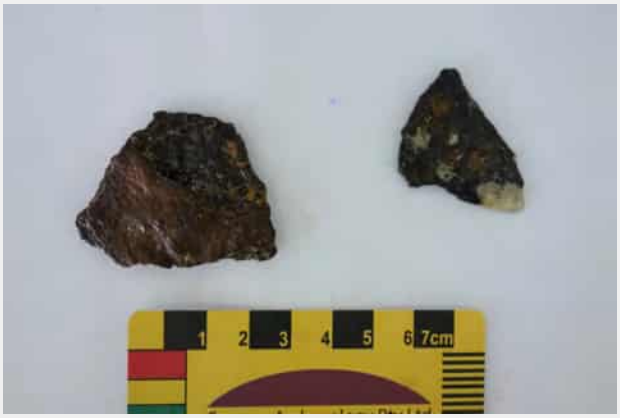
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	2
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0051	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Nail

Description

Ferrous nail, partial concretion with tip extruding from concretion. Full length is 55 mm

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	55	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	70-80%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0052	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Coin

Description

Australian 20 cent piece, "Australia" and Queen Elizabeth II partially visible on obverse (Rank-Broadley portrait, 1999 to 2019), "...0" visible on reverse. Very worn with few distinguishing marks remaining. some copper corrosion on surface.

Year From	1999	**Year To**	2019	**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	2	Diameter	29
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	brass coloured with verdigris
Percentage	100%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0053	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Ammunition

Description

Brass shell casing for small calibre ammunition. Centerfire cartridge, casing is about 80% complete with portion of the distal end missing. 33 mm long, 12 mm diameter.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	33	Thickness		Diameter	12
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	brass
Percentage	80-90%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0054	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Ferrous fragment

Description

Four fragments of ferrous material, probably steel. Material is thin but appears to have lamination.

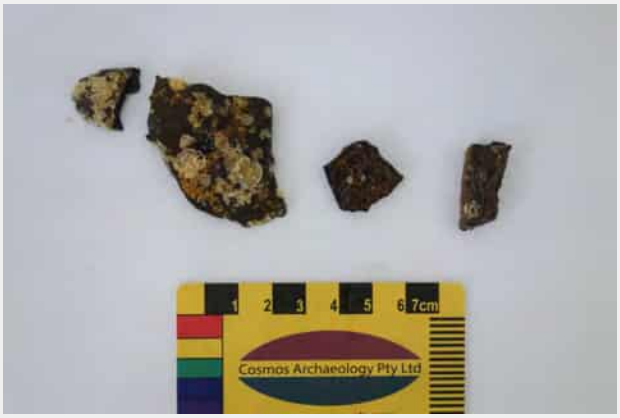
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	4
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0055	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Asbestos

Description

Three fragments of asbestos board

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Mineral	**Quantity**	3
Material SubClass	asbestos	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	grey
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0056	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Stone

Description

Three rounded pebbles of dark grey basalt stone 57 mm to 90 mm long with some white marine growth.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	57-90	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	3
Material SubClass	basalt	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0057	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Knife

Description

Locking folding knife with black plastic handle and stainless steel blade. 200 mm long overall, handle is 120 mm long, blade is 80 mm and 20 mm wide. Knife has a pocket clip on the side which is partially concreted. Blade is chipped and hardware is corroded.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	200	Thickness		Diameter	
Width	20	Height		Weight (kg)	

Material Class	Multi-material	**Quantity**	1
Material SubClass	Ferrous/plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	Yes, corrosion

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0058	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Bottle cap

Description

Four plastic bottle cap seals.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	20
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	4
Material SubClass	plastic	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0059	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Plastic and rubber scrap

Description

Five pieces of modern plastic and rubber rubbish, scraps. Includes a corner of a driver's license, one piece of white rubber scrap, two black plastic pieces and a small white plastic loop.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	5
Material SubClass	rubber/plastic	**MIC**	
SubFabric	rubber	**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0060	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Aluminium can scrap

Description

Thirteen pieces of aluminium cans. Fragments from 7 mm to 50 mm. includes portion of can base and can lid. Some pieces retain colouring on surface.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	7-50	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	13
Material SubClass	aluminium	**MIC**	5
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0061	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Spark plug

Description

Marine spark plug, partially concreted.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	90	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Multi-material	**Quantity**	1
Material SubClass	ferrous, plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	white
Percentage	100%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0062	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Battery

Description

AA battery

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	52	Thickness		Diameter	15
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0063	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Fishing rod

Description

Distal end of a fishing pole, one eyelet remaining. Material is synthetic, likely fibreglass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	237	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	1
Material SubClass	fibreglass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	black
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0064	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Sinker

Description

Round lead sinker with mono-filament fishing line still attached.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	10
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	grey
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0065	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Wine bottle capsule

Description

"Capsule" or "skirt" of a screw-top wine bottle, aluminium. Label is illegible

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	48	Thickness		Diameter	35
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	aluminium	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	grey
Percentage	40-50%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0066	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Peach pit

Description

Three whole peach pits

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Organic	**Quantity**	3
Material SubClass	seed	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	brown
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0067	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Tile

Description

White ceramic tile with backing. fragment is ~50% of original tile.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	150	Thickness	7	Diameter	
Width	110	Height		Weight (kg)	

Material Class	Ceramic	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	white
Percentage	40-50%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0068	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	1

Item	Concrete

Description

Chunk of concrete. Cut marks on back side, flat on both sides.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	100	Thickness	13	Diameter	
Width	80	Height		Weight (kg)	

Material Class	Mineral	**Quantity**	1
Material SubClass	concrete	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	Dark tan
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0069	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Concrete

Description

Two chunks of concrete. The larger chunk is flat on one side and rounded on the other with aggregate forming a rough texture. The smaller piece is flat on both sides.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Mineral	**Quantity**	2
Material SubClass	concrete	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	grey
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0070	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Bone

Description

Three chicken bones, two leg bones, one rib.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	3
Material SubClass	bone	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0071	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Shark teeth

Description

Seven shark teeth. Most likely Galapagos shark, six upper jaw teeth and one lower jaw tooth.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	7
Material SubClass	bone - teeth	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0072	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Bone

Description

Seven mammal bones. Four rib bones, one vertebrae, one long bone fragment, and one unknown fragment. Flat rib bones show evidence of butchering.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	7
Material SubClass	Bone	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	yes, butchered

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0073	**Date Recovered**	8 November 2020		
Trench	2	**Context**	1	**Box**	2

Item	Bone

Description

85 individual fish bones

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	85
Material SubClass	bone	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0074	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Ferrous fragment

Description

Fourteen fragments of ferrous material, probably steel. Material is thin but appears to have layering.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	14
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0075	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Stone

Description

Seven stones, six basalt and one ironstone. Three have holes, possibly for use as sinkers.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	7
Material SubClass	basalt/ironstone	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	various
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0076	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Slate

Description

Flat piece of dark grey slate, 28 mm x 17 mm, 1 mm thick.

Note: Slate pencil in photograph below is artefact 0077

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	28	Thickness	1	Diameter	
Width	17	Height		Weight (kg)	

Material Class	Stone	**Quantity**	1
Material SubClass	slate	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	dark grey
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0077	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Slate pencil

Description

Slate pencil tip, pointed at end. 31 mm long, 5 mm diameter at center.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	31	Thickness		Diameter	5
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	1
Material SubClass	slate	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	dark grey
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0078	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Glass

Description

Six pieces of green bottle glass, most likely from a case gin bottle.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	6
Material SubClass	bottle glass	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	green
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0079	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Glass

Description

Six pieces of clear bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	6
Material SubClass	bottle glass	**MIC**	6
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0080	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Glass

Description

Six pieces of brown bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	6
Material SubClass	bottle glass	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0081	**Date Recovered**	12 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Sinker

Description

Hexagonal lead sinker with a rounded end and a flat end. Hole drilled through the centre, end to end.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	25	Thickness		Diameter	
Width	22	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0082	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Spark plug

Description

Plastic portion of a marine spark plug. 75 mm long, 17 mm wide at widest point. A heavily corroded portion of the metal end extrudes from the plastic.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	75	Thickness		Diameter	
Width	17	Height		Weight (kg)	

Material Class	Multi-material	**Quantity**	1
Material SubClass	ferrous, plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	white
Percentage	40-50%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0083	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Sinker

Description

Two lead sinkers. One is a small scrap of lead folded over a fishing line, a portion of which is still attached. This sinker measures 11 mm across. The other is a round lead sinker with a hole drilled through the middle, measuring 28 mm in diameter

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	10	Thickness		Diameter	28
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	2
Material SubClass	lead	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	grey
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0084	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Fishing tackle

Description

Swivel with portion of line still attached.

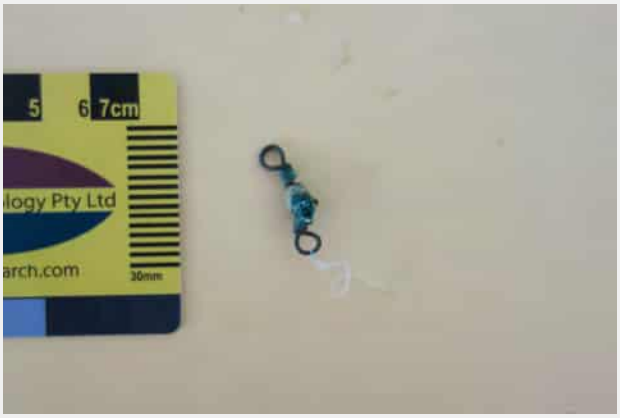
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	25	Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	1
Material SubClass	copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0085	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Sinker

Description

Two lead sinkers. One sinker is formed from a thin lead sheet folded over, and measures 11 mm x 17 mm, the second is a rounded rectangular sinker meas. 8 mm x 14 mm

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	2
Material SubClass	lead	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	grey
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0086	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Fragment of "black" glass from a bottle, likely from the neck. Fragment is frosted and weathered on the outer surface, smooth and glossy on the inner surface. Longitudinal crack on outer surface. Fragment is 30 mm long, 24 mm wide and 4 mm thick.

Year From	1700	**Year To**	1850	**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	30	Thickness	4	Diameter	
Width	24	Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	black
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0087	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Charcoal

Description

Two small pieces of charcoal, rounded and weathered. Larger piece is 14 mm x 14 mm, smaller piece is 10 mm x 9 mm.

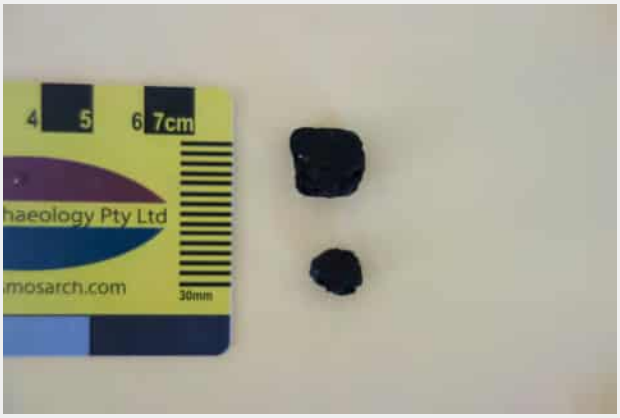
Year From		**Year To**		**Artefact Retained**	No

Period

☒ Polynesian settlement 1150 - 1450
☒ 1st Settlement 1788 - 1814
☒ 2nd Settlement 1825 - 1855
☒ 3rd Settlement 1856 - 1897
☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	10-14	Thickness		Diameter	
Width	9-14	Height		Weight (kg)	



Material Class	Organic	**Quantity**	2
Material SubClass	charcoal	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	black
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0088	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Ferrous fragment

Description

35 ferrous fragments. Pieces are either long and thick or wide and flat. Thick pieces up to 9 mm thick. Three pieces have holes on the surface, potentially rivet or fastener locations. Ferrous pieces appear to be laminated.

Note: sieve operator recognized the pieces as potentially flakes coming off cargo vessels transporting goods into Norfolk.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	35
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0089	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Slate

Description

Three pieces of flat slate, 1-2 mm thick

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	1	Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	3
Material SubClass	slate	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	grey
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0090	**Date Recovered**	12 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

One fragment of green bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	green
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0091	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	3

Item	Sinker

Description

Rectangular lead sinker with hole drilled through top.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	24	Thickness	6	Diameter	
Width	15	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	grey
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0092	**Date Recovered**	12 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Partial "black" glass bottle base. Glass is frosted and weathered on the outer surface, smooth and glossy on the inner surface. Bottle wall measures 8 mm thick.

Year From	1700	**Year To**	1850	**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	60	Thickness	8	Diameter	
Width	52	Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	black
Percentage	10-20%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0093	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Sinker

Description

Four lead sinkers. Two spherical, with holes, 12 mm in diameter. One oblong, with portion of fishing line still attached, 15 mm x 7 mm. One a flat sheet of lead folded over with a fishing line still attached, 22 mm x 11 mm.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	4
Material SubClass	lead	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	grey
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0094	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Fishing lure

Description

Stainless steel spinner lure, bias-cut section, with small red tab attached by ring. Main portion of lure measures 68 mm x 12 mm, red tab is tear drop shaped and measures 16 mm x 10 mm.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	68	Thickness		Diameter	
Width	12	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0095	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Fishing tackle

Description

Five pieces of fishing tackle. Small wire hook holders, 4 mass-produced, one improvised out of metal wire.

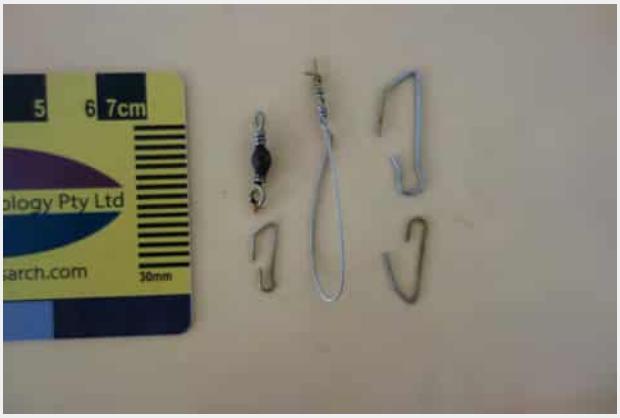
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	5
Material SubClass	ferrous	**MIC**	5
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0096	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Fish hook

Description

One barbed fish hook, with tip, barb, and eyelet broken off. Hook measures 65 mm in total length, 2 mm thick.

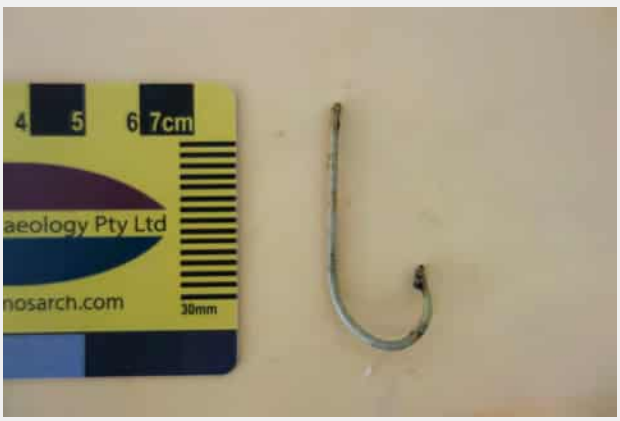
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	65	Thickness	2	Diameter	
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	80-90%	**Modification**	yes, corrosion

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0097	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Glass

Description

Twelve fragments of brown bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	12
Material SubClass	bottle glass	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0098	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Glass

Description

One fragment of blue bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	blue
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0099	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Glass

Description

Three fragments of green bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	3
Material SubClass	bottle glass	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	green
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0100	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Glass

Description

Six fragments of clear bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	5
Material SubClass	bottle glass	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0101	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Tooth

Description

Possible tooth, identification uncertain.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width	16	Height	14	Weight (kg)	

Material Class	Faunal	**Quantity**	1
Material SubClass	bone - teeth	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	tan
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0102	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Bone

Description

Chicken leg bone

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	72	Thickness	7-15	Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	1
Material SubClass	bone	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0103	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Slate pencil

Description

Two slate pencil tips, pointed at end. 23 mm long x 4 mm in diameter at centre.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	23	Thickness		Diameter	4
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	2
Material SubClass	slate	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	grey
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0104	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Slate

Description

Triangular piece of flat slate. 47 mm maximum length, 32 mm max width, 2 mm thick. Patchy coating of marine growth.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	47	Thickness	2	Diameter	
Width	32	Height		Weight (kg)	

Material Class	Stone	**Quantity**	1
Material SubClass	slate	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	grey
Percentage	Unknown	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0105	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Stone

Description

Two pieces of dark red ironstone.

Year From		**Year To**		**Artefact Retained**	No

Period

☐ Polynesian settlement 1150 - 1450 ☐ 2nd Settlement 1825 - 1855 ☐ 3rd Settlement 1898 - present
☐ 1st Settlement 1788 - 1814 ☐ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	2
Material SubClass	ironstone	**MIC**	
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	dark red
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0106	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Stone

Description

Four pebbles of basalt. Rounded, from 24 to 76 mm across. Whitish marine growth encrusting the largest stone.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	24-76	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	4
Material SubClass	basalt	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	grey
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0107	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Ceramic sherd

Description

White ceramic sherd. curved piece of small bowl or tea cup, partial rim.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	50	Thickness	3.5	Diameter	
Width	25	Height		Weight (kg)	

Material Class	Ceramic	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	white
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0108	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Ferrous fragment

Description

29 fragments of ferrous metal. Pieces are either long and thick or wide and flat. Thick pieces up to 9 mm thick.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	29
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Various	**Modification**	ues. cprrpded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0109	**Date Recovered**	12 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Bollard

Description

Heavy lead bollard or hitch. Oblong shape, pyramidal section on top with holes for fasteners at both ends. 120 mm long, 30 mm at widest, 30 mm at tallest.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	120	Thickness		Diameter	
Width	30	Height	30	Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	grey
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0110	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Coin

Description

Copper alloy coin, heavily worn with Cu corrosion. No legible marks or imprints. Coin is 30 mm in diameter, 1 mm thick.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	1	Diameter	30
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	Copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0111	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Ammunition

Description

Brass shell casing, small calibre rimfire cartridge, probably .22. Shell casing is partial, missing the top 20%. Base is 7 mm diameter, case body is 6 mm diameter. Casing is 22 mm long.

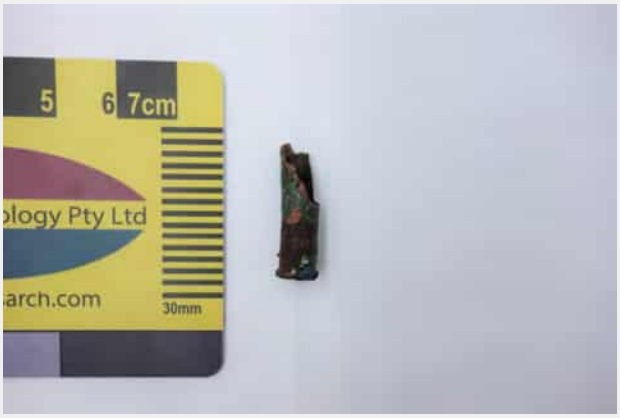
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	22	Thickness		Diameter	6
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	1
Material SubClass	Copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	70-80%	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0112	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Wiring

Description

Unidentified piece of electrical wiring. Small brass/copper alloy piece with some copper corrosion on surface.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	12	Thickness		Diameter	
Width	5	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	Copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0113	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Wire

Description

Copper alloy electrical wire portion with partial plastic or rubber insulation attached. Insulation is 4 mm diameter, wire is 2 mm thick

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	37	Thickness	2	Diameter	4
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	Copper alloy and synthetic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	white (insulation)
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0114	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Glass

Description

Nine fragments of brown bottle glass. One piece in photo is listed as 0115.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	9
Material SubClass	bottle glass	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0115	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Glass

Description

Thick fragment of brown bottle glass with lettering. Wording on bottle is fragmentary and illegible.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	brown
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0116	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Glass

Description

Six fragments of clear glass, two of which are plate glass, remainder is bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	6
Material SubClass		**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0117	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Glass

Description

Four fragments of coloured bottle glass, three green and one blue.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	4
Material SubClass	bottle glass	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	green/blue
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0118	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	2

Item	Nail

Description

Copper alloy nail or tack, 40 mm long, square shank tapering to a point with a round head. Shank is 5 mm thick at bas of head, 2 mm thick at 20 mm along the shank. Head is 10 mm diameter, head height is unclear as it forms part of the shank. Thin layer of green copper oxide on exterior.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	40	Thickness	2-4	Diameter	10
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	yes, corrosion

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0119	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Stone

Description

Four pieces of rounded basalt stone.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	4
Material SubClass	basalt	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	dark grey
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0120	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Stone

Description

Four pieces of ironstone, ranging in size from 25 to 50 mm

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	25-50	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	4
Material SubClass	ironstone	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	reddish
Percentage	100%	**Modification**	yes, some marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0121	**Date Recovered**	12 November 2020		
Trench	4	**Context**	1	**Box**	1

Item	Tooth

Description

Three pieces of possible mammal tooth? Reddish in color with whitish top.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	3
Material SubClass	bone - teeth	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	red
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0122	**Date Recovered**	12 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Bolt

Description

Threaded iron bolt, heavily corroded and concreted. Threaded only on last 10 mm of length, thread spacing 2 mm apart. Bolt is approximately 180 mm long and approximately 25 mm in thickness.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	180	Thickness	25	Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	70-80%	**Modification**	yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0123	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Glass

Description

Five pieces of brown bottle glass. Two largest fragments have writing (fragmentary) and may be from the same bottle.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	5
Material SubClass	bottle glass	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0124	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Glass

Description

Three pieces of clear glass, one fragment of plate glass, two fragments of bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	3
Material SubClass		**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0125	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Worm tubes

Description

Eight pieces of worm tubes, all approximately 10 mm in diameter with 1-2 mm thick walls

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	1-2	Diameter	10
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	8
Material SubClass	worm tube	**MIC**	
SubFabric		**Integrity**	
Portion	Various	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0126	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Ferrous fragment

Description

Three fragments of ferrous material, probably steel. Material is thin but appears to have lamination.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	3
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0127	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Sinker

Description

Round spherical lead sinker with hole through centre. Sinker is 18 mm in diameter.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	18
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0128	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Bottle cap

Description

Three plastic bottle cap seals.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	3
Material SubClass	plastic	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0129	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Fishing lure

Description

Stainless steel spinner fishing lure with red enamel on one surface. Lure is bias cut section with a hexagonal shape, with holes drilled at both ends for attaching fishing line. Lure is 78 mm in total length and 25 mm wide at widest point.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	78	Thickness		Diameter	
Width	25	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	red
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0130	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Aluminium can scrap

Description

One fragment of aluminium can scrap.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	aluminium	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0131	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Aluminium can scrap

Description

Three pieces of aluminium can scrap, including portion of one pull tab from older style can. Largest piece of scrap is from a can of Toohey's New, with substantial portion of the label remaining.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	3
Material SubClass	aluminium	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	red, white and blue
Percentage	Various	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0132	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Bottle cap

Description

Four plastic bottle cap seals

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	4
Material SubClass	plastic	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0133	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Fishing tackle

Description

Small mass produced wire metal fish hook holder.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0134	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Bone

Description

Single avian leg bone, probably chicken

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	77	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	1
Material SubClass	bone	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0135	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Chain

Description

Iron concretion containing at least two links of open link chain. Link thickness of 13 mm, link diameter of 45 mm. Chain is heavily corroded with little to no metal remaining, and heavily concreted. Other objects likely embedded in other parts of concretion, but unidentifiable.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	13	Diameter	45
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0136	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Sinker

Description

Four lead sinkers. One lead sinker is long torpedo shaped with hole at top, one is oblong oval with hole drilled through long axis, two are spherical and tied together with fishing line. Fishing line is attached to all sinkers.

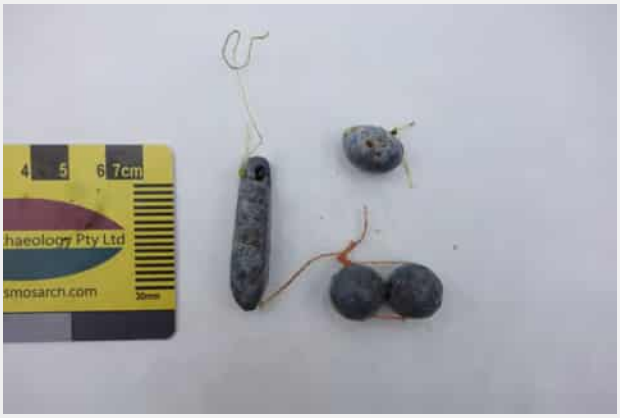
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Metal	**Quantity**	4
Material SubClass	lead	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0137	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Ferrous fragment

Description

Fourteen fragments of ferrous material, probably steel. Material is thin but appears to have layering.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	14
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0138	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Worm tube

Description

Six pieces of worm tubes, all approximately 10 mm in diameter with 1-2 mm thick walls (same as artefact 0125)

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	1-2	Diameter	10
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	6
Material SubClass	worm tube	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0139	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	2

Item	Asbestos

Description

Three fragments of asbestos board

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Mineral	**Quantity**	3
Material SubClass	asbestos	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0140	**Date Recovered**	11 November 2020		
Trench	3	**Context**	1	**Box**	1

Item	Stone

Description

Twelve pebbles of dark grey basalt stone, rounded and semi-angular with some marine growth. Pebbles measure from 22 mm to 90 mm across.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	22-90	Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Stone	**Quantity**	12
Material SubClass	basalt	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	dark grey
Percentage	100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0141	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Bone

Description

Five fish bones, including one large vertebra 30 mm long, 23 mm wide.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	5
Material SubClass	bone	**MIC**	5
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0142	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Iron strap

Description

S-shaped flat iron bar in concretion. Bar is 8 mm thick. Longest portion of arms measures 100 mm, 80 mm across the middle of the piece. arms are 30-40 mm wide. Portion of the side of shorter arm has striations incised along the surface.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	160	Thickness	8	Diameter	
Width	80	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0143	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Aluminium scrap

Description

Eighteen pieces of aluminium can scrap. No identifiable labels or parts of can.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	18
Material SubClass	Aluminium	**MIC**	10
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0144	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Bottle cap

Description

Two plastic bottle cap seals, one with some corroded remains of bottle cap still attached

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	2
Material SubClass	plastic	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0145	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Pull tab

Description

Two aluminium pull tabs from drink cans.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	2
Material SubClass	aluminium	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0146	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Rubber scrap

Description

Round unidentified piece of rubber with hole in centre, 17 mm diameter.

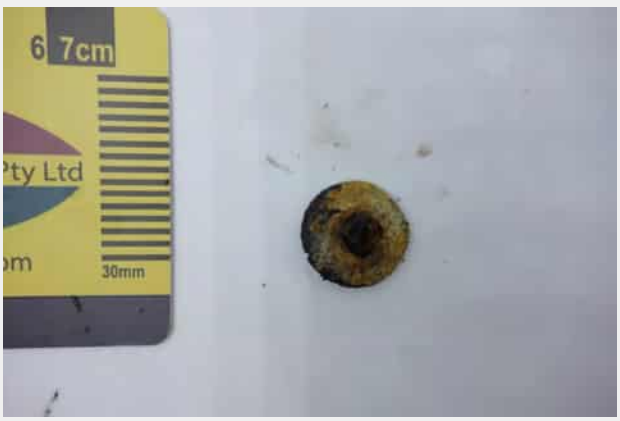
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	17
Width		Height		Weight (kg)	



Material Class	Synthetic	**Quantity**	1
Material SubClass	rubber	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Unidentified	**Colour**	black
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0147	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Asbestos

Description

Fragment of asbestos board

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	161	Thickness		Diameter	
Width	55	Height		Weight (kg)	

Material Class	Mineral	**Quantity**	1
Material SubClass	asbestos	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0148	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Leather belt

Description

Small portion of a leather belt with one belt hole remaining. Fragment is

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	42	Thickness		Diameter	
Width	32	Height		Weight (kg)	

Material Class	Organic	**Quantity**	1
Material SubClass	leather	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	brown
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0149	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Glass

Description

Four pieces of brown bottle glass. Largest piece has portion of writing, "BOTTLE" nothing else legible.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	4
Material SubClass	bottle glass	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0150	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Glass

Description

Two fragments of green bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	2
Material SubClass	bottle glass	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	green
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0151	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Glass

Description

Four fragments of clear bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	4
Material SubClass	bottle glass	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0152	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Stone

Description

Large round basalt stone, 200 mm across

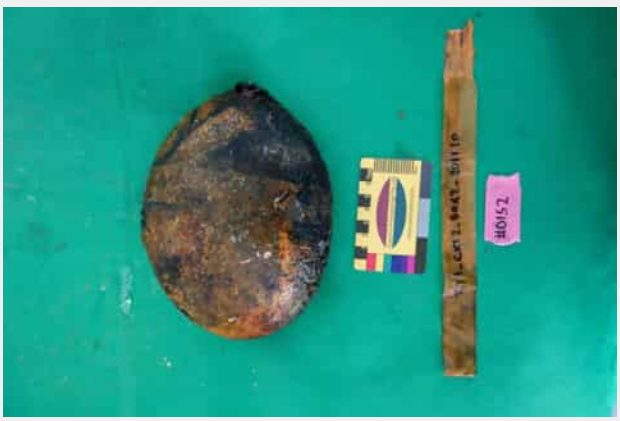
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	200	Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Stone	**Quantity**	1
Material SubClass	basalt	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	dark grey
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0153	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Ferrous concretion

Description

Three pieces of ferrous concretion. No identifiable artefacts

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	3
Material SubClass	ferrous	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	yes, concreted and corroded

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0154	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Glass

Description

Nine fragments of brown bottle glass. Several pieces have writing on them, however the writing is fragmentary.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	9
Material SubClass	bottle glass	**MIC**	4
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0155	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Glass

Description

Fifteen fragments of clear bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	15
Material SubClass	bottle glass	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0156	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Glass

Description

Five fragments of green bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	5
Material SubClass	bottle glass	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	green
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0157	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Glass

Description

Single fragment of "black" glass from bottle. Glass is frosted and weathered on the outer surface, smooth and glossy on the inner surface. Fragment is likely from the body portion of a bottle. Fragment is 4 mm thick, 37 mm long, 26 mm wide.

Year From	1700	**Year To**	1850	**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	37	Thickness	4	Diameter	
Width	26	Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	black
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0158	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Bottle cap

Description

Fifteen plastic bottle cap seals

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	15
Material SubClass	plastic	**MIC**	15
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0159	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Aluminium can scrap

Description

Twenty-five fragments of aluminium cans. Mostly beer cans, several pieces are identifiable as Tooheys New and Carlton.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	25
Material SubClass	aluminium	**MIC**	10
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0160	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Plastic and rubber scrap

Description

Three pieces of modern plastic and rubber rubbish, scraps. One bread bag tab, a miscellaneous piece of white plastic, and a black rubber strap with hole in one end.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	3
Material SubClass	rubber/plastic	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0161	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Pull tab

Description

Three aluminium pull tabs.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	3
Material SubClass	aluminium	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0162	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Ferrous concretion

Description

Ferrous concretion consisting of round metal ring and small spike. Initially thought to be a buckle, upon deconcretion determined to be unidentifiable ferrous objects, heavily corroded and concreted. Ring is 60 mm in diameter, 12 mm by 7 mm thick in rectangular cross section. Spike is 80 mm long.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0163	**Date Recovered**	10 November 2020		
Trench	1	**Context**	1	**Box**	1

Item	Lead strap

Description

Piece of lead sheet or strap, creased in middle. Strap has thin layer of lead oxide on exterior. Strap is 120 mm long, 40 mm wide and 1 mm thick

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	120	Thickness	1	Diameter	
Width	40	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0164	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Cinderblock

Description

Rectangular portion of cinderblock. indentation or "frog" on obverse side.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	228	Thickness	40	Diameter	
Width	165	Height		Weight (kg)	

Material Class	Mineral	**Quantity**	1
Material SubClass	concrete	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	50-60%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0165	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Bone

Description

Mammal rib bone, probably pig

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	115	Thickness		Diameter	
Width	11	Height		Weight (kg)	

Material Class	Faunal	**Quantity**	1
Material SubClass	bone	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0166	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Bone

Description

Fish vertebrae,

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	10	Thickness		Diameter	
Width	14	Height		Weight (kg)	

Material Class	Faunal	**Quantity**	1
Material SubClass	bone	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0167	**Date Recovered**	10 November 2020		
Trench	1	**Context**	2	**Box**	2

Item	Shark teeth

Description

Three shark teeth from upper jaw of Galapagos shark

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	3
Material SubClass	bone - teeth	**MIC**	3
SubFabric		**Integrity**	
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0168	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Boat throttle

Description

Throttle control for a power boat. Two levers mounted on base. Screws still attached to base to attach to vessel. Throttle is composed of various metal and plastic parts

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Multi-material	**Quantity**	1
Material SubClass	ferrous, plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0169	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Glass

Description

Large scimitar shaped fragment of clear plate glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	305	Thickness		Diameter	
Width	45	Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	plate glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	clear
Percentage	Unknown	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0170	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Bottle

Description

Green glass wine bottle, screw top, with red aluminium neck sleeve. No label.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	green
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0171	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Bottle

Description

Brown glass "stubby" beer bottle with Carlton United Brewery makers mark on neck of bottle.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	210	Thickness		Diameter	
Width	74	Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	brown
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0172	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Beer can

Description

Tooheys New beer can, 375 ml. Missing ring tab

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	Aluminium	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	blue
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0173	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Two fragments of brown bottle glass. One piece is the bottom of the base of the bottle, embossed with concentric circles with the number "57" in the centre. The other piece is part of shoulder with fragmentary writing embossed.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	2
Material SubClass	Bottle glass	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	10-20%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0174	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Copper pipe

Description

Threaded copper elbow pipe, modified for use as a sinker with fishing line still attached. Pipe is 30 mm in diameter, 95 mm long along outer edge.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	95	Thickness		Diameter	30
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	yes, used as fishing sinker

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0175	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Sinker

Description

Folded sheet of lead used as a sinker, fishing line still attached.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0176	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Bone

Description

Avian leg bone and rib?, probably chicken.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	2
Material SubClass	bone	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Various	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0177	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Bone

Description

Mammal bones. Incl portion of long bone with butcher cut through cross section. Other bone unidentified location, also with butcher marks. Likely cow, sheep, goat or pig

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Faunal	**Quantity**	2
Material SubClass	bone	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Partial	**Colour**	
Percentage	Various	**Modification**	yes, butcher marks

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0178	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Bottle

Description

Clear glass beer bottle with portion of label remaining - no identifiable writing.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	clear
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0180	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Glass

Description

Two fragments of clear bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	2
Material SubClass	bottle glass	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Various	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0179	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Glass

Description

Five fragments of brown bottle glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	5
Material SubClass	bottle glass	**MIC**	
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	10-20%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0181	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Ceramic sherd

Description

White glazed stoneware fragment of a bowl, including portions of rim and base. Rim length is 82 mm, base length is 25 mm. Body of sherd is 4 mm thick. Width from rim to bas is approximately 56 mm.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	82	Thickness	4	Diameter	
Width	56	Height		Weight (kg)	

Material Class	Ceramic	**Quantity**	1
Material SubClass	stoneware	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	white
Percentage	20-30%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0182	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Fishing pliers

Description

Black plastic fishing pliers with metal spring and hinge. Pliers have small plastic teeth. Eyelets at ends of both handles.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	1
Material SubClass	plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	black
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0183	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Plastic scrap

Description

Strip of green plastic scrap. Unidentified use or origin.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	1
Material SubClass	plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Unidentified	**Colour**	green
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0184	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Golf ball

Description

Titleist 1 Golf ball

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Synthetic	**Quantity**	1
Material SubClass	plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	white
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0185	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Sinker

Description

Two lead sinkers. One oblong/torpedo shaped, 145 mm long, 28 mm wide with hole at top end. Second sinker is spheroid with hole drilled through centre, 15 mm diameter.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	2
Material SubClass	lead	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0186	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Pull tab

Description

Single aluminium pull tab from older style beer can.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	aluminium	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0187	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Fish scaler

Description

Portion of a circular steel fish scaler, missing handle. 110 mm long, 25 mm wide. Portion of fish scaler that attaches to handle has two holes for fasteners.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	110	Thickness		Diameter	
Width	25	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	20-30%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0188	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Ferrous fragment

Description

Fragment of stainless steel,

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	22	Thickness		Diameter	
Width	12	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0189	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Engine shim

Description

Engine tappet shim. Mirrored metal disc, non-ferrous and non-magnetic, possibly nickel, titanium, aluminium, copper or alloy.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness	5	Diameter	47
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0190	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Bottle

Description

Majority portion of brown glass beer bottle, missing neck above shoulder. No identifying marks.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	brown
Percentage	80-90%	**Modification**	yes, marine growth

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0191	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Jar

Description

Clear glass screw-top jar.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	clear
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0192	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Glass

Description

Four fragments of clear glass. One fragment is plate glass, three fragments are bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	4
Material SubClass		**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0193	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Glass

Description

Single fragment of green bottle glass

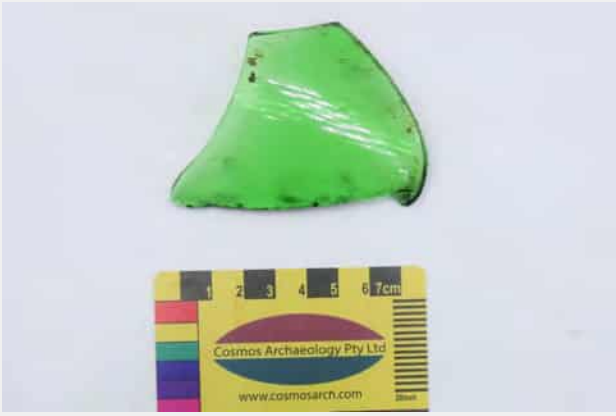
Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	



Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	green
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0194	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Glass

Description

Three fragments of brown bottle glass. One fragment has fragmentary writing.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	3
Material SubClass	bottle glass	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0195	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Bone

Description

Mammal rib bone portion. Appears to be partially burnt or blackened at one end.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	68	Thickness		Diameter	
Width	24	Height		Weight (kg)	

Material Class	Faunal	**Quantity**	1
Material SubClass	bone	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	Unknown	**Modification**	yes, burned

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0196	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Wire

Description

Ferrous wire with concretion. Rock concreted to wire.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	2
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Unidentified	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0197	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Ferrous fragment

Description

Single fragment of ferrous material, probably steel. Material is thin but appears to have lamination.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0198	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Eight fragments of brown bottle glass, including portion of one neck.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	8
Material SubClass	bottle glass	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Fragment	**Colour**	brown
Percentage	Various	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0199	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Single fragment of clear plate glass

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	plate glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	clear
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0200	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Single fragment of green bottle glass from a square shaped bottle. Probably case gin bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	green
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0201	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Sinker

Description

Spheroid lead sinker with hole drilled through middle. 17 mm diameter

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	17
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0203	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Single fragment of "black" glass from bottle. Glass is frosted and weathered on the outer surface, smooth and glossy on the inner surface. Fragment is likely from the body portion of a bottle. Fragment is 4 mm thick at thinnest point, 9 mm thick at thickest. Fragment measures 65 mm long, 55 mm wide.

Year From	1700	**Year To**	1850	**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☐ 3rd Settlement 1898 - present

Measurements (in mm)

Length	65	Thickness	4-9	Diameter	
Width	55	Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	black
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0202	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Spark plug

Description

Plastic portion of a marine spark plug. 75 mm long, 17 mm wide at widest point. A concretion is attached to the base portion of the plug.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	75	Thickness		Diameter	
Width	17	Height		Weight (kg)	

Material Class	Multi-material	**Quantity**	1
Material SubClass	ferrous, plastic	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	white
Percentage	40-50%	**Modification**	yes, concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0204	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Stopper

Description

Pale green glass stopper, conical, with clear break at one end, possible greak at other end. Exterior is frosted and weathered. On cut end, there is a small circular depression 2 mm in diameter. Stopper is 31 mm long, 14 mm in diameter at widest point. Small projection on top is 9 mm in diameter.

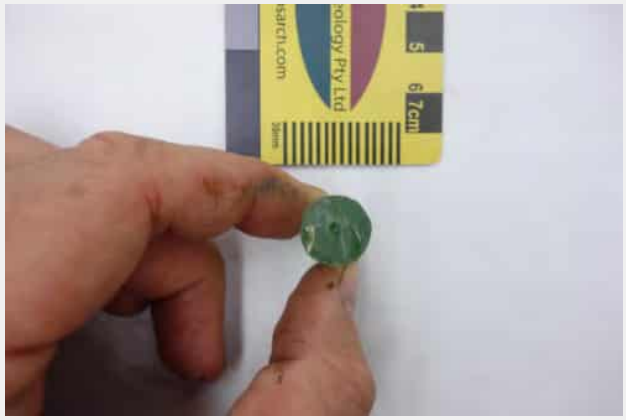
Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	31	Thickness		Diameter	14
Width		Height		Weight (kg)	



Material Class	Glass	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	green
Percentage	Unknown	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0205	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Sinker

Description

Three lead sinkers (fourth sinker in picture is listed separately under entry 0206). One spheroid, one oval, and one rectangular. Spheroid sinker is 18 mm in diameter with hole drilled through centre. Oval sinker is 24 mm long, 16 mm wide with fishing line wrapped around long axis. Rectangular sinker is irregular tombstone piece of lead, 43 mm long, 19 mm wide with hole drilled through top, fishing line still attached.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	3
Material SubClass	lead	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0206	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Sinker

Description

Tear drop shaped lead sinker. Possibly blind puller repurposed as sinker. Sinker is 45 mm long, 28 mm wide at widest, and 8 mm thick. It has a hole drilled it the top.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	45	Thickness	8	Diameter	
Width	28	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	lead	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0207	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Single fragment of brown bottle glass, from bottle neck.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	brown
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0208	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Glass

Description

Single fragment of green bottle glass.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Glass	**Quantity**	1
Material SubClass	bottle glass	**MIC**	1
SubFabric		**Integrity**	
Portion	Fragment	**Colour**	green
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0209	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Fork

Description

Stainless steel four-pronged fork. Modern, makers mark stamped on back.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0210	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Ceramic sherd

Description

White glazed stoneware fragment from a saucer or small plate. Piece contains portion of rim and base. On the upper surface of fragment, two sets of parallel blue lines are painted on the rim portion. Piece is 54 mm long, 39 mm wide and 5 mm thick.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	54	Thickness	5	Diameter	
Width	39	Height		Weight (kg)	

Material Class	Ceramic	**Quantity**	1
Material SubClass	stoneware	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	white
Percentage	10-20%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0211	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Tile

Description

Fragment of a white ceramic tile with backing. fragment is less than 10% of original tile.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	80	Thickness		Diameter	
Width	15	Height		Weight (kg)	

Material Class	Ceramic	**Quantity**	1
Material SubClass		**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Fragment	**Colour**	white
Percentage	0-10%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0212	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Ammunition

Description

Two small arms rounds, both with shell casing and bullet. Larger round is a centrefire cartridge, 9 mm in diameter, shell is 30 mm long, bullet extends another 6 mm. Smaller round is a rimfire cartridge, most likely a .22 magnum round.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	2
Material SubClass	copper alloy, lead	**MIC**	2
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	no

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0213	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Bit mouthpiece

Description

Copper alloy single jointed snaffle bit mouthpiece from a horse bridle. Each arm consists of a bar with a ring at both ends, the bar tapers towards the central rings which are connected. Arms are 97 mm long and circular in cross section, with diameter of 13 mm at outer ring and 8 mm at inner ring. The diameter of the ring holes is 10 mm.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1898 - present
- ☒ 1st Settlement 1788 - 1814
- ☒ 3rd Settlement 1856 - 1897

Measurements (in mm)

Length	190	Thickness	8-13	Diameter	10
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	yes, copper corrosion

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0214	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	Spike

Description

Ferrous spike, found in concretion. Iron spike is heavily corroded, however some metal still remains. Length of spike is 72 mm, width of head 10 mm, width of shank 7 mm.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	72	Thickness	7	Diameter	
Width	10	Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	Unknown	**Modification**	yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0215	**Date Recovered**	13 November 2020		
Trench	4	**Context**	EXT	**Box**	

Item	D shackle

Description

Large concreted steel D shackle.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length		Thickness		Diameter	
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	ferrous	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Complete	**Colour**	
Percentage	100%	**Modification**	Yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0216	**Date Recovered**	13 November 2020		
Trench	1	**Context**	EXT	**Box**	

Item	Bolt

Description

Three concreted ferrous bolts. Upon recovery, the bolts were partially de-concreted, revealing a threaded end, round shaft, and hexagonal head. The three bolts are all approximately the same size, and closely resembled other bolts used on constructing the wharf piles. Bolts measured 240 mm in length, 15 mm diameter, while the hex heads were 25 mm across.

Year From		**Year To**		**Artefact Retained**	No

Period

- ☐ Polynesian settlement 1150 - 1450
- ☐ 1st Settlement 1788 - 1814
- ☐ 2nd Settlement 1825 - 1855
- ☐ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	240	Thickness		Diameter	15
Width	25	Height		Weight (kg)	

Material Class	Metal	**Quantity**	3
Material SubClass	ferrous	**MIC**	3
SubFabric		**Integrity**	Individual Element(s)
Portion	Complete	**Colour**	
Percentage	90-100%	**Modification**	yes, corroded and concreted

KINGSTON PIER TEST EXCAVATIONS

ARTEFACT DATABASE

Object #	0217	**Date Recovered**	13 November 2020		
Trench	N/A	**Context**	N/A	**Box**	

Item	Nail

Description

Partial copper alloy nail, consisting of head and part of shank. Round flat head, 9 mm diameter. Square shank, 4 mm thick. Total length, 22 mm, shank length 18 mm. Opportunity find near stairs by diver as they exited the water. Light copper corrosion on exterior.

Year From		**Year To**		**Artefact Retained**	Yes

Period

- ☐ Polynesian settlement 1150 - 1450
- ☒ 1st Settlement 1788 - 1814
- ☒ 2nd Settlement 1825 - 1855
- ☒ 3rd Settlement 1856 - 1897
- ☒ 3rd Settlement 1898 - present

Measurements (in mm)

Length	22	Thickness	4	Diameter	9
Width		Height		Weight (kg)	

Material Class	Metal	**Quantity**	1
Material SubClass	copper alloy	**MIC**	1
SubFabric		**Integrity**	Single Element(s)
Portion	Partial	**Colour**	
Percentage	40-50%	**Modification**	yes, corroded

ANNEX D – PERMITS FOR TEST EXCAVATION

CROWN LANDS ACT 1996 (NI)

LICENCE TO USE CROWN LAND

I, Eric Russell Hutchinson, Administrator of Norfolk Island and delegate of the Commonwealth Minister, do hereby on behalf of the Commonwealth grant a non-exclusive licence to allow:

Advisian (Worley Group)

(the Licensee) to access and use the area situated on Norfolk Island, more usually known as the Kingston Pier, Kingston and Arthurs Vale Historical Area (the **Licensed Area**) subject to terms and the conditions set out in the attached Schedule.

Dated: 6th day of November 2020.

Eric Hutchinson
ADMINISTRATOR

ADMINISTRATOR NORFOLK ISLAND

Schedule 1 – Terms and Conditions

The Licence is granted by the Administrator as delegate of the Commonwealth Minister for the purposes of s 30(1) of the *Crown Lands Act 1996* (NI) on behalf of the Commonwealth of Australia (**Commonwealth**) to the Licensee.

The Licensee must:

A. sign the Acknowledgment, Release and Indemnity set out in the Attachment to this Licence; and

B. return this Licence, once the Acknowledgment, Release and Indemnity is signed by the Licensee, to the Office of the Administrator for endorsement by the Administrator.

Licence

1. The Licence shall take effect or commence on the date and at the time it is endorsed on page 1 by the Administrator and will continue until 14 November 2020 unless terminated earlier in accordance with this Licence.

2. Subject to the terms of this Licence, the Licensee shall have non-exclusive access to the Licensed Area and be entitled to use the Licensed Area for the purpose of supervising and coordinating test excavations and for placement of a sieve station (see attachment "A"

3. The Licensee shall use the Licensed Area only for the above Purpose.

4. The Licensee shall have access to the Licensed Area from **6 am on 6 November 2020 until 8pm on 14 November 2020.**

5. This Licence:

    a. does not create any estate or interest in the Licensed Area or adjacent land; and

    b. does not confer any right of exclusive occupation or use of the Licensed Area or adjacent land on the Licensee.

6. The Licensee must not assign or transfer its rights under this Licence, or grant any sublicence or part with the possession, of the Licensed Area to any person.

Licence Fee

7. The Licensee must pay a licence fee of $0 to the Commonwealth.

Licensee's Obligations and Rights

8. The Licensee must ensure that no damage is done to the Licensed Area including to existing structures in or on the Licensed Area.

9. The Licensee must keep the Licensed Area in good and safe repair and condition, and must take all steps necessary to keep it safe and free from hazard to any property or person on or using the Licensed Area or adjacent land.

10. The Licensee shall keep the Licensed Area to the satisfaction of the Commonwealth, clean and tidy and free from debris, dry herbage, noxious weeds, rubbish and other unsightly or offensive matter.

11. The Licensee must not:

    a. remove, move, deface, obscure, tamper with or alter any part of the Licensed Area;
    b. erect any signs, barriers or structures or affix any ropes or any other attachments to any structure in or on the Licensed Area or adjacent land; or
    c. undertake any excavation or clearing of the Licensed Area,

    unless prior written approval is obtained from the Commonwealth.

12. The Licensee acknowledges that no warranty has been given by the Commonwealth or the Administrator in respect of:

    a. the suitability of the Licensed Area for the Purpose; or

    b. the provision of telephone, electrical, water and garbage services to the Licensed Area and adjacent land.

13. The Licensee must ensure that vehicles of those using the Licensed Area pursuant to this Licence, park in the designated public parking areas.

14. The Licensee must not unreasonably interfere with the activities of other users of the Kingston and Arthurs Vale Historical Area and shall ensure any noise generated by the activities shall be kept to a reasonable level. All excessive noise must cease by 8.00pm.

15. The Licensee must not prevent any person or persons authorised by the Commonwealth, including but not limited to employees of the Norfolk Island Regional Council, from entering upon the Licensed Area for the purpose of ascertaining whether the terms and conditions of this Licence are being

performed or observed by the Licensee.

16. The Licensee must comply with all directions given by the Administrator, by a police officer or by a person authorised by the Administrator in relation to any aspect of the activities or operations of the Licensee pursuant to this Licence or purported to be pursuant to this Licence.

    (Failure to abide by a direction issued under this clause may constitute an offence under section 32 of the *Crown Lands Act 1996* (NI) punishable by fines of up to $25,000.)

17. The Licensee acknowledges and agrees that it is responsible for the actions and safety of all people who use the Licensed Area in whatever capacity.

18. The Licensee is liable for anything which a person who is lawfully on the Licensed Area may or may not do which if done by the Licensee would be a breach of this Licence.

19. The Licensee must obtain, keep current and comply with all consents, approvals, permits, licenses or other requirements under any law applicable to the Licensee, if any, to use the Licensed Area for the Purpose permitted under this License.

20. The Licensee must comply with all applicable laws.

21. In advance of the expiry or on the earlier termination of this License, the Licensee must, at its own cost and expense, and to the reasonable satisfaction of the Commonwealth or a person authorised by the Commonwealth:

    a. remove all of its property from the Licensed Area as well as any rubbish or debris from the Licensed Area and any adjacent land that is caused by its operations or by its employees, contractors, customers or guests; and

    b. make good any damage (other than reasonable wear and tear) to the Licensed Area, the contents of the Licensed Area or structures on or in the Licensed Area or any adjacent land

    that has been caused by its activities or by its employees, contractors, customers or guests including as a result of the Licensee removing its property.

22. On the expiry or earlier termination of this Licence, the Licensee must cease using the Licensed Area and deliver up possession of it to the Commonwealth.

Indemnity

23. The Licensee must release, indemnify and keep indemnified the Commonwealth and its officers, employees and agents (including the Administrator of Norfolk Island and the Norfolk Island Regional Council and its officers, employees and agents) (**Indemnified Parties**) from and against any loss, liability, damage, actions, suits, claims, demands and proceedings of whatsoever nature and all costs, losses or expenses which may be incurred in dealing with any action, suit, claims or demand (including legal costs and expenses on a solicitor/own client basis) arising out any acts or omissions in connection with the Licensed Area or the Licence (but excluding any and all such actions and claims arising out of the negligent acts, omissions or defaults of the Indemnified Parties).

24. The Licensee must sign the attached release and indemnity reflecting clause 23.

Termination

25. The Commonwealth may at any time and for any reason terminate this Licence by notice in writing to the Licensee.

General Provisions

26. Any provision of this Licence that has an express or implied operation on or after the expiry or termination of this Licence survives its expiry or termination.

27. Any indemnity or right to any payment, damages or other remedy available to the Commonwealth survives expiration or termination of the Licence.

28. No waiver of any breach of the terms and conditions of the Licence are effective unless it is in writing and communicated to the Licensee by the Commonwealth.

Attachment

ACKNOWLEDGEMENT, RELEASE AND INDEMNITY

I, Cosmos Coroneos, Excavation Director, Advisian

IN FAVOUR of the Commonwealth of Australia (**Commonwealth**)

IN CONSIDERATION of the grant of a licence under section 30 of the *Crown Lands Act 1996* (NI) to access and use the area comprising of the piece or parcel of land situated on Norfolk Island, more usually known as the Kingston Pier in the Kingston and Arthurs Vale Historical Area (the **Licensed Area**).

AND having read and understood all the terms and conditions of the Licence

HEREBY

1. undertake to abide by all the terms and conditions of this Licence;

2. release, indemnify and undertake to keep indemnified the Commonwealth and its officers, employees and agents (including the Administrator of Norfolk Island and the Norfolk Island Regional Council and its officers, employees and agents) (**Indemnified Parties**) from and against any loss, liability, damage, actions, suits, claims, demands and proceedings of whatsoever nature and all costs, losses or expenses (including legal costs and expenses on a solicitor/own client basis) arising out of any acts or omissions in connection with the Licensed Area or the Licence (but excluding any and all such actions and claims arising out of the negligent acts, omissions or defaults of the Indemnified Parties); and

3. agree that the Commonwealth may enforce the indemnity under clause 2 in favour of the Indemnified Parties for the benefit of such persons in the name of the Commonwealth or of such persons.

Dated this 6 **day of** November **2020.**

SIGNED : .....

WITNESS : .....

Australian Government

Director of National Parks

AGREEMENTS IN CONNECTION WITH A PERMIT ISSUED BY THE DIRECTOR OF NATIONAL PARKS

Instructions

1. Applicants for permits to carry out activities in **Australian Marine Parks** should print and sign the Agreement on pages 2 – 4 only. A copy of that Agreement only should be attached to the permit application.

2. Applicants for permits to carry out activities in **terrestrial National Parks or Botanic Gardens** should print and sign the Agreement on pages 5 – 8 only. A copy of that Agreement only should be attached to the permit application.

Australian Government

Director of National Parks

AGREEMENT IN RELATION TO A PERMIT TO CARRY OUT ACTIVITIES IN AN AUSTRALIAN MARINE PARK

THIS DEED made the 8TH day of OCTOBER 20 20

WITNESS as follows:

In consideration of the permit issued by the Director of National Parks ('the Director'), the holder of that permit ('the Permittee') agrees to:

1. release the Director, the Commonwealth of Australia, and their servants and agents ('the released parties') from all and any claims which the Permittee might at any time hereafter have or have had against the released parties in respect of any injury, loss or damage which may be suffered by the Permittee in the course of carrying out the Permitted Activities, except to the extent that any act or omission involving fault on the part of the released parties contributed to the relevant injury, loss or damage;
2. indemnify and keep indemnified the Director, the Commonwealth of Australia, and their servants and agents ('the indemnified parties') against all actions, proceedings, claims or demands brought against the indemnified parties in respect of any injury, loss or damage arising out of:
   (a) a breach of the Permit Conditions by the Permittee or the Permittee's staff; or
   (b) an act or omission involving fault on the part of the Permittee or the Permittee's staff in carrying on the Permitted Activities

   except to the extent that any act or omission involving fault on the part of the indemnified parties contributed to the relevant liability, loss or damage;
3. provide the Director with information about the Permitted Activities as reasonably requested by the Director;

   Note: the Director will only request such information for park management and planning purposes, and agrees not disclose to any other person any information so provided without the express permission of the Permittee unless legally required to do so.

Clauses 4-14 applies only to Permittees issued with a permit to carry out scientific research

4. notify the Director as soon as possible after receiving any requests for media comment about the Permitted Activities and consult with the Director prior to issuing any comment to the media regarding the Permitted Activities;

   Note: the Director can be notified via parksmedia@environment.gov.au

5. provide the Director with a voyage report within three months of the completion of each trip by emailing marineparks@environment.gov.au. The voyage report must contain, at a minimum:
    (a) the permit number;
    (b) details of the researchers (names and organisations) that undertook the research;
    (c) details of where the research was undertaken including GPS coordinates of sampling locations;
    (d) dates of when the fieldwork was undertaken;
    (e) details of what data, materials or specimens were collected;
    (f) a summary of what preliminary or anticipated findings of the research are and what, if any, further research is planned; and
    (g) a summary of any relevance to marine park management or marine conservation;
6. grant to the Director an irrevocable, worldwide, non-exclusive licence to use, reproduce, adapt, communicate to the public and publish the report provided to the Director under clause 5;
7. provide to the Director a copy of any draft publication arising from the Permitted Activities, including scientific papers in journals, book chapters, conference papers or technical reports, at least five business days prior to submitting that draft for publication by emailing marineparks@environment.gov.au;
8. ensure the metadata for data outputs arising from the Permitted Activities is made openly accessible via an institutional or subject repository (for example, the Australian Ocean Data Network) no later than 12 months from the date of collection;
9. ensure the metadata for any publications (including scientific papers in journals, book chapters, conference papers or technical reports) arising from the Permitted Activities is made openly accessible via an institutional or subject repository no later than three months from the date of publication;
10. provide to the Director the universal resource locator (URL) of the metadata record within three weeks of the publication of that metadata by emailing marineparks@environment.gov.au;
11. in any publications arising from the Permitted Activities, identify all permits and approvals obtained under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) for the Permitted Activities, identify the Australian Marine Park (or Australian Marine Parks Network if the research occurs in more than one Australian Marine Park), acknowledge any assistance received from the Director or traditional owners, and include a disclaimer stating that the views expressed in the publication do not necessarily represent the views of the Director or the Australian Government;

    Note: An example of an acknowledgement that meets these requirements is: '*This research was conducted in (Park Name) under permit number PA20XX-XXXXXX, issued by the Director of National Parks, Australia. The views expressed in this publication do not necessarily represent the views of the Director of National Parks or the Australian Government'.*
12. include an acknowledgement in the form described in clause 11 in any metadata published in an institutional, subject repository or website for publications and research outputs arising from the Permitted Activities. This acknowledgement must be in the appropriate element and qualifier relevant to the repository used;

Note: For repositories using Dublin Core, please use the *dc.description.sponsorship* element and qualifier. For repositories using the Marine Community Profile of ISO 19115 please use the *gmd:credit* element.

13. provide to the Director a copy of all publications and unpublished reports including management and research recommendations arising from the Permitted Activities, within one month following publication or finalisation by emailing marineparks@environment.gov.au;
14. obtain approval from the Director before disclosing to a third party any information or material owned by the Director that has been provided to the Permittee;

Interpretation

15. In this Deed, a reference to:

"Permit Conditions"	means the conditions of the permit issued by the Director to the Permittee;
"Permitted Activities"	means the activities authorised by the permit issued by the Director to the Permittee;
"Permittee's staff"	means the Permittee's employees, contractors and other agents who take part in the Permitted Activity.

SIGNED, SEALED AND DELIVERED

A copy of this agreement must be signed by each of the proposed Permittees or, if the Permittee is a company or other body, by its duly authorised officer

Signature of Permittee: ..... Date 8 OCTOBER 2020

Name of Permittee..... BEN MORGAN

This agreement is signed in the presence of a witness aged 18 years or older:

Signature of witness: ..... Date 8 OCTOBER 2020

Name of witness ..... DANIEL ZHOU

Australian Government

Director of National Parks

AGREEMENT IN RELATION TO A PERMIT TO CARRY OUT ACTIVITIES IN A TERRESTRIAL NATIONAL PARK OR BOTANIC GARDENS

THIS DEED made the..... day of ..... 20 .....

WITNESS as follows:

In consideration of the permit issued by the Director of National Parks ('the Director'), the holder of that permit ('the Permittee') agrees to:

1. release the Director, the Commonwealth of Australia, and their servants and agents ('the released parties') from all and any claims which the Permittee might at any time hereafter have or have had against the released parties in respect of any injury, loss or damage which may be suffered by the Permittee in the course of carrying out the Permitted Activities, except to the extent that any act or omission involving fault on the part of the released parties contributed to the relevant injury, loss or damage;
2. indemnify and keep indemnified the Director, the Commonwealth of Australia, and their servants and agents ('the indemnified parties') against all actions, proceedings, claims or demands brought against the indemnified parties in respect of any injury, loss or damage arising out of:
   (a) a breach of the Permit Conditions by the Permittee or the Permittee's staff; or
   (b) an act or omission involving fault on the part of the Permittee or the Permittee's staff in carrying on the Permitted Activities

   except to the extent that any act or omission involving fault on the part of the indemnified parties contributed to the relevant liability, loss or damage;
3. comply with the Permit Conditions, and take all reasonable steps to ensure the Permittee's staff and all other participants in the Permitted Activities comply at all times with the Permit Conditions;
4. provide the Director with information about the Permitted Activities as reasonably requested by the Director;

   Note: the Director will only request such information for park management and planning purposes, and agrees not disclose to any other person any information so provided without the express permission of the Permittee unless legally required to do so.

Clause 5 applies only to Permittees issued with a permit to carry out commercial tours

5. acknowledge that the permit issued to the Permittee does not give the Permittee any rights to the exclusive use, enjoyment or occupancy of any area;

Clauses 6 to 8 apply only to Permittees issued with a permit to carry out commercial image capture and use

6. ensure that if the Permitted Activities include the capture and/or use of images of people, the Permittee will not capture or use those images without the written consent of that person;
7. ensure that if any images captured under the Permit are used or reproduced in a film or television broadcast,
    (a) the National Park or Botanic Gardens depicted in the film or broadcast is identified, and that any assistance provided by park staff is acknowledged in the film or broadcast;
    (b) the film or broadcast provides accurate information in relation to the National Park, or Botanic Gardens, as well as park staff and any Aboriginal people; and
    (c) a final edited copy of the film or broadcast is provided to the Director within 3 months of the first screening or broadcast;
8. not use any image captured under the permit for advertising purposes without the prior written approval of the Director, other than advertising a film or television broadcast in which the image is used or reproduced in accordance with the permit;

Clauses 9 to 21 apply only to Permittees issued with a permit to carry out scientific research

9. for Permitted Activities in Kakadu National Park, comply with the *Research Guidelines for collaboration between researchers and Bininj/Mungguy (Aboriginal people)*;
10. notify the Director as soon as possible after receiving any requests for media comment about the Permitted Activities and consult with the Director prior to issuing any comment to the media regarding the research activities;

    Note: the Director can be notified via parksmedia@environment.gov.au
11. obtain approval from the Director before disclosing to a third party any information or material owned by the Director that has been provided to the Permittee;
12. if taking organisms (whole or part of), provide to the Director a list of all specimens taken in the course of the Permitted Activities including the name of the organism, location, date and quantity of each specimen taken at each location as soon as possible, and no later than 1 month after the expiry of the permit. The Director will only use the information provided under this clause for purposes relating to the Director's legal and regulatory function and may be published on a publicly accessible register;
13. if taking native species (whole or part of), offer duplicate samples of biological material collected to an Australian public institution that is a repository of taxonomic specimens of the same order or genus as those collected, for permanent loan. For any newly described species, the Permittee agrees to take all reasonable steps to lodge a specimen with an Australian museum or herbarium of the state or territory in which the species was found, or with an Australian museum or herbarium which is the leading authority of the genus;
14. within 3 months of the completion of the Permitted Activities, or if the permit is issued for more than one year on each anniversary of the commencement of the permit, provide to the Director, in electronic format and hard copy an accurate report on the research activities,

including a brief Plain English summary or a short DVD presentation suitable for distribution to Aboriginal traditional owners, park staff and interested members of the public;

15. the Permittee grants to the Director an irrevocable, worldwide, non-exclusive licence to use, reproduce, adapt, communicate to the public and publish the report provided to the Director under clause 14;
16. if requested by the Director provide up to once per year and once after the expiry of the permit, a presentation about the Permitted Activities to a Board of Management, park staff or Aboriginal traditional owners, including the methods used in carrying out the research activities and the results of the research activities;
17. in any publications arising from the Permitted Activities, identify all permits and approvals obtained under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) for the research activities, identify the National Park or Botanic Gardens, acknowledge any assistance received from the Director or traditional owners, and include a disclaimer stating that the views expressed in the publication do not necessarily represent the views of the Director or the Australian Government;
18. provide to the Director a copy of any draft publication arising from the Permitted Activities, including scientific papers in journals, book chapters, conference papers or technical reports, before submitting that draft for publication;
19. provide to the Director a copy of all publications and unpublished reports including management and research recommendations arising from the Permitted Activities, within one month following publication or finalisation;
20. include an acknowledgement in the form described in clause 17 in any metadata published in an institutional, subject repository or website that describes the research output. This acknowledgement must be in the appropriate element and qualifier relevant to the repository used; and
21. provide to the Director the universal resource locator (URL) of the metadata record within 3 weeks of the publication of that metadata.

Note: for the purpose of clauses 11-21, the Director can be notified via the email address set out on your permit.

Interpretation

22. In this Deed, a reference to:

"National Park or Botanic Gardens"	means the Commonwealth reserve/s in which the Permitted Activities are authorised by the permit issued by the Director to the Permittee;
"Permit Conditions"	means the conditions of the permit issued by the Director to the Permittee;
"Permitted Activities"	means the activities authorised by the permit issued by the Director to the Permittee;
"Permittee's staff"	means the Permittee's employees, contractors and other agents who take part in the Permitted Activity.

SIGNED, SEALED AND DELIVERED

A copy of this agreement must be signed by each of the proposed Permittees or, if the Permittee is a company or other body, by its duly authorised officer

Signature of Permittee: ..... Date .....

Name of Permittee.....

This agreement is signed in the presence of a witness aged 18 years or older:

Signature of witness: ..... Date .....

Name of witness .....

Australian Government
Director of National Parks

Australian Marine Park Activity Permit

Issued under r.12.06(2), 12.09(1) and Part 17 of the
Environment Protection and Biodiversity Conservation Regulations 2000.

Permit Number	PA2020-00076-1

Permitted Activity	Scientific Research – maritime archaeological test excavations adjacent to the Kingston Pier, Norfolk Island under sections 354-354A of the *Environment Protection and Biodiversity Conservation Act 1999* and regulation 12.10 of the *Environment Protection and Biodiversity Conservation Regulations 2000*.

Marine Park/s	Norfolk Marine Park

Permit Area	Special Purpose Zone (Norfolk) – Zone 3, as specified in the *Temperate East Marine Parks Network Management Plan 2018* for the Norfolk Marine Park available at the Federal Register of Legislation.

Commencement Date	5 November 2020

Expiry Date	2 May 2021

Permittee	Organisation: Advisian Pty Ltd Address: Level 17, 141 Walker Street, North Sydney NSW 2060 Phone: +61 2 8923 6866 Email: ben.morgan@advisian.com

Permittee Representative	Name: Ben Morgan Position: Associate Organisation: Advisian Pty Ltd Address: Level 17, 141 Walker Street, North Sydney NSW 2060 Phone: +61 411316002 Email: ben.morgan@advisian.com

Nominated Vessel/s	Not used

Activity Conditions This permit is subject to the following activity specific conditions to reduce impacts on marine park values.	*Scientific research* 1. The Permittee must ensure only the following equipment and methodology is used: a) excavation of no more than four archaeological test excavations adjacent to the Kingston Pier; b) excavation using a diver-operated water induction dredge, hand held picks and pneumatic hammers; and c) return of residual loose sediment material from excavations to the shoreline.

	as detailed in *Memorandum: Norfolk Island Underwater Archaeological Test Excavation* dated 8 October 2020 and provided as part of the application for this permit. 2. The Permittee must ensure that appropriate risk management systems, strategies and procedures are in place to minimise the foreseeable risks to the environment and heritage values of the Marine Parks and must produce evidence of such systems, strategies and procedures on request of the Director.

Site Conditions This permit is subject to the following location specific conditions to reduce impacts on marine park values.	3. The Permittee/Licensee must contact the Norfolk Island National Park Manager prior to undertaking any fieldwork. The Manager is located at the Norfolk Island National Park office on the corner of Mount Pitt Road and Mission Road, and can be contacted prior to the visit by phone on +672 3 22695 or by email at NorfolkIslandNationalPark@awe.gov.au.

General Conditions The following conditions apply to all permits.	*General conditions* 4. The Permittee must not conduct the Permitted Activity before the commencement date or after the expiry date shown on the permit. 5. An electronic or hard copy of this permit and application (Schedule 1) must be produced for inspection on request by a Warden. 6. If a Permittee is a company or other incorporated body the Permittee must not, without the approval of the Director, have as a director or officer holder a person who has been convicted of an offence against the EPBC Act or the EPBC Regulations within the previous 10 years. 7. The Permittee must not, without the approval of the Director, use directly in the conduct of the Permitted Activity the services of any person who has been convicted of an offence against the EPBC Act or the EPBC Regulations within the previous 10 years. *Compliance and auditing* 8. The Permittee must comply with the EPBC Act, the EPBC Regulations, the Management Plan, all permit conditions and any other notices or directions issued by the Director relating to the Permitted Activity or Marine Parks specified on this permit. 9. Unless specifically authorised by this or another permit, the Permittee must comply with all prohibitions and determinations made by the Director under the EPBC Regulations. 10. The Permittee must comply with all Commonwealth and State or Territory law relating to the Permitted Activity and hold all permits, licences and other relevant authorisations required by law for the conduct of the Permitted Activity. 11. The Permittee must ensure that all Participants are fully informed of and understand these permit conditions before they take part in the Permitted Activity. 12. The Permittee must take all reasonable steps to ensure all Participants comply with all permit conditions. 13. The Permittee must allow a Warden access to Nominated Vessels at any time for the purpose of performing the functions and powers of Wardens under the EPBC Act. 14. The Permittee must, and must take reasonable steps to ensure all Participants in the Permitted Activity, comply with all lawful directions issued by a Warden. 15. The Permittee must, at no cost to the Director but subject to availability and the provision of reasonable notice, allow a member of the Director's staff to accompany a trip conducting the Permitted Activity for the purpose of evaluating compliance with these Permit conditions. *Training and qualifications* 16. The Permittee must maintain relevant training, qualifications and experience to competently conduct the Permitted Activity.

	17. The Permittee must ensure that all Participants are appropriately trained and/or accredited to competently conduct the Permitted Activity. *Safety* 18. The Permittee must ensure that appropriate risk management systems, strategies and procedures are in place to minimise foreseeable risks to the Participants in the Permitted Activity and members of the public and must produce evidence of such systems, strategies and procedures on request of the Director. 19. The Permittee must ensure that they fully inform themselves of, and equip themselves for, all potential hazards and conditions they may encounter while conducting the Permitted Activity. 20. The Permittee acknowledges that the Director has no ability to monitor or warn the Permittee of changing environmental hazards or developing hazards within a Marine Park. 21. The Permittee must inform the Director of any potential safety hazard or risk encountered or discovered while in a Marine Park as soon as practicable. 22. If anyone taking part in the Permitted Activity is seriously injured, becomes seriously ill or goes missing while in a Marine Park, the Permittee must ensure: (a) notification to the relevant emergency response authority as soon as possible; (b) compliance with any requests or directions from those authorities in relation to the safety of that person or any other person; and (c) notification to the Director's Marine Compliance Duty Officer as soon as practicable. ***Note:*** The Director is not an emergency response agency and all relevant emergency response agencies should be contacted prior to informing the Director of any incident or safety hazard/risk. *Environment and heritage protection* 23. Unless specifically authorised by this permit, the Permittee must not, and must take reasonable steps to ensure that all Participants in the Permitted Activity do not: (a) behave contrary to any warning or regulatory signs displayed at boat ramps used by the Permittee to access a Marine Park or displayed on marker buoys within a Marine Park; (b) collect, pick, interfere with, feed, handle or disturb any native flora or fauna, or handle or disturb the dwelling place of any native fauna; (c) remove shells, coral, plants or animals from a Marine Park. (d) touch, interfere with, or capture images or sound of, Indigenous Cultural and Intellectual Property without the consent of the owner; or (e) impede public access to any part of a Marine Park. 24. The Permittee must take all reasonable steps to prevent the introduction of pests into a Marine Park or the transfer of pests between locations within a Marine Park. Reasonable steps can include, but are not limited to, scheduled inspection and cleaning of the vessel and any in-water equipment, and/or passenger briefings. 25. The Permittee must ensure that all gear, equipment, and other articles lost in a Marine Park that are likely to cause environmental harm, are reported to the Director's Marine Compliance Duty Officer as soon as practicable, and within 10 days in any event, after the loss occurs. The report must include a description of what was lost, the location of loss/suspected loss and the date and time of loss.

Failure to adhere to this permit and the conditions above may result in a variation to or cancellation of this permit or the imposition of criminal penalties under the EPBC Regulations. A person convicted under the EPBC Regulations may be ineligible for future permits in Australian Marine Parks.

Reporting of potential noncompliance and notifications in accordance with General Conditions 21, 22 and 25 should be made to the **24-hour Marine Compliance Duty Officer on 0419 293 465**. For all other enquiries relating to this permit, please contact: marineparks@awe.gov.au.

Russell Gueho
A/g Director
Authorisations and Compliance
Marine Parks Branch
Delegate of the Director of National Parks
3 November 2020

Interpretation

In the permit and permit conditions:

Agreement means the agreement executed by the Permittee when applying for this permit.

Director means the Director of National Parks and the Director's delegates, and includes any statutory successor to the Director.

EPBC Act means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

EPBC Regulations means the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth).

Indigenous Cultural and Intellectual Property means all aspects of Aboriginal or Torres Strait Islander people's cultural products, expressions knowledge and heritage, whether (a) intangible, such as songs, dances, stories, and ecological and cultural knowledge; or (b) tangible, such as human remains, artworks and artefacts.

Marine Park means the Australian Marine Parks under the EPBC Act for which this permit is issued.

Management Plan means the management plan or management plans made under the EPBC Act in operation from time to time for the Marine Parks specified by this permit.

Participants means the Permittee's employees, contractors, other agents and other individuals who take part in the Permitted Activity.

Permittee means each person (individual, company or other legal entity) to whom this permit is issued.

Permitted Activity means the specified activity or activities for which this permit is issued.

Warden means a person appointed as a warden under s.392 of the EPBC Act.

Zone means the relevant zone as specified by the Management Plan

NORFOLK ISLAND

NORFOLK ISLAND REGIONAL COUNCIL

PUBLIC RESERVES ACT 1997

PERMIT
TO EXTRACT SAND FROM CEMETERY RESERVE

No. S30/2020

I Duncan Bains, Manager Planning and Environment, hereby grant a permit, under Section 26 of the *Public Reserves Act 1997,* for Daniel Zhou of Level 17, 141 Walker Street, North Sydney to remove 2 cubic metres of sand, from within Cemetery Reserve, **within one calendar month of the date of this permit**. The sand is for sandbags to be placed at the ramp at Kingston Pier to collect sediment as run-off from the sieve table where it enters into the Kingston Pier waters. This permit is issued subject to the following conditions:

1. The permit holder shall remove the approved quantity of sand in the presence of the Team Leader Kavha or the Manager Planning and Environment
2. The permit holder shall as soon as practicable notify the Manager Planning and Environment of the details of any hazardous circumstance and of any occurrence of personal injury associated with activities carried out pursuant to this permit
3. The permit holder shall ensure that no damage is done to native flora or fauna in a public reserve
4. Vehicles operated by the permit holder in conducting activities pursuant to this permit may access only those parts of Cemetery Reserve as directed by the Team Leader Kavha or the Manager Planning and Environment
5. The permit holder shall not interfere with the enjoyment of any public reserve by other members of the public
6. The permit holder shall not permit any activity which is contrary to the Plan of Management for any reserve in which any activity under this permit is carried out or is to be carried out or which is contrary to any law of or applicable to Norfolk Island
7. The permit holder shall not hold themselves or allow anyone else engaged in any activity under the permit to hold themselves out to be a ranger or employee or agent of the Norfolk Island Regional Council (Norfolk Island Regional Council (NIRC) a body politic constituted under the Local Government Act 1993 (NSW) (NI) as applied by the Norfolk Island Act 1979 (CTH) (ABN: 60 103 855 713) [the *'Council']* or law enforcement officer or agent/employee of the Norfolk Island Regional Council in any way where no such appointment or employment is actually held by the permit holder or the person concerned
8. The permit holder and all persons, firms, associations and corporations undertaking any activities under this permit shall immediately comply with all notices and/or directions (whether written or oral) issued or given under or pursuant to the *Public Reserves Act 1997* or under or pursuant to any other law applicable to Norfolk Island

Norfolk Island Regional Council expressly denies any liability for any injury occurring to any person who may conduct any activity pursuant to this permit

Phone: + (6723) 22006

9. The permit holder shall immediately cease any activities in a reserve and shall leave or cause any person engaged in any activity under the permit in a reserve to leave that reserve immediately upon declaration of any closure of such reserve either permanently or temporarily at any time during the period of the permit;

10. The permit holder shall immediately notify the Manager Planning and Environment where

    (a) the permit holder or any person engaged in any activity under the permit is convicted of an offence against the *Public Reserves Act* or regulations; and

    (b) the permit holder or any person engaged in any activity under the permit has contravened any condition to which the permit is subject;

11. The permit holder, in accordance with the indemnity provided on the application for the permit, fully and irrevocably indemnifies and saves harmless the Manager Planning and Environment, all rangers, the Norfolk Island Regional Council together with all employees servants and agents thereof, the Norfolk Island Regional Council, the Crown and the Commonwealth of Australia jointly and severally from any and all liability and claims whatsoever arising in any way out of or in connection with or as a result of any activities carried out or conducted or proposed to be carried out or conducted under the permit or the involvement of any person firm or corporation in any way in regard to any activity carried out or to be carried out under the permit

12. The permit holder is to immediately notify the Manager Planning and Environment of any claim for compensation or damages or any legal proceeding made against the permit holder in respect of any activity or person engaged in any activity under the permit

13. The grant of a permit does not establish any relationship of master and servant, bailor and bailee, principal and agent, employer and employee, insurer and insured, guarantor and guarantee, protector and protectee, person in *loco parentis* and child, guardian and child, teacher and student, nor any like relationship or duty of care as between the Manager Planning and Environment and the permit holder and/or any person acting on behalf of or under the direction or control of the permit holder engaged or to be engaged in any activity under the permit and/or in respect of any vehicles, equipment or materials used or to be used under the permit

14. A permit holder shall not have any expectation or belief that a permit will be granted or extended or renewed or continued as of right or as a mere formality even if any commercial activities conducted or to be conducted under a permit may be at risk if a permit is not granted or extended or renewed or continued by the Senior Environmental Officer

15. The Manager Planning and Environment retains the right to cancel or suspend the permit at any time in accordance with the *Public Reserves Act*.

Dated 3 November 2020

Duncan Bains
Manager Planning and Environment

Norfolk Island Regional Council expressly denies any liability for any injury occurring to any person who may conduct any activity pursuant to this permit

Australian Government

Underwater Cultural Heritage Act 2018

PERMIT No. 100527

Permit to Impact Underwater Cultural Heritage

I, James Barker, Delegate of the Minister for the Environment, hereby grant to Sarah Vandenbroek, on behalf of the Australian Government Department of Department of Infrastructure, Transport, Regional Development and Communications, a permit under Section 23 of the *Underwater Cultural Heritage Act 2018* (the Act)**,** authorising in relation to the protected underwater cultural heritage listed in Schedule 1, the conduct specified in Schedule 2 which is otherwise prohibited by subsection 30(1) of the Act, subject to the conditions specified in Schedule 3.

Schedule 1 – Protected underwater cultural heritage to which permit applies
Name or title of the protected underwater cultural heritage: Any underwater cultural heritage located in waters and on or beneath the seabed adjacent to the Kingston Pier, Norfolk Island.
Coordinates of underwater cultural heritage: Polygon area within the following coordinates in decimal degrees and using WGS 84 Datum; Latitude -29.0580, Longitude 167.0531; Latitude -29.0574, Longitude 167.0540; Latitude -29.0577, Longitude 167.0544; and Latitude -29.0584, Longitude 167.0533

Schedule 2 – Permitted conduct
Undertake conduct that will have or is likely to have an adverse impact on the underwater cultural heritage of the protected underwater cultural heritage listed in Schedule 1.

Schedule 3 – Conditions
(a) That the underwater cultural heritage listed in schedule 1 is only disturbed or removed in accordance with the conditions of this permit and the 'Kingston Pier Channel Construction Project: Underwater Archaeology Test Excavation Management Plan' (the Management Plan) at Attachment A of this permit.
(b) All work shall be carried out by suitably qualified maritime archaeologists, conservators or collection managers with practical experience in conservation of similar heritage items.
(c) A site induction identifying the heritage significance of the site, the potential archaeological resources and the requirements of the Act, must be provided to all persons undertaking permitted conduct prior to their commencement on the site.
(d) This permit authorises the archaeological removal of underwater cultural heritage from inside test excavation pits only.
(e) Significant fabric of the Kingston Pier and associated elements should be protected during the works from potential damage. Protection systems should ensure historic fabric is not damaged or removed.
(f) The permit holder must ensure that the nominated excavation director, Cos Coroneos, takes adequate steps to record in detail underwater cultural heritage artefacts, structures and features discovered in the test excavation pits in accordance with current archaeological best practice.
(g) The permit holder is responsible for the conservation and safe keeping of any underwater cultural heritage recovered from the site.
(h) The permit holder must ensure that the nominated excavation director cleans, stabilises, labels, analyses, catalogues and stores any underwater cultural heritage recovered from the test pits in a way that allows them to be retrieved according to both type and provenance.

(i) In line with the artefact retention and discard policy in Section 3.9 of the Management Plan, all retained artefacts are to be permanently incorporated into the collections of the Norfolk Island Museum. The permit holder is liable for all expenses arising from the conservation, storage, collection management and curation of any underwater cultural heritage artefacts that are retained as a result of the project.

(j) The permit holder must ensure that a final excavation report is prepared by the nominated excavation director, Cos Coroneos, to publication standard, within one (1) year of the completion of the field based archaeological activity unless an extension of time or other variation to this permit is approved. One electronic copy of the report must be submitted to Ministers Delegate. Further copies of the report should be lodged with the Norfolk Island Museum and/or another appropriate repository on Norfolk Island in which the site is located.

(k) Should any Polynesian artefacts, from the first phase of occupation, be uncovered by the work, all excavation or disturbance of the area is to stop immediately and the Historic Heritage Branch in the Department of Agriculture, Water and the Environment (02 6274 2116) is to be contacted. Work must not recommence until approval to do so has been provided by the Minister Delegate.

(l) Persons designated by the Ministers Delegate may at any time inspect the works undertaken or the artefacts recovered under this permitted conduct. This permit may be varied or revoked at any time at the discretion of the Minister's Delegate.

Duration of permit
This permit remains in force until 31 December 2021 unless earlier varied or revoked.

Dated of October 2020

James Barker

Delegate of the Minister for the Environment

Australian Government

Underwater Cultural Heritage Act 2018

PERMIT No. 100527

Permit to Impact Underwater Cultural Heritage

I, James Barker, Delegate of the Minister for the Environment, hereby grant to the Australian Government Department of Infrastructure, Transport, Regional Development and Communications, a permit under Section 23 of the *Underwater Cultural Heritage Act 2018* (the Act), authorising in relation to the protected underwater cultural heritage listed in Schedule 1, the conduct specified in Schedule 2 which is otherwise prohibited by subsection 30(1) of the Act, subject to the conditions specified in Schedule 3.

Schedule 1 – Protected underwater cultural heritage to which permit applies
Name or title of the protected underwater cultural heritage: Any underwater cultural heritage located in waters and on or beneath the seabed adjacent to the Kingston Pier, Norfolk Island.
Coordinates of underwater cultural heritage: Polygon area within the following coordinates in decimal degrees and using WGS 84 Datum; Latitude -29.0580, Longitude 167.0531; Latitude -29.0574, Longitude 167.0540; Latitude -29.0577, Longitude 167.0544; and Latitude -29.0584, Longitude 167.0533

Schedule 2 – Permitted conduct
Undertake conduct that will have or is likely to have an adverse impact on the underwater cultural heritage of the protected underwater cultural heritage listed in Schedule 1.

Schedule 3 – Conditions
(a) That the underwater cultural heritage listed in schedule 1 is only disturbed or removed in accordance with the conditions of this permit and the 'Kingston Pier Channel Construction Project: Underwater Archaeology Test Excavation Management Plan' (the Management Plan) at Attachment A of this permit.
(b) All work shall be carried out by suitably qualified maritime archaeologists, conservators or collection managers with practical experience in conservation of similar heritage items.
(c) A site induction identifying the heritage significance of the site, the potential archaeological resources and the requirements of the Act, must be provided to all persons undertaking permitted conduct prior to their commencement on the site.
(d) This permit authorises the archaeological removal of underwater cultural heritage from inside test excavation pits and associated extension pits only. Test pits may be expanded beyond the 2x2 metre boundary if artefact deposits, archaeological features or underlying geological formations of interest extend beyond the boundary limits.
(e) Significant fabric of the Kingston Pier and associated elements should be protected during the works from potential damage. Protection systems should ensure historic fabric is not damaged or removed.
(f) The permit holder must ensure that the nominated excavation director, Cos Coroneos, takes adequate steps to record in detail underwater cultural heritage artefacts, structures and features discovered in the test excavation pits and associated extension pits in accordance with current archaeological best practice.

(g) The permit holder is responsible for the conservation and safe keeping of any underwater cultural heritage recovered from the site.

(h) The permit holder must ensure that the nominated excavation director cleans, stabilises, labels, analyses, catalogues and stores any underwater cultural heritage recovered from the test pits in a way that allows them to be retrieved according to both type and provenance.

(i) In line with the artefact retention and discard policy in Section 3.9 of the Management Plan, all retained artefacts are to be permanently incorporated into the collections of the Norfolk Island Museum. The permit holder is liable for all expenses arising from the conservation, storage, collection management and curation of any underwater cultural heritage artefacts that are retained as a result of the project.

(j) The permit holder must ensure that a final excavation report is prepared by the nominated excavation director, Cos Coroneos, to publication standard, within one (1) year of the completion of the field based archaeological activity unless an extension of time or other variation to this permit is approved. One electronic copy of the report must be submitted to Ministers Delegate. Further copies of the report should be lodged with the Norfolk Island Museum and/or another appropriate repository on Norfolk Island in which the site is located.

(k) Should any Polynesian artefacts, from the first phase of occupation, be uncovered by the work, all excavation or disturbance of the area is to stop immediately and the Historic Heritage Branch in the Department of Agriculture, Water and the Environment (02 6274 2116) is to be contacted. Work must not recommence until approval to do so has been provided by the Minister Delegate.

(l) Persons designated by the Ministers Delegate may at any time inspect the works undertaken or the artefacts recovered under this permitted conduct. This permit may be varied or revoked at any time at the discretion of the Minister's Delegate.

Duration of permit
This permit remains in force until 31 December 2021 unless earlier varied or revoked.

Dated 12 of November 2020

James Barker

Delegate of the Minister for the Environment

ANNEX E – PROPOSED WORKS

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
DEPARTMENT OF INFRASTRUCTURE, TRANSPORT, REGIONAL DEVELOPMENT AND COMMUNICATIONS

LOCALITY PLAN
NTS

DRAWING LIST

DRAWING No.	DRAWING TITLE
311015-00061-MA-DWG-0010	COVER SHEET, LOCALITY PLAN AND DRAWING LIST
311015-00061-MA-DWG-0020	CUT PLAN
311015-00061-MA-DWG-0030	LONGITUDINAL SECTION
311015-00061-MA-DWG-0040	CROSS SECTIONS - CH : 15.5m & 50m
311015-00061-MA-DWG-0041	CROSS SECTIONS - CH : 100m & 150m
311015-00061-MA-DWG-0042	CROSS SECTIONS - CH : 175m & 192m
311015-00061-MA-DWG-0050	FILL PLAN (OLD CASCADE QUARRY)
311015-00061-MA-DWG-0051	FILL SECTIONS (OLD CASCADE QUARRY)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	07.10.20	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	28.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay
empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

INFORMATION ONLY
NOT TO BE USED
FOR CONSTRUCTION

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
COVER SHEET, LOCALITY PLAN AND DRAWING LIST

DRG No 311015-00061-MA-DWG-0010
REV B

ADVISIAN_A1_C

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SAVE DATE & TIME: 7/10/2020 12:59:20 PM
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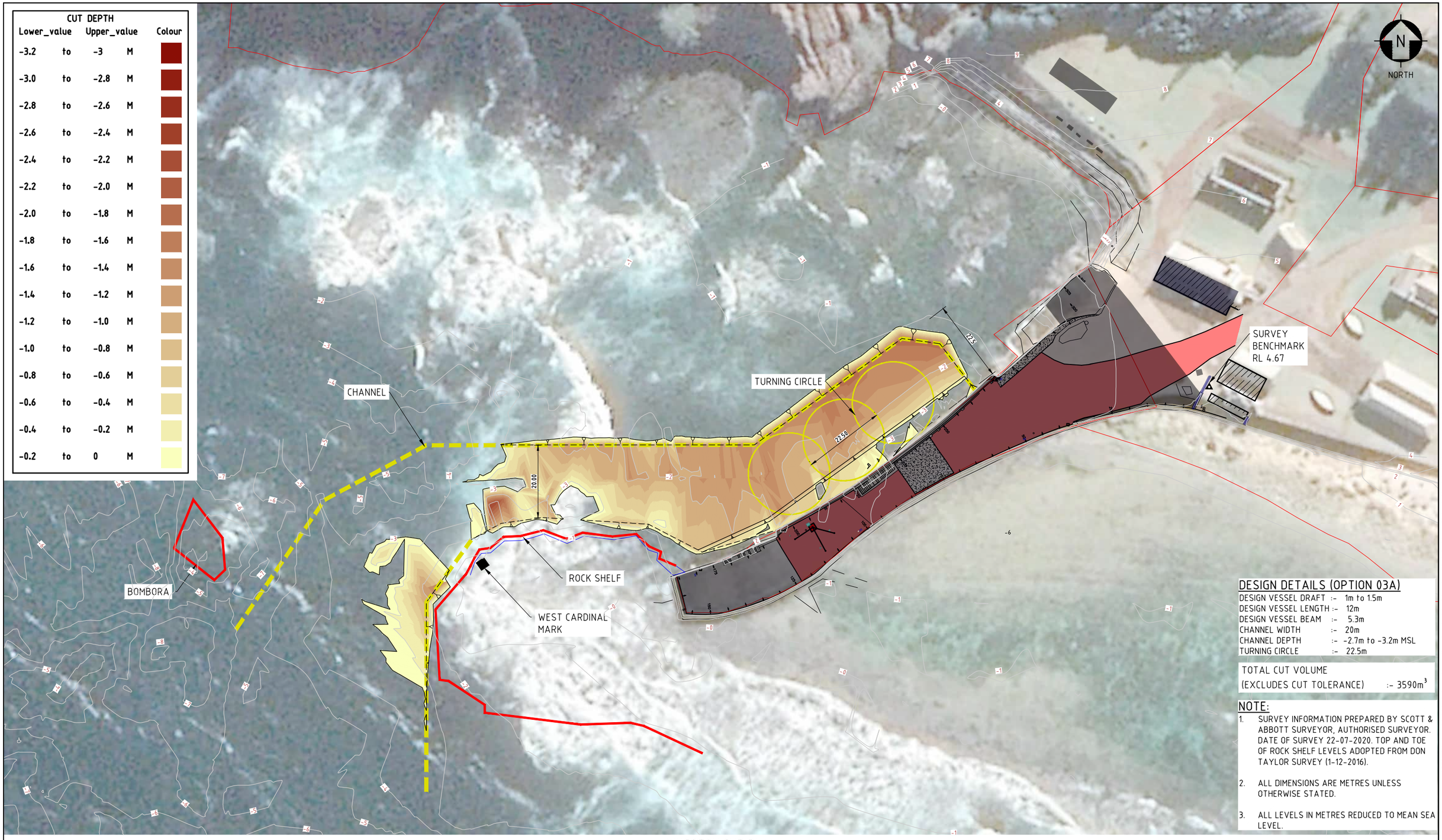
LOCATION: \\AUSYDWPDFS01V\AUSYD\WORLEY_INFRASTRUCTURE\PROJECTS\311015\311015-00061-MA-DWG-0010.DWG

CUT DEPTH				
Lower_value		Upper_value		Colour
-3.2	to	-3	M	
-3.0	to	-2.8	M	
-2.8	to	-2.6	M	
-2.6	to	-2.4	M	
-2.4	to	-2.2	M	
-2.2	to	-2.0	M	
-2.0	to	-1.8	M	
-1.8	to	-1.6	M	
-1.6	to	-1.4	M	
-1.4	to	-1.2	M	
-1.2	to	-1.0	M	
-1.0	to	-0.8	M	
-0.8	to	-0.6	M	
-0.6	to	-0.4	M	
-0.4	to	-0.2	M	
-0.2	to	0	M	



DESIGN DETAILS (OPTION 03A)

DESIGN VESSEL DRAFT	:-	1m to 1.5m
DESIGN VESSEL LENGTH	:-	12m
DESIGN VESSEL BEAM	:-	5.3m
CHANNEL WIDTH	:-	20m
CHANNEL DEPTH	:-	-2.7m to -3.2m MSL
TURNING CIRCLE	:-	22.5m

TOTAL CUT VOLUME
(EXCLUDES CUT TOLERANCE) :- 3590m^3

NOTE:

1. SURVEY INFORMATION PREPARED BY SCOTT & ABBOTT SURVEYOR, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
3. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL.

LEGEND

-6 – SURVEY CONTOUR MAJOR (1m INTERVAL)

– SURVEY CONTOUR MINOR (0.1m INTERVAL)

5.00 – SPOT LEVEL

– ROCK FORMATION

KINGSTON CUT PLAN

1:500

10 0 10 20 30 40 50m

1:500 (A1) 1:1000 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No. 311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

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CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CUT PLAN

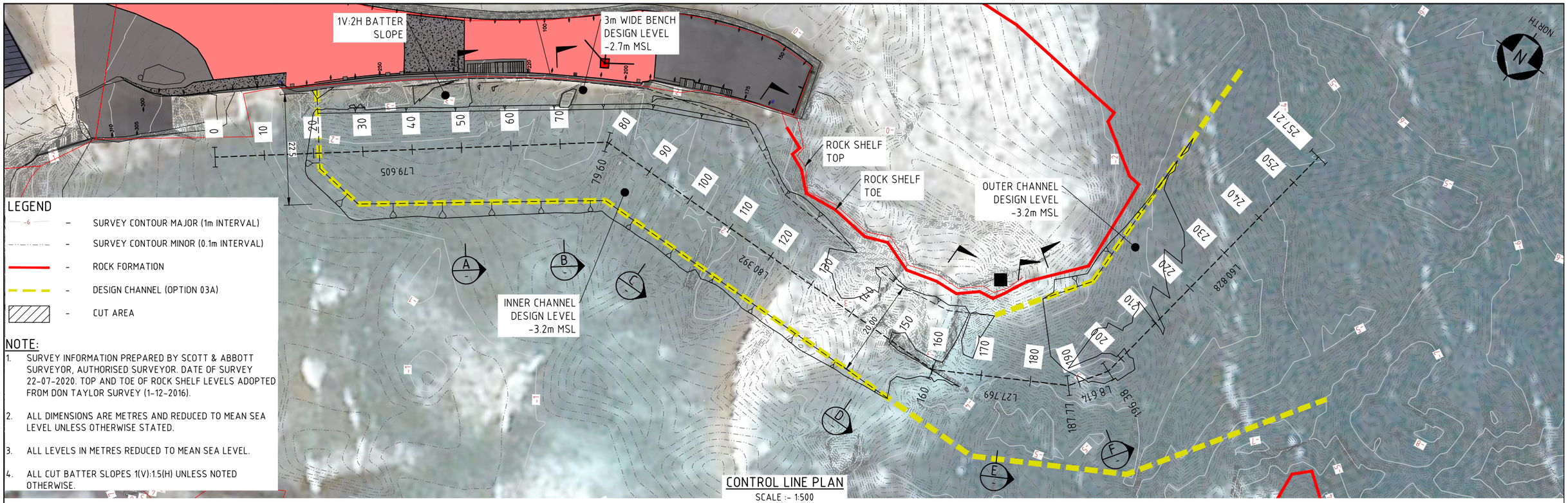
DRG No 311015-00061-MA-DWG-0020 REV C

ADVISIAN_A1_C

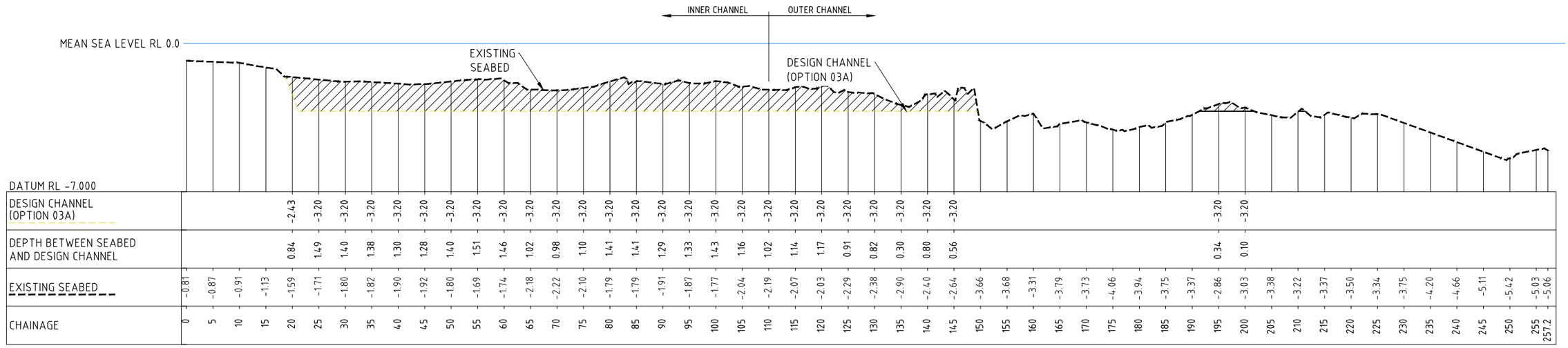
LOCATION: \\AUSYDWPDFS01\VAUSYD\WORLEY_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\SKETCHES\311015-000061-MA-DWG-0020 - OPTION 01 TO 04.DWG

USER NAME: brendon.boyle

PLOT DATE & TIME: 8/10/2020 11:17:29 AM
SAVE DATE & TIME: 7/10/2020 4:06:04 PM



CONTROL LINE PLAN
SCALE :- 1:500



CHAINAGE	DESIGN CHANNEL (OPTION 03A)	DEPTH BETWEEN SEABED AND DESIGN CHANNEL	EXISTING SEABED
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5	-3.20	1.49	-0.87
10	-3.20	1.40	-0.91
15	-3.20	1.38	-1.13
20	-3.20	1.30	-1.59
25	-3.20	1.28	-1.71
30	-3.20	1.40	-1.80
35	-3.20	1.51	-1.82
40	-3.20	1.46	-1.90
45	-3.20	1.02	-1.92
50	-3.20	0.98	-1.80
55	-3.20	1.10	-1.69
60	-3.20	1.41	-1.74
65	-3.20	1.41	-2.18
70	-3.20	1.29	-2.22
75	-3.20	1.33	-2.10
80	-3.20	1.43	-1.79
85	-3.20	1.16	-1.79
90	-3.20	1.02	-1.91
95	-3.20	1.14	-1.87
100	-3.20	1.17	-1.77
105	-3.20	0.91	-2.04
110	-3.20	0.82	-2.19
115	-3.20	0.30	-2.07
120	-3.20	0.80	-2.03
125	-3.20	0.56	-2.29
130	-3.20		-2.38
135	-3.20		-2.90
140	-3.20		-2.40
145	-3.20		-2.64
150			-3.66
155			-3.68
160			-3.31
165			-3.79
170			-3.73
175			-4.06
180			-3.94
185			-3.75
190			-3.37
195	-3.20	0.34	-2.86
200	-3.20	0.10	-3.03
205			-3.38
210			-3.22
215			-3.37
220			-3.50
225			-3.34
230			-3.75
235			-4.20
240			-4.66
245			-5.11
250			-5.42
255			-5.03
257.2			-5.06

DESIGN CHANNEL (OPTION 03A) - LONGITUDINAL SECTION
(HOR SCALE :- 1:400 VER SCALE :- 1:100)

HOR SCALE 1:400 (A1) 1:800 (A3)
1:500 (A1) 1:1000 (A3)
VER SCALE 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

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Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
LONGITUDINAL SECTION

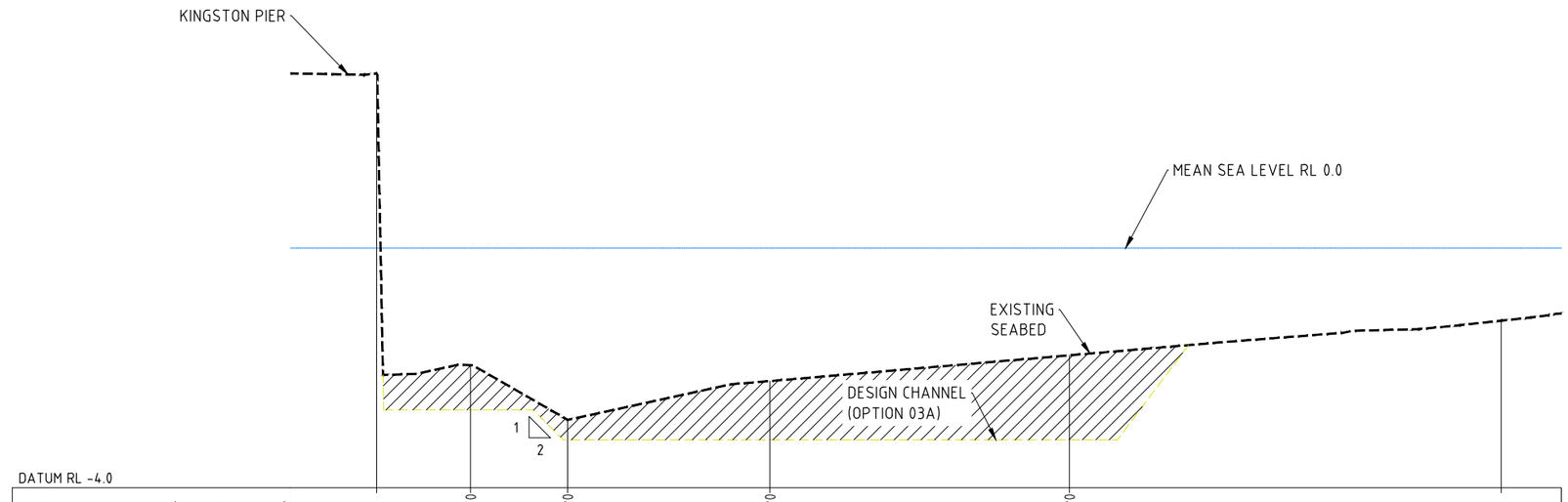
DRG No 311015-00061-MA-DWG-0030
REV C

NOTE:

1. SURVEY INFORMATION PREPARED BY SCOTT & ABBOTT SURVEYOR, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES AND REDUCED TO MEAN SEA LEVEL UNLESS OTHERWISE STATED.
3. CROSS SECTIONS LOOKING SEAWARD.
4. ALL CUT BATTER SLOPES 1(V):1.5(H) UNLESS NOTED OTHERWISE.

LEGEND

- CUT AREA



DATUM RL -4.0

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EXISTING SEABED	2.916	-1.96	-2.87	-2.22	-1.79	-1.214
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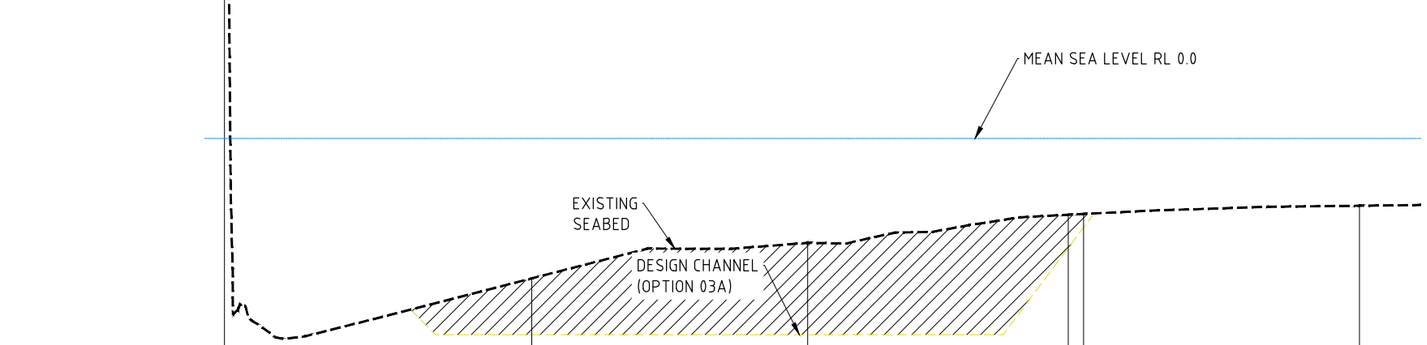
SECTION B
1:100H 1:50V



DATUM RL -4.0

DESIGN CHANNEL (OPTION 03A)		-3.20	-3.20	-1.78 -1.45	
EXISTING SEABED	3.20	-2.28	-1.70	-1.24 -1.23	-1.10
CHAINAGE	-10.02	0.00	9.00	17.50 18.00	27.00

SECTION A
1:100H 1:50V

1 0 1 2 3 4 5m
VER. SCALE 1:50 (A1) 1:100 (A3)

2 0 2 4 6 8 10m
HOR. SCALE 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
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B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

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ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

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CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CROSS SECTIONS
CH : 50m & 70m

DRG No 311015-00061-MA-DWG-0040
REV C

ADVISIAN_A1_C

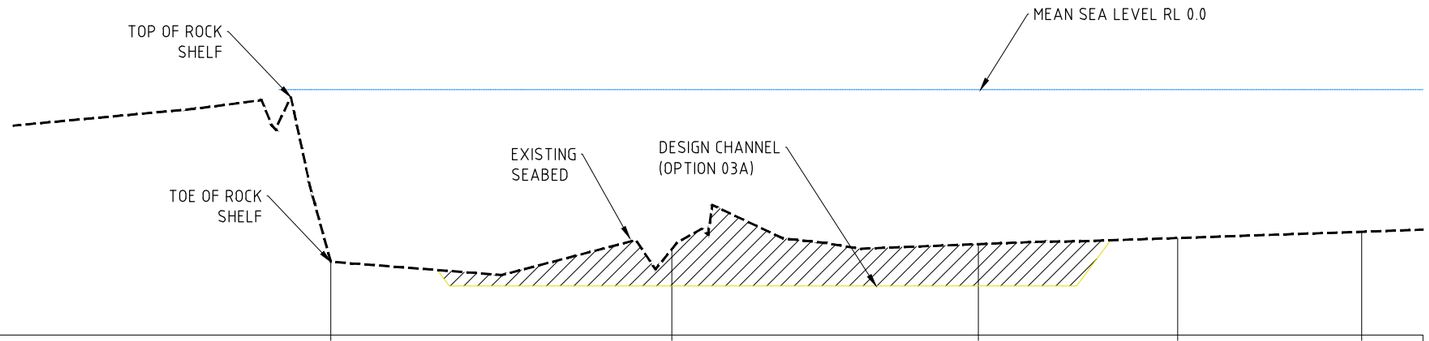
LOCATION: \\AUSTDWPDFS01VA01\SYD\WORLEY_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\SKETCHES\311015-00061-MA-DWG-0030 - LONGSECTION-CROSSSECTION.DWG
USER NAME: brendon.boyle
PLOT DATE & TIME: 6/10/2020 12:30:23 PM
SAVE DATE & TIME: 2/10/2020 8:20:22 AM

NOTE:

1. SURVEY INFORMATION PREPARED BY SCOTT & ABBOTT SURVEYOR, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES AND REDUCED TO MEAN SEA LEVEL UNLESS OTHERWISE STATED.
3. CROSS SECTIONS LOOKING SEAWARD.
4. ALL CUT BATTER SLOPES 1(V):1.5(H) UNLESS NOTED OTHERWISE.

LEGEND

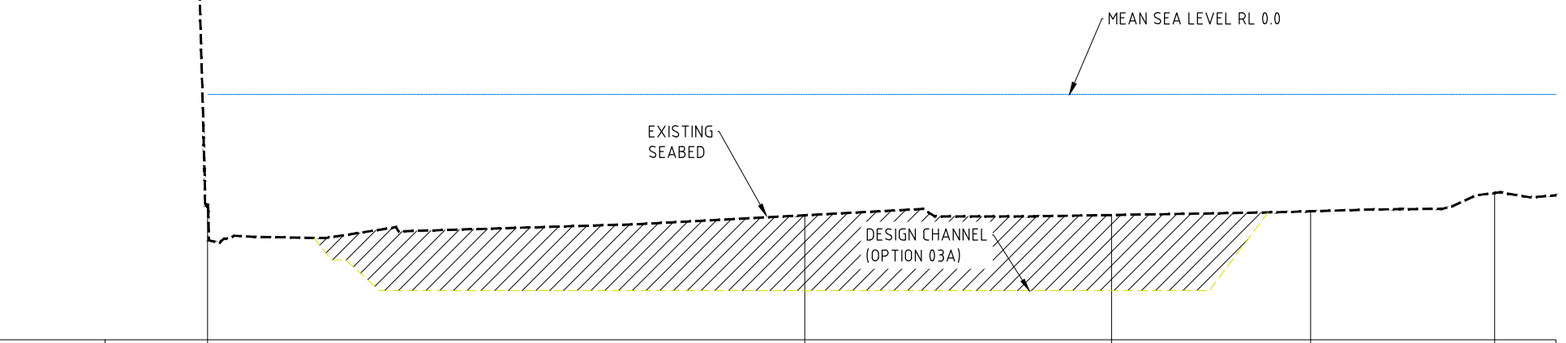
- CUT AREA



DATUM RL -4.0

DESIGN CHANNEL (OPTION 03A)	-2.80	-3.20	-3.20			
EXISTING SEABED	-0.95	-2.60	-2.52	-2.42	-2.32	
CHAINAGE	-11.13	0.00	10.00	16.50	22.50	

SECTION D
1:100H 1:50V



DATUM RL -4.0

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EXISTING SEABED	-1.82	-1.97	-1.97	-1.91	-1.61
CHAINAGE	-19.48	0.00	10.00	16.50	22.50

SECTION C
1:100H 1:50V

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VER. SCALE 1:50 (A1) 1:100 (A3)

2 0 2 4 6 8 10m
HOR. SCALE 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	07.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

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ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

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FOR CONSTRUCTION

CUSTOMER

Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CROSS SECTIONS
CH : 100m & 150m

DRG No 311015-00061-MA-DWG-0041
REV C

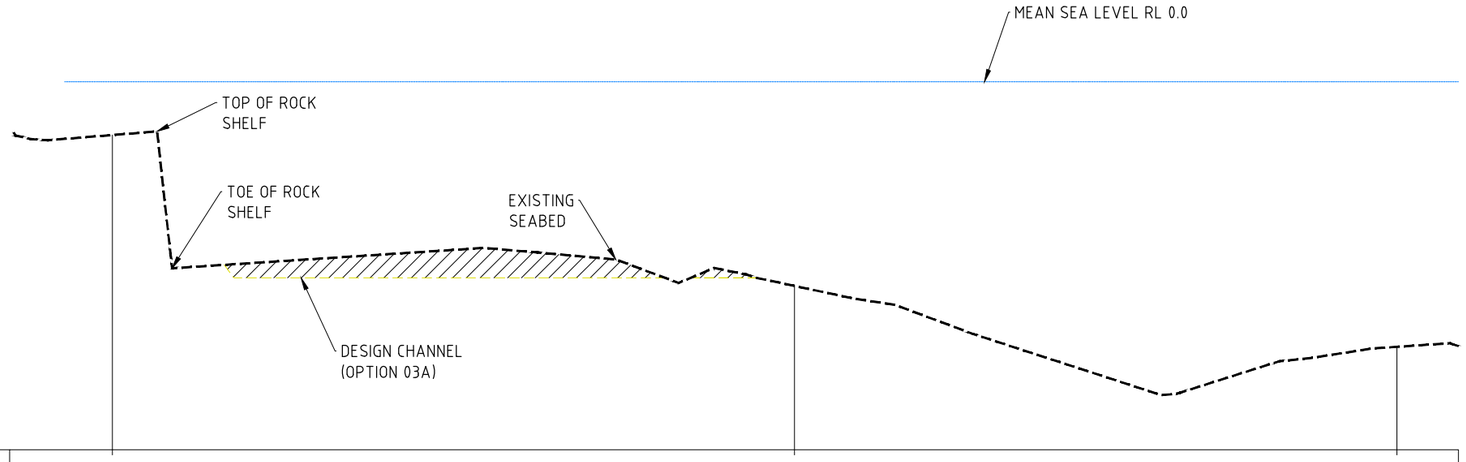
ADVISIAN_A1_C

NOTE:

1. SURVEY INFORMATION PREPARED BY SCOTT & ABBOTT SURVEYOR, AUTHORISED SURVEYOR. DATE OF SURVEY 22-07-2020. TOP AND TOE OF ROCK SHELF LEVELS ADOPTED FROM DON TAYLOR SURVEY (1-12-2016).
2. ALL DIMENSIONS ARE METRES AND REDUCED TO MEAN SEA LEVEL UNLESS OTHERWISE STATED.
3. CROSS SECTIONS LOOKING SEAWARD.
4. ALL CUT BATTER SLOPES 1(V):1.5(H) UNLESS NOTED OTHERWISE.

LEGEND

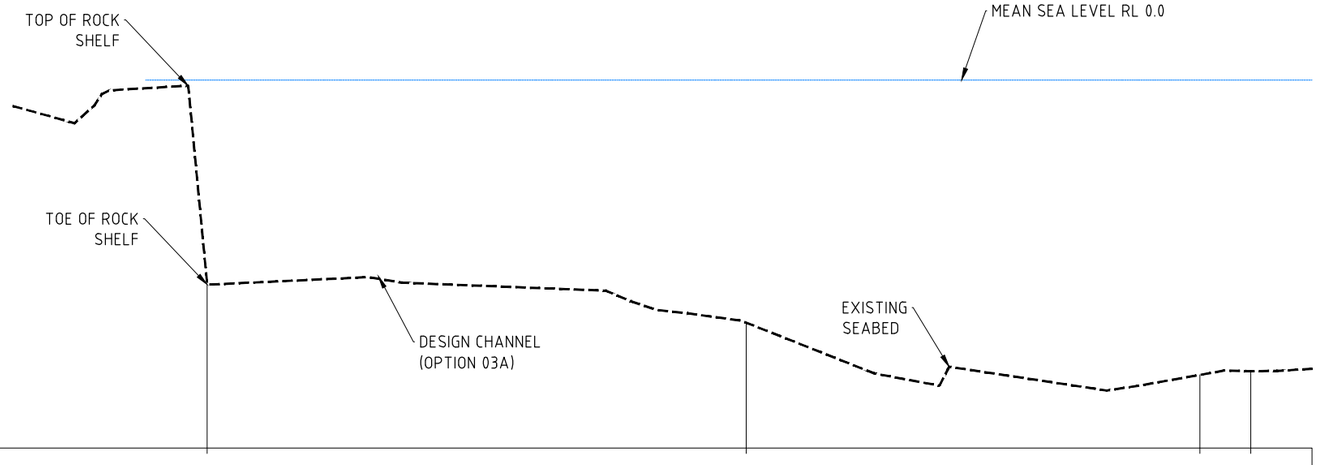
- CUT AREA



DATUM RL -6.0

DESIGN CHANNEL (OPTION 03A)			
EXISTING SEABED	-0.87	-3.33	-4.32
CHAINAGE	-22.26	0.00	19.66

SECTION F (-) 1:100H 1:50V



DATUM RL -6.0

DESIGN CHANNEL (OPTION 03A)				
EXISTING SEABED	-3.34	-3.95	-4.81	-4.75
CHAINAGE	-17.59	0.00	14.81	16.47

SECTION E (-) 1:100H 1:50V

1 0 1 2 3 4 5m
VER. SCALE 1:50 (A1) 1:100 (A3)

2 0 2 4 6 8 10m
HOR. SCALE 1:100 (A1) 1:200 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	07.10.20	ISSUED FOR CLIENT REVIEW	PK	BB	DZ	BM	BM			
B	04.09.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			
A	18.08.20	ISSUED FOR INFORMATION	PK	BB	DZ	BM	BM			

A1 SHEET SCALE

OneWay empowered | enabled | ethical

ADVISIAN PROJECT No.
311015-00061

ENGINEERING AND PERMIT STAMPS (As Required)

INFORMATION ONLY
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Advisian
Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
CROSS SECTIONS
CH : 175m & 192m

DRG No 311015-00061-MA-DWG-0042
REV C

ADVISIAN_A1_C

LOCATION: \\AUSYDWPDFS01V\AUSYD\WORLEY_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\SKETCHES\311015-00061-MA-DWG-0030 - LONGSECTION-CROSSSECTION.DWG
USER NAME: prathi.kansara
PLOT DATE & TIME: 7/10/2020 9:04:00 AM
SAVE DATE & TIME: 7/10/2020 8:58:02 AM

NOTE:

1. SURVEY INFORMATION PREPARED BY _____.
2. ALL DIMENSIONS ARE METRES UNLESS OTHERWISE STATED.
3. ALL LEVELS IN METRES REDUCED TO MEAN SEA LEVEL
4. TOTAL FILL VOLUME (BCM) :- 3880m^3
   AN ADDITIONAL 1,500m^3 IS REQUIRED. FILL PLAN IS SUBJECT TO FURTHER DESIGN DEVELOPMENT.

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	06.10.20	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ					

A1 SHEET SCALE

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311015-00061

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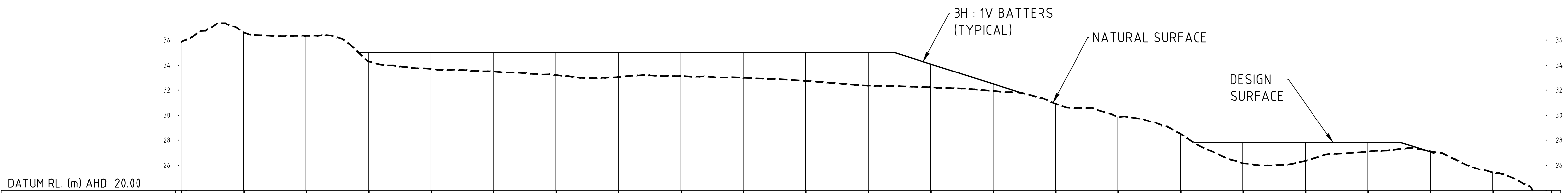
KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
FILL PLAN (OLD CASCADE QUARRY)

DRG No 311015-00061-MA-DWG-0050

REV B

ADVISIAN_A1_C

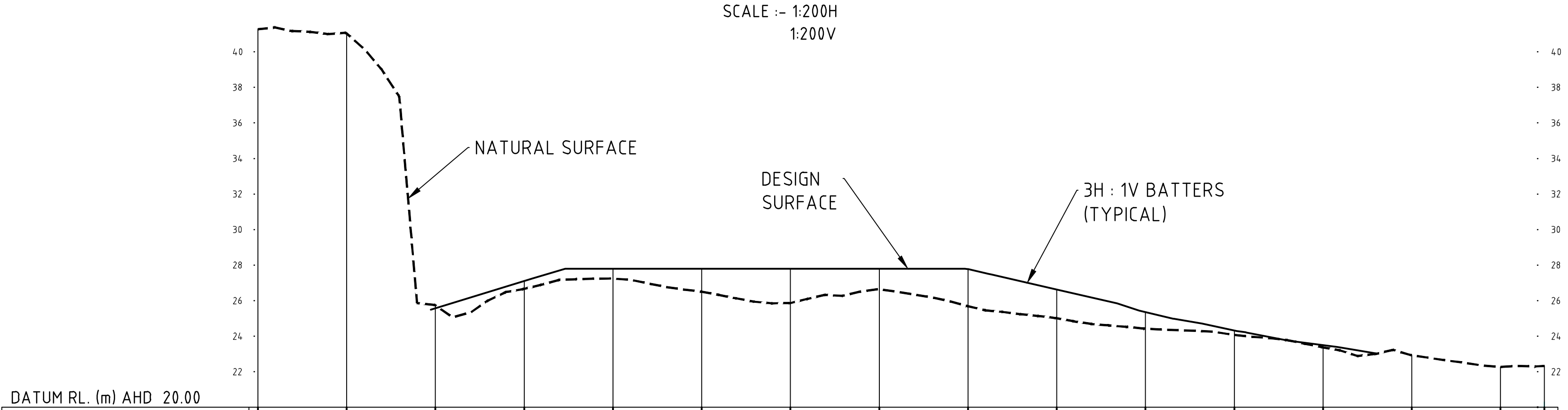
LOCATION: \\AUSTDWPDFS01V\AUS\SYD\WORLEY_INFRASTRUCTURE\PROJECTS\311015\311015-00061-MA-DWG-0050 • 0051.DWG
USER NAME: brendon.boyle
PLOT DATE & TIME: 8/10/2020 10:58:25 AM
SAVE DATE & TIME: 6/10/2020 9:58:39 PM



CHAINAGES (m)	DESIGN SURFACE	NATURAL SURFACE
0		35.857
5		36.604
10		36.340
15	35.000	34.302
20	35.000	33.702
25	35.000	33.490
30	35.000	33.204
35	35.000	33.031
40	35.000	33.099
45	35.000	32.992
50	35.000	32.731
55	35.000	32.360
60	34.095	32.221
65	32.503	31.932
70		30.905
75		29.861
80		28.506
85	27.800	26.162
90	27.800	26.353
95	27.800	27.099
100	27.068	27.123
105		25.417
109.7		22.276

SECTION A

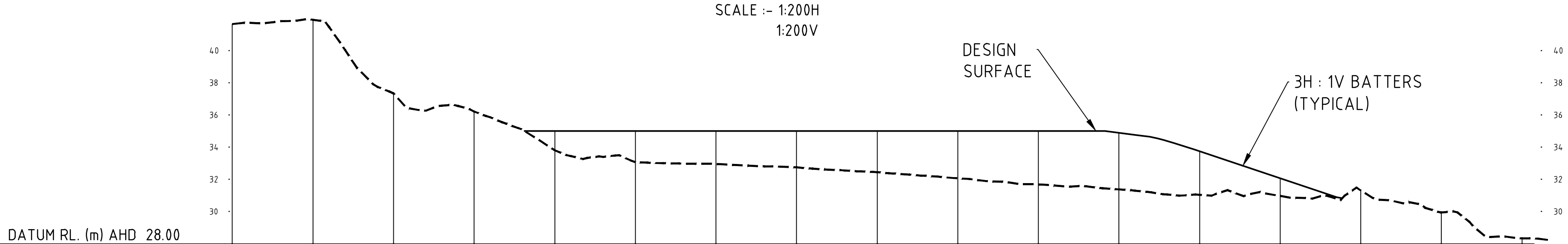
SCALE :- 1:200H
1:200V



CHAINAGES (m)	DESIGN SURFACE	NATURAL SURFACE
0		41.270
5		41.029
10	25.570	25.732
15	27.095	26.661
20	27.800	27.238
25	27.800	26.500
30	27.800	25.863
35	27.800	26.649
40	27.774	25.691
45	26.623	25.010
50	25.354	24.421
55	24.320	24.067
60	23.502	23.372
65		22.932
70		22.265
72.5		22.318

SECTION B

SCALE :- 1:200H
1:200V



CHAINAGES (m)	DESIGN SURFACE	NATURAL SURFACE
0		41.651
5		41.908
10		37.335
15		36.215
20	35.000	33.806
25	35.000	33.072
30	35.000	32.960
35	35.000	32.744
40	35.000	32.440
45	35.000	32.068
50	35.000	31.686
55	34.890	31.372
60	33.745	31.041
65	32.070	30.970
70		31.307
75		29.945
80		28.333

SECTION C

SCALE :- 1:200H
1:200V

4 0 4 8 12 16 20m
1:200 (A1) 1:400 (A3)

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	08.10.20	ISSUED FOR CLIENT REVIEW	PK	BMB	DZ	BM	BM			
A	06.10.20	ISSUED FOR INTERNAL REVIEW	PK	BMB	DZ					

A1 SHEET SCALE

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Worley Group

KINGSTON PIER
CHANNEL CONSTRUCTION PROJECT
FILL SECTIONS (OLD CASCADE QUARRY)

DRG No 311015-00061-MA-DWG-0051
REV B

ADVISIAN_A1_C

LOCATION: \\AUSYDWPDFS01V\AU\SYD\WORLEY_INFRASTRUCTURE\PROJECTS\311015\311015-00061 KINGSTON PIER CHANNEL DREDGING\11.0 DRAWINGS\SKETCHES\311015-000061-MA-DWG-0050 + 0051.DWG
USER NAME: brendon.boyle
PLOT DATE & TIME: 8/10/2020 11:28:51 AM
SAVE DATE & TIME: 6/10/2020 9:58:59 PM