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C/- BJB Architects

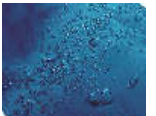


Preliminary Site Investigation, Lot 1
DP1129384 at Stuart Street, Little Manly,
NSW.

ENVIRONMENTAL



WATER



WASTEWATER



GEOTECHNICAL



CIVIL



PROJECT
MANAGEMENT



P208072JR01V01
January 2021

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General Abbreviations

| | |
|----------|---|
| AASS | Actual acid sulfate soil |
| ABC | Ambient background concentrations |
| ACM | Asbestos containing material |
| AEC | Area of environmental concern |
| AF | Asbestos fines |
| AMP | Asbestos Management Plan |
| ANZECC | Australia and New Zealand Environment Conservation Council |
| ANZG | Australian and New Zealand Governments |
| ASC NEPM | National Environmental Protection (Assessment of Site Contamination) Measure (2013) |
| ASS | Acid sulfate soil |
| ASSMAC | Acid Sulfate Soils Management Advisory Committee |
| AST | Above ground storage tank |
| BGL | Below ground level |
| BH | Borehole |
| BTEXN | Benzene, toluene, ethylbenzene, xylene, naphthalene |
| CEMP | Construction Environmental Management Plan |
| COC | Chain of custody |
| COPC | Contaminants of potential concern |
| DA | Development application |
| DBT | Dibutyltin |
| DEC | Department of Environment and Conservation |
| DECC | Department of Environment and Climate Change |
| DNAPL | Dense non aqueous phase liquid |
| DP | Deposited Plan |
| DPI | NSW Department of Primary Industry |
| DPIW | NSW Department of Primary Industry – Water |
| DQI | Data quality indicators |
| DQO | Data quality objectives |
| DSI | Detailed Site Investigation |
| EAC | Ecological assessment criteria |
| EIL | Ecological investigation level |
| EMP | Environmental Management Plan |
| EPA | NSW Environmental Protection Authority |
| EQL | Estimated quantitation limit (interchangeable with PQL and LOR) |
| ESA | Environmental Site Assessment |
| ESL | Ecological screening level |
| FA | Fibrous asbestos |
| GIL | Groundwater investigation level |
| HIL | Health investigation level |
| HM | Heavy metals |
| HSL | Health screening level |
| IA | Investigation area |
| ISQG | Interim Sediment Quality Guideline |
| ITP | Inspection Testing Plan |
| LGA | Local government area |
| LNAPL | Light non aqueous phase liquid |
| LOR | Limit of reporting (interchangeable with EQL and PQL) |
| MA | Martens & Associates Pty Ltd |
| mAHD | Metres, Australian Height Datum |
| mbgl | Metres below ground level |

| | |
|-------|---|
| MBT | Monobutyltin |
| MNA | Monitored natural attenuation |
| MPE | Multi phase extraction |
| NAPL | Non aqueous phase liquid |
| NATA | National Association of Testing Authorities |
| ND | No data |
| NEPC | National Environment Protection Council |
| NEPM | National Environment Protection Measure |
| OCP | Organochloride pesticides |
| OEH | NSW Office of Environment and Heritage |
| OPP | Organophosphorus pesticides |
| PACM | Potential asbestos containing material |
| PAH | Polycyclic aromatic hydrocarbons |
| PASS | Potential acid sulfate soil |
| PCB | Polychlorinated biphenyl |
| PCEMP | Post Construction Environmental Management Plan |
| PESA | Preliminary Environmental Site Assessment |
| PFAS | Per and polyfluoroalkyl substances |
| PID | Photoionisation detector |
| ppb | Parts per billion |
| ppm | Parts per million |
| PQL | Practical quantitative limit (interchangeable with EQL and LOR) |
| PSI | Preliminary Site Investigation |
| QA/QC | Quality assurance / quality control |
| RAC | Remediation acceptance criteria |
| RAP | Remedial Action Plan |
| HHRA | Human Health Risk Assessment |
| RPD | Relative percentage difference |
| SAC | Site assessment criteria |
| SAQP | Sampling and Analysis Quality Plan |
| SEPP | State Environmental Planning Policy |
| SIL | Soil investigation level |
| SOP | Standard operating procedure |
| SWL | Standing water level |
| SWMS | Safe Work Method Statement |
| TB | Trip blank |
| TBT | Tributyl tin |
| TCLP | Toxicity characteristics leaching procedure |
| TEQ | Toxic equivalency factor |
| TP | Test pit |
| TPH | Total petroleum hydrocarbons |
| TRH | Total recoverable hydrocarbons |
| TS | Trip spike |
| UCL | Upper confidence limit |
| UPSS | Underground petroleum storage system |
| UST | Underground storage tank |
| VHC | Volatile halogenated compounds |
| VOC | Volatile organic compounds |
| WHS | Work health and safety |
| WHSP | Work Health and Safety Plan |

1 Introduction

1.1 Overview and Background

This report, prepared by Martens and Associates (MA), documents a Preliminary Site Investigation (PSI) for potentially contaminating activities, to support a development application (DA) no: 2020/1027 to Northern Beaches Council (Council) for alterations and additions to an existing café at Little Manly Beach, Lot 1, DP1129384 (the site).

MA has been provided with communication from Council's Environmental Health unit which identifies the site as been adjacent to the former Manly Gasworks, part of which was formerly located on Lot 2 Sec 13 DP 975494 which is located adjacent to the site. Lot 2 Sec 13 DP is classed as significantly contaminated land under the Contaminated Land Management Act 1997 and is subject to NSW EPA Maintenance of Remediation Notice No. 28008.

While the site is not located on any land subject to the Gasworks remediation order (or any other NSW EPA remediation order), it is understood that Council has concerns regarding the proposed development works given the proximity to a contaminated site.

The investigation area (IA) for this PSI is limited to the north western portion of Lot 1 DP1129384 as this is the location of the existing café and the location of the development works. The IA is outlined in Attachment A.

1.2 Development

The proposed works include alterations and extensions to the existing café which the construction of a refrigerated storage room and bin storage area to the immediate northeast of the café building.

It is noted that these works were completed prior to MA being engaged to undertake this PSI.

1.3 Objectives

Investigation objectives include:

- Identification of historical and current potentially contaminating site activities.
- Evaluation of areas of environmental concern (AEC) and associated contaminants of potential concern (COPC) within the IA.

- Assess identified AEC and associated COPC.
- Provide comment on the suitability of the IA for the future use, and where required, provide recommendations for additional investigations.

1.4 Project Scope

The scope of works includes:

- Walkover inspection to review current land use within the IA, potential contaminating activities occurring within the IA and neighbouring land use.
- Site history review using aerial photographs and available historical records.
- Review of NSW EPA notices under the Contaminated Land Management Act (1997).
- Preparation of a report in general accordance with the relevant sections of ASC NEPM (2013), EPA (2017) and NSW EPA (2020).

1.5 Reference Documents

- NEPC (1999, amended 2013) National Environmental Protection (Assessment of Site Contamination) Measure. Referred to as ASC NEPM (2013).
- NSW EPA (2017) 3rd Ed. Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme.
- NSW EPA (2020) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.

2 Site Description

2.1 Site Details

Site information is summarised in Table 1, and site location and general surrounds shown in Attachment A.

Table 1: Site background information.

| Item | Description / Detail |
|-----------------------------|---|
| Site address | Little Manly Beach, Stuart Street, Manly NSW |
| Legal Identifier | Lot 1 DP 1129384 |
| Approximate area | 2,650 m ² (Nearmap) |
| Local Government Area | Northern Beaches Council |
| Current zoning and land use | Zoned RE1 – Public Recreation (ePlanning NSW)). The IA is currently occupied by a commercial café with outdoor seating. |
| Surrounding land uses | The surrounding land use is mainly public recreational beachside parkland with Little Manly Cove to the south west and residential (R1) houses to the north east. |
| Topography | The site is relatively flat with grades < 5% to the south west (Little Manly Cove) Site elevation ranges between approximately 5 mAHD in the along the beach front and 13 mAHD along Stuart Street (Nearmap). |
| Expected geology | The Sydney 1:100,000 Geological Sheet 9130 describes site geology as Quaternary marine sediments, containing coarse grained quartz sand, with varying amounts of shell fragments. The NSW Environment and Heritage eSPADE website identifies the site as having soils of the Gympie landscape having soils of yellow earths and earthy sands with siliceous sands. |
| Surface hydrology | Drainage of the site is via overland flow to Little Manly Beach. onsite drainage system to the Council stormwater network on Stuart Street. |

2.2 Hydrogeology

Review of WaterNSW Real-time Water Database, indicated 1 groundwater bores (GW108707 with available information) within 500 m of the site, with groundwater bore summarised in Table 2.

Table 2: Available hydrogeological information.

| Bore Identification | Record Date | Intended Use | Standing Water Level (mbgl) | First Water Bearing Zone (mbgl) and Substrate | Distance and Direction from IA |
|---------------------|-------------|--------------|-----------------------------|---|--------------------------------|
| GW1078707 | 2004 | Domestic | 3.2 | 3.2 – 4.7 Sand | 350 m north west |


Ephemeral perched groundwater may be encountered within the soil profile at times of, and following heavy or extended rainfall.

No springs were listed within 500 m of the site in the NSW Government Hydrography Spatial Data (SEED, 2019).

Should further information on permanent site groundwater conditions be required, an additional assessment would need to be carried out.

3 Site Contamination Assessment

3.1 Council Historical Site Records

 Historical development and building records have been requested by Council for the site. Details had not been provided at the time of report preparation.

3.2 NSW EPA Records

One site within 500 m of the IA was listed on the EPA public register required under section 308 of the Protection of the Environment Operations Act 1997 (the POEO Act), which lists licences, notices penalty notices and convictions, as summarised in Table 3.

Table 3: EPA hazardous waste public register.

| Licence Number | Site Name | Notice Number(s) | Distance / Direction from Site | Gradient from Site |
|----------------|-----------------------|---|--------------------------------|--------------------|
| 3043 | Former Manly Gasworks | Little Point 28008 (current) 511 (former) 463 (former) 321 (former) 311 (former) 222 (former) 459 (former) 133 (former) | Approximately 150 m Southeast | Up gradient |

Two sites within 500 m of the IA were identified on the list of NSW contaminated sites notified to the EPA as required by the Contaminated Land Management Act (1997) and the Environmentally Hazardous Chemicals Act (1985), are shown in Table 4.

Table 4: Available EPA contaminated lands record information.

| Suburb | Address | Site Name | Distance / Direction from Site |
|--------|-----------------|---------------------|--------------------------------|
| Manly | 151 Darley Road | St Patrick's Estate | Approximately 350 m Northeast |
| Manly | Stuart Street | Former Gasworks | Approximately 150 m Southeast |

While the former gas works site to the southeast is considered a potential risk, no evidence of contamination (i.e soil staining and / or odours) were observed during onsite inspections. Due to its distance from the IA, it is unlikely that the site has impacted near surface soils. It is also noted that a NSW EPA Notice for maintaining remediation action at the area (notice no. n28008) is currently enforced at the former Gasworks site.

3.3 External Potentially Contaminating Activities

No current potentially contaminating activities were identified within 500m of the site.

3.4 Aerial Photograph Review

Aerial photographs taken of the site during between 1930 and 2020, were reviewed to investigate historical site land uses (Table 4). Copies of aerial photographs are provided in Attachment B.

The aerals indicated that the land was undeveloped prior to 1965, when a structure was built in the IA. The structure was renovated between 1994 and 2005. The alterations to the café were constructed in late 2019.

Table 5: Aerial photograph observations from 1930 to 2020.

| Year | IA | Surrounding Land Use |
|---------------|--|--|
| 1930 | The IA is undeveloped. | Surrounding land is typically residential to the north and east. The former gasworks can be seen to the south of the site. |
| 1951 | Little to no change from previous. | Little to no change from previous. |
| 1965 | A structure has been constructed in the place of the existing café. A path has been constructed to the structure. | Little to no change from previous. |
| 1975 | Little to no change from previous. | The former gasworks to the south of the site has been demolished. |
| 1986 | Little to no change from previous. | The former gasworks area has been redeveloped and landscaped into a park area. |
| 1994 | Little to no change from previous. | Little to no change from previous. |
| 2005 | Evidence of some form of building renovations are evident. | Little to no change from previous. |
| 2010 | Little to no change from previous. | Little to no change from previous. |
| 2015 | Little to no change from previous. | Little to no change from previous. |
| 2019 | Little to no change from previous. | Little to no change from previous. |
| January 2020 | The additional cool storage room and bin area has been constructed to the northeast of the café. | Little to no change from previous. |
| December 2020 | Little to no change from previous. | Little to no change from previous. |



3.5 Site Walkover Inspection

Observations during the site walkover inspection undertaken on 12 January 2021. As stated in Section 1.2, the proposed development works at the site have been completed. Site observations are as follows:

- The IA was occupied by a single storey café with outdoor seating.
- To the immediate north of the café structure, the proposed additions had been constructed, which included a refrigerated storage room and bin area.
- The remainder of the lot was typically beach, grass lawn or coastal bushland.
- No obvious signs of contamination (i.e. soil staining and / or odours) were observed in the IA.
- No obvious signs of contamination were (i.e. soil staining and / or odours) observed in the location of the former gas works to the south of the site.

3.6 Areas of Environmental Concern / Contaminants of Potential Concern

No significant potentially contaminating activities or AEC were identified within the IA.

4 Conclusion

The review of the site history indicated that the IA was undeveloped until 1965. Evidence of building renovation is evident in 2005 aerial image and again in the image for January 2020 which appears to show the completion of the current development works (bin storage area and refrigerated storage room).

No significant potentially contaminating activities were observed in the IA or in the immediate vicinity of the IA during the MA site walkover. Access to soil within the IA was also observed to be limited with most of the area directly surrounding the café consisting of hard stand material.

MA were not present during the completion of the development works, however based on our visual assessment, it appears likely that only minimal **exaction** works would have been required to construct the bin storage area and refrigerated storage room.

While part of the former Gasworks site (Lot 2 Sec 13 DP 975494) is located adjacent to the site, the IA is located approximately 50 m from the Lot boundary. It is therefore considered unlikely that any contaminated material associated with the former gas works would have been encountered during the **competed** development work.

Based on the lines of evidence outlined above, the IA is considered to generally have a low risk of contamination and is considered suitable for continued commercial use as a café following the recent completion of development work.

5 Recommendations

Based on the site history, no significant risk to current or future receptors is expected at the site. No further investigation for contamination is warranted. If any unexpected finds (such as fibro material, odours or soil staining) are encountered at a later date, the unexpected find will require assessment by MA to determine requirements for additional investigation and / or remedial action.

6 Limitations Statement

The PSI was undertaken in line with current industry standards.

It is important, however, to note that no land contamination study can be considered to be a complete and exhaustive characterisation of a site nor can it be guaranteed that any assessment shall identify and characterise all areas of potential contamination or all past potentially contaminating land uses. Therefore, this report should not be read as a guarantee that no contamination shall be found on the site. Should material be exposed in future which appears to be contaminated or inconsistent with natural site soils, additional testing may be required to determine the implications for the site.

Martens & Associates Pty Ltd has undertaken this assessment for the purposes of the current development proposal. No reliance on this report should be made for any other investigation or proposal. Martens & Associates Pty Ltd accepts no responsibility and provides no guarantee regarding the characteristics of areas of the site not specifically studied in this investigation.

ASC NEPM (1999, amended 2013) *National Environmental Protection (Assessment of Site Contamination) Measure, 2013.*

Nearmap – Aerial photographs (2010 - 2020).

NSW Department of Environment & Heritage (eSPADE, NSW soil and land information), www.environment.nsw.gov.au.

NSW Department of Mineral Resources (1983) *Sydney 1:100,000 Geological Sheet 9130.*

NSW EPA (2017) 3rd Ed. *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme.*

NSW EPA (2020) *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites, 2nd Edition.*

NSW Government (2020) Historical Aerial Photography Enhancement (HAPE).
<https://portal.spatial.nsw.gov.au/portal/apps/webappviewer/index.html?id=f7c215b873864d44bccddda8075238cb>

NSW Government (2020) SIX Maps. <https://maps.six.nsw.gov.au>

State Environmental Planning Policy No. 55 – *Remediation of Contaminated Land.*

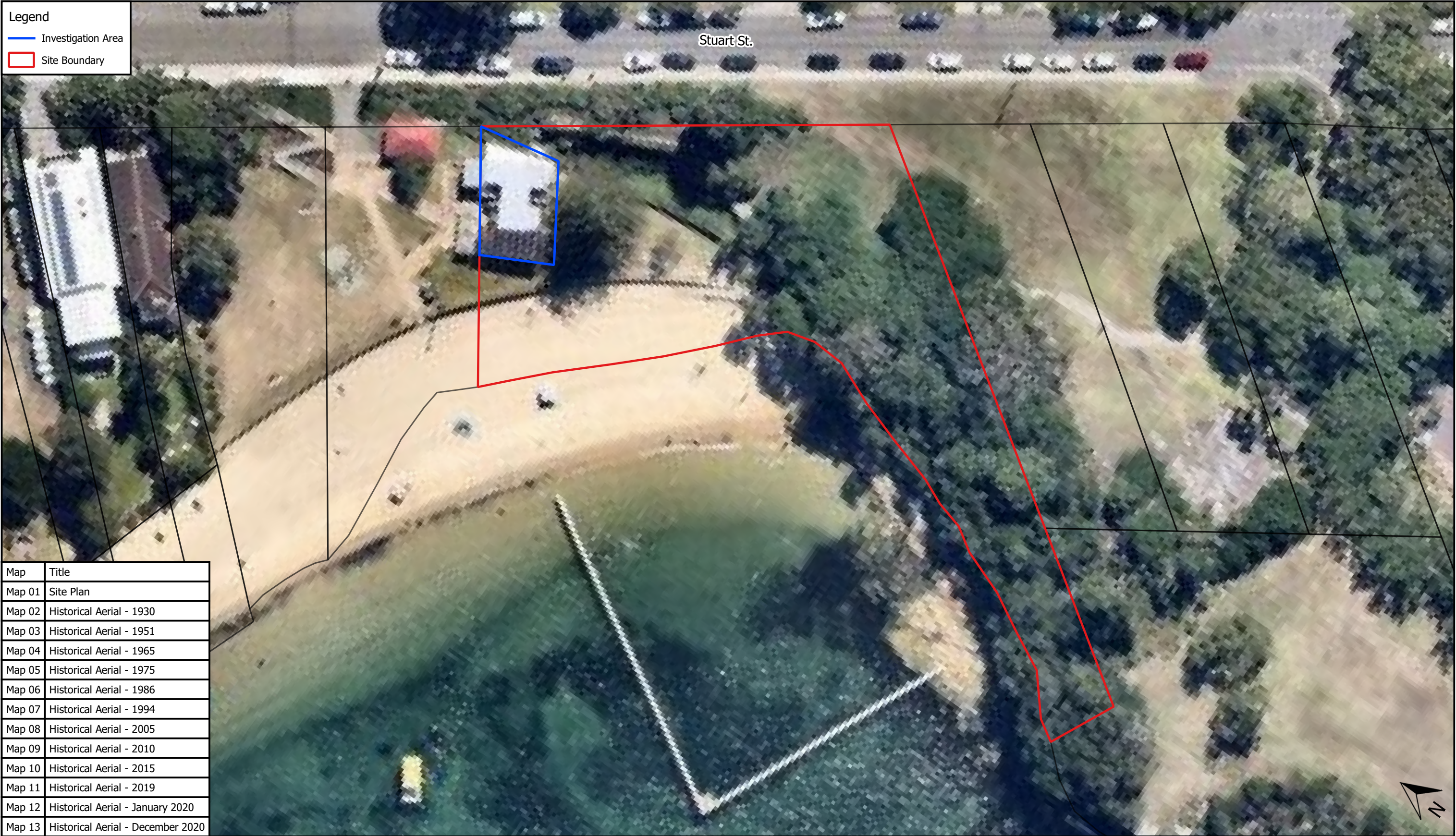
WaterNSW Real-Time Water Database, accessed December, 2020,
<https://realtimedata.watarnsw.com.au/water.stm>.

Attachment A: Figures

Legend

Investigation Area

Site Boundary



Attachment B: Aerial Photography



0 30 60 90 120 150 m

1:2500 @ A3

Map Title / Figure:

Historical Aerial - 1930



Legend

- Investigation Area
- Site Boundary
- Former Gasworks

0 30 60 90 120 150 m

1:2500 @ A3

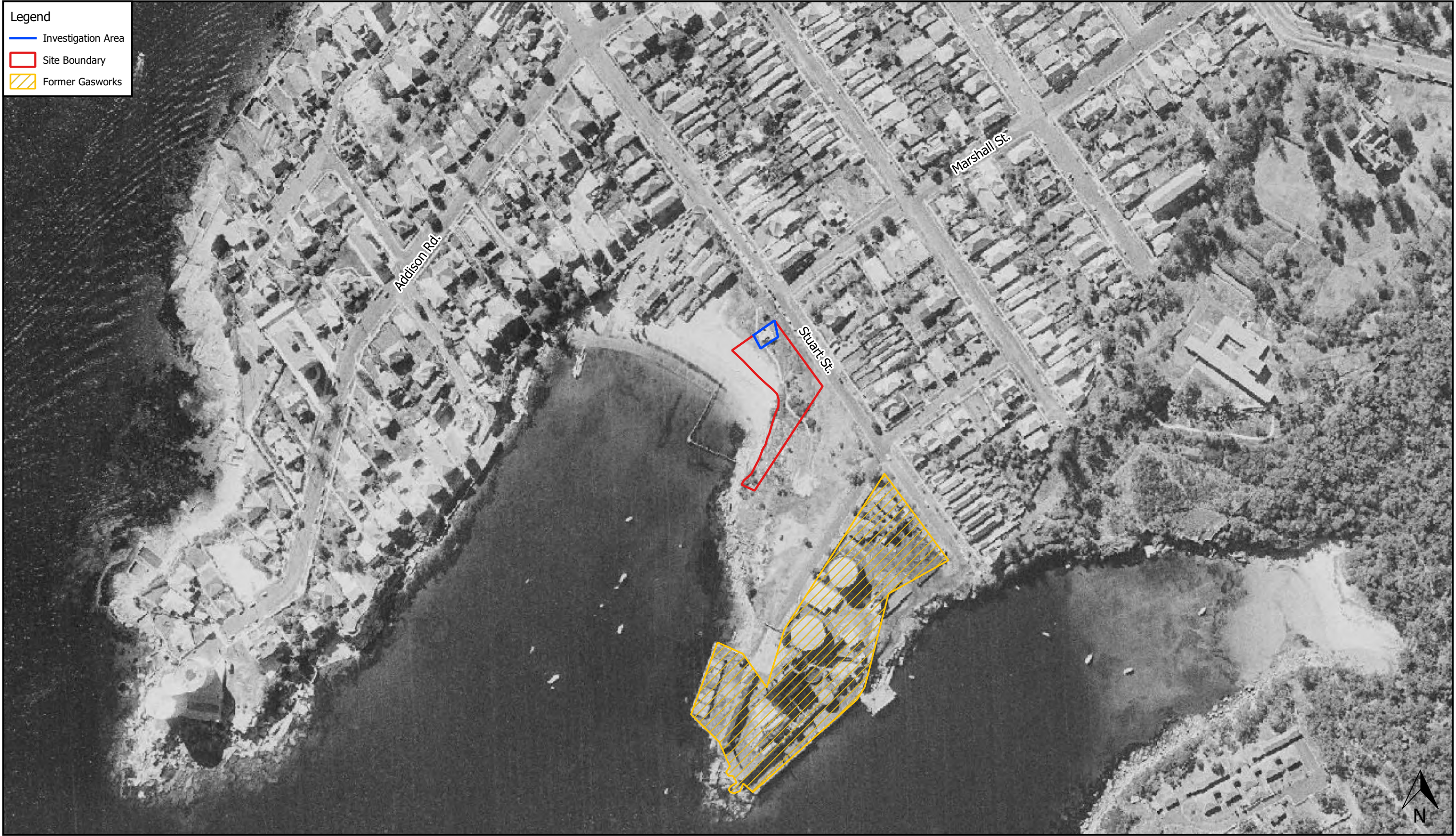
Map Title / Figure:
Historical Aerial - 1951

Legend

Investigation Area

Site Boundary

Former Gasworks



1:2500 @ A3

Map Title / Figure:
Historical Aerial - 1965

| | |
|--------------------------------|-------------|
| Map 04 | Map |
| Lot 1 DP1129384 | Site |
| Contamination Investigation | Project |
| Preliminary Site Investigation | Sub-Project |
| BJB Architects | Client |
| 14/01/2021 | Date |



1:2500 @ A3

Map Title / Figure:

Historical Aerial - 1975

Legend

Investigation Area

Site Boundary



1:2500 @ A3

Map Title / Figure:
Historical Aerial - 1986



0 30 60 90 120 150 m

1:2500 @ A3

Map Title / Figure:
Historical Aerial - 1994



Legend

— Investigation Area

□ Site Boundary

0 30 60 90 120 150 m

1:2500 @ A3

Map Title / Figure:

Historical Aerial - 2005

| | |
|--------------------------------|-------------|
| Map 08 | Map |
| Lot 1 DP1129384 | Site |
| Contamination Investigation | Project |
| Preliminary Site Investigation | Sub-Project |
| BJB Architects | Client |
| 14/01/2021 | Date |

Legend

Investigation Area

Site Boundary



1:2500 @ A3

| | |
|--------------------------------|-------------|
| Map 09 | Map |
| Lot 1 DP1129384 | Site |
| Contamination Investigation | Project |
| Preliminary Site Investigation | Sub-Project |
| BJB Architects | Client |
| 14/01/2021 | Date |

Legend

Investigation Area

Site Boundary



0306090120150 m

1:2500 @ A3

Map Title / Figure:

Historical Aerial - 2015

Legend

Investigation Area

Site Boundary



1:2500 @ A3

Map Title / Figure:
Historical Aerial - 2019



Legend

— Investigation Area

□ Site Boundary

0 30 60 90 120 150 m

1:2500 @ A3

Map Title / Figure:
Historical Aerial - January 2020

Legend

Investigation Area

Site Boundary



1:2500 @ A3

Map Title / Figure:

Historical Aerial - December 2020