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Date: 26 JUNE 2017

Ref: 130485.SR02A

Structural Report

PROJECT: PROPOSED MIXED USE DEVELOPMENT
CLIENT: KAYMENT CORPORATION PTY. LTD.
LOCATION: 133-144 PITT ST, REDFERN
SUBJECT: STABILITY OF EXISITING BUILDING 'A' DURING EXCAVATION

Description

The proposed development at the above mentioned address is to consist of 4 buildings, buildings 'A', 'B', 'C' & 'D' to which these buildings are to share 2 common basements. Building 'A' will utilise the existing structure as outline in image 1.

Previously the site was used as the 'Rachel Foster Hospital'. The part of the original structure which is to be kept consists of 1 Basement, Ground Level, Level 1, Level 2, Level 3 and Level 4. The proposed structure will require parts of the existing structure to be demolished and rebuilt. The new structure will require excavation approximately 7m below the existing structure. Most of the required excavation will be around the existing structure but a portion will need to be demolished for construction of a new ramp to the basements and new lift and stairs for access building A from the basements. This report will provide a methodology as to ensure that the existing structure will not be adversely affected by the excavation required for the new proposed structure.



Image 1: Site boundary and existing building to be kept/modified

Safe work method statement

The following documentation has been provided to Australian Consulting Engineers (ACE) to make an assessment.

Provided by Tony Owen Partners (project number 956):

- A350 – Structure Overlay – B2 REV C Dated JUL 2017 (seen in appendix 1)
- A351 – Structure Overlay – B1 REV C Dated JUL 2017 (seen in appendix 1)
- A352 – Structure Overlay – LG REV C Dated JUL 2017 (seen in appendix 1)
- A353 – Structure Overlay – G REV C Dated JUL 2017 (seen in appendix 1)
- A354 – Structure Overlay – L1 REV C Dated JUL 2017 (seen in appendix 1)
- A355 – Structure Overlay – L2 REV C Dated JUL 2017 (seen in appendix 1)
- A356 – Structure Overlay – L3 REV C Dated JUL 2017 (seen in appendix 1)
- A357 – Structure Overlay – L4 REV C Dated JUL 2017 (seen in appendix 1)
- A358 – Structure Overlay – L5 REV C Dated JUL 2017 (seen in appendix 1)

Provided by Bottaro de Nett (project reference 10541):

- Floor Plan – Basement Level “Existing Rachel Foster Hospital” (seen in appendix 2)
- Floor Plan – Ground floor “Existing Rachel Foster Hospital” (seen in appendix 2)
- Floor Plan – Level 1 “Existing Rachel Foster Hospital” (seen in appendix 2)
- Floor Plan – Level 2 “Existing Rachel Foster Hospital” (seen in appendix 2)

The following methodology will outline measures that will ensure that the excavation required for the new structure will not adversely affect the existing structure.

Methodology:

Stage 1- Underpin required existing columns. The columns that are required to be underpinned due to excavation undermining them can be found in appendix 3. Appendix 3 also outlines the process for the underpinning of columns. A detailed process to be provided by ACE should this option be approved to proceed.

Stage 2 - Install shoring. Shoring is to be designed by the engaged structural design engineer to ensure that the surcharge from the existing building has been accounted for. Refer to appendix 4 which outlines the shoring that will be required to be designed to protect the existing structure. In the case that footings are encountered whilst piling occurs the piles are to be diverted around the footing to ensure stability of the existing footings.

Stage 3 – Existing columns above proposed ramp will be required to be supported on a new suspended slab due to the need to excavate below for a new ramp. The columns will be required to be removed and reinstated. Refer to appendix 5 which outlines the process required to remove the columns above the proposed ramps and replace the slab on ground with a new suspended slab.

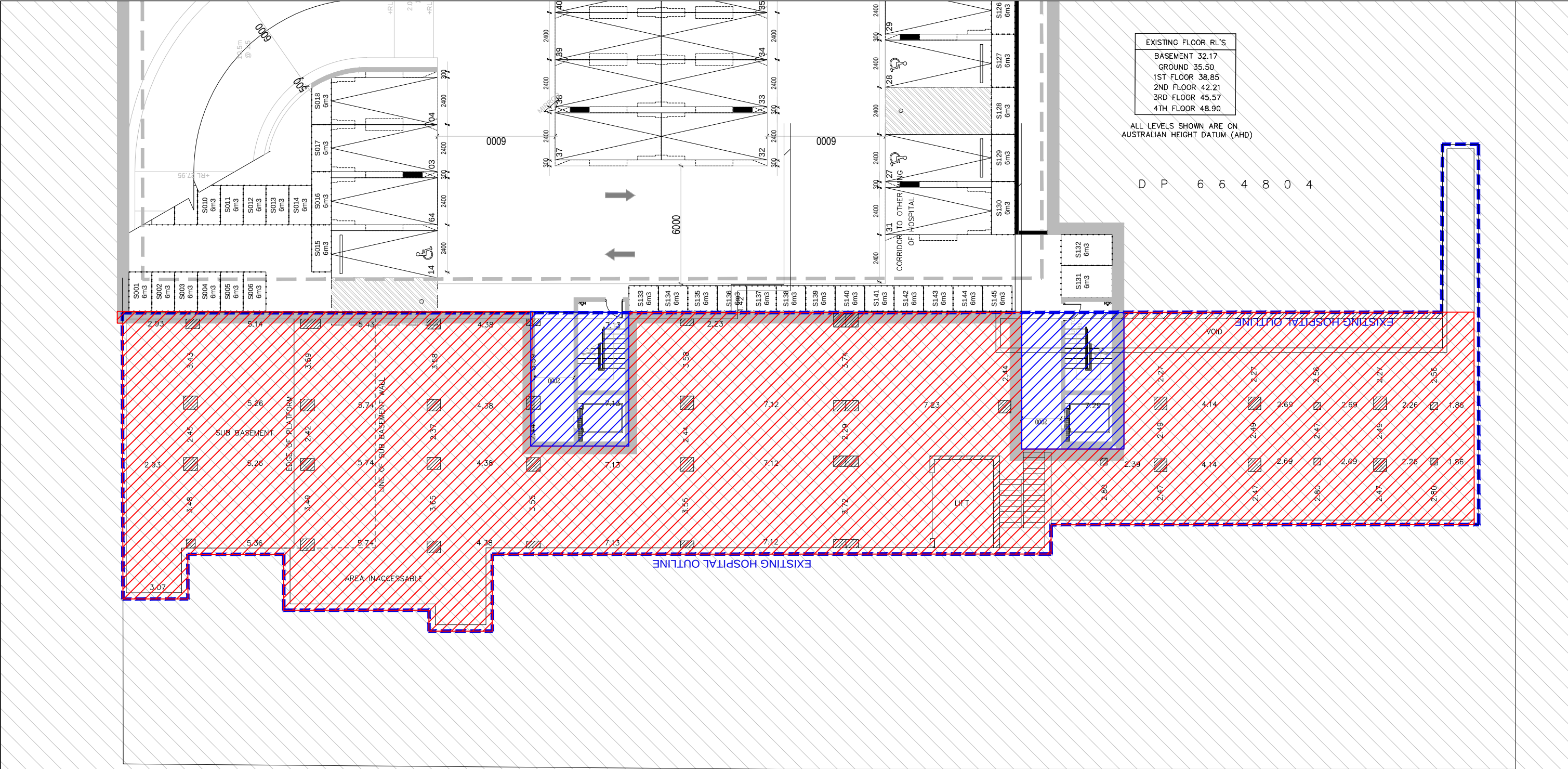
Stage 4 – Excavate in stages. Excavation is to occur in stages as it will be critical to monitor any movement of the shoring and the existing structure. As excavation continues to the required bulk excavation level it is critical that soil around the column underpinning is to be hand excavated in order to ensure the underpinning is not damaged. Soil below the new suspended slab is to be carefully removed as to not damage the new slab.

Recommendations

Above staging provides sufficient technical input to carry a feasibility study for this project. A full detailed set of drawings shall be provided should ACE be engaged for the full structural design of this project.

APPENDIX 1

ARCHITECTURAL + EXISTING STRUCTURAL OVERLAY



EXISTING FLOOR RL'S	
BASEMENT	32.17
GROUND	35.50
1ST FLOOR	38.85
2ND FLOOR	42.21
3RD FLOOR	45.57
4TH FLOOR	48.90

ALL LEVELS SHOWN ARE ON AUSTRALIAN HEIGHT DATUM (AHD)

D P 6 6 4 8 0 4

LEGEND

 KEEP

 DEMOLISH & REBUILD

NOTE: PROPOSED BASEMENT IS BELOW EXISTING HOSPITAL

EXISTING STRUCTURE OVERLAY - B2

Rev.	Description	By	Date
A	MODIFIED PROJECT SUBMISSION	DC	SEPT 2016
B	FOR COORDINATION	TL	MAY 2017
C	ADDITIONAL INFORMATION	TL	JUL 2017

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Legend

Consultants

dmps

Client

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NSW 2015
Tel: 02 9550 1234
Fax: 02 9550 1235
Email: info@bounceptnrs.com.au

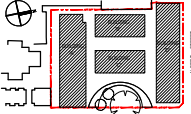
Project

RACHEL FORSTER

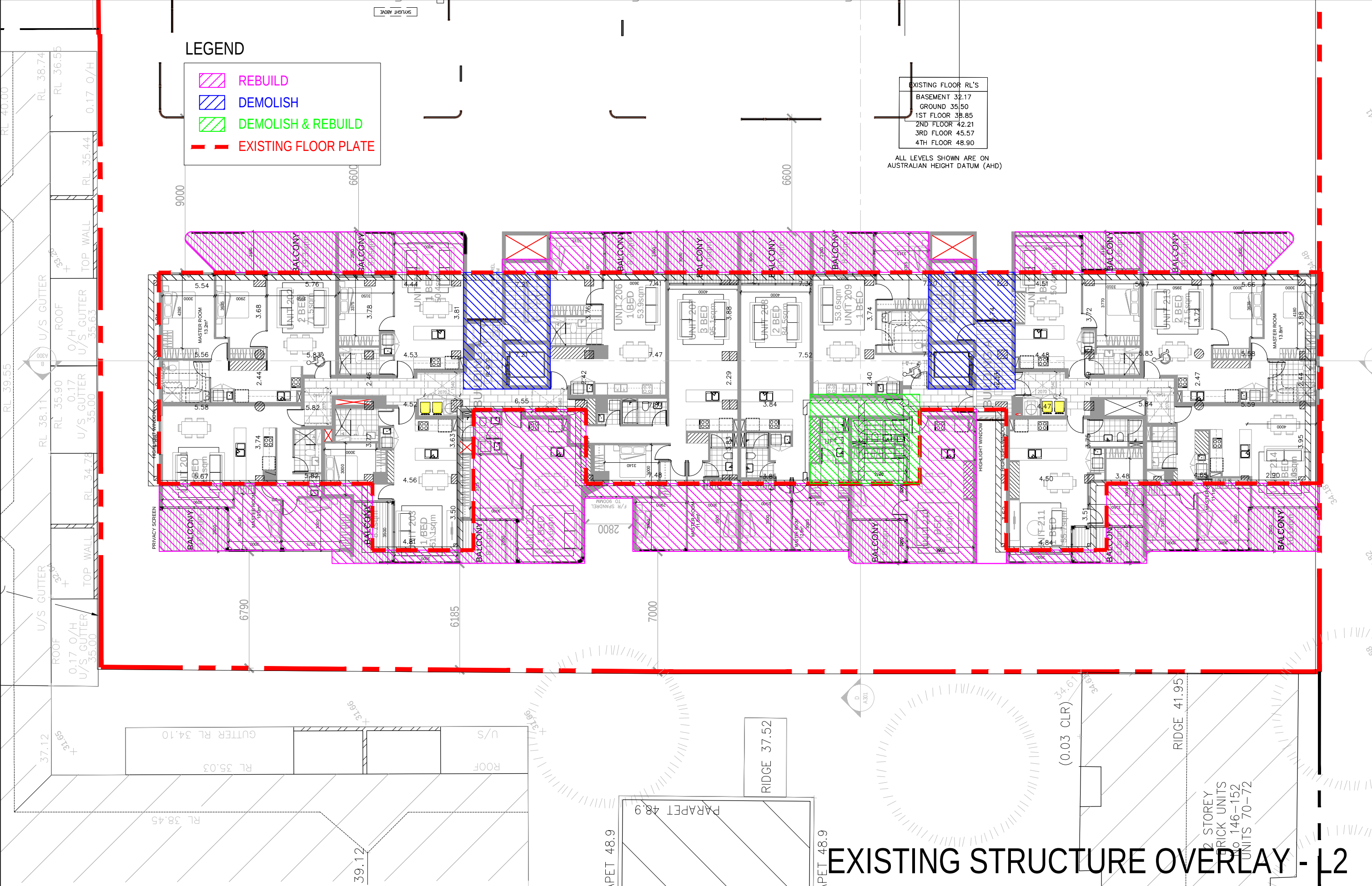
Project address

134 - 144 PITT STREET, REDFERN

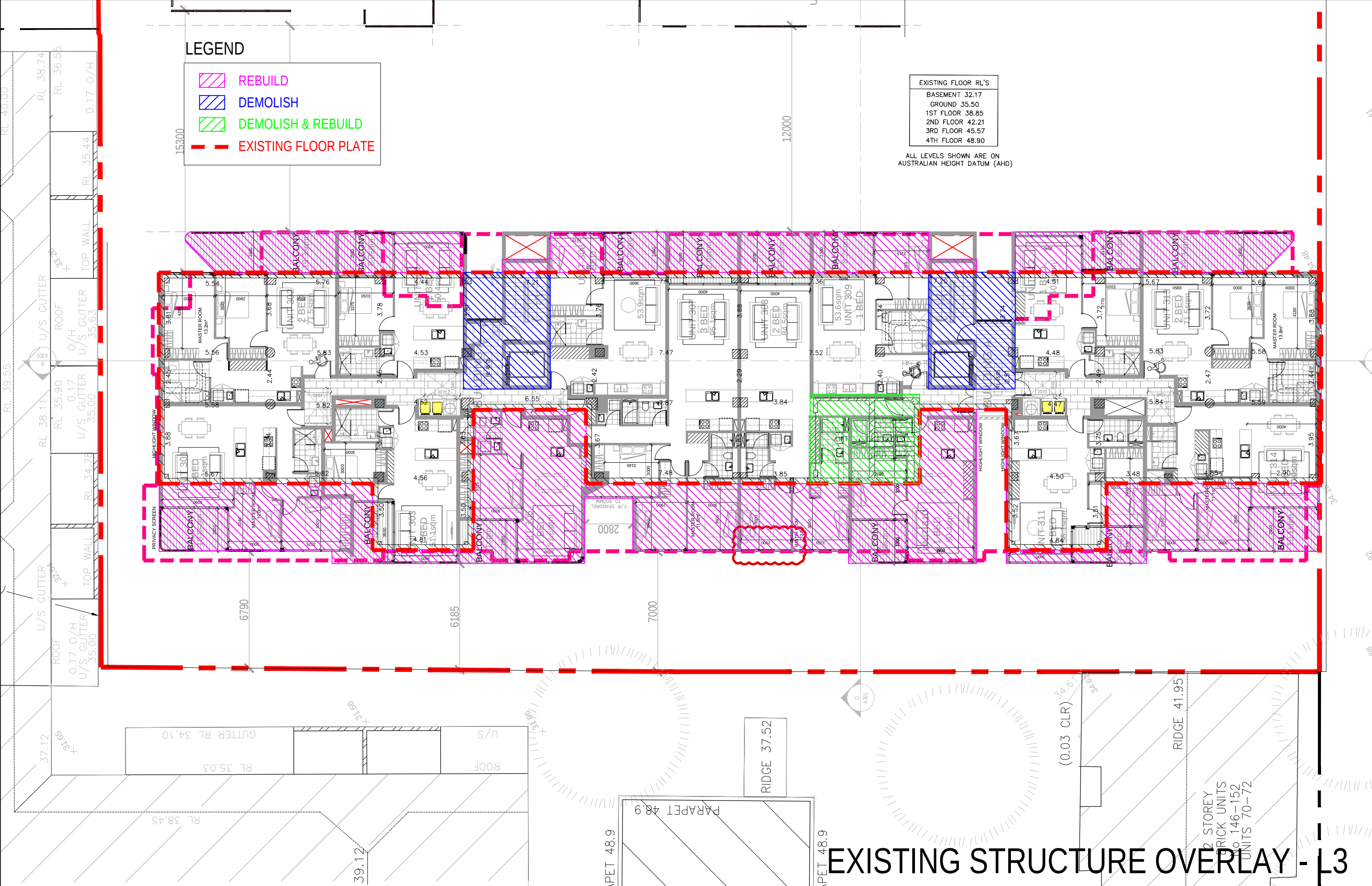
Key plan



Scale: 1:200 (SEE NOTE 1)	Date: JULY 2017
Drawing title	STRUCTURE OVERLAY - B2
Project no. 956	Drawing no. A350
Drawn: RA, TL	Rev: C
Drawing status	ADDITIONAL INFORMATION



Rev.	Description	By	Date	Disclaimer	Notes	Legend	Consultants	Client	Architects	Project	Key plan	Scale	Date
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B	FOR COORDINATION	TL	MAY 2017	BEFORE CARRYING OUT ANY WORK ENSURE THAT THE DRAWINGS USED CARRY THE LATEST AMENDMENT NO.	WHERE ANY DISCREPANCY EXISTS BETWEEN FIGURED AND SCALED DIMENSIONS, THE FIGURED DIMENSIONS SHALL PREVAIL.					Project address			
C	ADDITIONAL INFORMATION	TL	JUL 2017		BUILDER TO CHECK ALL SITE DIMENSIONS PRIOR TO FABRICATION OF FIXTURES.					134 - 144 PITT STREET, REDFERN			
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LEGEND

- REBUILD
- DEMOLISH
- DEMOLISH & REBUILD
- EXISTING FLOOR PLATE

EXISTING FLOOR RL'S	
BASEMENT	32.17
GROUND	35.50
1ST FLOOR	38.85
2ND FLOOR	42.21
3RD FLOOR	45.57
4TH FLOOR	48.90

ALL LEVELS SHOWN ARE ON AUSTRALIAN HEIGHT DATUM (AHD)

Rev.	Description	By	Date
A	MODIFIED PROJECT SUBMISSION	DC	SEPT 2016
B	FOR COORDINATION	TL	MAY 2017
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Legend

Consultants
dmps

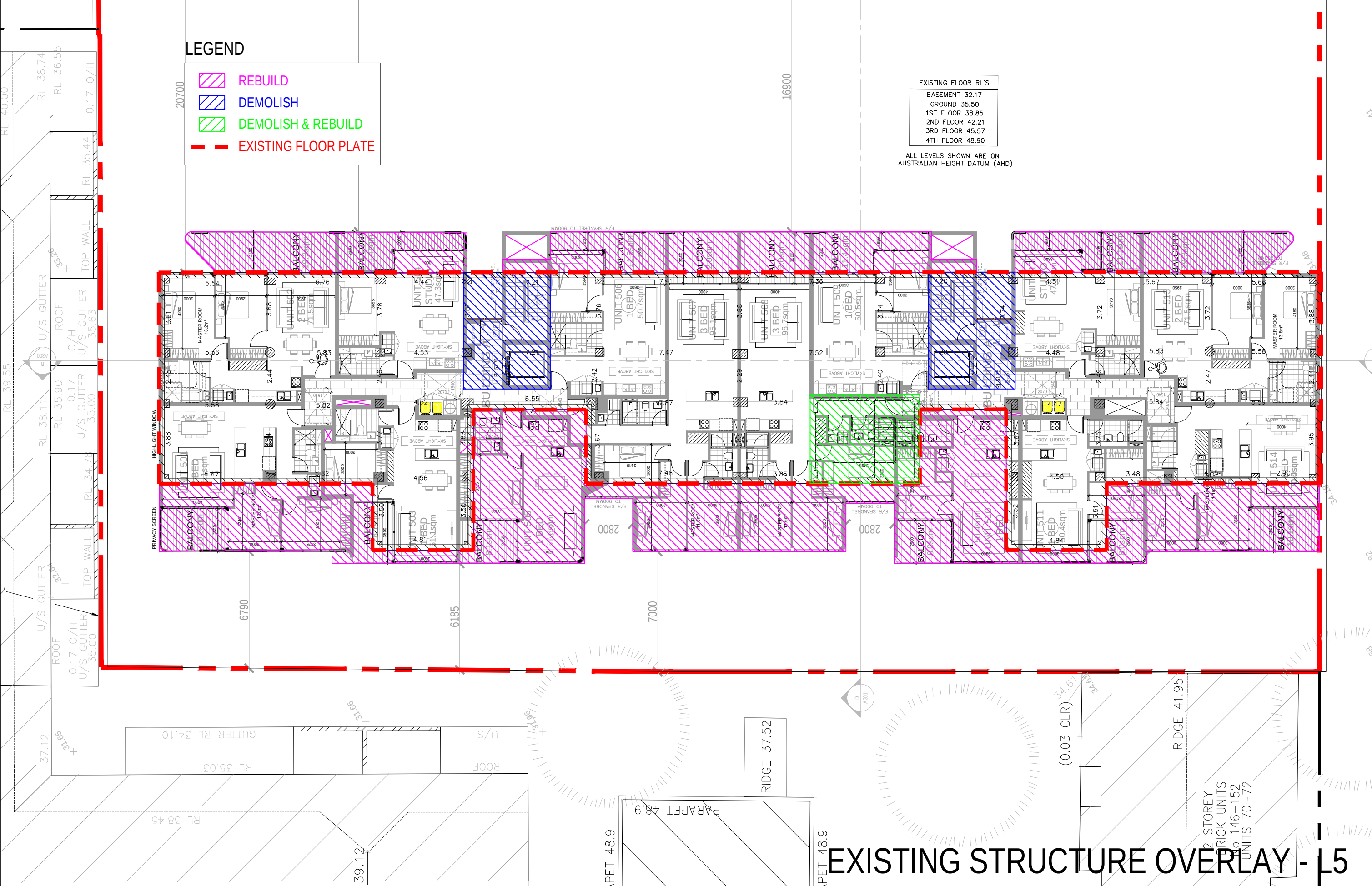
Client
KAYMET CORPORATION PTY LTD

Architects
pbrs

Project
RACHEL FORSTER
Project address
134 - 144 PITT STREET, REDFERN

Key plan
2 STOREY BRICK UNIT BUILDING 146-152 UNITS 70-72

Scale 1:200
Drawing title
STRUCTURE OVERLAY - L3
Project no. 956 Drawing no. A356
Drawn RA, TL Rev C
Drawing status
ADDITIONAL INFORMATION



LEGEND

- REBUILD
- DEMOLISH
- DEMOLISH & REBUILD
- EXISTING FLOOR PLATE

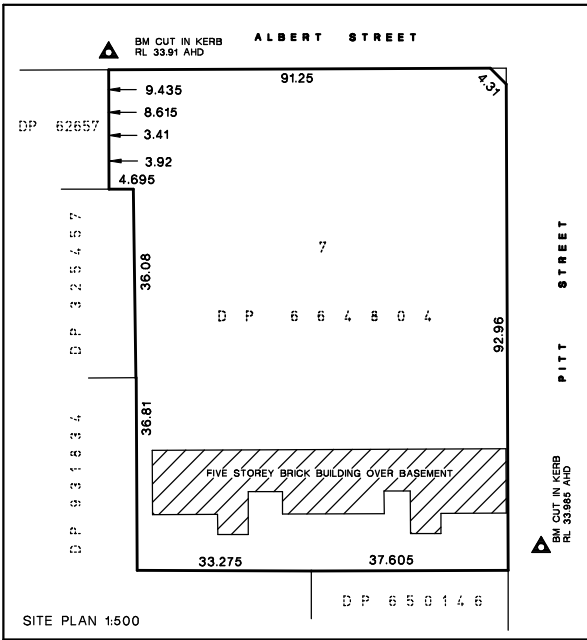
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										STRUCTURE OVERLAY - L5								
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												Drawing status: ADDITIONAL INFORMATION						

APPENDIX 2

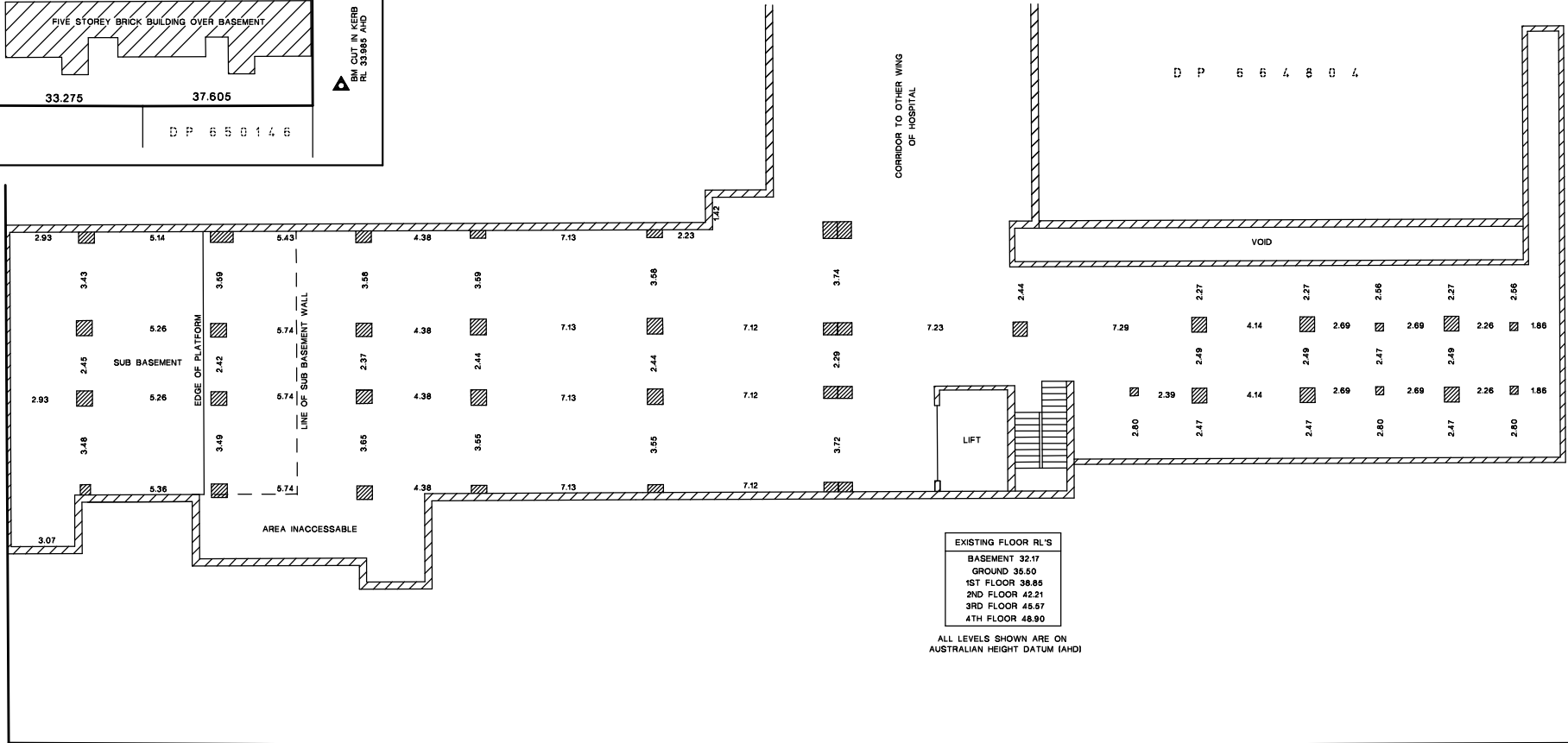
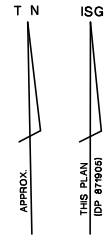
Survey of Existing Structure

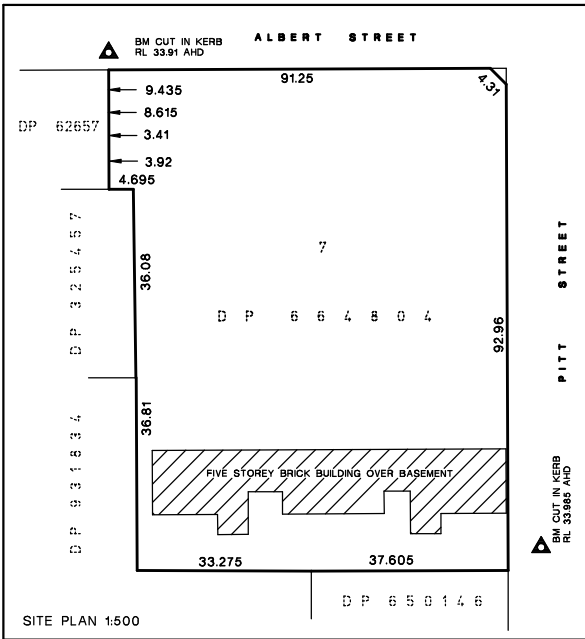


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FLOOR PLAN - BASEMENT LEVEL
"EXISTING RACHEL FOSTER HOSPITAL"



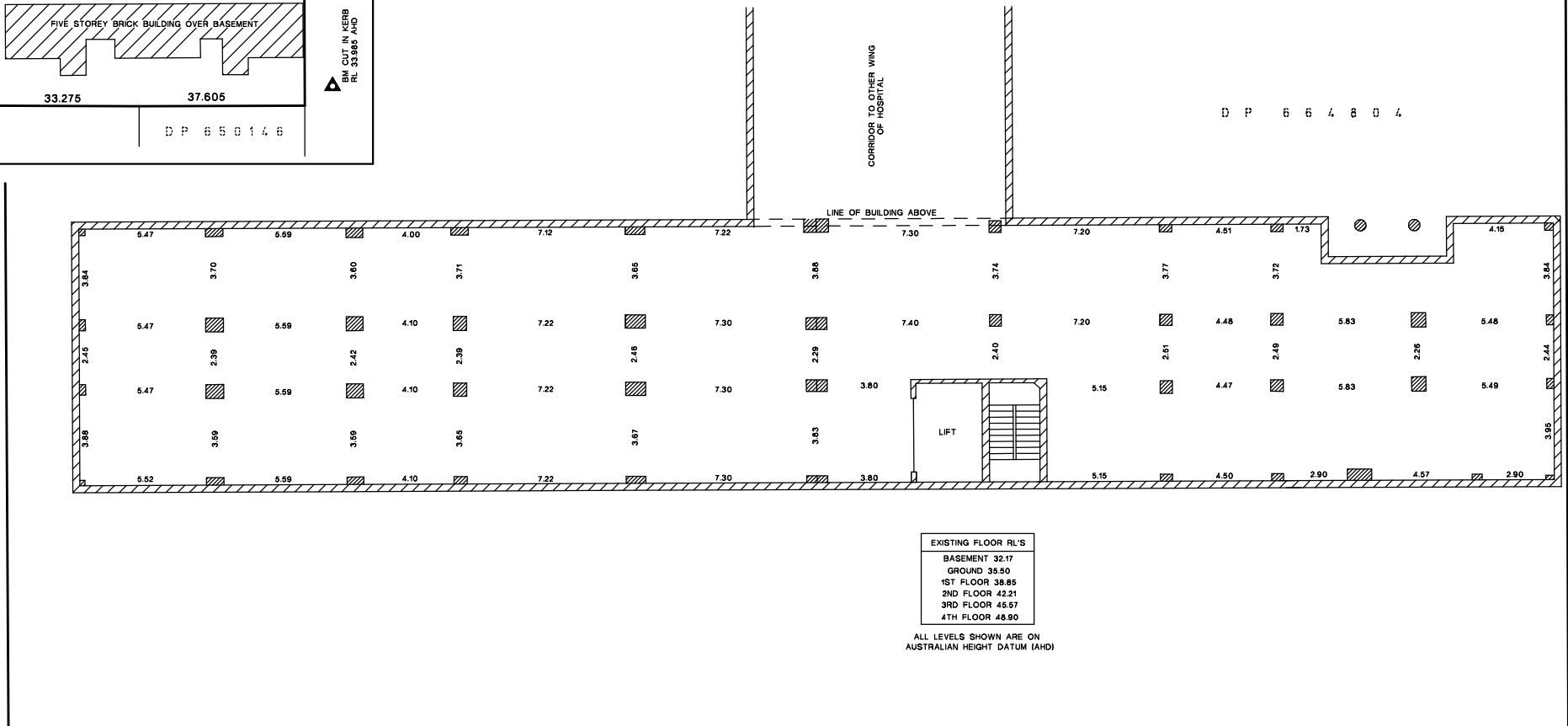
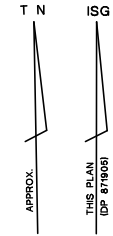


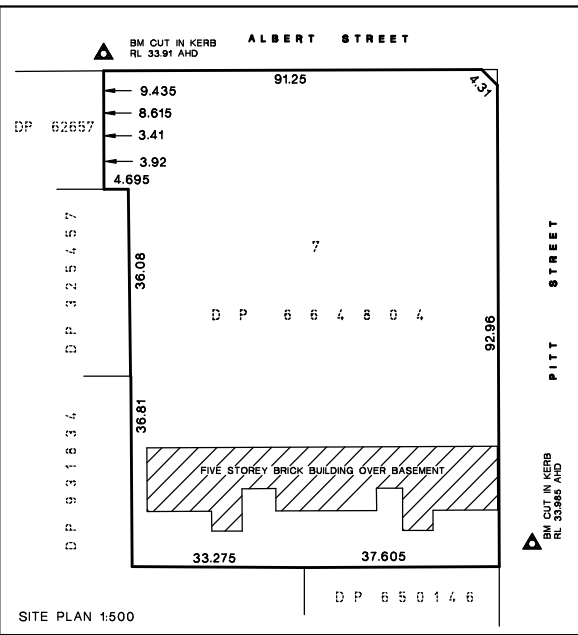
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FLOOR PLAN - GROUND FLOOR

"EXISTING RACHEL FOSTER HOSPITAL"





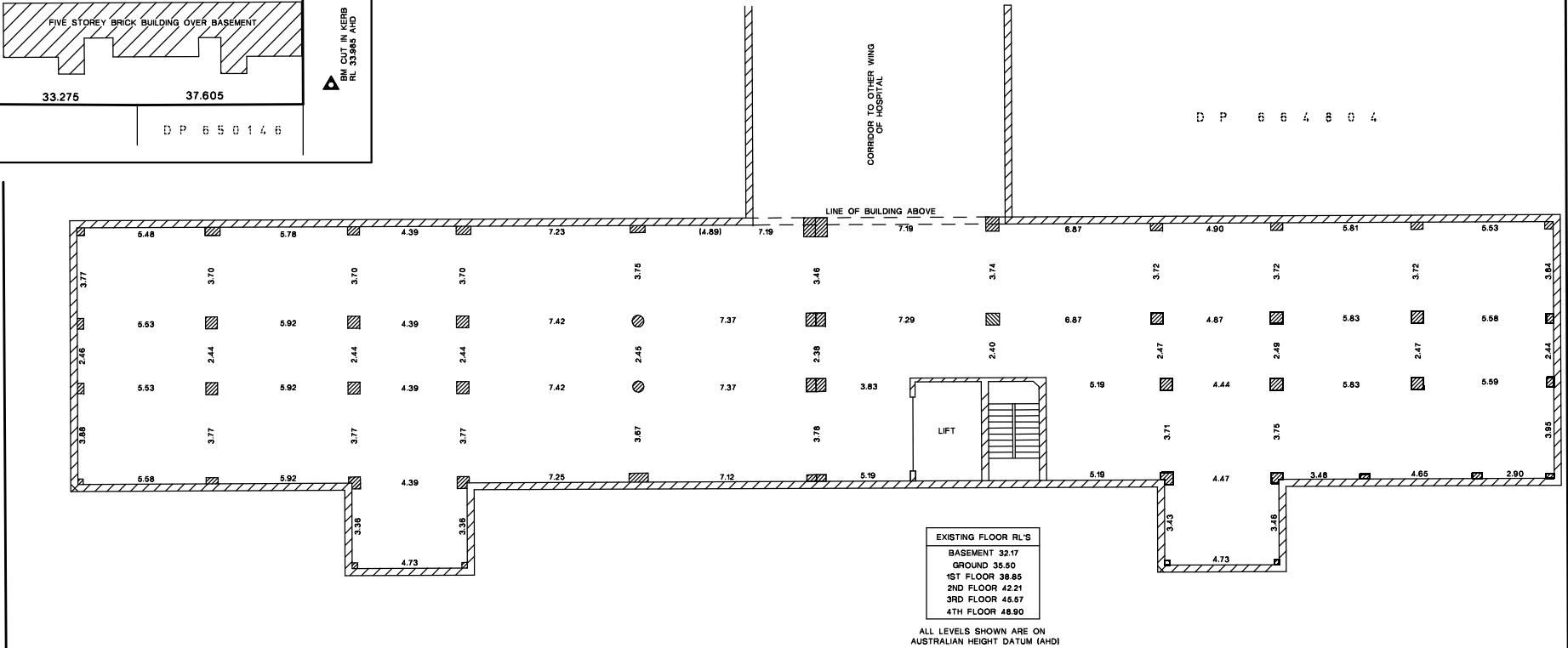
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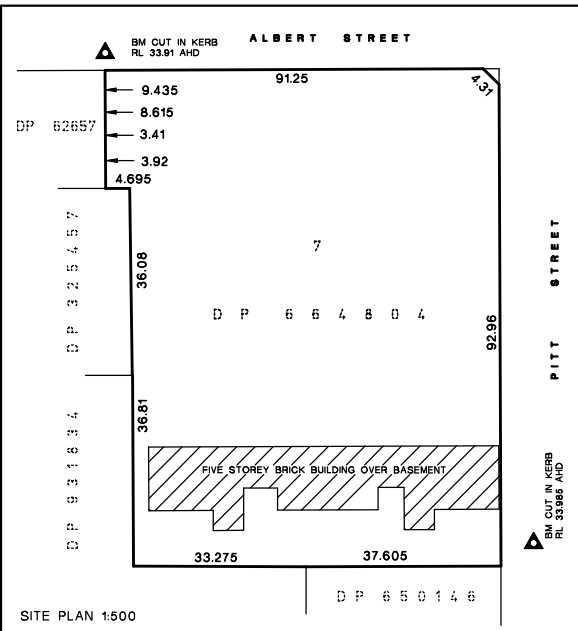
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FLOOR PLAN - LEVEL 1

"EXISTING RACHEL FOSTER HOSPITAL"

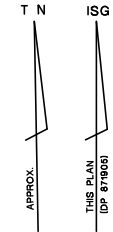




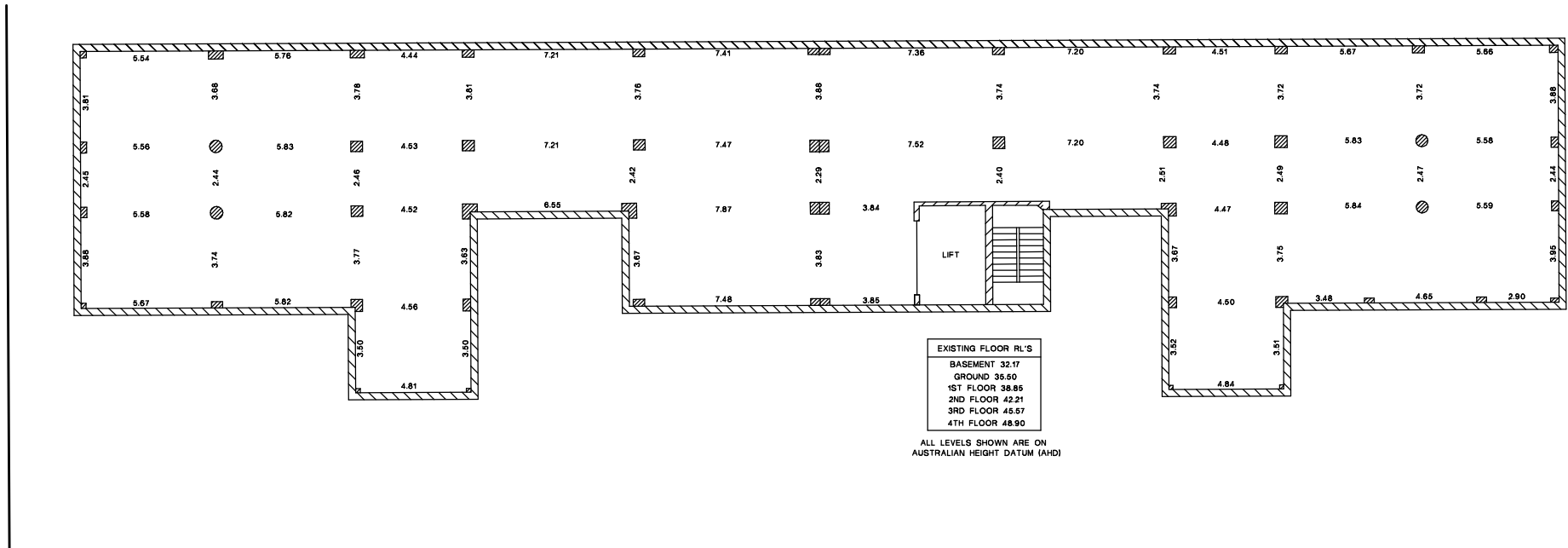
FLOOR PLAN - LEVEL 2
"EXISTING RACHEL FOSTER HOSPITAL"
(FLOORS 3 AND 4 ARE IDENTICAL)

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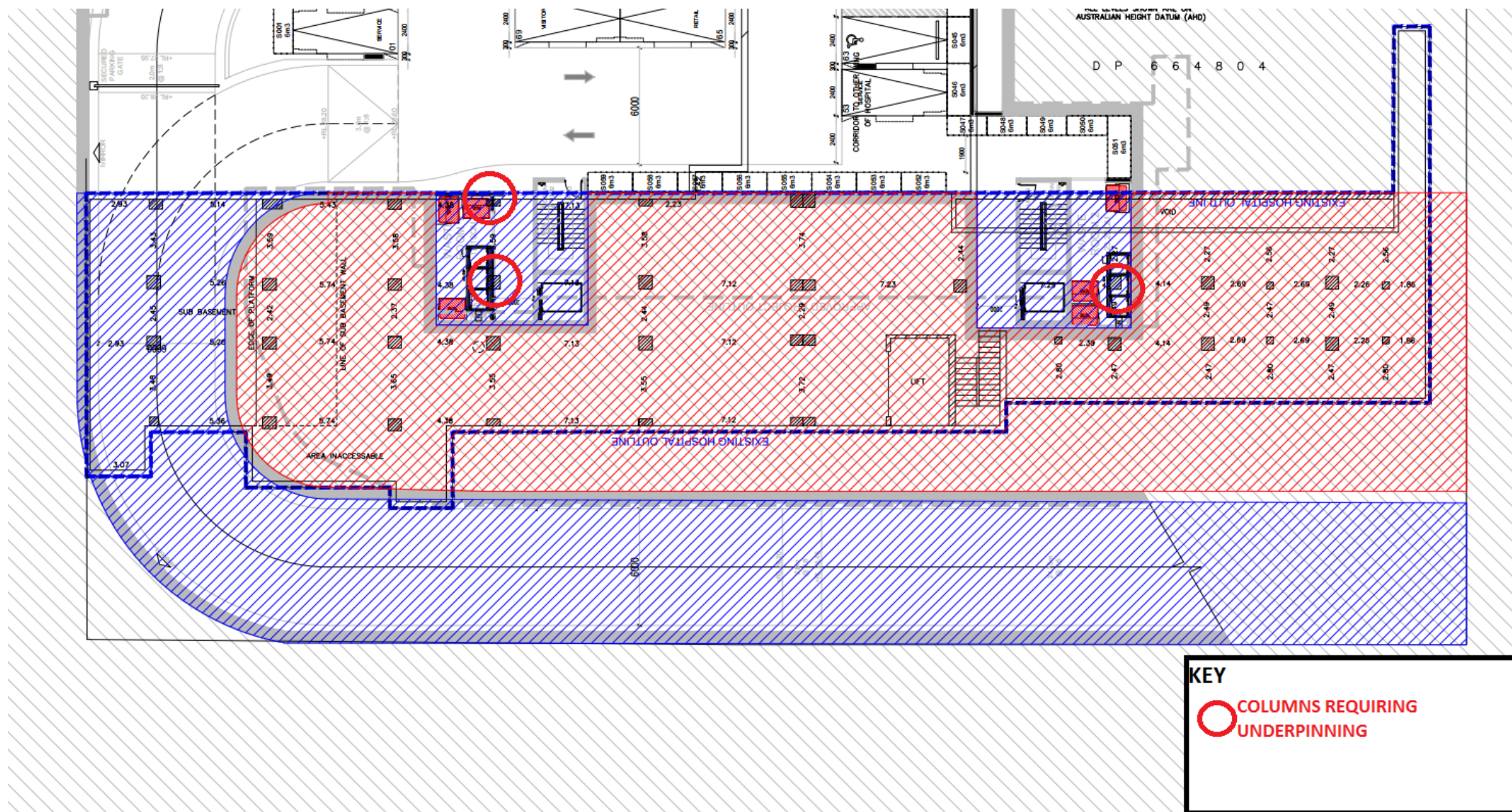


PITT STREET



APPENDIX 3

Columns to be Underpinned and Underpinning Process





Australian
Consulting
Engineers Pty Ltd
ABN: 82 084 059 941

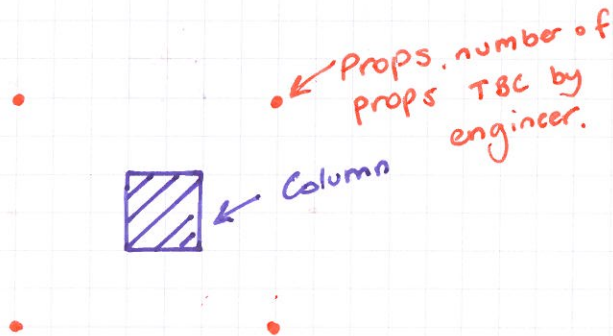
Suite 2, 141 Concord Road,
North Strathfield, N.S.W. 2137
Ph: (02) 9763 1500 Fax: (02) 9763 1515
Web: www.aceeng.com.au

Job No: 130485
Design by: S.R. & M.B.
Date: As per report date

Column Underpinning Process

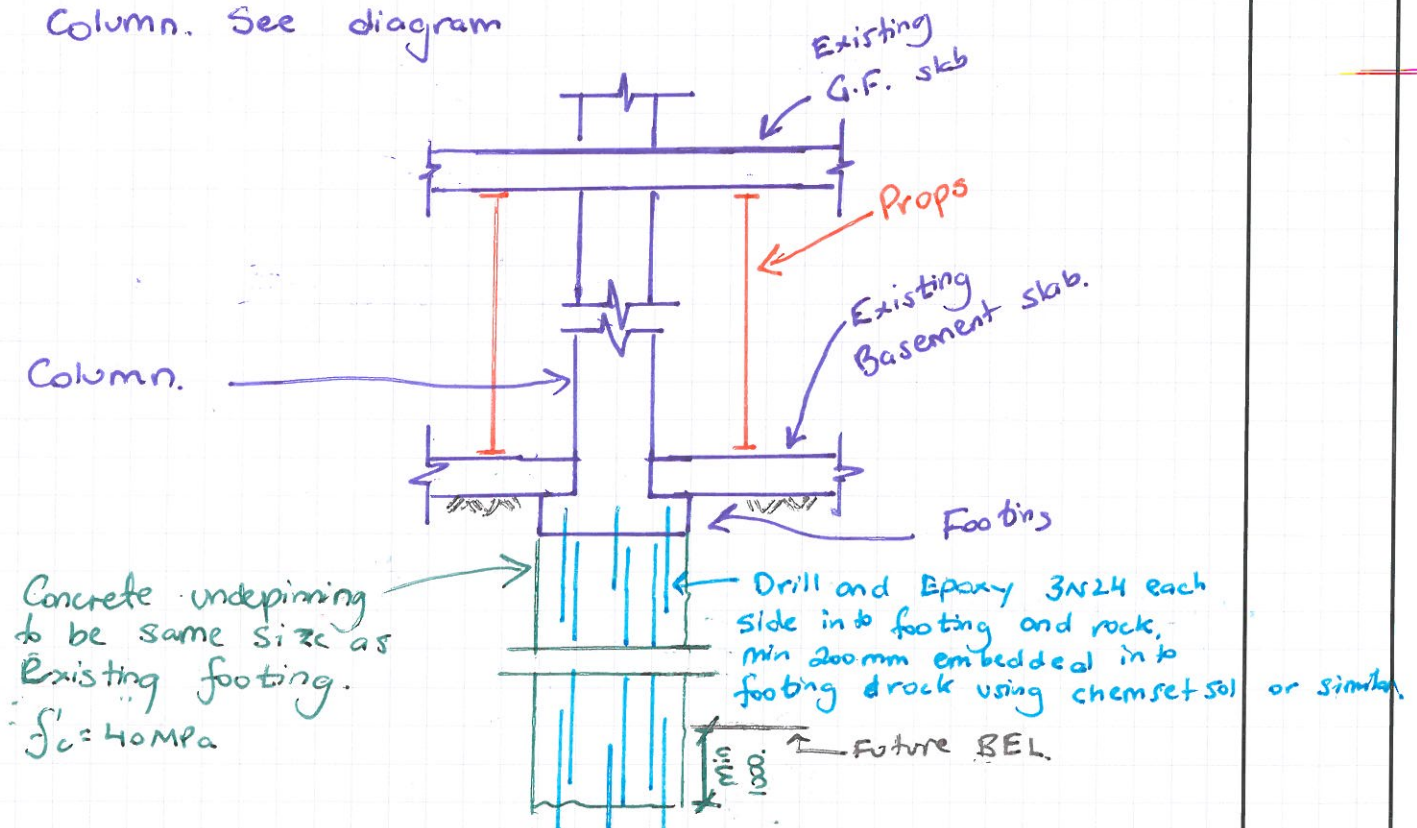
Step 1: Ensure building is empty during underpinning process.

Step 2: Prop all sides of column as shown below, props are to be designed by Structural Engineer.



Step 3: Structural Engineer to inspect and approve.

Step 4: Underpin column by excavating below propped column. See diagram



APPENDIX 4

Shoring Required to Protect Existing Building

APPENDIX 5

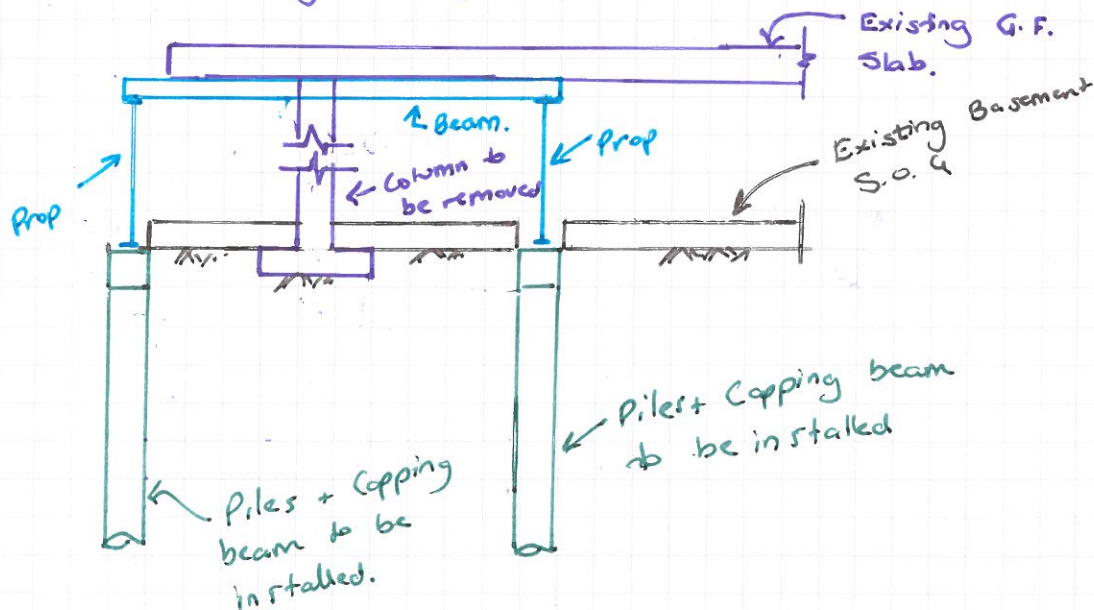
Columns to be Removed and Reinstated and Process



Columns above future ramp removal Process

Step 1: Shoring and Capping to be fully set.

Step 2: Existing Ground floor Slab is to be backpropped and supported using beams, See diagram below. Props and beams to be designed by ACE.



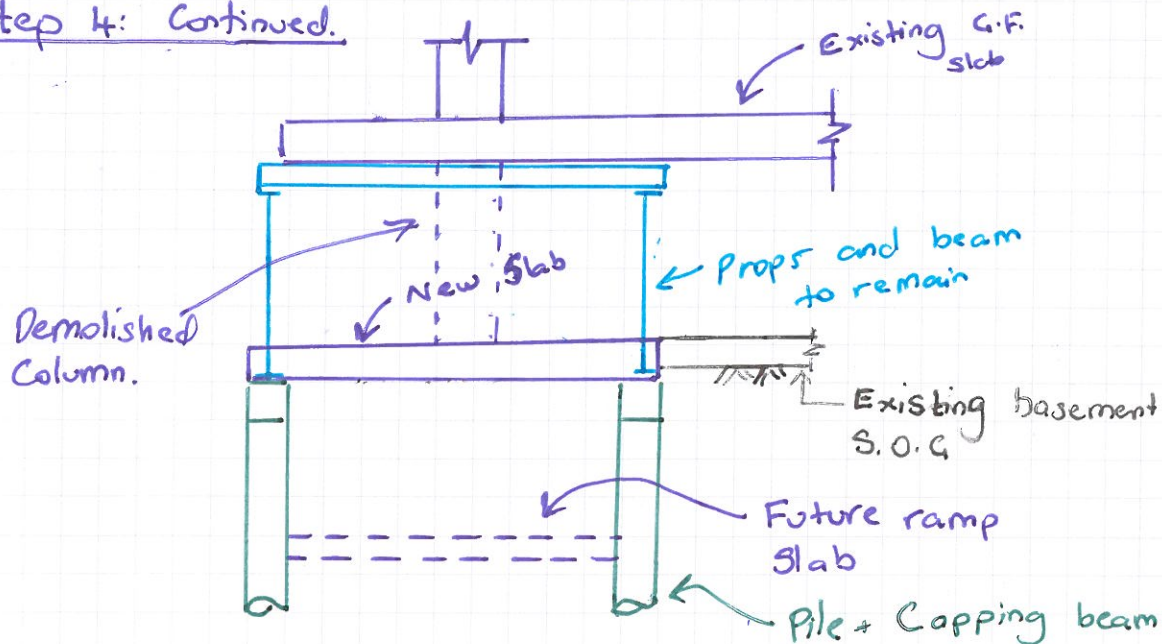
Step 3: Once back-propping has been installed, inspected and approved by Engineer columns that need to be removed may now be removed, back-propping to remain in place.

Step 4: A new transfer slab needs to be poured between the new shoring, this is to be designed by ACE, it may be assumed this slab is most likely going to be post-tension.



Page 2 of 2.

Step 4: Continued.



Note: Starter bars will be required for columns in new slab.

Step 5: Form and pour columns that will replace demolished columns. ACE to design new column. Allow 28 days for concrete to set. Structural Engineer to inspect and approve

Step 6: Propping may be removed once approval from Structural Engineer is obtained.