

# North Sydney Public School

## Preliminary Site Investigation

Department of Education



**Reference: SYDGE290593-R01**

16 August 2021

## Executive Summary

Tetra Tech Coffey Pty Ltd (Coffey) was engaged by the NSW Department of Education (DoE) to carry out a Preliminary Site Investigation (PSI) to provide contamination advice in relation to the upgrades to North Sydney Public School located at 182 Pacific Highway, North Sydney NSW (the 'site'). This PSI addresses part of Secretary's Environmental Assessment Requirements No. 19 of SSD-11869481, dated 24 December 2020.

This PSI comprised a review of maps and plans pertaining to the environmental setting of the site, a site walkover, and a desktop review previous reports and aerial photographs as well as online records and registers to identify potential sources of contamination.

The observations made during the site walkover evidence appear generally consistent with the recent aerial photographs and previous reports. The site walkover identified the potential of contaminated fill at the site due to stepped topography present. The site history review indicates the school was occupied in the 1930s, with the portion of the school undergoing development built in the early 1930's and late 1950's. Aerial photographs which are available from around this time suggest the structures within the proposed development have remained largely unchanged since this time.

Based on the review of readily available records relating to the site and observations made during a recent site walkover, it is assessed that the site can be made suitable for the proposed development as per the requirements of State Environmental Planning Policy No. 55 – Remediation of Land. Coffey recommends that a programme of intrusive investigation is completed within the development footprint to characterise fill materials, and refine the assessment of potential risks in the context of the proposed development. The findings of this investigation should be presented within a Detailed Site Investigation (DSI) report that is prepared in accordance guidelines published and/or endorsed by the NSW EPA.

This report should be read in conjunction with the attached ***Important Information about your Tetra Tech Coffey Environmental Report.***

## NORTH SYDNEY PUBLIC SCHOOL

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### Preliminary Site Investigation

**Report reference number: SYDGE290593-AC**

16 August 2021

### PREPARED FOR

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## 1. INTRODUCTION

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The NSW Department of Education (DoE) propose to submit a State Significant Development Application (SSDA) to upgrade facilities within the North Sydney Public School, which is located on 182 Pacific Highway, North Sydney NSW 2060 (the 'site'). The location and boundary of the site is provided in Figures 1 and 2, respectively.

Item 19 of the Planning Secretary's Environmental Assessment Requirements (SEARS) for SSD-11869481 dated 24 December 2020 states:

- *Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP55. This must include the following prepared by certified consultants recognised by the NSW Environment Protection Authority:*
  - *PSI*
  - *DSI, where recommended in the PSI*
  - *Remediation Action Plan (RAP) where remediation is required. This must specify the proposed remediation strategy.*
  - *Preliminary Long-Term Environmental Management Plan (LEMP) where contaminant is proposed on-site.*

Tetra Tech Coffey Pty Ltd (Coffey) was engaged by SINSW to prepare this PSI in support of the SSDA. This PSI report has been prepared in accordance with the scope of work outlined within our fee proposal dated 23 June 2021 (Ref: SYDGE290593-AA).

Coffey understands this SSDA seeks consent for alterations and additions to the existing North Sydney Public School. The proposal entails:

- Demolition of the existing hall (building B), haven building (building C) and 6 temporary buildings;
- Construction of a three-storey building comprising:
  - staff administration rooms;
  - 16 home bases
  - a new library;
  - a hall;
  - out of school hours care facilities;
  - covered outdoor learning area;
  - bicycle parking and end of trip facilities for staff; and
  - services, amenities and access.
- New entry gate and forecourt from Bay Road;
- Internal refurbishment of building G ground floor from the existing library to 3 homebases;
- Capacity for an increase in student numbers from 869 to 1,012; and
- Associated tree removal, excavation and landscaping.

The proposal maintains:

- The gates and fence of former Crows Nest House including the entrance from Pacific Highway and Bay Road;
- Existing gate along McHatton Street;
- The outdoor play area to the east of Building A;
- Existing covered outdoor learning area adjacent to Building A;
- The basketball courts and staff carpark in the western portion of the site;

- The significant tree planting on all school boundaries;
- Buildings A, D and F noting minor internal refurbishments are being undertaken outside of the SSDA scope of work (exempt development) to improve student amenities and canteen; and
- Building G noting ground floor internal refurbishment is proposed in the SSDA.

Coffey has previously conducted geotechnical and contamination investigations within the site. Records from the following reports as a result of these previous investigations have been used to inform this report:

- Coffey (Nov 2019); *North Sydney Public School Site Investigation: Geotechnical and Contamination Desktop Study* (Ref: 754-SYDGE232786AB; dated 22 November 2019)
- Coffey (Nov 2019); *Limited Stage 2 Environmental Assessment; North Sydney Public School* (Ref: SYDGE232786-R02; Final)

## 1.1 OBJECTIVES

The objective of this PSI was to prepare an assessment of potential ground contamination conditions within the site that has or may have arisen as a result of current and known historic uses of the site and land surrounding the site.

The purpose of this PSI report is to support the SSDA, addressing (in part) SEARS Item 19.

## 1.2 SCOPE OF WORKS

This PSI was completed in accordance with the following guidelines:

- NEPC (2013); *National Environment Protection (Assessment of Site Contamination) Measure 1999*.
- NSW EPA (2020); *Guidelines for Consultants Reporting on Contaminated Land*.
- DUAP (1998); *Managing Land Contamination: Planning Guidelines - SEPP55 Remediation of Land*.

To fulfil the objectives, Coffey carried out the following scope of works:

- Desktop review of the following information sources:
  - Reports prepared previously by Coffey for the site.
  - Maps and plans pertaining to the environmental setting of the site including geology and soils, topography, hydrogeology, salinity and acid sulfate soils.
  - Registered groundwater bore information in the public register held by NSW Office of Water.
  - A selection of historical aerial photographs.
  - Current and historical land titles.
  - A search of online public records and registers pertaining to actual or potential contamination held by NSW Environment Protection Agency (NSW EPA).
- A site walkover to observe land uses and condition of the site and adjoining land.
- Discussion with a site representative regarding the condition of the site and recent historic uses based on their personal knowledge.
- Preparation of this report presenting the findings of the PSI.

## 2. SITE INFORMATION AND DESCRIPTION

### 2.1 SITE LOCATION

The location and boundary of the site are shown on Figures 1 and 2. Table 2.1 summarises the details identifying the site.

**Table 2.1: Site Information**

Item	Description
Address	North Sydney Public School, 182 Pacific Highway, North Sydney 2060
Site area	21,000 m <sup>2</sup>
Title identification	Lot 1 DP183591 & Lot 1 DP184559
Current land use	Primary School
Current land zone	SP2 Infrastructure (Educational Establishment)
Local Government Authority	North Sydney Council

### 2.2 SITE DESCRIPTION

The site comprises the existing North Sydney Public School which includes an at-grade parking area, basketball courts, school buildings and demountables. It is bounded by Pacific Highway to the east, McHatton Street to the north, a pedestrian and cycle path to the west, and Bay Road to the south.

The site slopes to the south with a series of benches, reducing from an RL of approximately 89mAHD on the McHatton Street boundary to 83mAHD at the Bay Road boundary. A concrete retaining wall separates the site from Bay Road with an elevation difference of approximately 1 m to Bay Road.

A site visit by Coffey on 21 June 2021 noted within the footprint of the proposed development a stepped synthetic area, a grassed play area with play equipment, several existing school buildings including demountables, concrete paths and steps, planters and several established trees. No rock outcropping was observed nor any major cracking of existing structures. Concrete paths appeared in good condition. The asphalt shade cloth area immediately west of the School Hall showed signs of potential settlement, with cracking up to 10 mm wide, up to 2 m long and depressions up to 20 mm.

Surface water was noted as flowing south into drains or a gutter above the Bay Road retaining wall.

Coffey (Nov, 2019a) noted that age of the structures within the site implied that potential asbestos containing materials and lead based paint may be present. However, the building materials appeared to be in good condition and did not show signs of excessive weathering. Evidence of contamination including stained ground surfaces, odorous soil, or suspected ACM impacts to soil were not observed during the site walkover. The chemical storage areas within the school were not accessible during the walkover.

### 2.3 SURROUNDING LAND USES

The land uses surrounding the site are summarised in Table 2.2:

**Table 2.2: Summary of land uses surrounding the site**

Direction	Description of Land Uses
North	Low-density residential housing, Cammeray gal High School, commercial/industrial properties (approximately 450 m north).
East	Pacific Highway, commercial/industrial, Warringah Freeway (approximately 560 m east).

Direction	Description of Land Uses
South	Low-density residential housing, commercial industrial properties, Berry's Bay (approximately 750 m south).
West	Low-density residential housing, Balls Head Bay (approximately 950 m south-west).

## 2.4 TOPOGRAPHY

The site slopes to the south with a series of benches, reducing from an elevation of approximately 89m AHD on the McHatton Street boundary to 83m AHD at the Bay Road boundary. A sandstone block retaining wall separates the site from Bay Road with an elevation difference of approximately 1m to Bay Road.

## 2.5 REGIONAL GEOLOGY

Reference to the NSW Seamless Geology (March, 2020) database indicates the site is underlain by Ashfield Shale of the Wianamatta Group, characterised by dark-grey to black claystone-siltstone and fine sandstone-siltstone laminite. Hawkesbury Sandstone (which underlies Ashfield Shale), is a medium to very coarse-grained quartz sandstone with very minor shale and laminite lenses outcropping at lower elevation approximately 160 m south-west of the site.

## 2.6 SOIL LANDSCAPE

Reference to the Soil Landscapes of Sydney 1:100,00 Sheet 9030 Map and report<sup>1</sup> indicates the soil landscape of the site is on the boundary of the 'Blacktown Residual Soil' and 'GyMEA Erosional Soil' units.

The Blacktown soils are generally brown-black clay and loam residual soils derived from the underlying Wianamatta Group. They typically range from slightly acid (pH 6.5) to strongly acid (pH 4.0), increasing acidity with depth. Blacktown residual soils are slightly to moderately reactive and moderately to highly plastic. The potential for erosion hazard is considered low to high.

GyMEA soils are generally yellow-brown clayey sand and sandy clay loams. Derived from the erosion of the Hawkesbury Sandstone, GyMEA soil landscapes display undulating to rolling rises and low hills, with localised rock outcropping and benches. The soils typically range from slightly acid (pH 6.5) to strongly acid (4.5 pH). Surface movement potential is considered stable to moderately reactive while the potential for erosion hazard is high to extreme.

## 2.7 ACID SULFATE SOILS RISK MAP

Reference to NSW Department of Planning, Industry and Environment eSPADE<sup>2</sup> resource indicates the site has 'no known occurrences of acid sulfate soils'.

Given this and the geological setting of the site, it is assessed that an acid sulfate soils management plan is not required.

## 2.8 HYDROLOGY AND HYDROGEOLOGY

There are no surface water bodies within the site. The nearest surface water body is Berry's Bay and Lavender Bay, which is located between 750m and 1150m south of the site. Both bays form part of Port Jackson.

Coffey conducted a geotechnical investigation at the property located at 225-235 Pacific Highway, Waverton in 2014, which recorded standing groundwater elevations between 68.5m to 73.2m AHD

<sup>1</sup> Chapman GA, Murphy CL, Tille PJ, Atkinson G and Morse RJ, (2009) Ed. 4, Soil Landscapes of the Sydney 1:100,000 Sheet map, Department of Environment, Climate Change and Water, Sydney.

<sup>2</sup> <https://www.environment.nsw.gov.au/eSpade2WebApp#>



that coincided with sandstone and minor siltstone interbeds. This property is located approximately 80m southeast of the site.

Information gathered from Enviroportal on 26<sup>th</sup> July 2021 resource indicates there are no registered groundwater bores within 500m of site.

### 3. PREVIOUS REPORTS

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Coffey has previously conducted geotechnical and contamination investigations within the site. The findings of these assessments are presented within the following reports:

- Coffey (Nov 2019a); *North Sydney Public School Site Investigation: Geotechnical and Contamination Desktop Study* (Ref: 754-SYDGE232786AB; dated 22 November 2019)
- Coffey (Nov 2019b); *Limited Stage 2 Environmental Assessment; North Sydney Public School* (Ref: SYDGE232786-R02; Final)

The above reports were prepared at a time where no concept plan have been developed for the proposed school upgrade, and hence considered the entire site. The desktop study identified the following potential sources of contamination:

- The presence of uncontrolled fill of unknown quality or origin.
- Weathering of hazardous building materials

The desktop study recommended that further investigations are completed to refine the assessment of risk associated with these potential sources of contamination. A limited programme of investigation was completed which identified the following:

- Ground conditions encountered typically comprised a thin layer of fill underlain by residual soil described as firm to stiff, medium to high plasticity, grey-brown Clay. The residual soil unit was underlain by Shale bedrock.
- Suspected asbestos containing materials (ACM), stained and malodorous soils were not observed during this investigation.
- Laboratory analysis of fill samples collected during the investigation reported hydrocarbon compounds (i.e., Polycyclic Aromatic Hydrocarbons and Total Recoverable Hydrocarbons). Concentrations of carcinogenic PAH exceeded the health-based assessment criteria in some samples. The source of these hydrocarbons was considered to be attributable to asphalt inclusions within fill.
- Further investigation was recommended to characterise the quality of fill material within the development area to confirm whether the site is suitable for use as a school, as per the requirements of State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55).

## 4. SITE HISTORY

### 4.1 HISTORICAL AERIAL PHOTOGRAPHS

Year of Photo	Site	Surrounding Area
1930	In 1930 the site appeared to be grassland with an associated low density residential property.	The site was bordered to the north, west and south by low-density residential housing. To the east the Pacific Highway could be observed as a sealed road with commercial/industrial properties situated on the eastern side of the Pacific Highway.
1943	In the 1943 aerial photograph several large multi-level buildings were present consistent with school buildings situated across the site. An air-raid shelter could be observed adjacent to the southern boundary of the site. A number of large trees could be seen along the southern boundary and in the central portion of the site.	The surrounding area appeared to be relatively unchanged.
1955	In the 1955 aerial photograph air-raid shelter appeared to have been removed. A garden and a greenhouse appeared to be situated where the air-raid shelter in the southern portion was previously located.	The surrounding area appeared to be relatively unchanged.
1961	In the 1961 aerial photograph the site appeared relatively unchanged although there appeared to have been some retaining walls constructed within the grassed area situated in the western portion of the site. A long, rectangular building could also be seen where the garden was previously located along the southern boundary.	The surrounding area appeared to be relatively unchanged, although the Pacific Highway appeared to have been widened.
1965	In the 1965 aerial photograph the site appeared to be relatively unchanged, although a small building had been constructed in the southern-central portion of the site.	The surrounding area appeared to be relatively unchanged.
1970	In the 1970 aerial photograph the site appeared to be relatively unchanged.	The surrounding area appeared to be relatively unchanged.
1982	In the 1982 aerial photograph the site appeared to be relatively unchanged, although the grass field in the western portion of the site appeared to be bitumen covered, with the northern half appearing to function as parking lot.	The surrounding areas to the north, west and south appeared relatively unchanged. To the east and south-east a number of new multi-level high rise buildings could be seen.
1991	In the 1991 aerial photograph the site appeared to be relatively unchanged.	The surrounding area appeared to be relatively unchanged.
2000	In the 2000 aerial photograph the site appeared relatively unchanged.	The surrounding areas to the north, west and south appeared relatively unchanged. To the east and south-east further commercial redevelopment appeared to have occurred.
2009	In the 2009 aerial photograph the site appeared relatively unchanged, although a large shade sail could be seen in the central portion of the site. The south-western portion of the site appeared to have been painted or re-surfaced.	The surrounding areas to the north, west and south appeared relatively unchanged. To the east and south-east further commercial redevelopment appeared to have occurred.
2018	In the 2018 aerial photograph a newly constructed building was observed in the south-east corner of the site. Shade sails could be seen in the central and eastern portions of	The surrounding areas appeared relatively unchanged.

Year of Photo	Site	Surrounding Area
	<p>the site. A small turfed (or artificial turfed) playing field could be seen in the southern portion of the site. Playing courts could be seen in the south-western corner of the site.</p> <p>While the addition of new buildings was observed, the site appeared to function as a school dating back to pre-1943.</p>	

## 4.2 SUMMARY OF SITE HISTORY

Aerial photographs shows the site to be grassland with an associated low density residential property circa 1930. Anecdotal evidence indicates the school was opened and occupied in 1931. By 1943 the school was in operation with several multi-level school buildings situated across the site. Post 1943 the site and surrounding areas remain relatively unchanged over the following decades, with the exception of additional school structures on-site.

## 5. PUBLIC RECORDS AND REGISTERS

### 5.1 SUMMARY

A summary of public records and registers reviewed is provided in Table 5.1. This information was gathered from Enviroportal on 26<sup>th</sup> July 2021.

**Table 5.1: Summary of Public Records and Registers**

Public Record or Register	Discussion
<b>NSW EPA Contaminated Land Public Record</b>	There are no properties within 500m of the site that have been notified to the NSW EPA for Contamination under Section 60 of the Contaminated Land Management Act (CLM) 1997.
<b>NSW EPA Protection of the Environment Operation Public Registers</b>	There are no properties which are used to conduct licensed activities under the Protection of the Environment Operations Act 1997 on or within 500m of the site.
<b>Former Gasworks</b>	There are no recorded known gasworks at or within 500m of the site.
<b>Liquid Fuel Facilities</b>	There are no liquid fuel facilities on or within 500m of the site.
<b>Waste Management Facilities</b>	There are no recorded operational landfills on, or within 500m of the site.
<b>PFAS Investigation &amp; Management Program</b>	There are no properties within a 500m radius are being investigated for PFAS contamination use under the NSW or Federal Government PFAS Investigation Program.
<b>Known James Hardie Waste Disposal Sites</b>	The NSW EPA published a summary project report titled <i>Regulation Project – James Hardie Asbestos Waste Contamination Legacy</i> in 2012. This report presented a summary of asbestos impacted sites resulting from former operations of James Hardie Industries and related entities (James Hardie). A search of the record indicates that the site is not listed as a known James Hardie Waste Disposal Site.

## 6. INTEGRITY OF ASSESSMENT OF INFORMATION REVIEWED

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The following sources of data were relied upon for this assessment:

- Public registers, records and maps maintained and provided by various government departments.
- Maps and plans pertaining to the environmental setting of the site (regional geology and soils, salinity acid sulphate soils, hydrogeology, and topography).
- Historical aerial photographs covering the period between 1930 and 2018, provided by NSW Land and Property Information and google maps.
- Observations made during a site walkover.

The above information sources were used to establish an understanding of current site conditions and recent historic uses.

The period between aerial photographs reviewed ranged between 4 and 13 years which has enabled a reasonable understanding of the sequence of site development, particularly considering the lack of change in uses of the site and surrounding land. The information obtained from the recent aerial photographs correlate well with observations made during the site walkover.

## 7. CONCEPTUAL SITE MODEL

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A conceptual site model (CSM) was developed based on the information reviewed and conditions of the site that were observable from web-based sources. A CSM is a representation of site-related information regarding potential sources of contamination, receptors and exposure pathways.

Contamination, if not managed appropriately could pose a potential risk to human health or the environment. For an unacceptable risk to exist, there must be a plausible pollutant linkage between the source and a receptor by means of a transport mechanism (pathway).

### 7.1 POTENTIAL SOURCES OF CONTAMINATION

Based on the information reviewed and observations made during the site walkover, the potential contaminating activities/sources identified, associated contaminants of potential concern (CoPC), and the likelihood for contamination to exist at the site are summarised in 7.1.

**Table 7.1: Potential Sources of Contamination and Contaminants of Potential Concern (COPC)**

Potential Source/Activity	Discussion	COPC	Likelihood for contamination to exist at the site (low/moderate/high).
<b>Fill material</b>	Based on the topography of the site it is possible fill was used in areas where retaining walls and former air-raid bunkers were present. Previous investigation identified a thin layer of fill within the site. Analysis of samples from this layer reported elevated concentrations of hydrocarbons.	TRH, BTEX, PAH, VOC/SVOC, OCP/OPP asbestos, metals, PCB	<b>Low-Moderate:</b> based on previous reports the soil immediately underlying the slab/road base is potentially a source of contaminated fill (potentially associated with asphaltic inclusions). It is considered that exposure is restricted in areas where asphalt covering remains in place, however exposure could occur where this surface is disturbed, or soft cover is present.
<b>Potential asbestos containing material, lead based paint and poor demolition practices</b>	As identified in previous investigations and due to the age of the buildings, potential ACM may be present within the building materials. Additionally, paint on the buildings may be lead based.	Asbestos and lead	<b>Moderate:</b> The assessment does not identify CoPC in relation to building materials. However, as noted in previous investigations and due to the age of the building it is likely that these CoPC may be present. These materials were noted to be in good condition.

Notes on COPC Abbreviations Used:

ACM: Asbestos containing material

TRH: Total recoverable hydrocarbons

BTEX: Benzene, toluene, ethylbenzene and xylene

PAH: Polycyclic aromatic hydrocarbons

OCP: Organochlorine Pesticides

Organophosphate Pesticides

PCB: Polychlorinated biphenyls

VOC: Volatile organic compounds

SVOC: Semi-volatile organic compounds



## 7.2 RECEPTORS, POTENTIAL TRANSPORT MECHANISMS & EXPOSURE PATHWAYS

Table 7.2 summarises the potentially affected media, key potential receptors and transport mechanisms assuming the site is developed in the context of the continued use of the site as a primary school.

**Table 7.2: Summary of potentially affected media, receptors, transport mechanisms and exposure routes**

Consideration	Information
Potential Transport Mechanisms & Exposure Pathways	<ul style="list-style-type: none"> <li>• Dermal contact with soil</li> <li>• Incidental ingestion of soil</li> <li>• Vapour intrusion into indoor air and subsequent inhalation</li> <li>• Inhalation of airborne dusts and fibres</li> <li>• Lateral and vertical groundwater migration</li> <li>• Surface water flow including suspended solids</li> <li>• Preferential flows via open drains.</li> <li>• Plant uptake mechanisms</li> </ul>
Potential Receptors	<ul style="list-style-type: none"> <li>• Current/Future Site Users – primary school children, teaching staff and site visitors:</li> <li>• Neighbouring Site Users</li> <li>• Future Construction/Maintenance Workers</li> <li>• Groundwater</li> <li>• Terrestrial ecology - Mature trees and grass vegetation.</li> <li>• Surface water: Berry's Bay (750m South) and Lavender Bay (1150m South)</li> </ul>

## 7.3 POTENTIAL AND COMPLETE EXPOSURE PATHWAYS

Table 7.3 summarises the identified key potential human exposure pathways in the context of the continued use of the site as a primary school.

**Table 7.3: Summary of potentially complete pathways – Human Health**

Human Receptor	Exposure Pathways Complete?			
	Dermal Contact	Ingestion of Soil	Inhalation of Dust/Fibres	Indoor Inhalation of Vapours
Current/Future site users	✓	✓	✓	✗
Neighbouring Site Users	✗	✗	✓?	✗
Construction/Maintenance Worker	✓	✓	✓	✗

**Notes:** ✓ - Complete Pathway, ✓? – Potentially Complete Pathway (dependant on site conditions), ✗ - Incomplete Pathway, NA – Pathway not applicable

Table 7.4 summarises the identified key potential exposure pathways for environmental receptors.

**Table 7.4: Summary of potentially complete pathways – Environmental Receptors**

Environmental Receptor	Exposure Pathways Complete?				
	Soil Leaching	Lateral/Vertical Groundwater Migration	Preferential Pathway	Surface Water Runoff	Direct Contact/Uptake Mechanisms
Groundwater (On Site)	✓?	NA	✗	NA	NA
Terrestrial Ecology (On Site)	✗	NA	NA	✓	✓
Surface Water	✓?	✗	✗	✓?	NA

**Notes:** ✓ - Complete Pathway, ✓? – Potentially Complete Pathway (dependant on site conditions), ✗ - Incomplete Pathway, NA – Pathway not applicable

## 8. CONCLUSIONS AND RECOMMENDATIONS

Based on the review of public information, site walkover and previous reports, Coffey makes the following conclusions:

- The site has functioned as a school dating back to the early 1930's and the buildings undergoing development were built in the 1930's and 1950's as indicated by aerial images and previous reports.
- Uncontrolled fill material has been identified within the site due to the stepped topography. Localised filling of a historic air-raid bunker may also be present.
- Soil samples analysed from limited investigations completed within the site identified hydrocarbon compounds in fill which could pose an unacceptable health risk to the current/future site users and workers conducting future development and/or subsurface maintenance works.
- Potential asbestos containing material and lead paint are suspected within some structures within the development area. Weathering of such materials typically results in the deposition of these materials in shallow surface soils surrounding each structure. Whilst it is noted that asbestos was not identified during previous investigations or recent walkover, this does not conclude the absence of such materials within shallow soil.

Based on the review of readily available records relating to the site and observations made during a recent site walkover, it is assessed that the site can be made suitable for the proposed development as per the requirements of State Environmental Planning Policy No. 55 – Remediation of Land. Coffey recommends that a programme of intrusive investigation is completed within the development footprint to characterise fill materials, and refine the assessment of potential risks in the context of the proposed development. The findings of this investigation should be presented within a Detailed Site Investigation (DSI) report that is prepared in accordance guidelines published and/or endorsed by the NSW EPA.

This report should be read in conjunction with the attached “Important information about your Tetra Tech Coffey Environmental Report”.

## IMPORTANT INFORMATION ABOUT YOUR TETRA TECH COFFEY ENVIRONMENTAL REPORT

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### Introduction

This report has been prepared by Tetra Tech Coffey for you, as Tetra Tech Coffey's client, in accordance with our agreed purpose, scope, schedule and budget.

The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

The report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. Assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, including budget and timing. The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice.

This interpretation is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment. Tetra Tech Coffey may have also relied on data and other information provided by you and other qualified individuals in preparing this report. Tetra Tech Coffey has not verified the accuracy or completeness of such data or information except as otherwise stated in the report. For these reasons the report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.

### Your report has been written for a specific purpose

Your report has been developed for a specific purpose as agreed by us and applies only to the site or area investigated. Unless otherwise stated in the report, this report cannot be applied to an adjacent site or area, nor can it be used when the nature of the specific purpose changes from that which we agreed.

For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination pose in the context of the agreed purpose. Such risks may be financial (for example, clean up costs or constraints on site use) and/or physical (for example, potential health risks to users of the site or the general public).

### Limitations of the Report

The work was conducted, and the report has been prepared, in response to an agreed purpose and scope, within time and budgetary constraints, and in reliance on certain data and information made available to Tetra Tech Coffey.

The analyses, evaluations, opinions and conclusions presented in this report are based on that purpose and scope, requirements, data or information, and they could change if such requirements or data are inaccurate or incomplete.

This report is valid as of the date of preparation. The condition of the site (including subsurface conditions) and extent or nature of contamination or other environmental hazards can change over time, as a result of either natural processes or human influence. Tetra Tech Coffey should be kept apprised of any such events and should be consulted for further investigations if any changes are noted, particularly during construction activities where excavations often reveal subsurface conditions.

In addition, advancements in professional practice regarding contaminated land and changes in applicable statutes and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in this report should be verified if you propose to use this report more than 6 months after its date of issue.

The report does not include the evaluation or assessment of potential geotechnical engineering constraints of the site.

## Interpretation of factual data

Environmental site assessments identify actual conditions only at those points where samples are taken and on the date collected. Data derived from indirect field measurements, and sometimes other reports on the site, are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions.

Variations in soil and groundwater conditions may occur between test or sample locations and actual conditions may differ from those inferred to exist. No environmental assessment program, no matter how comprehensive, can reveal all subsurface details and anomalies. Similarly, no professional, no matter how well qualified, can reveal what is hidden by earth, rock or changed through time.

The actual interface between different materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of a suitably qualified and experienced environmental consultant through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other unrecognised features encountered on site. Tetra Tech Coffey would be pleased to assist with any investigation or advice in such circumstances.

## Recommendations in this report

This report assumes, in accordance with industry practice, that the site conditions recognised through discrete sampling are representative of actual conditions throughout the investigation area. Recommendations are based on the resulting interpretation.

Should further data be obtained that differs from the data on which the report recommendations are based (such as through excavation or other additional assessment), then the recommendations would need to be reviewed and may need to be revised.

## Report for benefit of client

Unless otherwise agreed between us, the report has been prepared for your benefit and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendation and should make their own enquiries and obtain independent advice in relation to such matters.

Tetra Tech Coffey assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report.

To avoid misuse of the information presented in your report, we recommend that Tetra Tech Coffey be consulted before the report is provided to another party who may not be familiar with the background and the purpose of the report. In particular, an environmental disclosure report for a property vendor may not be suitable for satisfying the needs of that property's purchaser. This report should not be applied for any purpose other than that stated in the report.

## Interpretation by other professionals

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, a suitably qualified and experienced environmental consultant should be retained to explain the implications of the report to other professionals referring to the report and then review plans and specifications produced to see how other professionals have incorporated the report findings.

Given Tetra Tech Coffey prepared the report and has familiarity with the site, Tetra Tech Coffey is well placed to provide such assistance. If another party is engaged to interpret the recommendations of the report, there is a risk that the contents of the report may be misinterpreted and Tetra Tech Coffey disowns any responsibility for such misinterpretation.

## Data should not be separated from the report

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists or engineers based on their interpretation of field logs, field testing and laboratory evaluation of samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

This report should be reproduced in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

## Responsibility

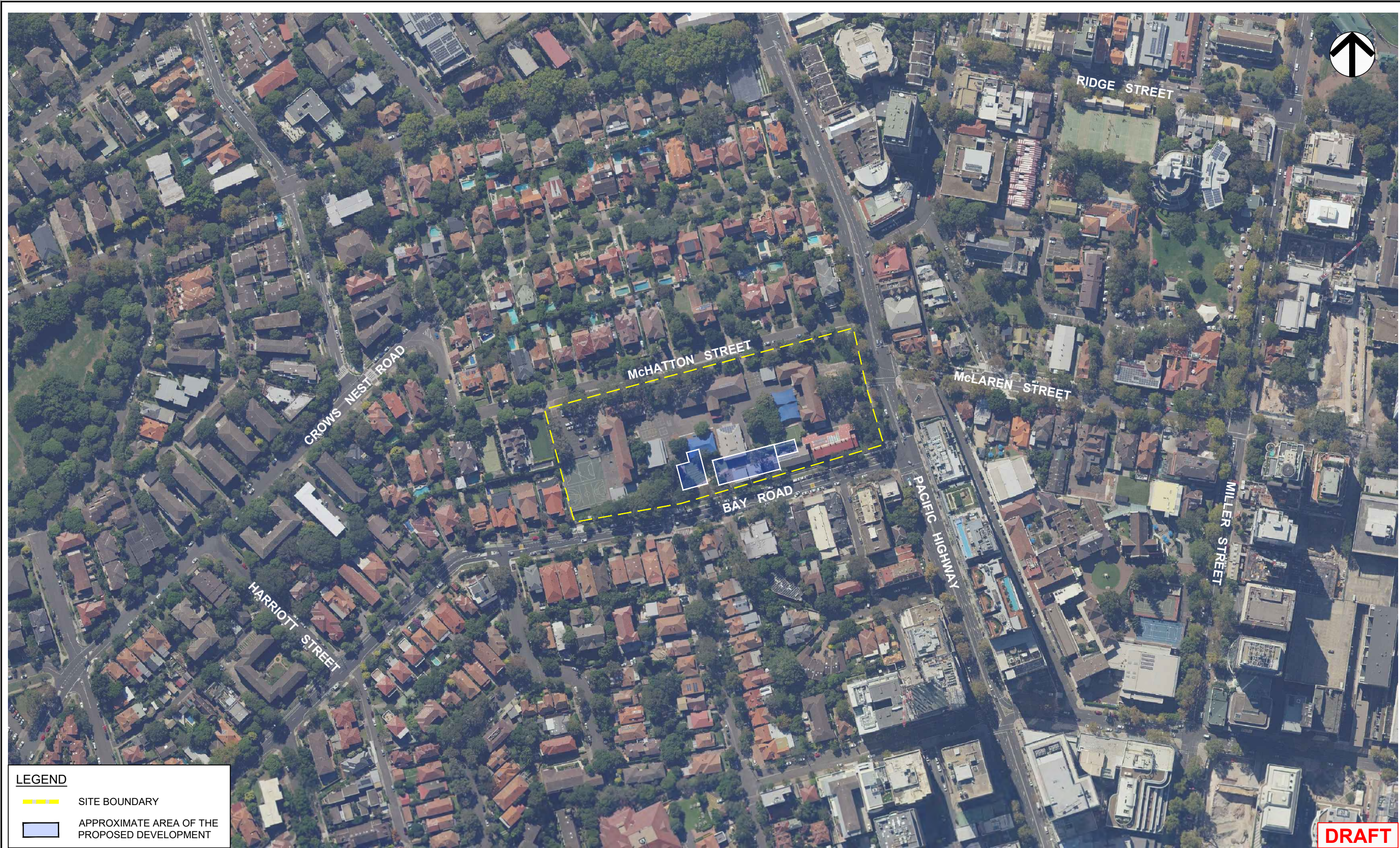
Environmental reporting relies on interpretation of factual information using professional judgement and opinion and has a level of uncertainty attached to it, which is much less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. As noted earlier, the recommendations and findings set out in this report should only be regarded as interpretive and should not be taken as accurate and complete information about all environmental media at all depths and locations across the site.



## APPENDIX A: SITE PLAN

---





LEGEND

SITE BOUNDARY

APPROXIMATE AREA OF THE PROPOSED DEVELOPMENT

revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE			

25

0

50

100

Scale (metres) 1:2500

AERIAL IMAGERY COPYRIGHT: ©Land and Property Information (7/04/2018)  
SOURCED FROM WEBSITE: [http://www.lpi.nsw.gov.au/mapping\\_and\\_imagery/lpi\\_web\\_services](http://www.lpi.nsw.gov.au/mapping_and_imagery/lpi_web_services)  
LICENSED UNDER CC BY 3.0 AU (<https://creativecommons.org/licenses/by/3.0/au/legalcode>)

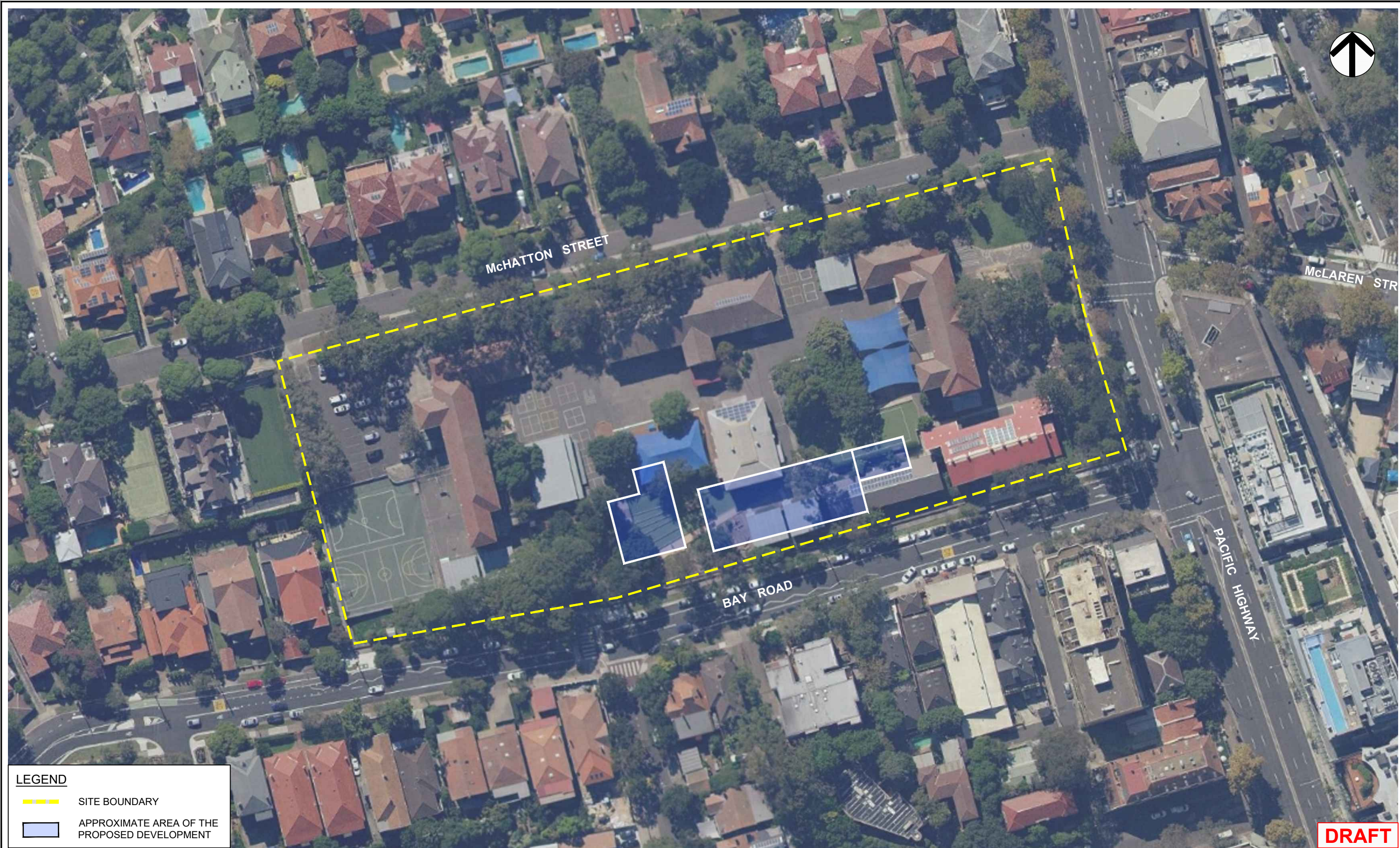
drawn	JY / AW
approved	-
date	30/07/2021
scale	AS SHOWN
original size	A3

Tt

TETRA TECH  
COFFEY

client:	SCHOOL INFRASTRUCTURE NSW		
project:	NORTH SYDNEY PUBLIC SCHOOL PRELIMINARY SITE INVESTIGATION PACIFIC HIGHWAY, NORTH SYDNEY, NSW		
title:	SITE LOCATION PLAN		
project no:	754-SYDGE290593-R01	figure no:	FIGURE 1
		rev:	A



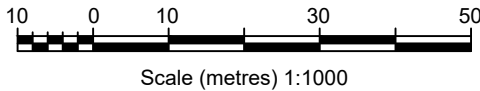


**LEGEND**

--- SITE BOUNDARY

□ APPROXIMATE AREA OF THE PROPOSED DEVELOPMENT

revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE			



AERIAL IMAGERY COPYRIGHT: ©Land and Property Information (7/04/2018)  
SOURCED FROM WEBSITE: [http://www.lpi.nsw.gov.au/mapping\\_and\\_imagery/lpi\\_web\\_services](http://www.lpi.nsw.gov.au/mapping_and_imagery/lpi_web_services)  
LICENSED UNDER CC BY 3.0 AU (<https://creativecommons.org/licenses/by/3.0/au/legalcode>)

drawn	JY / AW
approved	-
date	30/07/2021
scale	AS SHOWN
original size	A3



client:	SCHOOL INFRASTRUCTURE NSW		
project:	NORTH SYDNEY PUBLIC SCHOOL PRELIMINARY SITE INVESTIGATION PACIFIC HIGHWAY, NORTH SYDNEY, NSW		
title:	SITE LAYOUT PLAN		
project no:	754-SYDGE290593-R01	figure no:	FIGURE 2
		rev:	A



## APPENDIX B: SITE PHOTOGRAPHS

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Photograph 1: Looking along the southern boundary adjacent to Bay Road



Photograph 2: Facing south at a building scheduled to be demolished



Photograph 3: Facing south at a building scheduled to be demolished



Photograph 4: View of the eastern boundary



Photograph 5: Retaining walls on the western side of the development



Photograph 6: Looking east from the western side of the development area



Photograph 7: Looking south from the northern side of the development area



## APPENDIX C: CONCEPT PLANS

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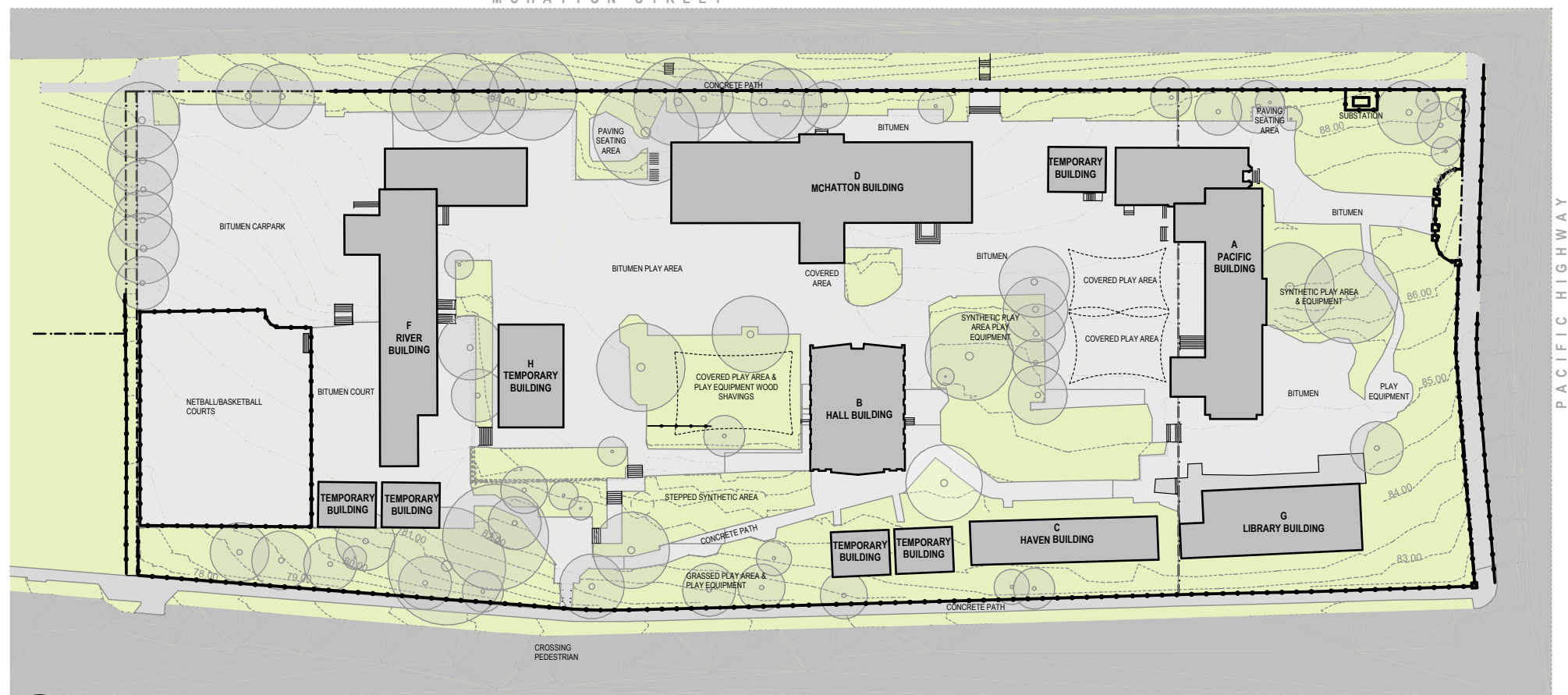
# NORTH SYDNEY PUBLIC SCHOOL

## FOR NSW DEPARTMENT OF EDUCATION

7068WA01



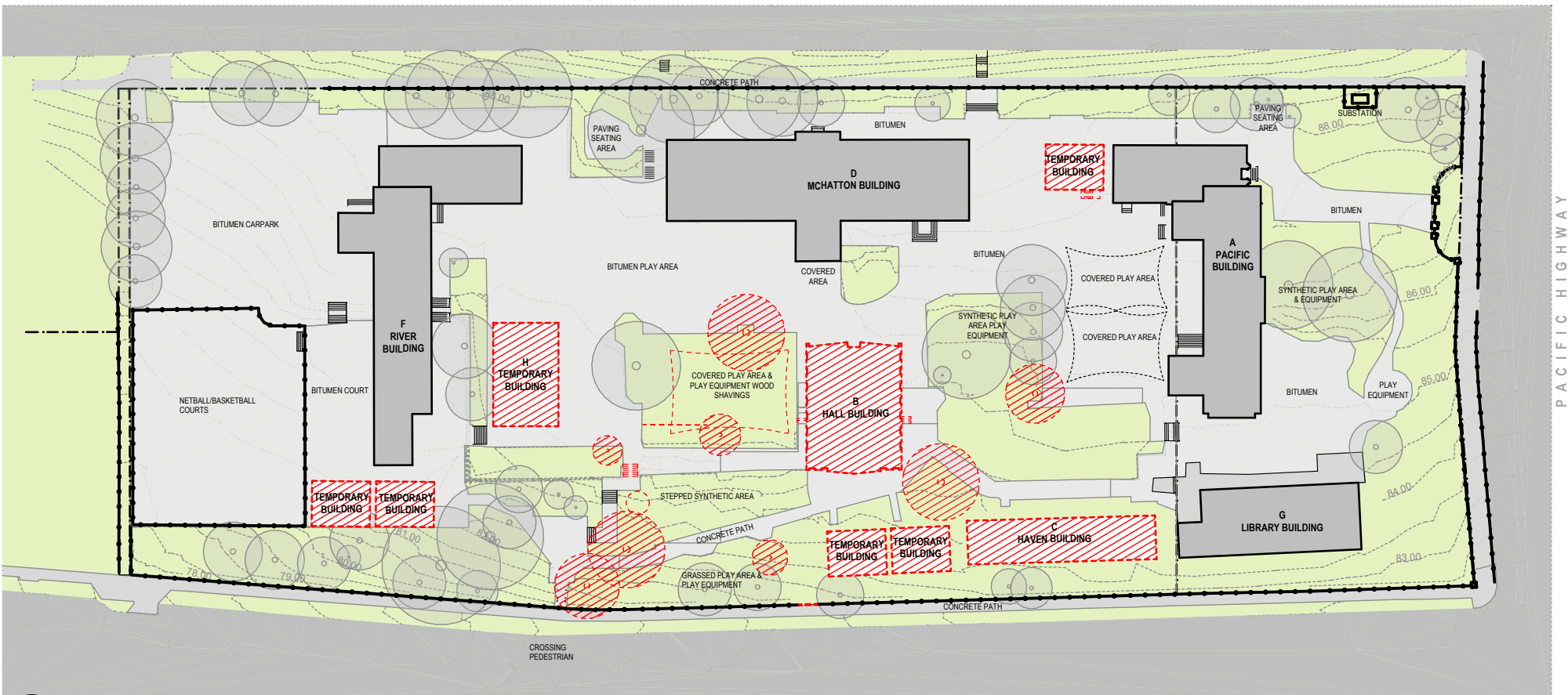
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CD-001	Site Analysis 01	B
CD-002	Site Analysis 02	B
CD-003	Site Analysis 03	B
CD-004	Site Analysis 04	B
CD-005	Site Analysis 05	B
CD-006	Site Analysis 06	B
CD-101	Existing Site Plan	B
CD-102	Demolition Plan	C
CD-103	Proposed Site Plan - Level 1 / Street Level	B
CD-104	Proposed Site Plan - Level 2 / Courtyard Level	B
CD-105	Proposed Site Plan - Level 3	B
CD-106	Perspectives	C
CD-201	Level 1 / Street Level - Hall	C
CD-202	Level 1 / Street Level - Admin_Home Bases	C
CD-203	Level 2 / Courtyard Level - Hall	C
CD-204	Level 3 - Hall_Plant	C
CD-205	Level 3 - Home bases	C
CD-206	Proposed Plans - Building F	B
CD-207	Proposed Plans - Building F	B
CD-208	Proposed Plans - Building D	B
CD-209	Proposed Plans - Buildings A & G	B
CD-210	Roof Plan - Home Bases	B
CD-211	Roof Plan - Hall	B
CD-301	Elevations	B
CD-302	Elevations	B
CD-303	Elevations	B
CD-304	Elevations	B
CD-901	Level 1 - Administration FF+E Plan	B
CD-902	Home Base Cluster - FF+E Plan	B
CD-903	Library - FF+E Plan	C



**1 PLAN**  
**EXISTING SITE PLAN**  
 SCALE: 1:1000





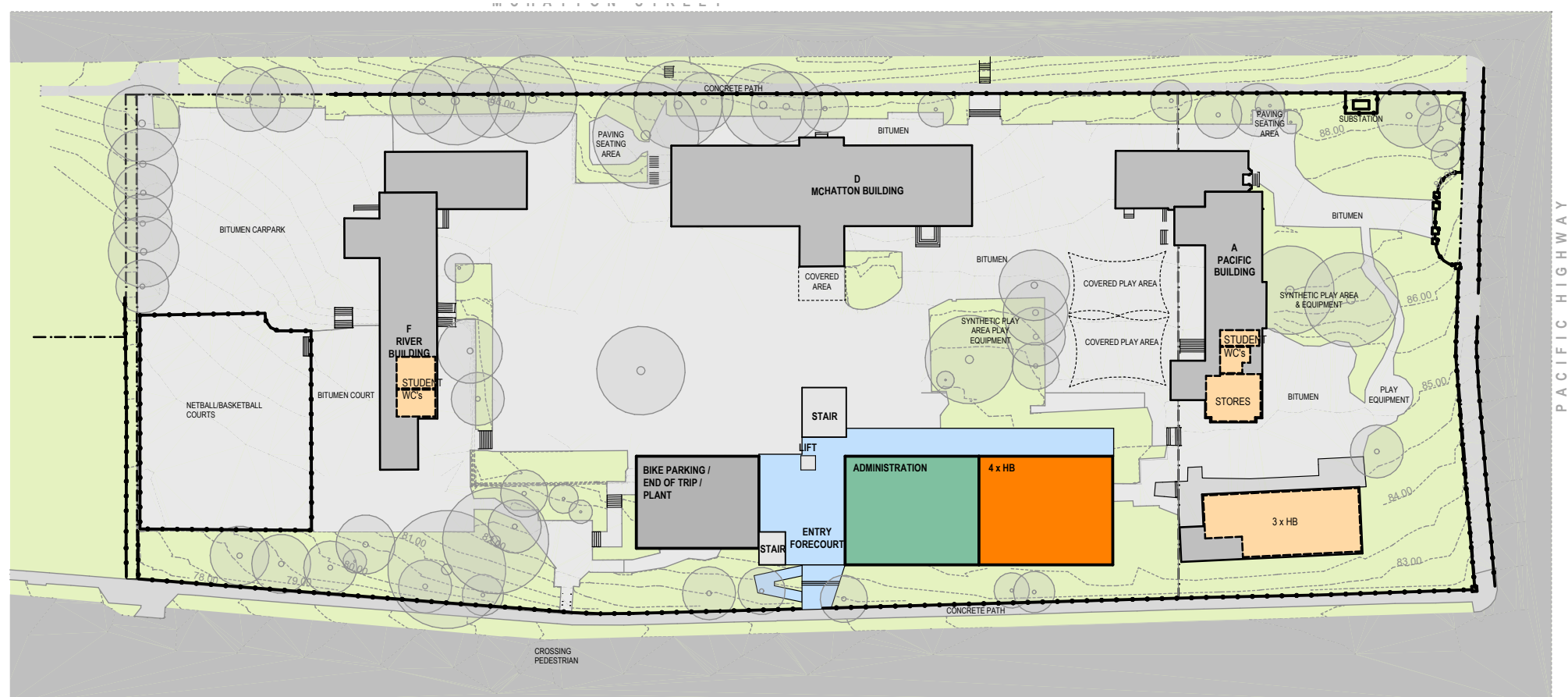


1 PLAN  
DEMOLITION SITE PLAN  
SCALE: 1:1000

SITE PLAN LEGEND

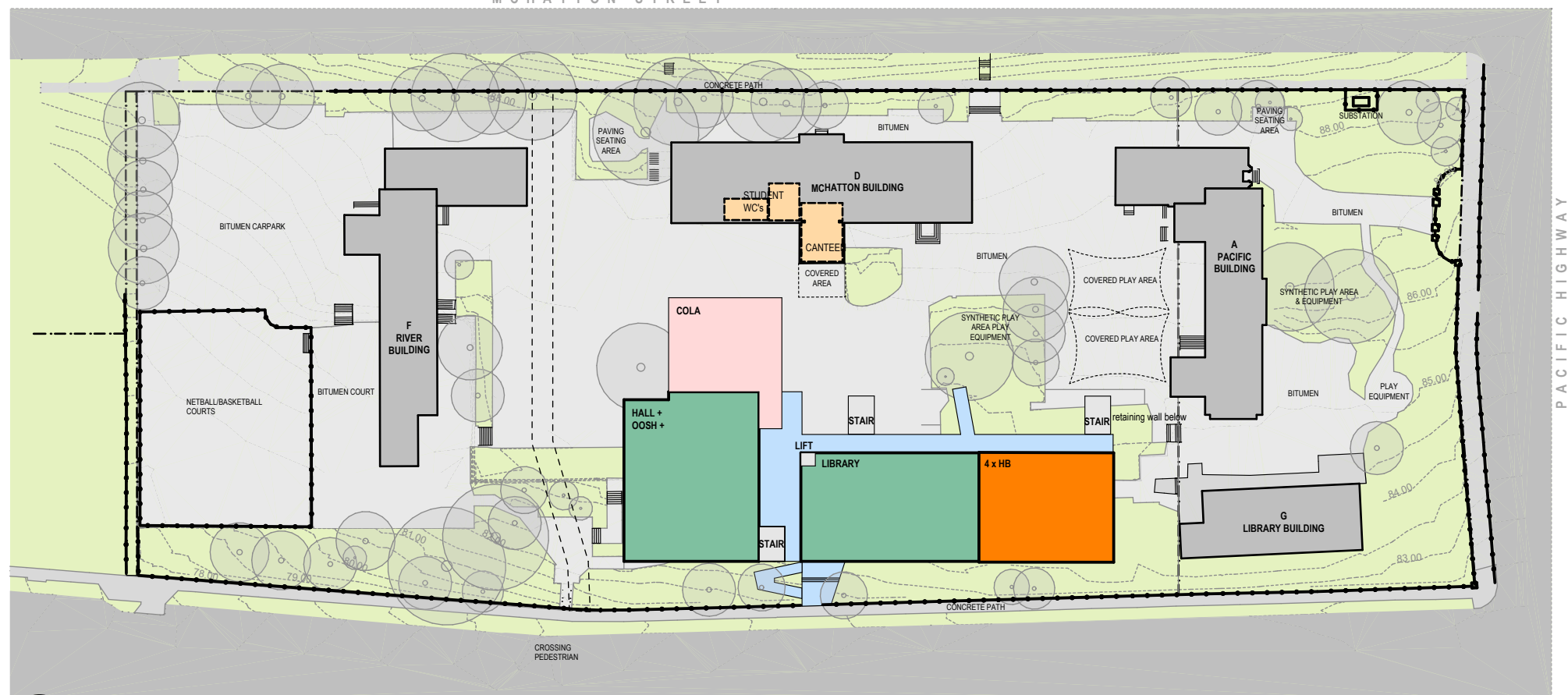
- EXISTING
- DEMOLISHED
- TREE TO BE REMOVED





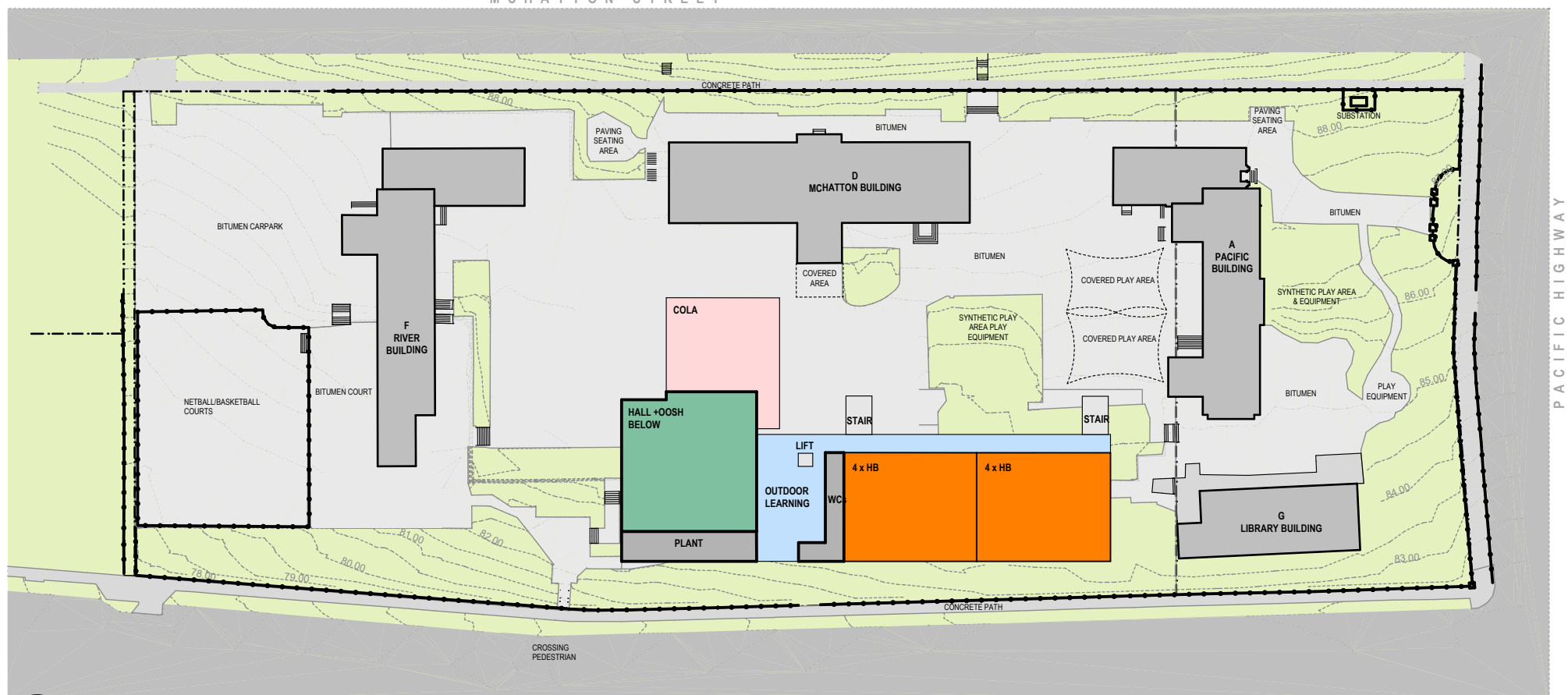
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**PROPOSED SITE PLAN - LEVEL 1/STREET LEVEL**  
 SCALE: 1:1000





**1 PLAN**  
**PROPOSED SITE PLAN - LEVEL 2/COURTYARD LEVEL**  
 SCALE: 1:1000





**1 PLAN**  
**PROPOSED SITE PLAN - LEVEL 3**  
 SCALE: 1:1000







OVERVIEW



EDWARD STREET

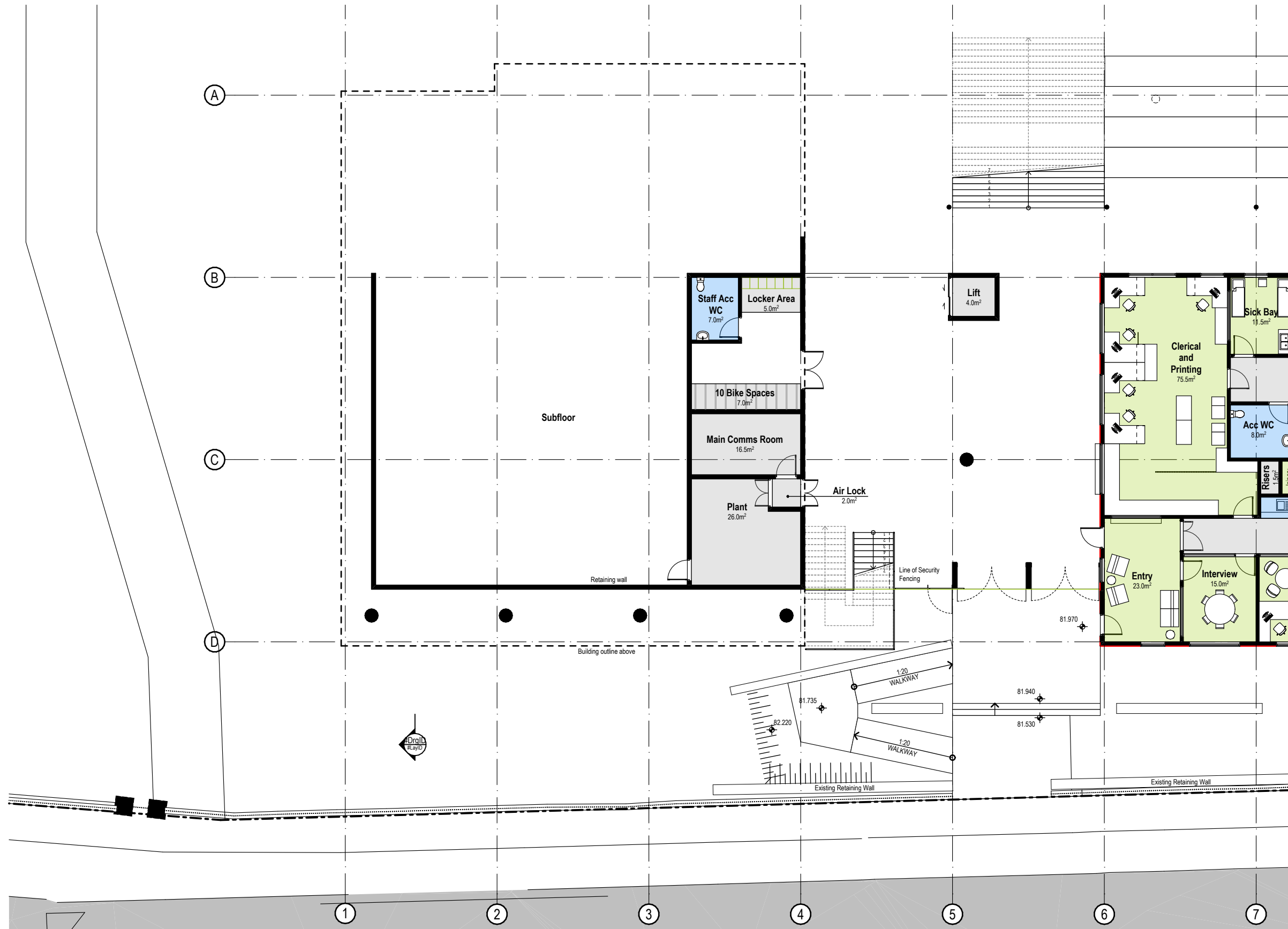


BAY ROAD



PACIFIC HIGHWAY

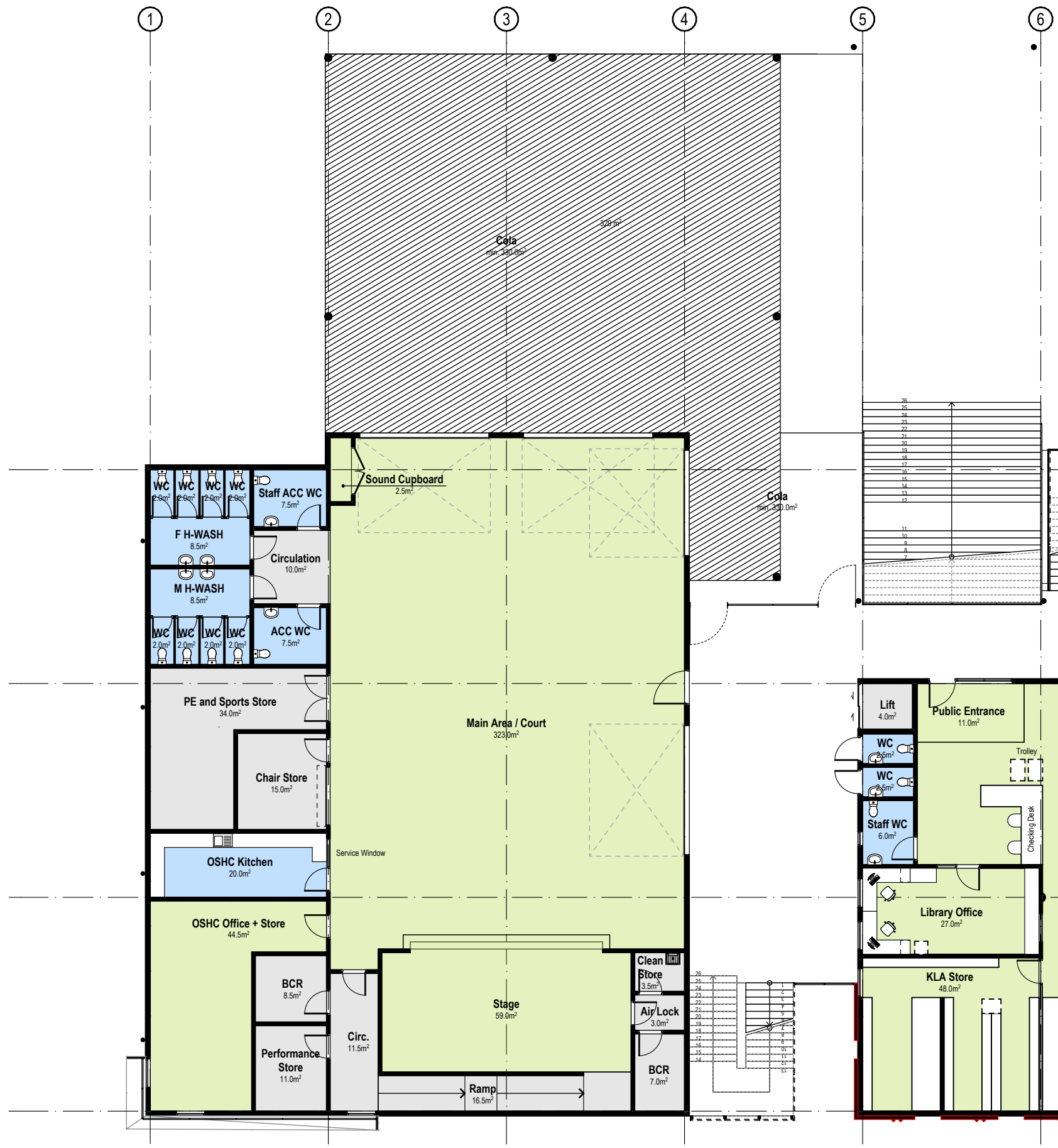




**1 PLAN**  
**LEVEL 1 - BIKE PARKING / END OF TRIP / PLANT**  
SCALE: 1:200

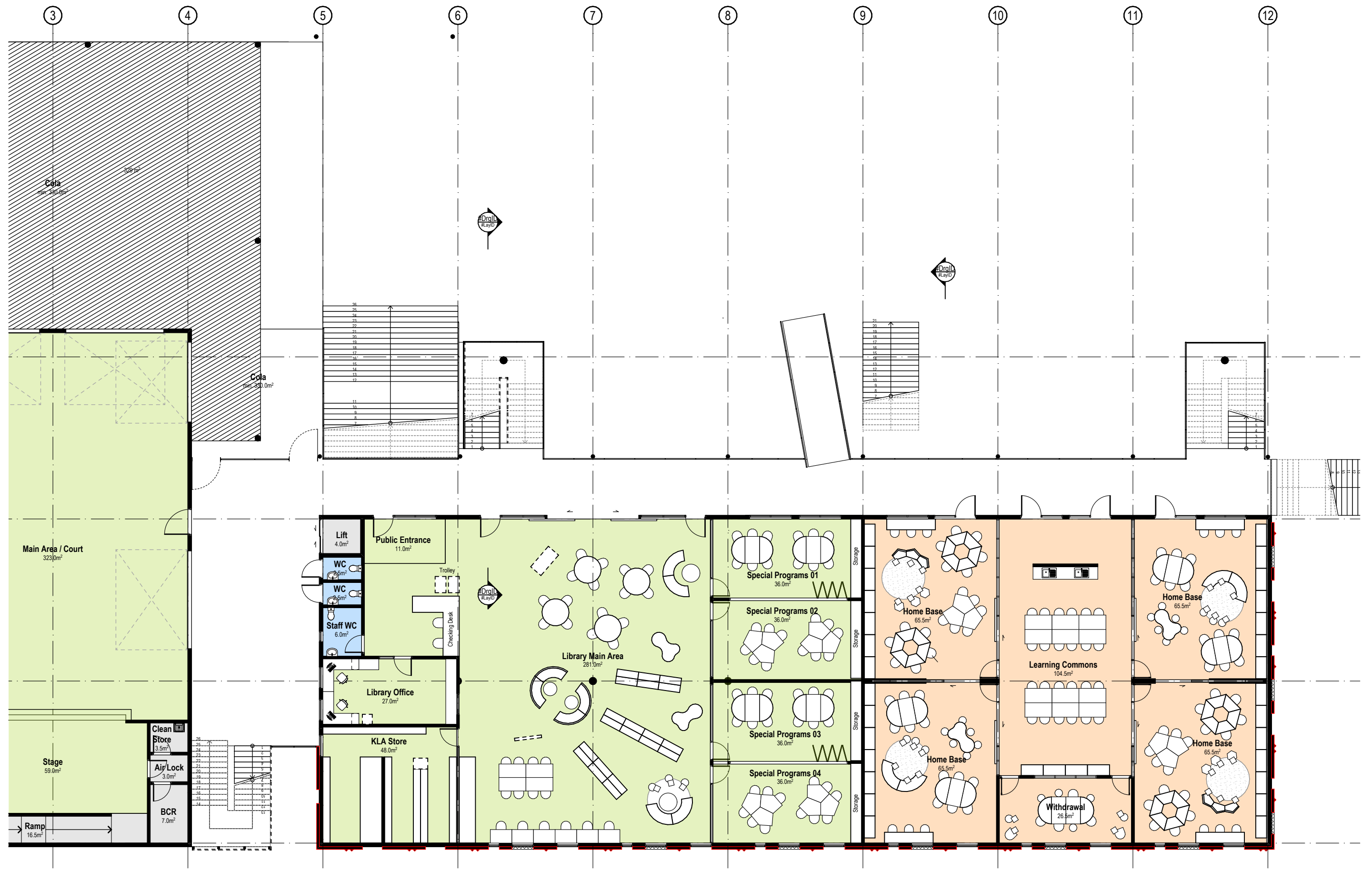






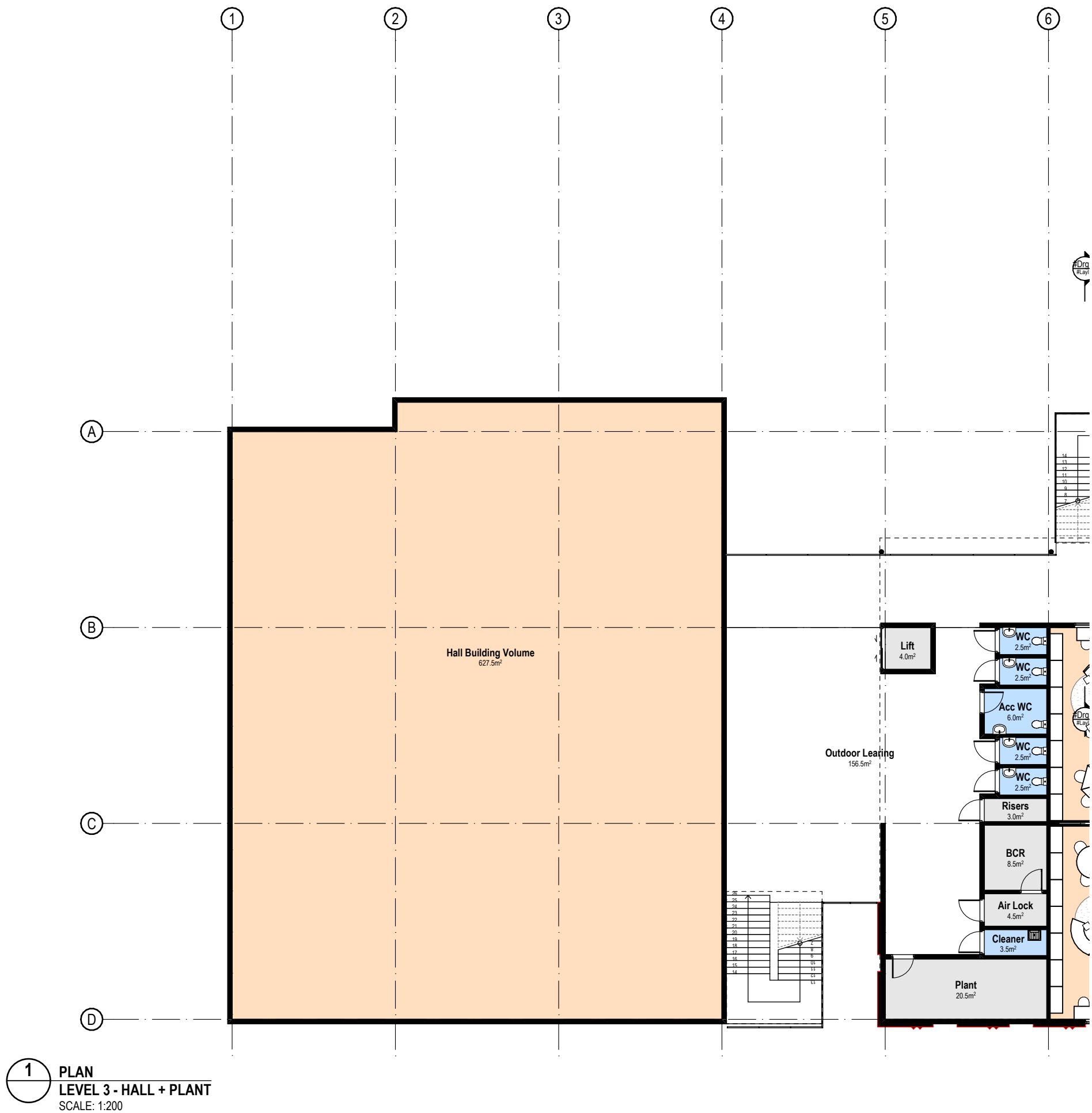
1 PLAN  
LEVEL 2 - HALL  
SCALE: 1:200





1 PLAN  
LEVEL 2 - LIBRARY  
SCALE: 1:200



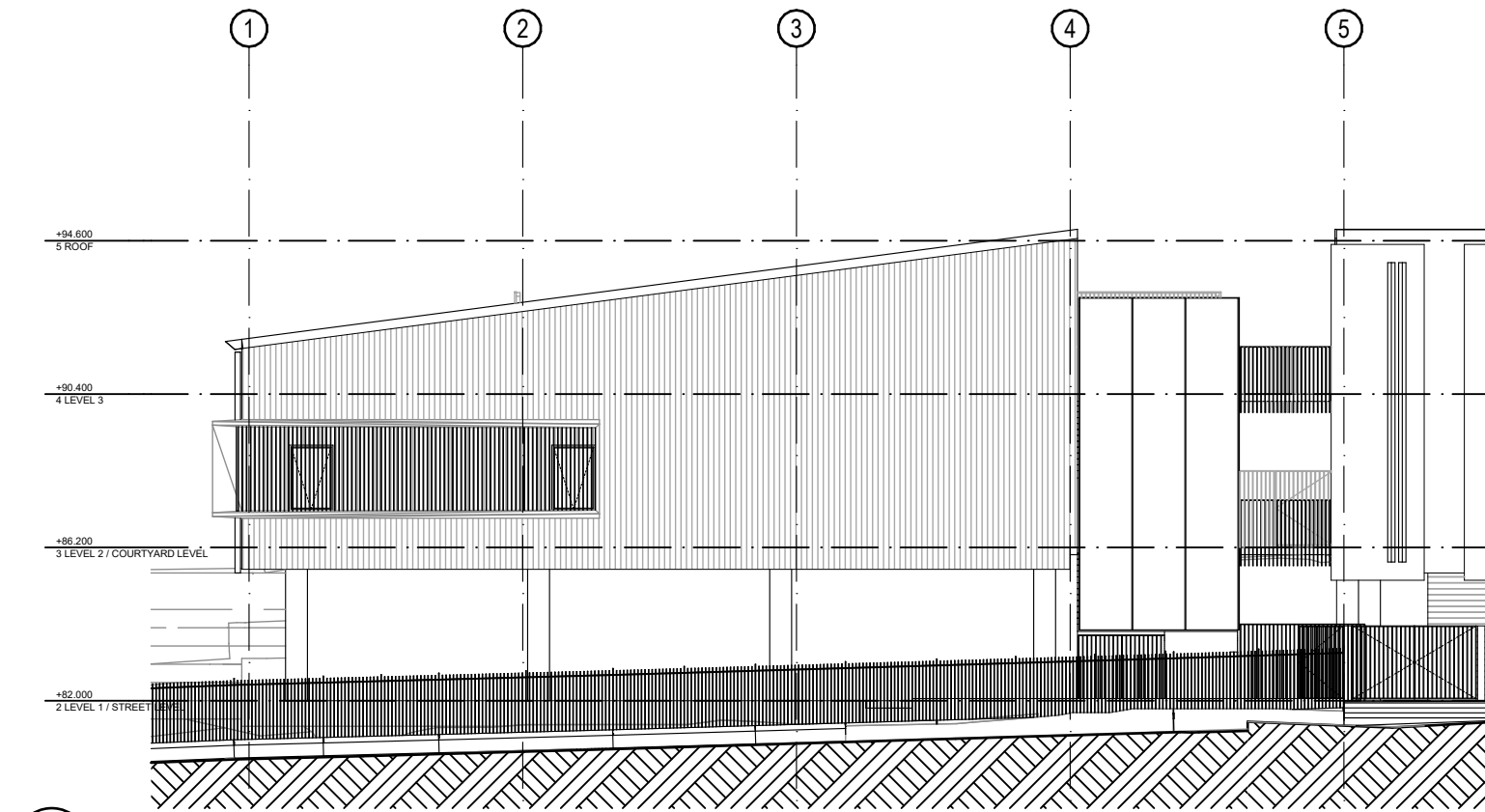




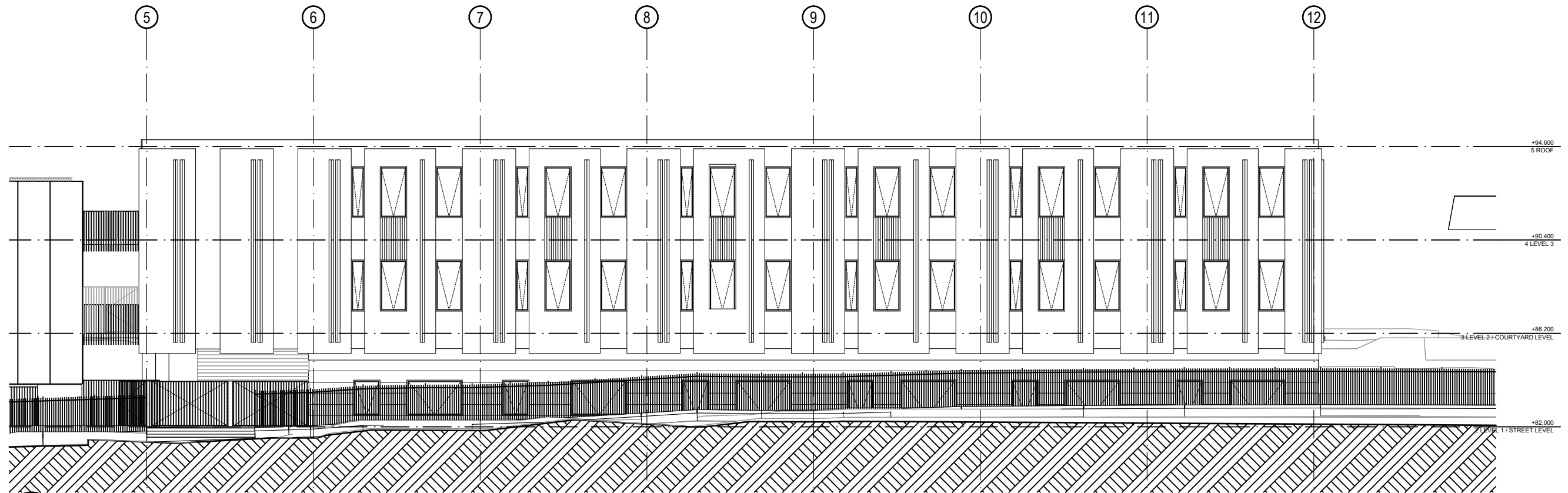
**1 PLAN**  
**LEVEL 3 - HOME BASE**  
SCALE: 1:200



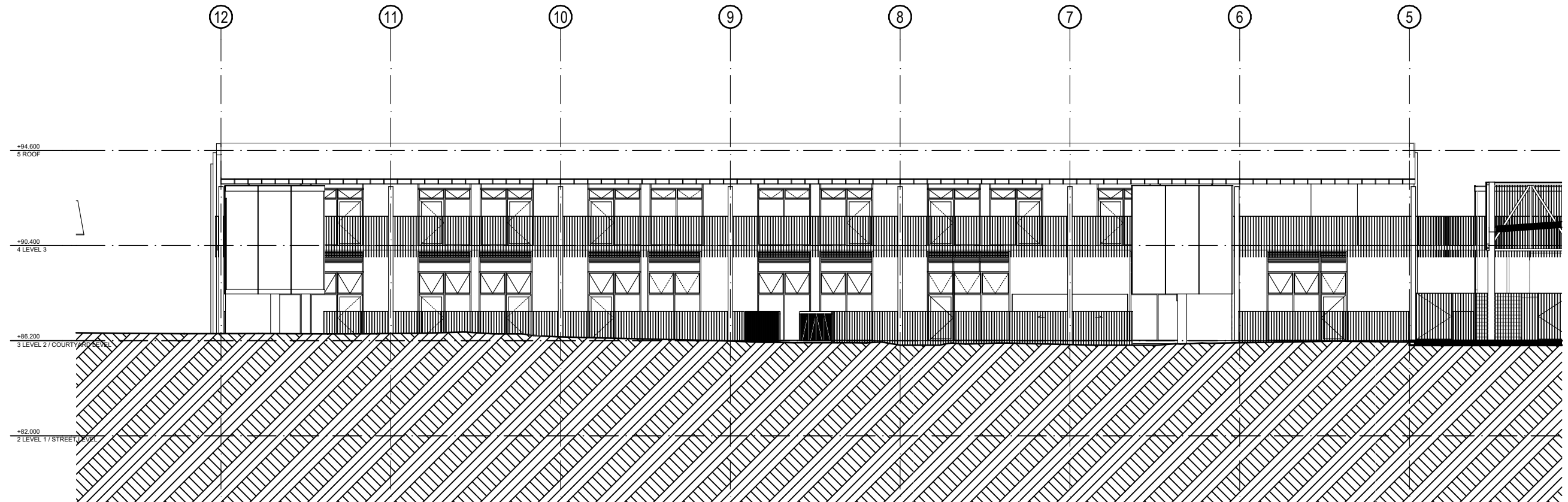
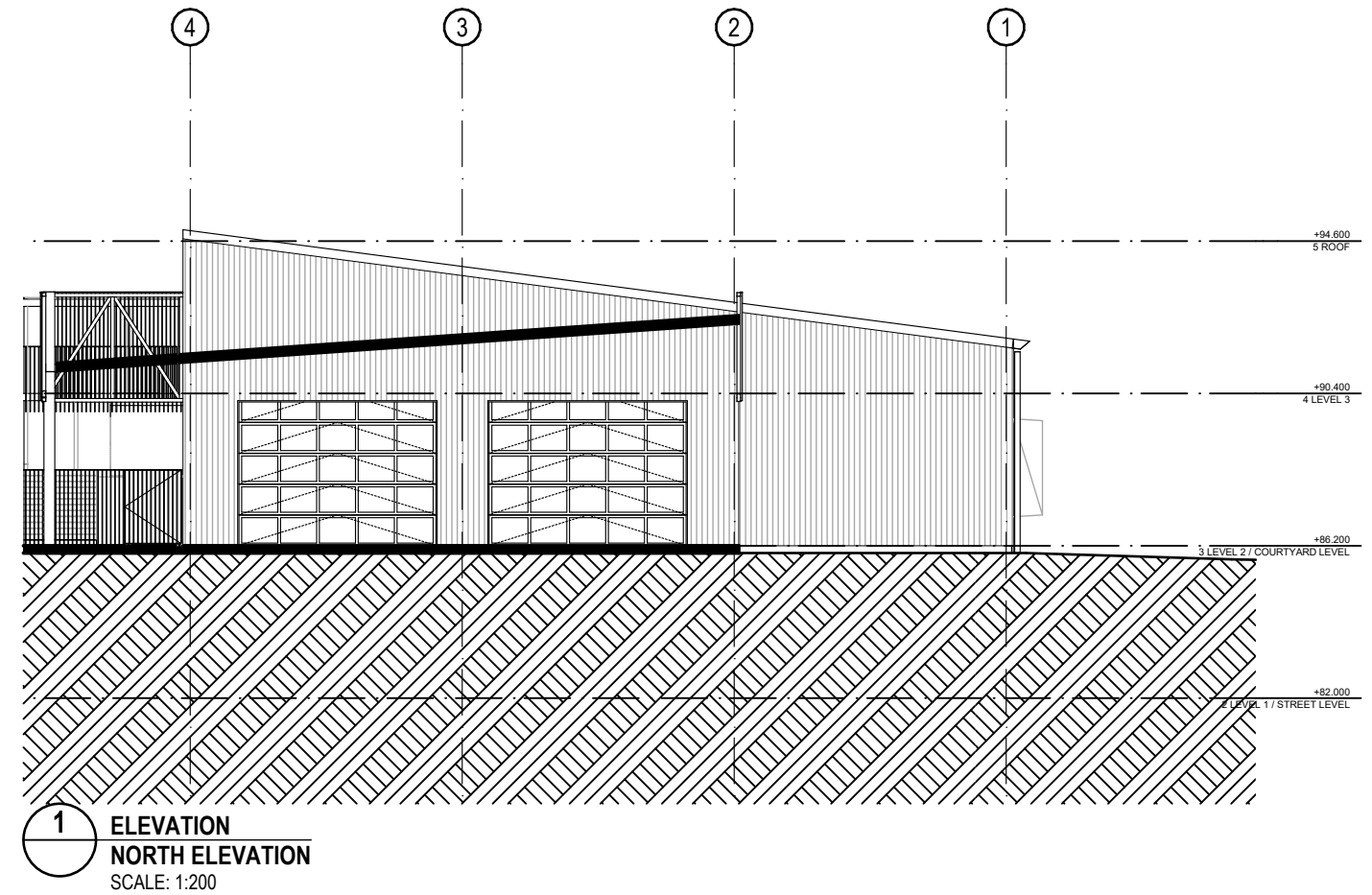


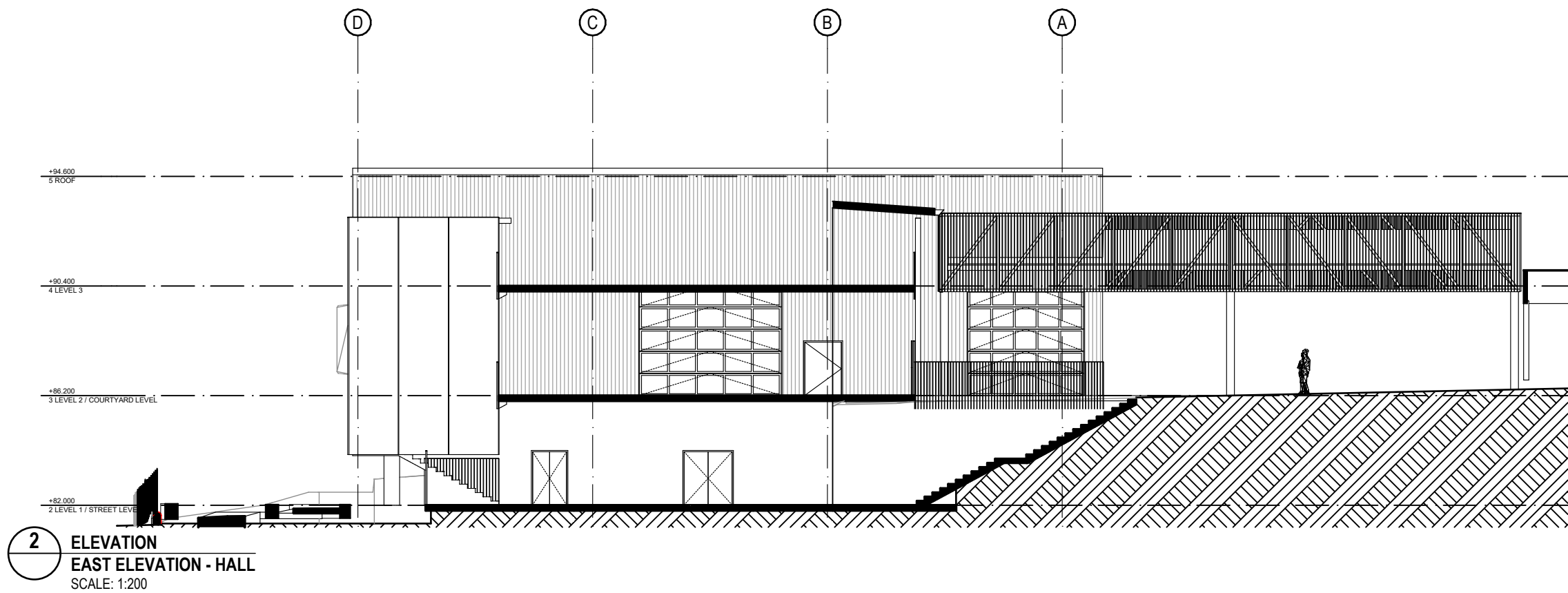
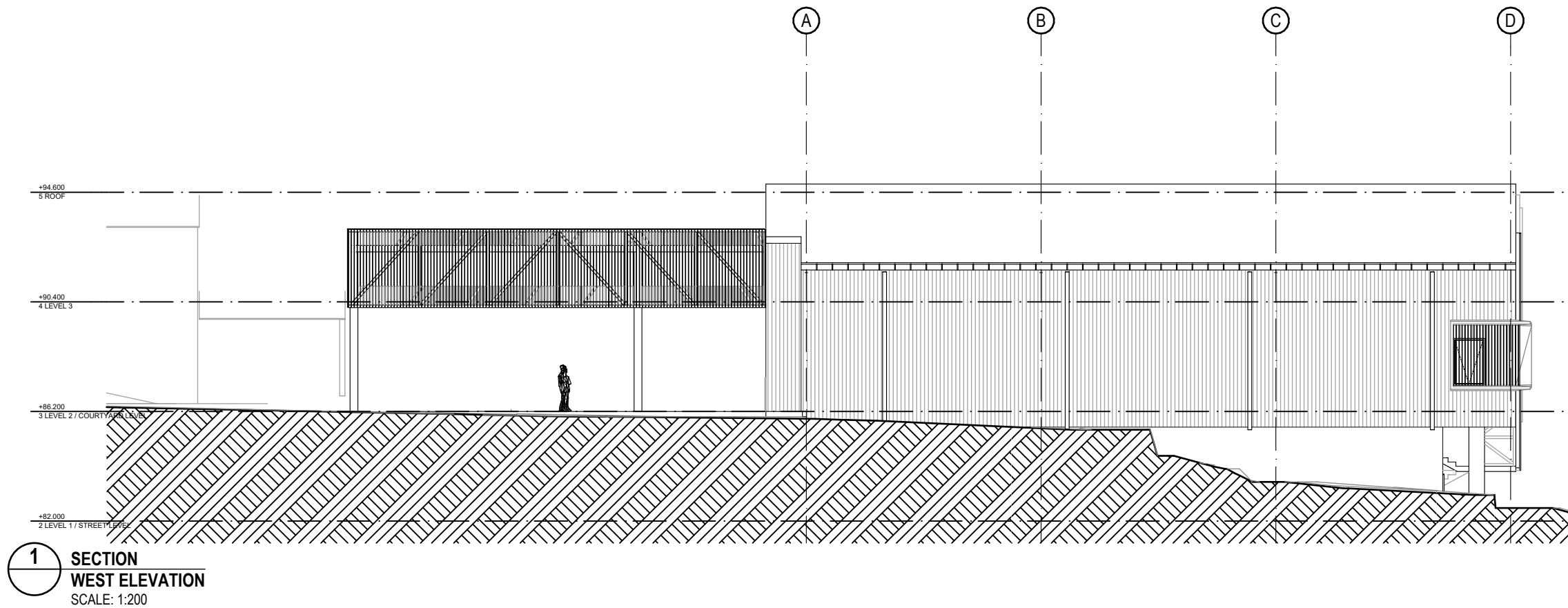


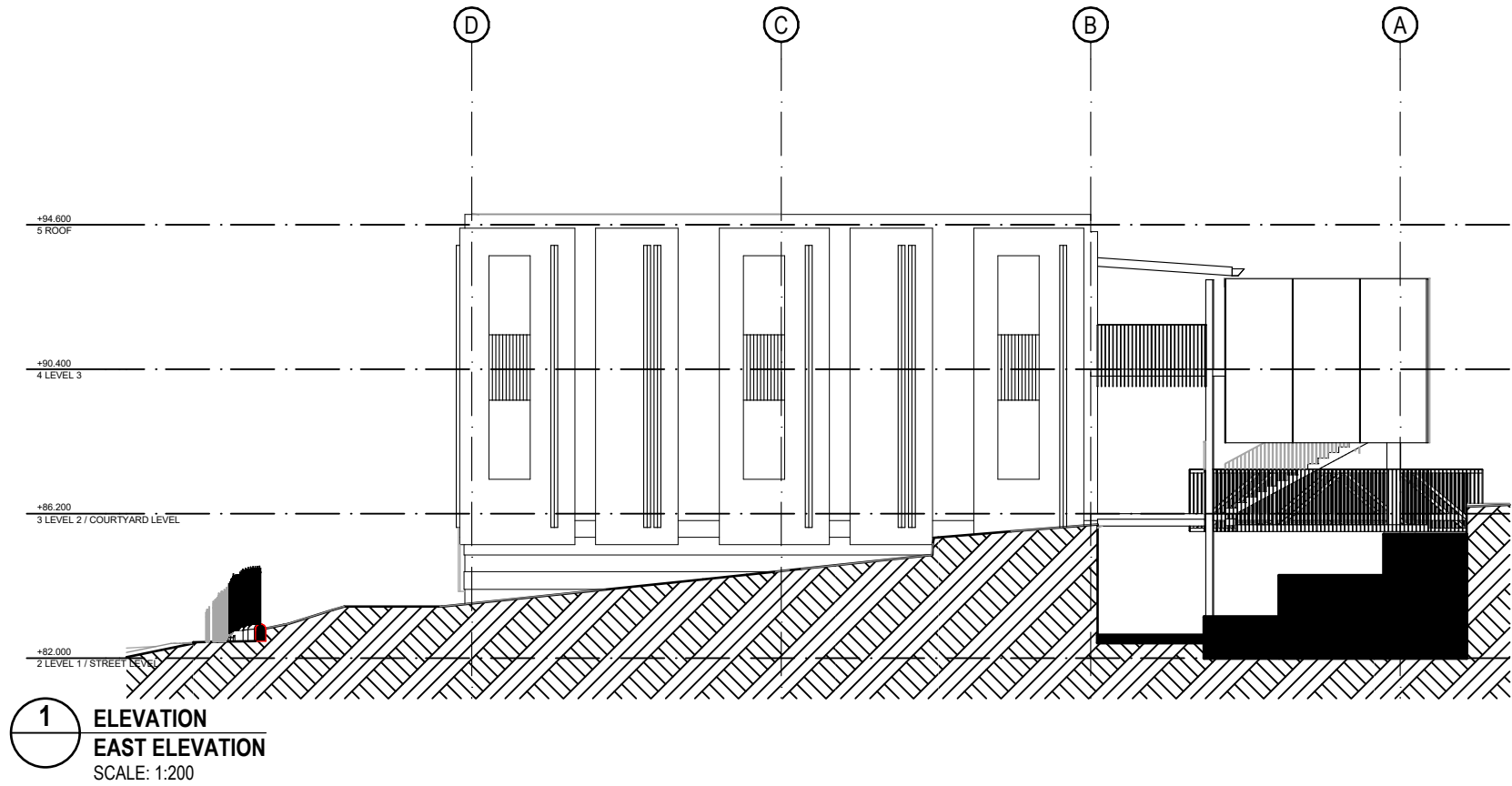
**1** ELEVATION  
SOUTH ELEVATION  
SCALE: 1:200



**2** ELEVATION  
SOUTH ELEVATION  
SCALE: 1:200







1. Dimensions are in millimetres unless otherwise shown.
2. Work to given dimensions. Do not scale from drawing.
3. Check all dimensions on site prior to construction and fabrication.
4. Bring any discrepancies to the attention of the proprietor & architect.

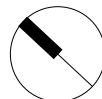
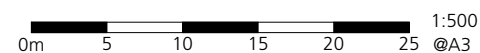


**4395H**  
**3.11**

**RevA 04.02.21**

## Site Plan Development - Ground Floor Plan

North Sydney Public School DfMA investigation  
Gorman Drive, Googong NSW 2620



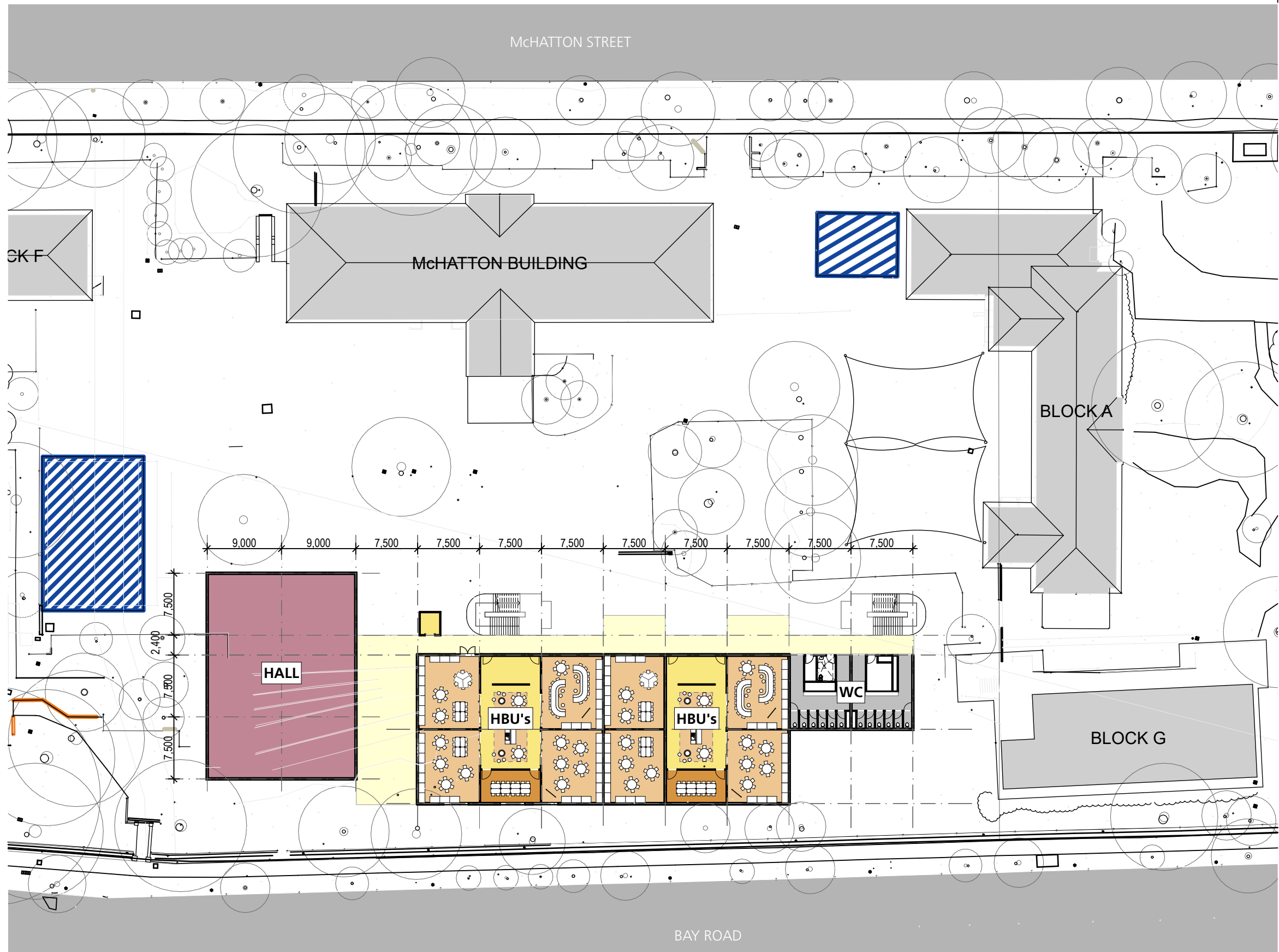
SHAC

**Nominated Architect** Justin Hamilton (6160) | ABN 32 131 584 846

CONCEPT DESIGN - DfMA

1. Dimensions are in millimetres unless otherwise shown.  
2. Work to given dimensions. Do not scale from drawing.

3. Check all dimensions on site prior to construction and fabrication.  
4. Bring any discrepancies to the attention of the proprietor & architect.



4395H

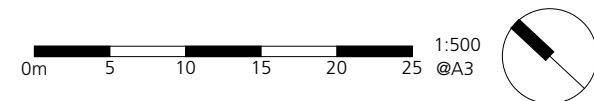
3.12

RevA 04.02.21

Site Plan Development - First Floor Plan

North Sydney Public School DfMA investigation

Gorman Drive, Googong NSW 2620



SHAC

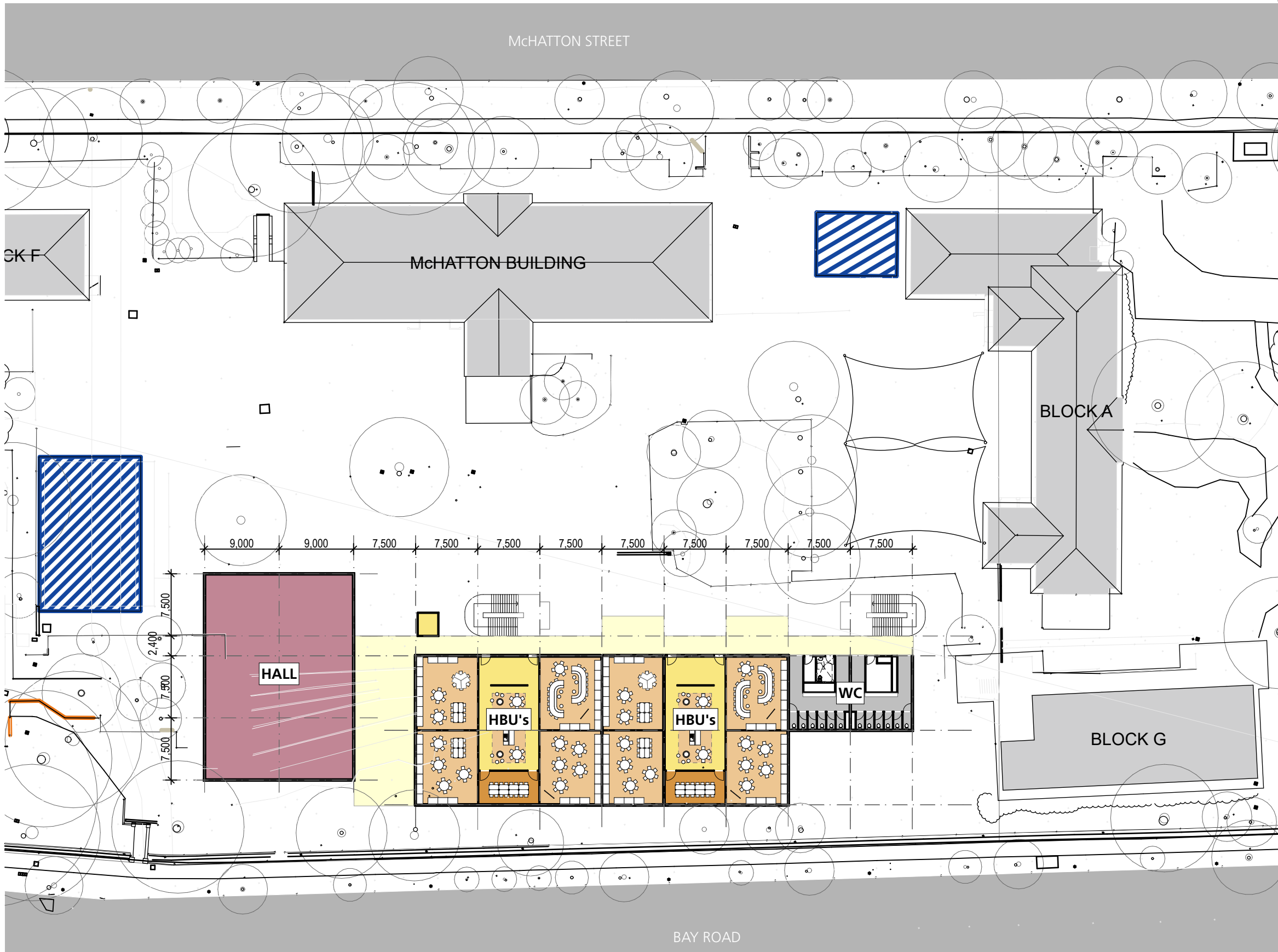
Nominated Architect Justin Hamilton (6160) | ABN 32 131 584 846



CONCEPT DESIGN - DfMA

1. Dimensions are in millimetres unless otherwise shown.  
2. Work to given dimensions. Do not scale from drawing.

3. Check all dimensions on site prior to construction and fabrication.  
4. Bring any discrepancies to the attention of the proprietor & architect.





## APPENDIX D: AERIAL PHOTOGRAPHS

---



# Aerial Imagery 2018

North Sydney Public School, Bay Road, North Sydney, NSW 2060



## Legend

-  Site Boundary
-  Buffer 150m

Scale:

Data Sources: Aerial Imagery © Department Finance.

Coordinate System:

Date: 20 September 2019



# Aerial Imagery 2009

North Sydney Public School, Bay Road, North Sydney, NSW 2060



## Legend

- Site Boundary
- Buffer 150m

Scale:

Data Source Aerial Imagery: © 2019 Google Inc. used

Coordinate System:

Date: 19 September, 2019



# Aerial Imagery 2000

North Sydney Public School, Bay Road, North Sydney, NSW 2060





# Aerial Imagery 1991

North Sydney Public School, Bay Road, North Sydney, NSW 2060



## Legend

-  Site Boundary
-  Buffer 150m

Scale:

Data Sources: Aerial Imagery © Department of Finance,

Coordinate System:

Date: 20 September 2019



## Aerial Imagery 1982

North Sydney Public School, Bay Road, North Sydney, NSW 2060





## Aerial Imagery 1970

North Sydney Public School, Bay Road, North Sydney, NSW 2060





# Aerial Imagery 1965

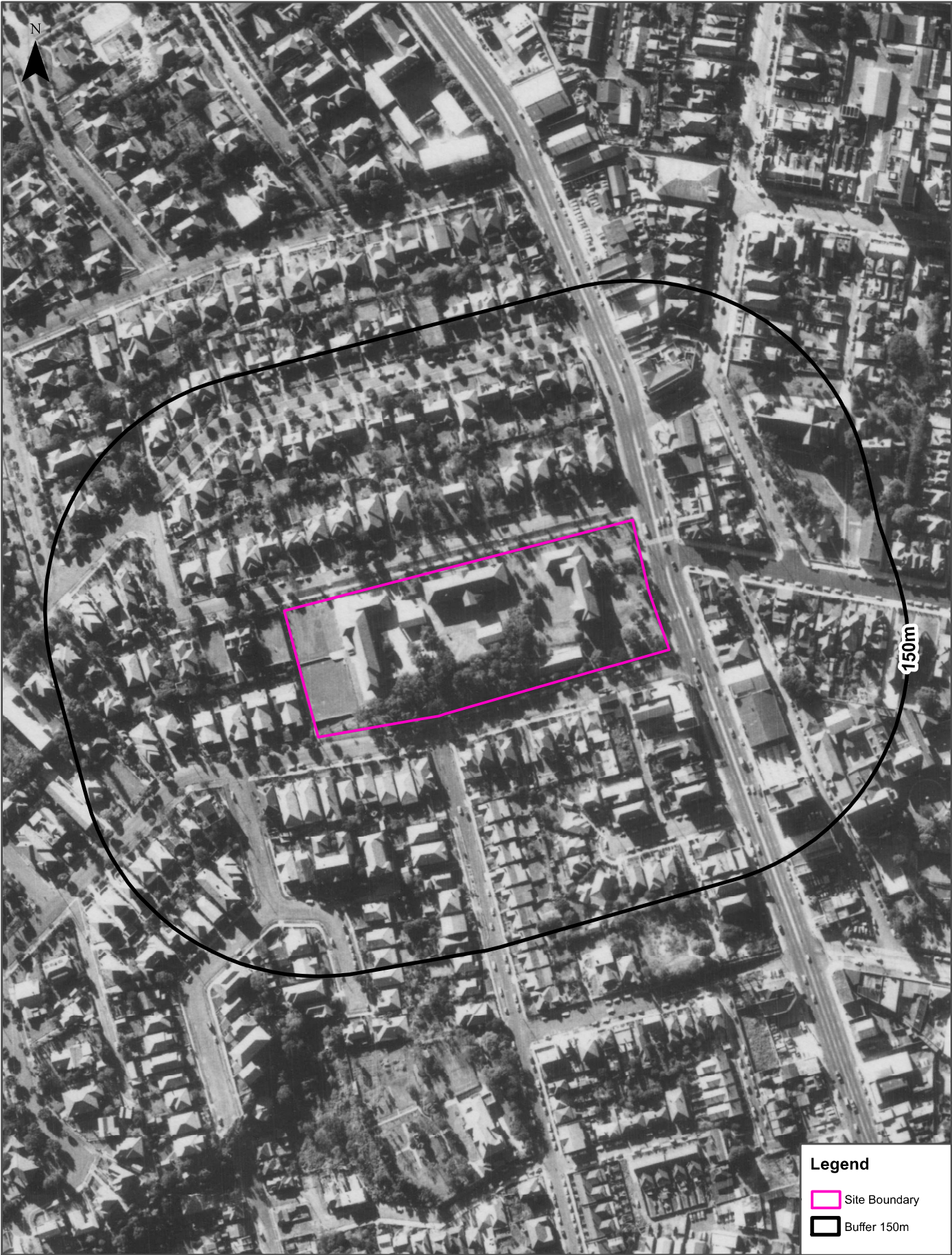
North Sydney Public School, Bay Road, North Sydney, NSW 2060







# Aerial Imagery 1961

North Sydney Public School, Bay Road, North Sydney, NSW 2060



## Legend

-  Site Boundary
-  Buffer 150m



# Aerial Imagery 1955

North Sydney Public School, Bay Road, North Sydney, NSW 2060



## Legend

- Site Boundary
- Buffer 150m



## Aerial Imagery 1943

North Sydney Public School, Bay Road, North Sydney, NSW 2060



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