



# RANDWICK CAMPUS REDEVELOPMENT

## Hospital Road REF Report Civil

Issued for: REF Approval

Job No: 12221

Ref: SCH-CIV-RPT-00002

Rev. 2

## Report Amendment Register

| Rev. No. | Section & Page No.                         | Issue/Amendment         | Author/Initials | Reviewer/Initials | Date     |
|----------|--|-------------------------|-----------------|-------------------|----------|
| 0        |  | Initial Issue           | NMF             |                   | 22.12.20 |
| 1        | Various                                    | Revised to PwC comments | NMF             |                   | 18.01.21 |
| 2        | Section 2 diagram updated. Minor revisions | Revised to PwC comments | NMF             |                   | 18.02.21 |

Prepared by: Neal Foye

Date: 18.02.21

Project No: 12221

Issued for: REF Approval

Discipline: Civil

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# Table of Contents

Report Amendment Register .....2

Table of Contents.....3

1. Introduction .....4

2. Scope of Works .....4

## 1. Introduction

The intent of this Report is to provide a services summary that supports the Review of Environmental Factors (REF) for the proposed Hospital Road upgrade works.

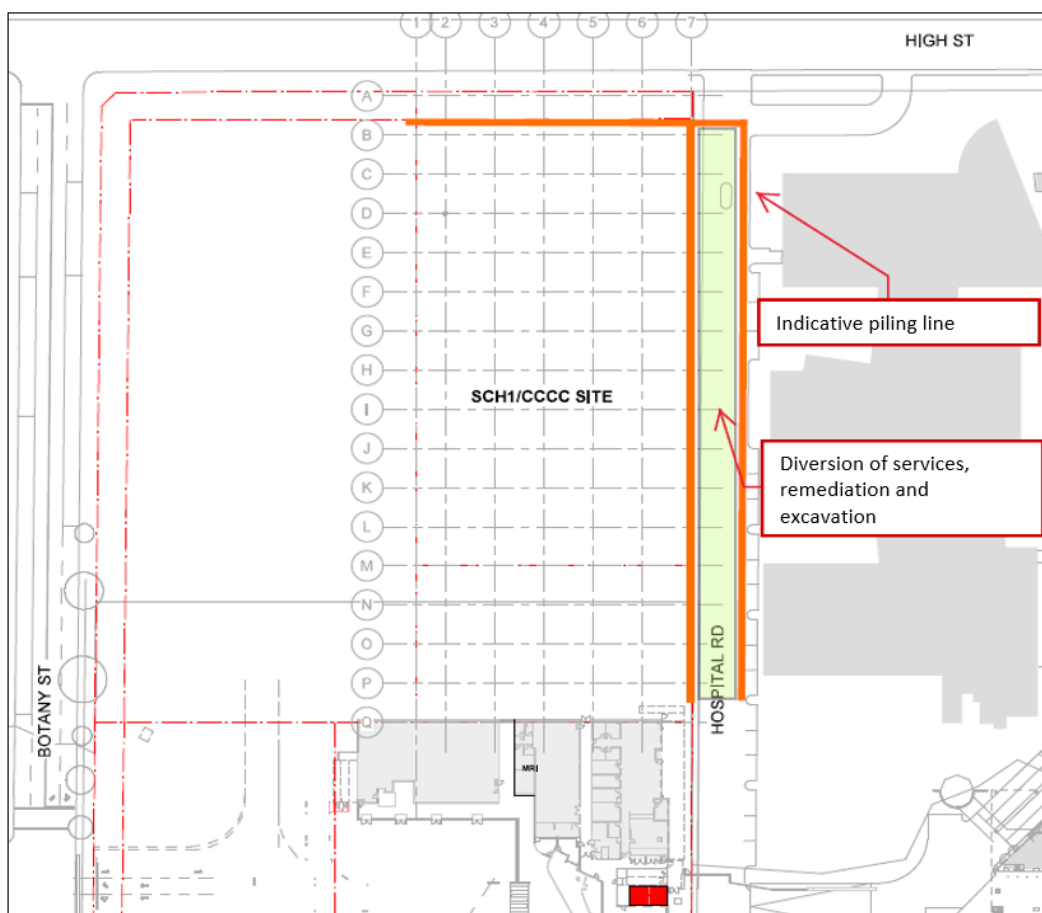
The Randwick Health and Education Precinct (RHEP) is one of the most comprehensive health innovation districts in Australia. While health care at RHEP has been evolving for over 160 years, the last five years has seen a strengthening of collaboration amongst a wide range of organisations in the precinct, including with government, universities and community.

Hospital Road is an important campus road that supports the precinct and provides access to existing buildings such as the Sydney Children's Hospital (SCH) and Royal Hospital for Women (RHW). Hospital Road provides access to the campus logistical hub located on Delivery Drive. Additionally, Hospital Road will become a key link for vehicles and pedestrians enabling the integration of the existing campus with the future Integrated Acute Services Building (IASB) and Sydney Children's Hospital Stage 1/ Children's Comprehensive Cancer Centre (CCCC).

## 2. Scope of Works

The aim of the early works package is to allow diversion of existing services in the Hospital Road area. This will require excavation of Hospital Road and the retention of the soil to the east of the site in order to allow operations of the adjacent Sydney Children's Hospital to continue during the works.

A diagram indicatively showing the locations of these works is provided below.



The proposed scope of works on Hospital Road will include the following key elements:

- Hospital Road North services diversions
- Remediation of Hospital Road North
- Retention piling north-south on Hospital Road
- Retention piling east-west along the High Street boundary
- Excavation of Hospital Road North

The works detailed above on Hospital Road are pivotal in allowing for the development of an interlinked campus and removing the interface between pedestrians and vehicles to provide for a safe and interconnected campus link. To achieve this, key service infrastructure assets that are currently located in Hospital Road will need to be diverted. Additionally, remediation, piling works, and excavation will need to be undertaken.

This report will summarise the existing infrastructure that will be affected by future works. Specifically, the Report will look to address the following key elements:

1. The key service infrastructure works required in Hospital Road as part of the REF.
2. What potential risks may exist and the potential high-level mitigation measures that can be implemented.

All analysis undertaken has been done so with an understanding that a high level of seamless integration with all precinct elements is necessary.

Potential impacts and risks for the existing services is subject to negotiation and approvals by each affected authority. Liaison with each authority is to be undertaken as part of the design process.

The ground conditions within the area of the proposed excavation vary but within this area approximate strata encountered is estimated to be:

- 1.0 to 1.5m of fill
- 0.5m to 2.5m of sands
- 1.5m to 4.0m of low to medium strength sandstone
- With medium and high strength sandstone underlying this.

The top of the medium to high strength sandstone is estimated to commence at around RL 49.0 to 50.0. Refer to the various geotechnical investigation reports that have been undertaken for the site for more information.

An extract of the Douglas Partners geotechnical report (Ref: 72505.18 dated October 2020) has been included in Appendix B which shows a cross section of the strata encountered during that investigation.

The proposed civil works required for the Hospital Road REF works are:

- Boring of shoring piles walls.
  - o Contiguous piled walls either side of Hospital Road and to the north of the site boundary along High St will be required. Contiguous piles will be required in order to retain the surrounding sandy strata. It is anticipated that the piles will be 600mm in diameter and will be bored reinforced concrete construction.
- Temporary ground anchors
  - o Temporary ground anchors will be required to be drilled through the shoring piles. In order to laterally support the shoring walls as the excavation inside the walls progressed. Temporary steel walers between the anchors will also be required.
- Excavation of the Hospital Road material
  - o Material will have to be excavated to allow diversion of existing in ground services buried within Hospital Road. Some remediation of the excavated material may be required. This will need to be confirmed by the environmental engineer.
  - o It is proposed to continue excavation of Hospital Road down to the proposed basement level of the main works.

A civil drawing showing the proposed civil early works is contained in Appendix A.

# **APPENDIX A**

## **CIVIL DRAWING**



HYDRAULIC / FIRE Arip

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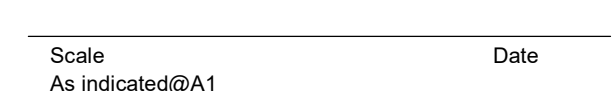
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Sheet Name  
**RANDWICK CAMPUS  
REDEVELOPMENT  
HOSPITAL ROAD REF.**



REF APPROVAL

BIM 360://SCH1 &amp; CCCC/SCH-MB-MDL-STR-ALL.m

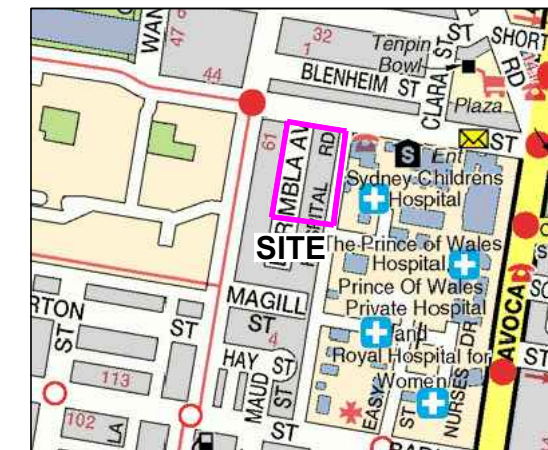
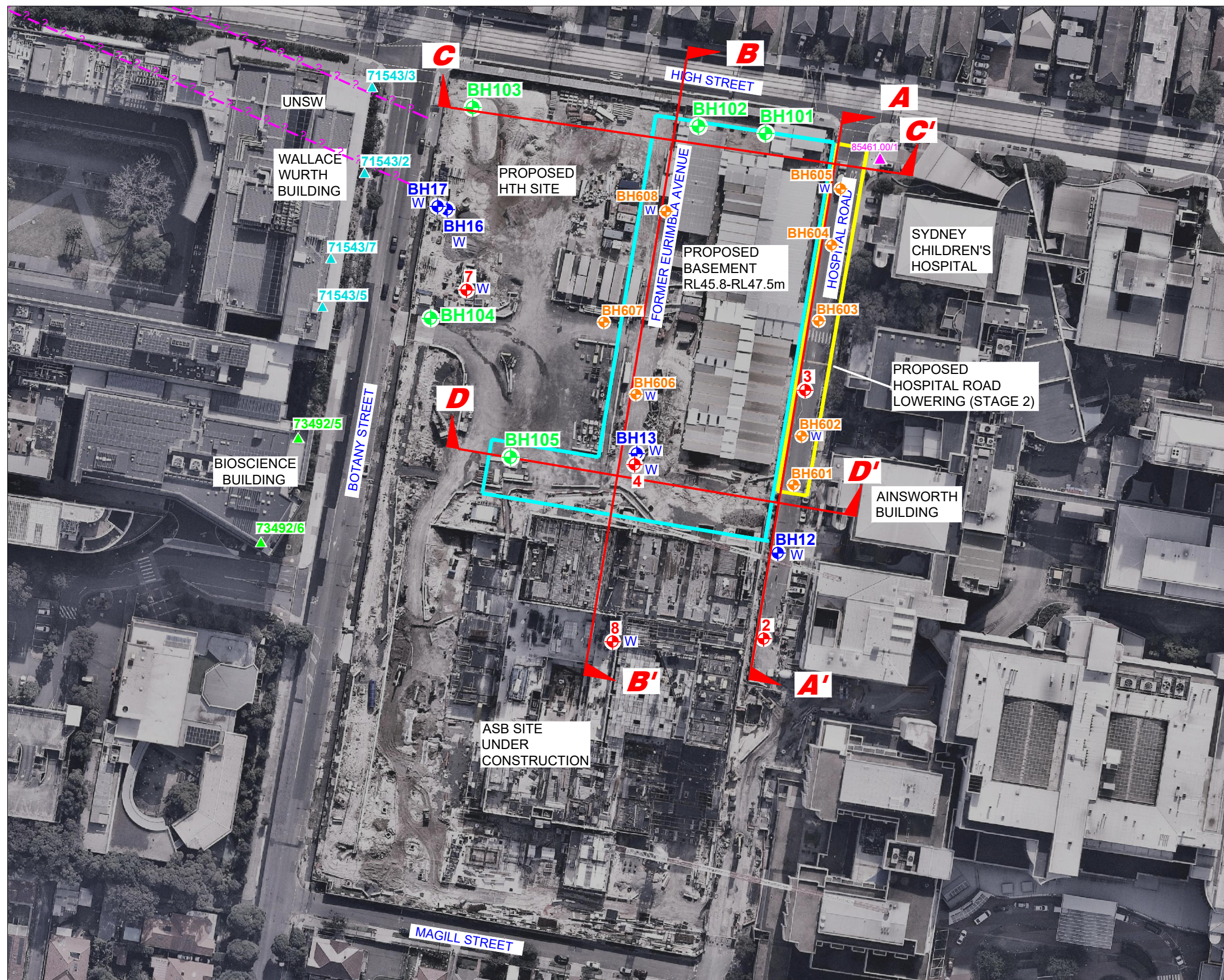
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# **APPENDIX B**

## **EXTRACT OF GEOTECHNICAL REPORT**

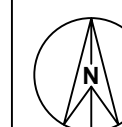




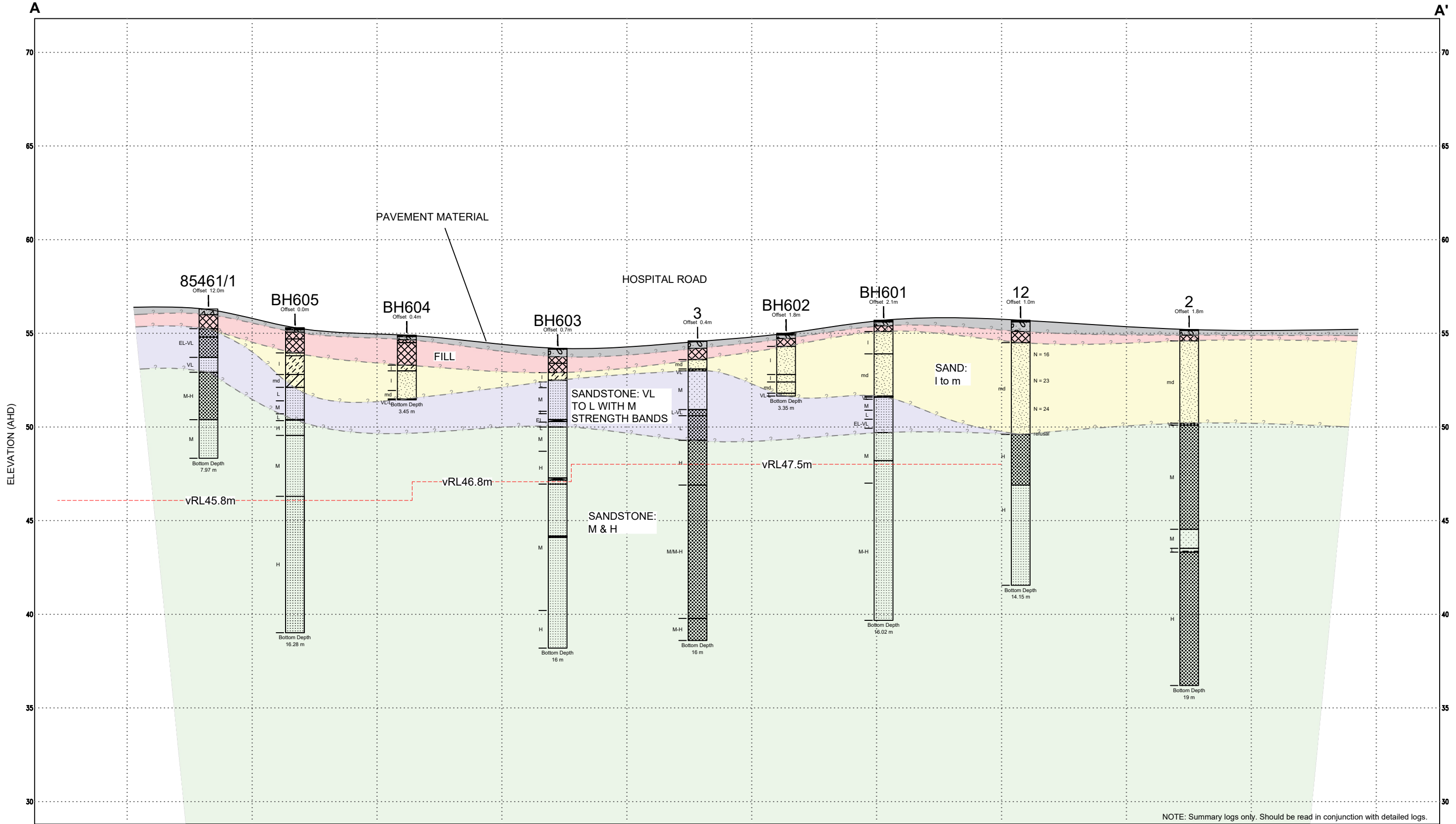
Locality Plan

### LEGEND

- Previous borehole (UNSW Wallace Wurch Building, Proj. 71543, 2010)
- Previous borehole (UNSW Bioscience Building Proj. 73492, 2013)
- Previous borehole (Prince of Wales Hospital Proj. 85461.00, 2016)
- Previous borehole (Proj. 72505.11, Feb 2018)
- Previous borehole (Proj. 72505.13, May 2018)
- Previous borehole (Proj. 72505.13, March 2019)
- Borehole (Proj. 72505.18, Sept 2020)
- Groundwater monitoring well
- Interpreted geotechnical boundary
- Interpreted geotechnical Cross Section







NOTES:  
1. Subsurface conditions are accurate at the borehole locations only.  
Variations in subsurface conditions may occur between borehole locations.  
Interpreted strata boundaries are approximate and should be used as a guide only.  
2. Summary logs included only and should be read in conjunction with detailed logs.

LEGEND

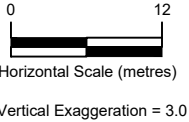
- |                    |           |
|--------------------|-----------|
| Core Loss          | Filling   |
| Asphaltic Concrete | Roadbase  |
| Clayey Sand        | Sand      |
| Concrete           | Sandstone |

- |                          |
|--------------------------|
| Sandstone coarse grained |
| Sandstone fine grained   |
| Sandy Clay               |
| Siltstone                |

- ROCK STRENGTH
- |                    |
|--------------------|
| EL - Extremely Low |
| VL - Very Low      |
| L - Low            |
| M - Medium         |
| H - High           |
| VH - Very High     |

- SOIL DENSITY
- |                   |
|-------------------|
| vl - Very Loose   |
| I - Loose         |
| md - Medium Dense |
| d - Dense         |
| vd - Very Dense   |

- TESTS / OTHER
- |  |
|--|
| - Water level                          |
| - Interpreted geotechnical boundary    |
| - Proposed basement level (indicative) |



|                                    |                  |
|------------------------------------|------------------|
| CLIENT: Lendlease Building Pty Ltd |                  |
| OFFICE: Sydney                     | DRAWN BY: BZ/LH  |
| SCALE: 1:600 (H)<br>1:200 (V) @ A3 | DATE: 23.09.2020 |

TITLE: **Interpreted Geotechnical Cross Section A-A'**  
**SCH Stage 1 / CCCC Project**  
**High Street and Hospital Road, Randwick**

|             |          |
|-------------|----------|
| PROJECT No: | 72505.18 |
| DRAWING No: | 2        |
| REVISION:   | 0        |