

Report

Engineering Report on Proposed Excavation & Construction

DATE	16/12/2025
TO	EG
ATTN	Grant Flannigan
PROJECT	175-177 Cleveland Street & 6-8 Woodburn Street, Redfern
REV	01 – Issued for information

Revision Table

REV	DATE	ISSUE DESCRIPTION	PREPARED	REVIEWED
01	16/12/2025	Issued for information	AJ	PS

Contents

1	Introduction.....	4
2	Rail Tunnels.....	5
	2.1 Loading Over Rail Tunnels	5
3	Excavation	6
4	Summary.....	7

1 Introduction

The proposed project is located on the corners of Woodburn St & Cleveland St, and Cleveland St & Eveleigh St, Redfern.

The 7-storey development (including basement) is situated adjacent the Redfern heavy rail line, with a small portion of the site located above the railway easement for the future proposed rail tunnel.

This report has been prepared to assess the implications of the proposed development in the proposed railway tunnel & the adjacent railway corridor.

2 Rail Tunnels

The future railway tunnel proposed passes beneath the South-East corner of the site.

The proposed alignment of the tunnel has been overlaid onto the site boundary by the surveyor (refer Clement & Reid survey, B1753-DETAIL-F-Signed, refer appendix A) and incorporated into the architectural documentation as part of this submission (refer appendix D).

2.1 Loading Over Rail Tunnels

Three key structural changes have been introduced through design development to reduce the development's impact on the future tunnel.

1. Basement Excavation – The shoring wall and basement extent have been reduced to avoid excavating and retaining material within the zone of influence of the rail tunnel.
2. The Eastern fire stair has been relocated to the North side of the development – This fire stair is a part of the lateral structure for wind and seismic actions. As such, this would require deep foundations into the bedrock for structural adequacy. In its previously documented location, this would be imposing load into the tunnel reserves above the permissible limits.
3. The Eastern passenger lift has been relocated further North – Similar to the above, this lift core is a part of the lateral structure for wind and seismic actions. Similarly, this would require deep foundations into the bedrock for structural adequacy.

Boundary sections produced by Halcrow Pacific (refer appendix C) show the rail alignment with respect to the proposed basement. The loading limitations identified in this documentation has been considered and implemented in the structural design. Shallow foundations of the structure has been limited to the permissible zones, and the permanent structure has made adequate consideration for the likely settlements resulting from the future tunnel.

3 Excavation

The basement is proposed to be excavated to RL 15.8 over part of the site. The extent of the basement is constrained by the rail easement, which restricts excavation along the eastern boundary. No basement construction is proposed within the south-eastern portion of the site.

Temporary shoring will be required around the basement perimeter to provide lateral support to Woodburn, Cleveland, and Eveleigh Streets. Temporary shoring is not required to support land within the rail corridor.

A 30-degree zone of influence has been plotted on the sections produced by James Taylors & Associates (refer appendix B) during SSD. The basement extent on the East has been adjusted to follow the rail tunnel & corresponding zone of influence to avoid the shoring and basement foundations impacting on the tunnel.

4 Summary

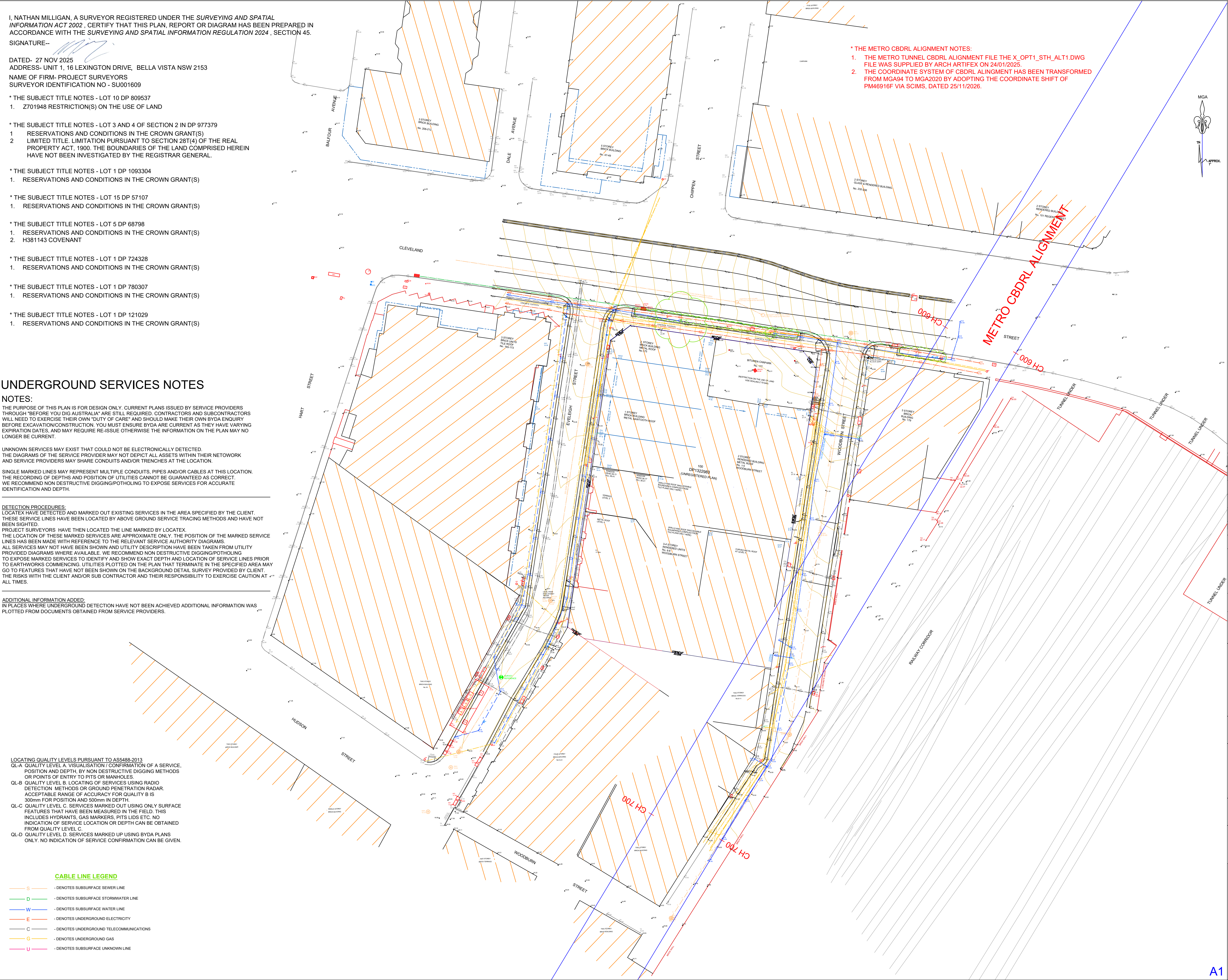
In summary, the proposed development at 175–177 Cleveland Street and 6–8 Woodburn Street, Redfern, has been designed to avoid any encroachment into the rail tunnel easements located beneath the south-eastern portion of the site. As a result, the extent of the basement excavation has been constrained. The zone of influence associated with the proposed basement does not extend into the rail corridor, with the nearest excavation located no less than 25 m from the closest rail tracks.

The subject site does not directly adjoin the rail corridor.

Based on the proximity of the proposed works, any potential impact on the rail corridor arising from construction activities is considered negligible.

The loads imposed within the tunnel easement remain within the permissible limits. Any localised excavation within Zone 5 of the easement has been designed to comply with the easement conditions as shown on the rail tunnel drawings.

Appendix A Clement & Reid Survey



I, NATHAN MILLIGAN, A SURVEYOR REGISTERED UNDER THE *SURVEYING AND SPATIAL INFORMATION ACT 2002* , CERTIFY THAT THIS PLAN, REPORT OR DIAGRAM HAS BEEN PREPARED IN ACCORDANCE WITH THE *SURVEYING AND SPATIAL INFORMATION REGULATION 2024* , SECTION 45.
SIGNATURE--

DATED- 27 NOV 2025
ADDRESS- UNIT 1, 16 LEXINGTON DRIVE, BELLA VISTA NSW 2153
NAME OF FIRM- PROJECT SURVEYORS
SURVEYOR IDENTIFICATION NO - SU001609

* THE SUBJECT TITLE NOTES - LOT 10 DP 809537
1. Z701948 RESTRICTION(S) ON THE USE OF LAND

* THE SUBJECT TITLE NOTES - LOT 3 AND 4 OF SECTION 2 IN DP 977379
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2. LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.

* THE SUBJECT TITLE NOTES - LOT 1 DP 1093304
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

* THE SUBJECT TITLE NOTES - LOT 15 DP 57107
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

* THE SUBJECT TITLE NOTES - LOT 5 DP 68798
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2. H381143 COVENANT

* THE SUBJECT TITLE NOTES - LOT 1 DP 724328
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

* THE SUBJECT TITLE NOTES - LOT 1 DP 780307
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

* THE SUBJECT TITLE NOTES - LOT 1 DP 121029
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

UNDERGROUND SERVICES NOTES

NOTES:
THE PURPOSE OF THIS PLAN IS FOR DESIGN ONLY. CURRENT PLANS ISSUED BY SERVICE PROVIDERS THROUGH 'BEFORE YOU DIG AUSTRALIA' ARE STILL REQUIRED. CONTRACTORS AND SUBCONTRACTORS WILL NEED TO EXERCISE THEIR OWN 'DUTY OF CARE' AND SHOULD MAKE THEIR OWN BYDA ENQUIRY BEFORE EXCAVATION/CONSTRUCTION. YOU MUST ENSURE BYDA ARE CURRENT AS THEY HAVE VARYING EXPIRATION DATES, AND MAY REQUIRE RE-ISSUE OTHERWISE THE INFORMATION ON THE PLAN MAY NO LONGER BE CURRENT.

UNKNOWN SERVICES MAY EXIST THAT COULD NOT BE ELECTRONICALLY DETECTED. THE DIAGRAMS OF THE SERVICE PROVIDER MAY NOT DEPICT ALL ASSETS WITHIN THEIR NETWORK AND SERVICE PROVIDERS MAY SHARE CONDUITS AND/OR TRENCHES AT THE LOCATION.

SINGLE MARKED LINES MAY REPRESENT MULTIPLE CONDUITS, PIPES AND/OR CABLES AT THIS LOCATION. THE RECORDING OF DEPTHS AND POSITION OF UTILITIES CANNOT BE GUARANTEED AS CORRECT. WE RECOMMEND NON DESTRUCTIVE DIGGING/POTHOLING TO EXPOSE SERVICES FOR ACCURATE IDENTIFICATION AND DEPTH.

DETECTION PROCEDURES:
LOCATEX HAVE DETECTED AND MARKED OUT EXISTING SERVICES IN THE AREA SPECIFIED BY THE CLIENT. THESE SERVICE LINES HAVE BEEN LOCATED BY ABOVE GROUND SERVICE TRACING METHODS AND HAVE NOT BEEN SIGHTED.
PROJECT SURVEYORS HAVE THEN LOCATED THE LINE MARKED BY LOCATEX. THE LOCATION OF THESE MARKED SERVICES ARE APPROXIMATE ONLY. THE POSITION OF THE MARKED SERVICE LINES HAS BEEN MADE WITH REFERENCE TO THE RELEVANT SERVICE AUTHORITY DIAGRAMS. ALL SERVICES MAY NOT HAVE BEEN SHOWN AND UTILITY DESCRIPTION HAVE BEEN TAKEN FROM UTILITY PROVIDED DIAGRAMS WHERE AVAILABLE. WE RECOMMEND NON DESTRUCTIVE DIGGING/POTHOLING TO EXPOSE MARKED SERVICES TO IDENTIFY AND SHOW EXACT DEPTH AND LOCATION OF SERVICE LINES PRIOR TO EARTHWORKS COMMENCING. UTILITIES PLOTTED ON THE PLAN THAT TERMINATE IN THE SPECIFIED AREA MAY GO TO FEATURES THAT HAVE NOT BEEN SHOWN ON THE BACKGROUND DETAIL SURVEY PROVIDED BY CLIENT. THE RISKS WITH THE CLIENT AND/OR SUB CONTRACTOR AND THEIR RESPONSIBILITY TO EXERCISE CAUTION AT ALL TIMES.

ADDITIONAL INFORMATION ADDED:
IN PLACES WHERE UNDERGROUND DETECTION HAVE NOT BEEN ACHIEVED ADDITIONAL INFORMATION WAS PLOTTED FROM DOCUMENTS OBTAINED FROM SERVICE PROVIDERS.

LOCATING QUALITY LEVELS PURSUANT TO ASS4988-2013
QL-A QUALITY LEVEL A. VISUALISATION / CONFIRMATION OF A SERVICE, POSITION AND DEPTH, BY NON DESTRUCTIVE DIGGING METHODS OR POINTS OF ENTRY TO PITS OR MANHOLES.
QL-B QUALITY LEVEL B. LOCATING OF SERVICES USING RADIO DETECTION METHODS OR GROUND PENETRATION RADAR. ACCEPTABLE RANGE OF ACCURACY FOR QUALITY B IS 300mm FOR POSITION AND 500mm IN DEPTH.
QL-C QUALITY LEVEL C. SERVICES MARKED OUT USING ONLY SURFACE FEATURES THAT HAVE BEEN MEASURED IN THE FIELD. THIS INCLUDES HYDRANTS, GAS MARKERS, PITS LIDS ETC. NO INDICATION OF SERVICE LOCATION OR DEPTH CAN BE OBTAINED FROM QUALITY LEVEL C.
QL-D QUALITY LEVEL D. SERVICES MARKED UP USING BYDA PLANS ONLY. NO INDICATION OF SERVICE CONFIRMATION CAN BE GIVEN.

CABLE LINE LEGEND

- S - DENOTES SUBSURFACE SEWER LINE
- D - DENOTES SUBSURFACE STORMWATER LINE
- W - DENOTES SUBSURFACE WATER LINE
- E - DENOTES UNDERGROUND ELECTRICITY
- C - DENOTES UNDERGROUND TELECOMMUNICATIONS
- G - DENOTES UNDERGROUND GAS
- U - DENOTES SUBSURFACE UNKNOWN LINE

* THE METRO CBDRL ALIGNMENT NOTES:
1. THE METRO TUNNEL CBDRL ALIGNMENT FILE THE X_OPT1_STH_ALT1.DWG FILE WAS SUPPLIED BY ARCH ARTIFEX ON 24/01/2025.
2. THE COORDINATE SYSTEM OF CBDRL ALIGNMENT HAS BEEN TRANSFORMED FROM MGA94 TO MGA2020 BY ADOPTING THE COORDINATE SHIFT OF PM46916F VIA SCIMS, DATED 25/11/2026.

NOTES :

- * LAND BOUNDARIES HAVE BEEN SURVEYED
- * LAND DIMENSIONS HAVE BEEN ADOPTED AS SHOWN ON UNREGISTERED CONSOLIDATION PLAN PREPARED BY PROJECT SURVEYORS
- * BEARINGS RELATE TO MGA2020 NORTH ORIGINATING FROM UNREGISTERED PLAN DP1322983
- * VISIBLE, ACCESSIBLE SERVICES ONLY HAVE BEEN LOCATED. THIS PLAN DOES NOT PURPORT TO SHOW UNDERGROUND SERVICES
- * THE EXISTENCE OF UNDERGROUND SERVICES HAS NOT BEEN ESTABLISHED.
- * EXISTENCE OF SERVICES MUST BE VERIFIED BY CONTACTING BEFORE YOU DIG (BYDA) BYDA.COM.AU
- * CRITICAL SERVICES MUST BE EXPOSED AND LOCATED.
- * NEIGHBOURING HOUSES, WINDOWS AND ROOF POSITIONS ARE APPROXIMATELY ONLY.
- * FLOOR LEVELS GENERALLY SURVEYED AT DOOR THRESHOLDS. INTERNAL ROOMS NOT SURVEYED.
- * CONTOURS SHOWN ARE INDICATIVE OF LAND FORM. SPOT LEVELS SHOULD TAKE PRECEDENCE.
- * REFER TO FACE OF PLAN FOR SUBJECT TITLE NOTATIONS.
- * THIS TITLEBLOCK IS AN INTEGRAL PART OF THIS DRAWING AND SHOULD NOT BE REMOVED.

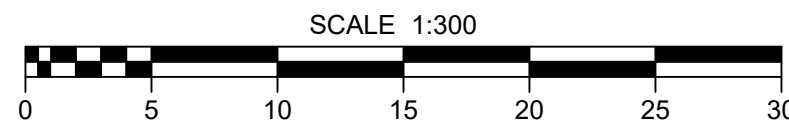


LEGEND

- | | |
|--|-------------------------|
| BIT - BITUMEN | PPT - PARAPET |
| BOL - BOLLARD | SIGN - SIGN POST |
| EOT - END OF SIGNAL TRACE | SMH - SEWER MANHOLE |
| ELEC - ELECTRICITY PIT | STEPS - STEPS |
| ELP - ELECTRIC LIGHT POLE | SV - STOP VALVE |
| FL - FLOOR LEVEL | TEL - TELSTRA PIT |
| GRATE - GRATED PIT | TELP - TELSTRA PILLAR |
| HYD - HYDRANT | TELR - TELSTRA OVAL PIT |
| INV - INVERT OF PIT | TG - TOP OF GUTTER |
| LIN - LINTEL | TK - TOP OF KERB |
| MH - MANHOLE - NOT SEWER | TW - TOP OF WALL |
| MW - MONITORING WELL | UTL - UNABLE TO LIFT |
| PC - PRAM CROSSING | VC - KERB-VC |
| PP - POWER POLE | |
| 0.1D/35/5H - TREE DIAMETER, SPREAD, HEIGHT | |

© PROJECT SURVEYORS - 2025
REPRODUCTION WITHOUT WRITTEN
APPROVAL IS STRICTLY PROHIBITED

F	TO MGA2020 AND ADDITIONAL INFORMATION	18/11/2025
A-E	ORIGINAL SURVEY B/N 2014 & 2019	2014-2019
REV	AMENDMENTS	DATE



SHEET 1 OF 7 - DETAIL SURVEY

CLIENT: PERPETUAL CORPORATE TRUSTEE LIMITED

JOB REF. : B1753-DETAIL-F
DRAWING No. B1753-DETAIL-F-1
SURVEYOR: L.Z. & L.G.
CHECKED: NATHAN MILLIGAN
REGISTERED LAND SURVEYOR
DATE OF SURVEY: 18/07/2019 & NOVEMBER 2025
DATUM: A.H.D.
ORIGIN: PM 46916 RL 28.577
REFERENCE SYSTEM: GDA 2020

PLAN OF: 175-177 CLEVELAND STREET, 1-5 AND 6-8 WOODBURN STREET, REDFERN

BEING: LOT 5 IN DP68797, LOTS 3 AND 4 SECTION 2 IN DP977379, LOT 1 IN DP780307, LOT 10 IN DP809537, LOT 1 IN DP1093304, LOT 1 IN DP724328, LOT 1 IN DP121029 AND LOT 15 IN DP57107

SHOWING: GENERAL DETAIL AND SITE LEVELS

PURPOSE: ARCHITECTURAL DESIGN
COUNCIL SUBMISSION

CLEMENT&REID
PROJECT SURVEYORS
BELLA VISTA

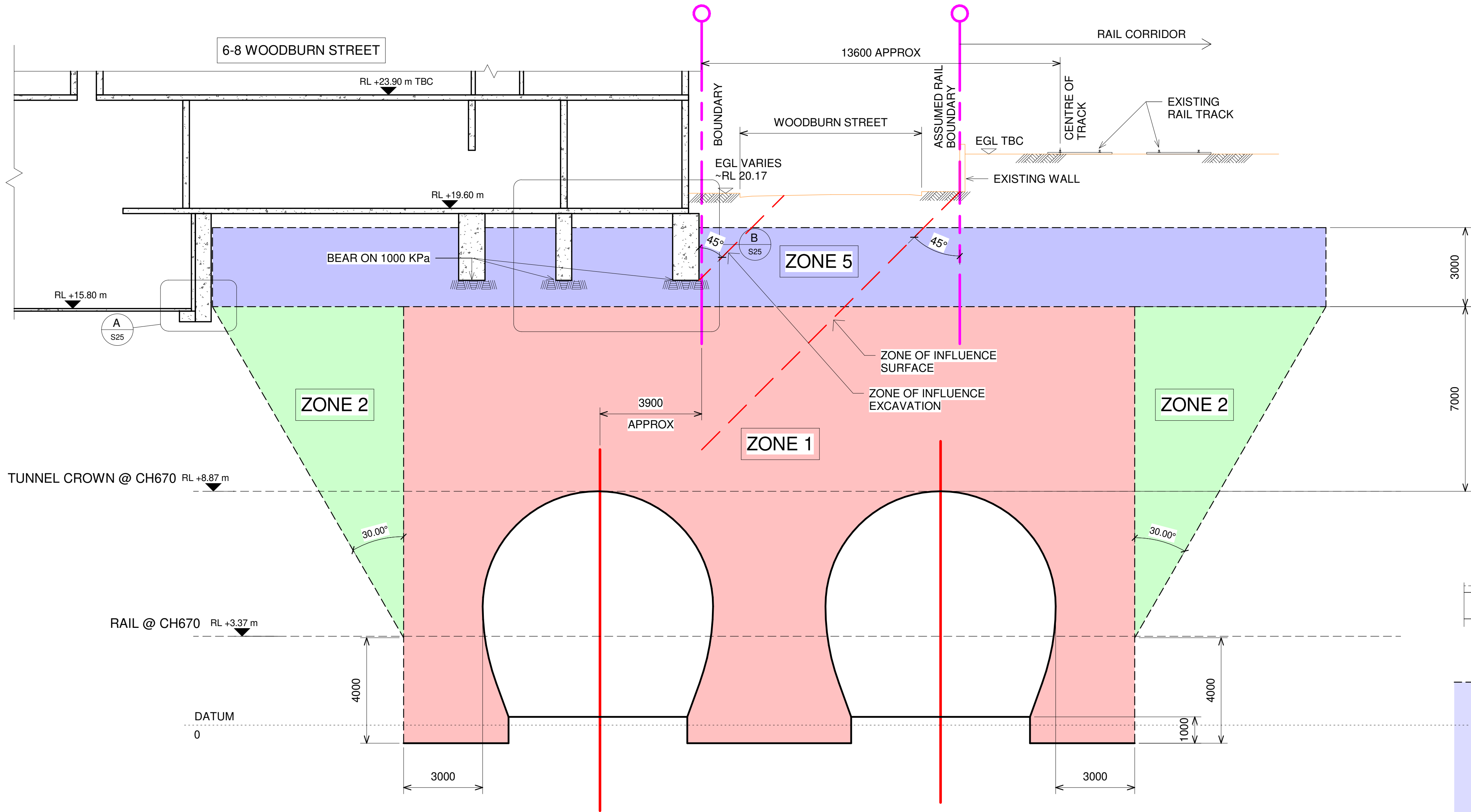
PO BOX 7419
BAULKHAM HILLS NSW 2153

UNIT 1, 16 LEXINGTON DRIVE
BELLA VISTA NSW 2153

PHONE: 02 9056 1900

email: office@projectsurveyors.com.au
www.projectsurveyors.com.au
ABN 20 068 433 974

Appendix B James Taylor & Associates – Tunnel Sections



- ZONE 1 EXCAVATIONS, STRUCTURES NOT PERMITTED
- ZONE 2 VERTICAL LOADING NOT ALLOWED
- ZONE 5 3000kN/m² OVER 3x3m MAX (3000KPa) AND 1000kN/m² OVER 10x10m MAX (1000KPa)

TUNNEL CROWN @ CH670 RL +8.87 m

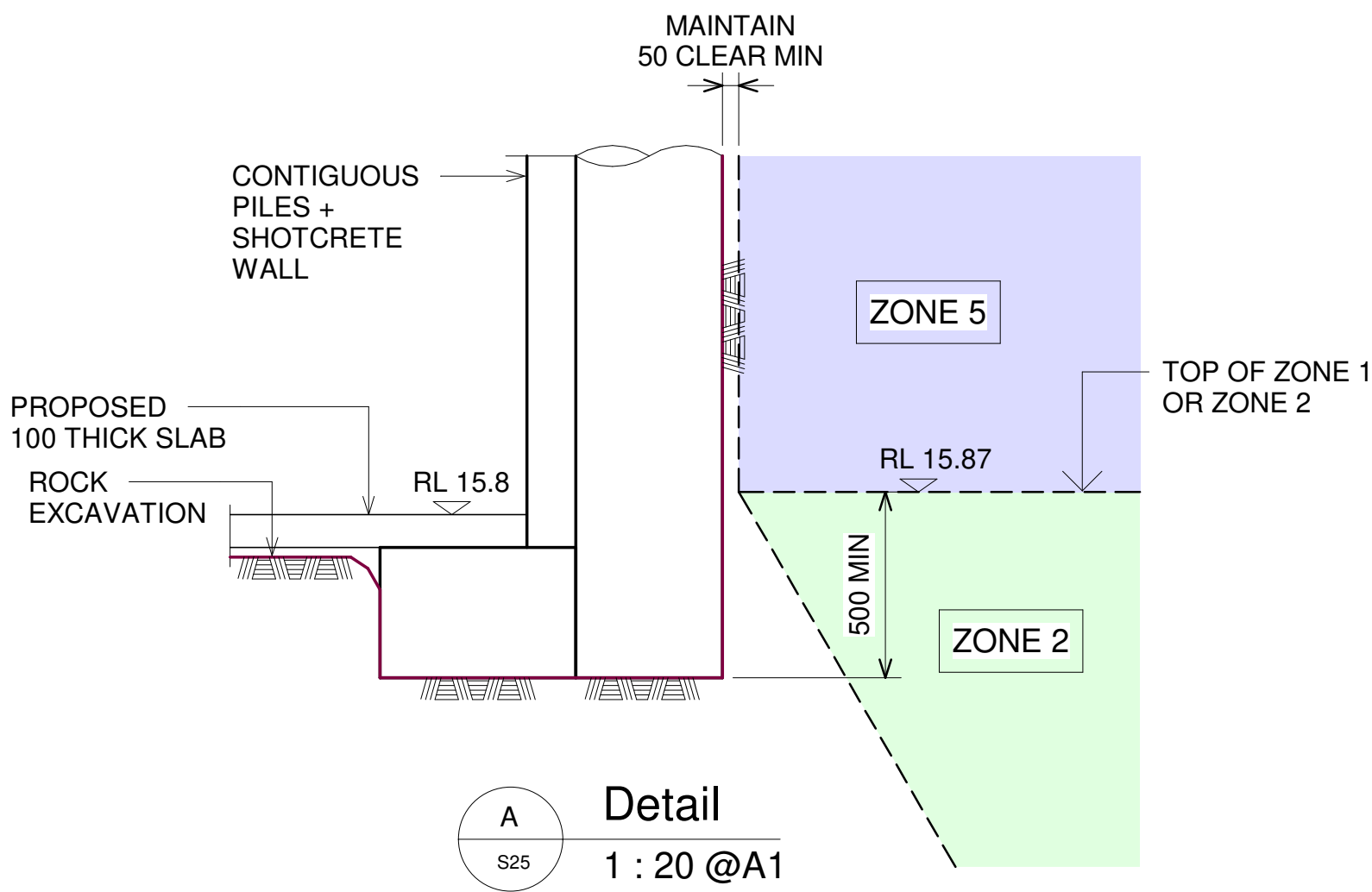
RAIL @ CH670 RL +3.37 m

DATUM
0

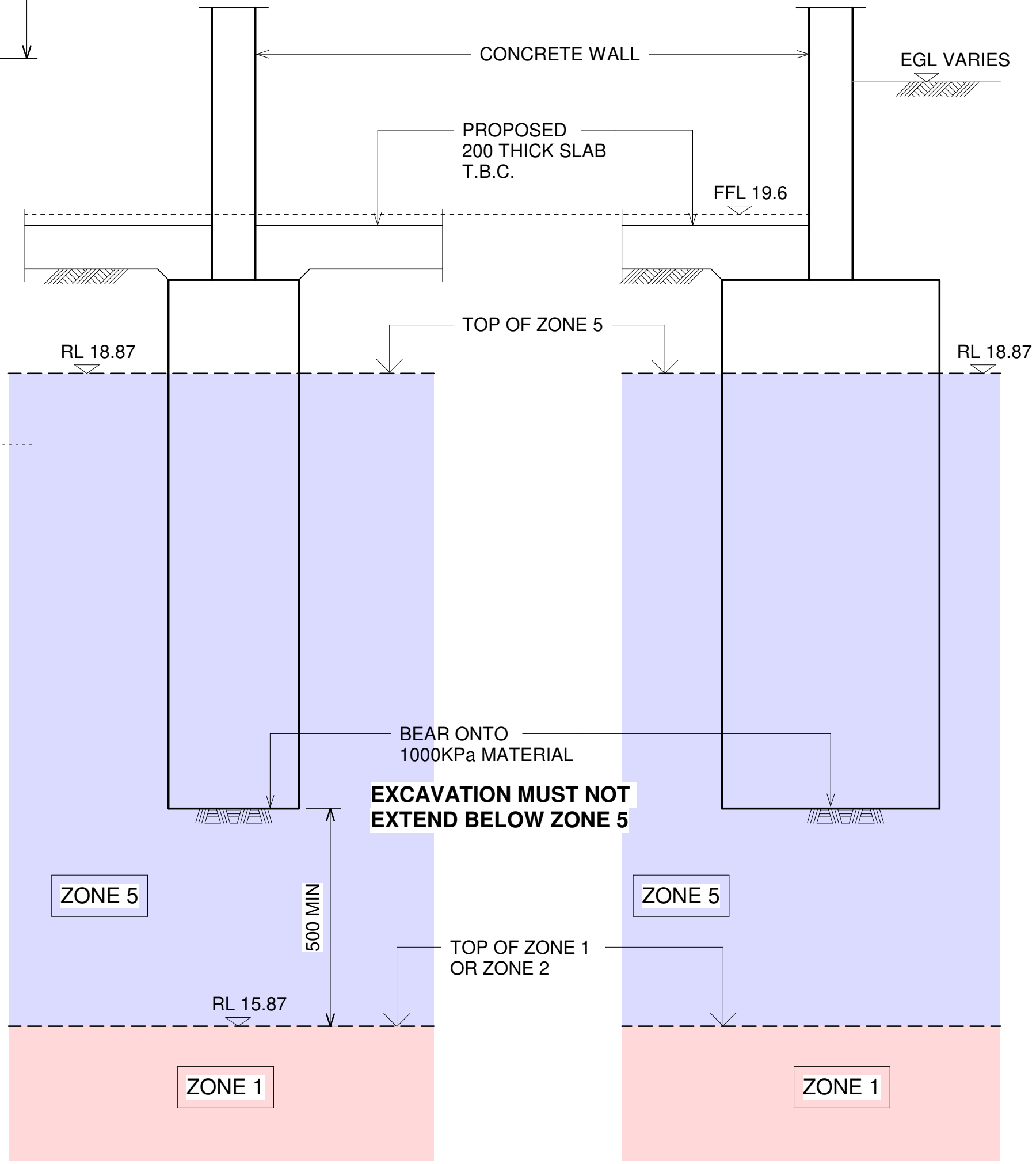
1 Section
S09 SCALE 1 : 100 @A1

TUNNEL LEVELS AND ALIGNMENT SOURCED FROM DRAWING 482749-280 VER 1
TITLED: 175-177 CLEVELAND ST & 1-5 WOODBURN ST. CBD RAIL LINK (CBDRL).
ASSUMED TRACK & TUNNEL ALIGNMENT.
BY HALCROW PACIFIC PTY LTD
DATED 27.05.16

LOADING ZONES AND TUNNEL PROFILES SOURCED FROM DRAWING 482749-281
VER 1
TITLED: 175-177 CLEVELAND ST & 1-5 WOODBURN ST. CBD RAIL LINK (CBDRL).
LOADING REQUIREMENTS.
BY HALCROW PACIFIC PTY LTD
DATED 27.05.16



A Detail
S25 1 : 20 @A1



B Detail
S25 1 : 20 @A1

HL	R.Y.	FOR DA	14.09.2022	A	REV
BY	CHKD	DESCRIPTION	DATE		

ARCHITECT
MARK SHAPIRO ARCHITECTS
markshapiro.com.au
EMAIL mark@markshapiro.com.au
PHONE 0421 996 467

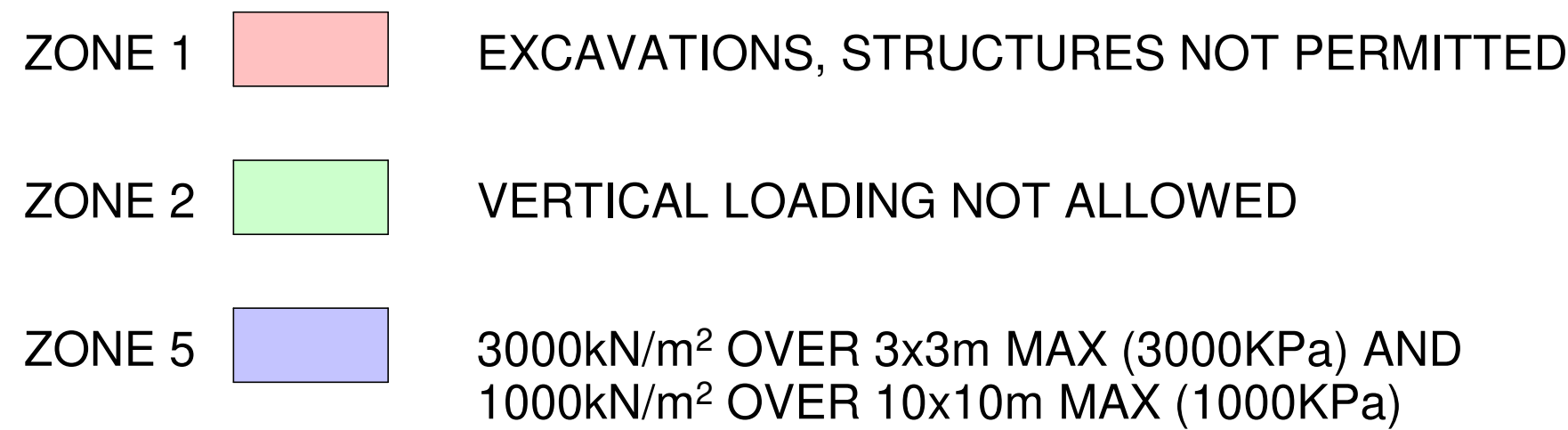
CLIENT
EG FUNDS MANAGEMENT
ADDRESS
LEVEL 21, GOVERNOR PHILLIP TOWER,
1 FARRER PLACE, SYDNEY, 2000

PROJECT
PROPOSED CO-LIVING DEVELOPMENT
175-177 CLEVELAND ST & 6-8 WOODBURN ST, REDFERN
SECTION 1

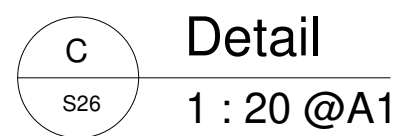
James Taylor & Associates
Civil & Structural Consulting Engineers
SUITE 301, 115 MILITARY ROAD NEUTRAL BAY NSW 2089
A.B.N. 33 102 603 558
TEL: 02 99691999 EMAIL: mail@jamestaylorassociates.com.au
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DESIGN	RY	DRAWN	HL
CHKD.			
APPRD.			
SCALE As indicated	DATE		

PROJECT NO.
6394
DRAWING NO.
S25
REV
A



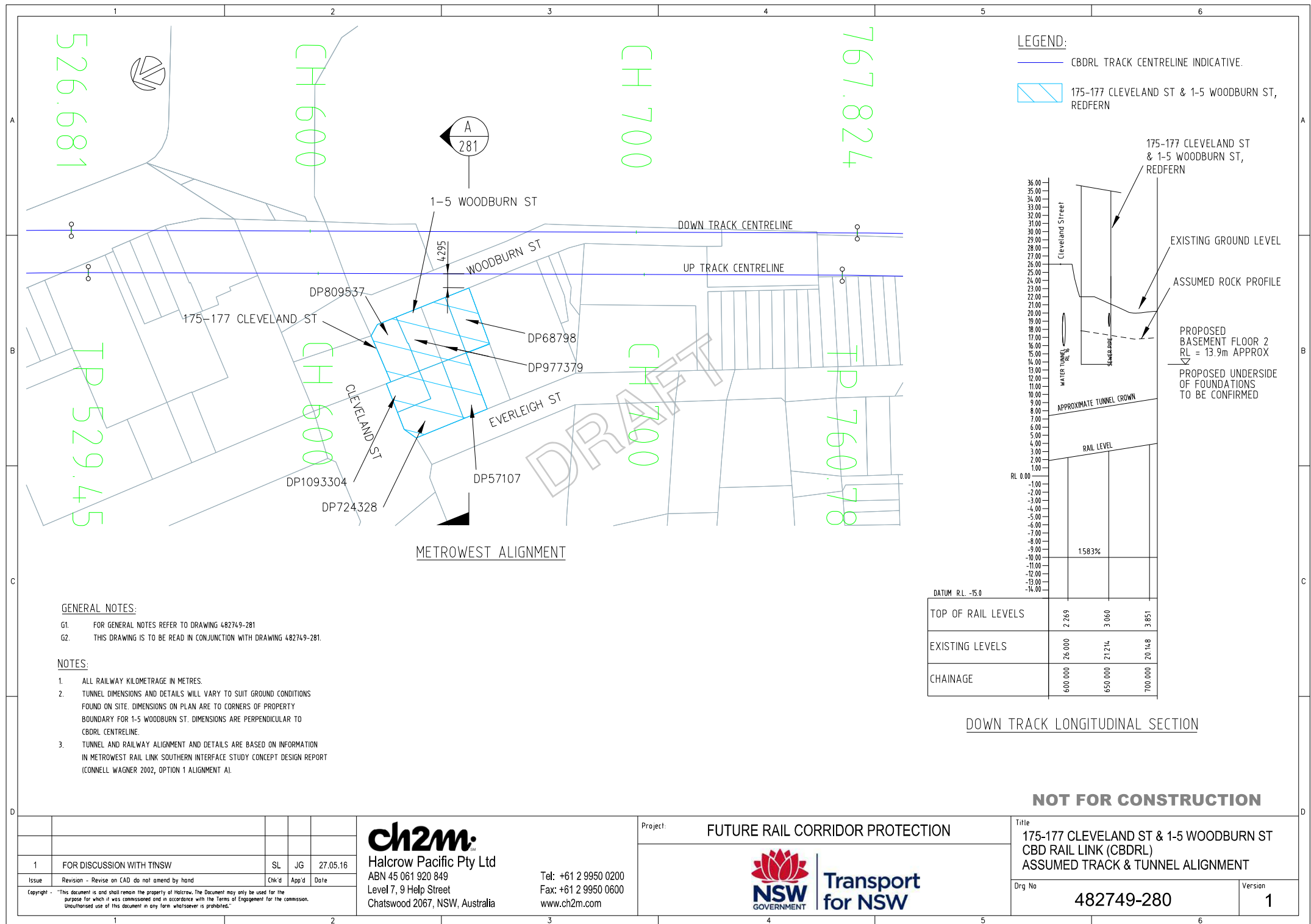
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VER 1
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LOADING REQUIREMENTS.
BY HALCROW PACIFIC PTY LTD
DATED 27.05.16

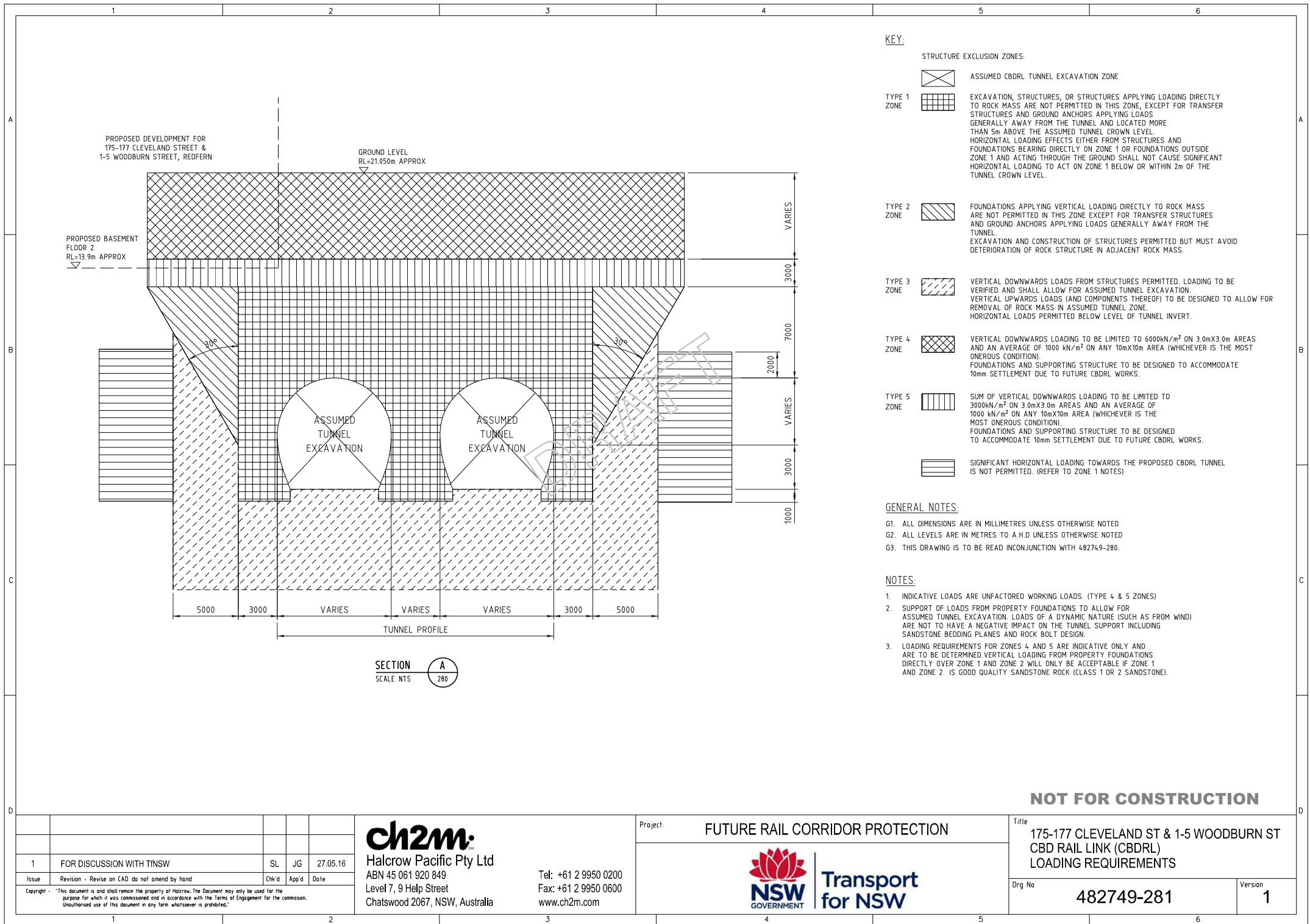


PROJECT NO.
6394

DRAWING NO. S26	REV A
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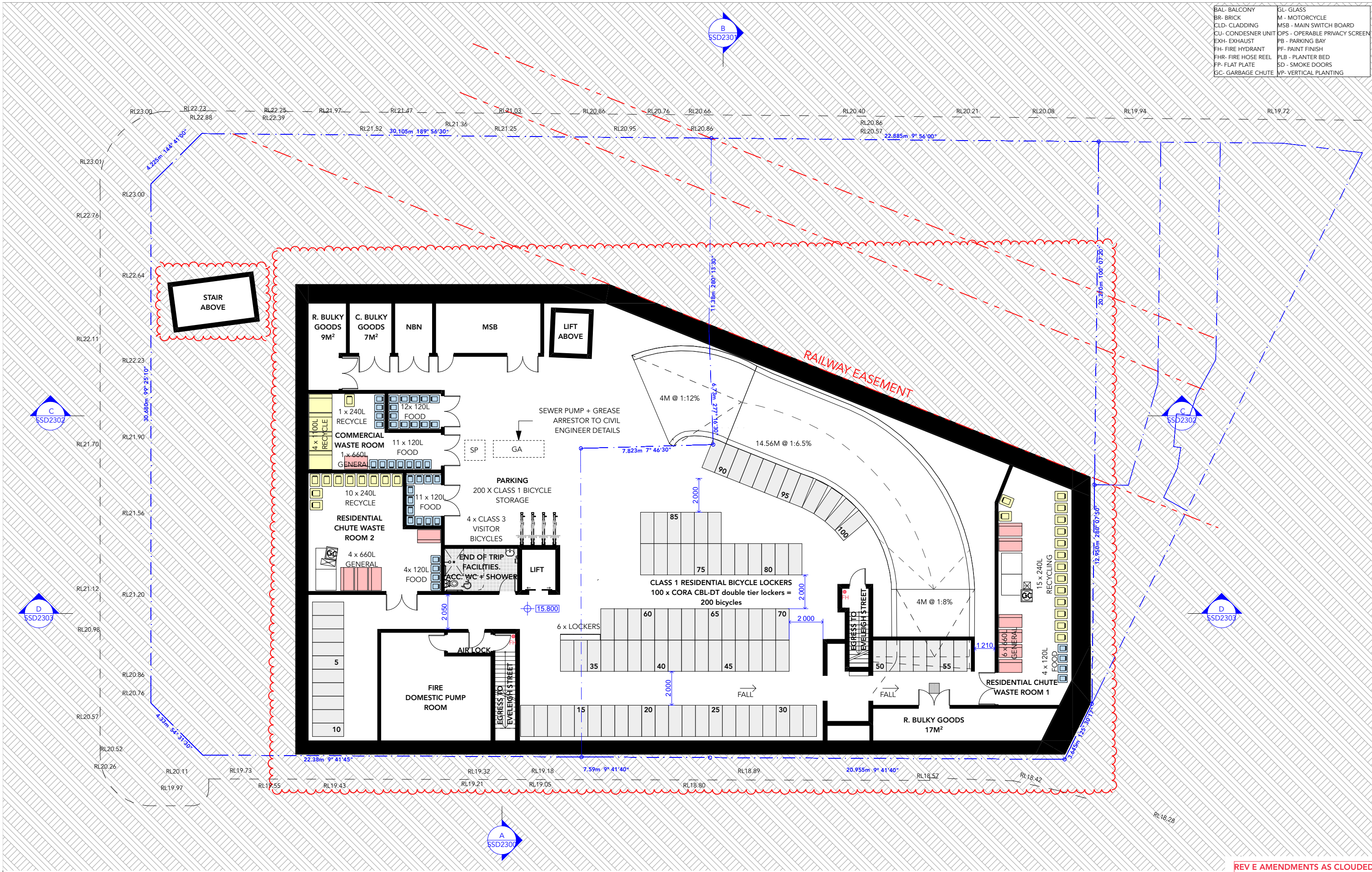
Appendix C Halcrow Pacific Tunnel Sections





Appendix D Mark Shapiro Basement General Arrangement Plan

BAL- BALCONY	GL- GLASS
BR- BRICK	M - MOTORCYCLE
CLD- CLADDING	MSB - MAIN SWITCH BOARD
CU- CONDESNER UNIT	OPS - OPERABLE PRIVACY SCREEN
EXH- EXHAUST	PB - PARKING BAY
FH- FIRE HYDRANT	PF- PAINT FINISH
FHR- FIRE HOSE REEL	PLB - PLANTER BED
FP- FLAT PLATE	SD - SMOKE DOORS
GC- GARBAGE CHUTE	VP- VERTICAL PLANTING



REV E AMENDMENTS AS CLOUDED

MARK SHAPIRO ARCHITECTS

T 0421 996 467
W markshapiro.com.au
E mark@markshapiro.com.au

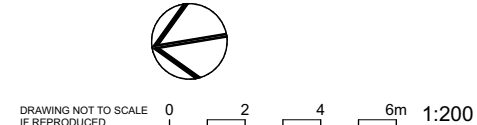
NSW REG. 9789
ABN 646 2000 7678

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E	12/12/2025	MODIFICATION APPLICATION
D	1/12/2023	REVISED ISSUE FOR SSD
C	4/8/2023	REVISED ISSUE FOR SSD
ISSUE	DATE	REVISION

BASIX COMMITMENTS	
(ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE)	
ENERGY	3 PHASE EER 3.0-3.5
AIRCONDITIONING:	ELECTRIC
HOT WATER:	4 STAR
COOKTOP & OVEN:	GEARED TRACTION WITH VVAC MOTOR
REFRIGERATOR:	REFER BASIX COMMITMENTS
LIGHTS:	20.0 PEAK KW
PHOTOVOLTAIC SYSTEM:	
WATER	
SHOWERHEADS:	4 STAR
TOILETS:	4 STAR
BATHROOM TAPS:	6 STAR
KITCHEN TAPS:	6 STAR
THERMAL COMFORT OPTIONS	
INSULATION:	REFER SECTION J
GLAZING TYPE:	REFER SECTION J

FOR SSD NOT FOR CONSTRUCTION
12/12/2025



PROJECT:
PROPOSED CO-LIVING DEVELOPMENT

175-177 Cleveland St and 1-5 & 6-8 Woodburn St, Redfern

DRAWING:
BASEMENT PLAN

PROJECT NO:
21022

SCALE: 1:200 @A3
PLOTTED: 12/12/2025
DRAWING NO:
SSD2001

REV: **E**