

DOCUMENTATION OF STRUCTURAL WORKS

COASTAL PROTECTION WORKS

AT 29, 31 & 33 PACIFIC STREET AND
23A, 23B & 25C OCEAN VIEW DRIVE, WAMBERAL, NSW

JAMES TAYLOR AND ASSOCIATES

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GENERAL

- G1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTS INCLUDING ALL WORKING DRAWINGS AND SPECIFICATIONS, AND WRITTEN INSTRUCTIONS AS MAY BE ISSUED PRIOR TO OR DURING THE COURSE OF CONSTRUCTION. ALL DISCREPANCIES AND VARIATIONS SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- G2. ALL STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ALL RELEVANT AND CURRENT S.A.A. CODES.
- G3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED IN ORDER TO OBTAIN DIMENSIONS. DIMENSIONS WHERE SHOWN ON STRUCTURAL DRAWINGS SHALL BE CO-ORDINATED WITH ALL OTHER RELEVANT DRAWINGS.
- G4. DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.

PILING & PIERS

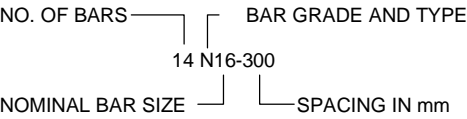
- P1. ALL PILING MATERIALS, SUPPLY & INSTALLATION SHALL BE TO AS2159 - SAA PILING CODE. PILE SUPPLY TO COMPLY WITH AS3818.3.
- P2. PILES SHALL BE SETOUT USING A QUALIFIED REGISTERED SURVEYOR.
- P3. PILES TO BE INSTALLED USING APPROPRIATE & TECHNIQUES USING A SKILLED & PLANT EXPERIENCED OPERATOR.
- P4. THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE PILE RECORDS OF EACH AND EVERY PILE INSTALLED SUFFICIENT TO CERTIFY THAT THE FOUNDATION REQUIREMENTS HAVE BEEN ACHIEVED. THE CONTRACTOR SHALL PROVIDE THE SIGNATURE OF QUALIFIED GEOTECHNICAL ENGINEER THAT PILE DESIGN CAPACITY HAS BEEN REACHED.
- P5. CONFIRM THAT THE FOUNDING LEVEL AND ANY ROCK SOCKET LENGTH HAVE BEEN ACHIEVED BEFORE MOVING THE PILING RIG TO THE NEXT PILE.
- P6. THE CONTRACTOR SHALL MONITOR DURING DRILLING THE GROUND CONDITIONS AND SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY GROUND CONDITIONS DIFFER FROM THOSE EXPECTED BY THE CONTRACTOR.
- P7. CONSTRUCT PILES IN ONE CONTINUOUS LENGTH. PILES ARE NOT TO BE SPLICED UNLESS APPROVED BY ENGINEER IN WRITING.
- P8. THE FOUNDING LEVEL AT THE TOE OF THE PILES SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY FOR PILING. THE LEVELS DO NOT NECESSARILY REPRESENT THE ACTUAL FOUNDING LEVELS. ALL SOCKETING DEPTHS TO BE MINIMAL.
- P9. THE LENGTHS OF PILES SHALL BE DETERMINED BY THE CONTRACTOR TAKING INTO ACCOUNT ALL PERTINENT FACTORS AND ALLOWANCES FOR WASTAGE.
- P10. ANY PILES FOUND TO BE BENT, BUCKLED OR OTHERWISE DEFECTIVE, DAMAGED OR OUT OF POSITION SHALL BE REMOVED AND REPLACEMENT PILES INSTALLED BY THE CONTRACTOR AT HIS COST.
- P11. CONTRACTOR MUST ACHIEVE PILING TOLERANCES AS SPECIFIED IN AS2159
- P12. ALL PILES C.F.A.

CONCRETE

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600-2009 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- C2. CONCRETE COMPOSITION AND CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:

ELEMENT	AS 3600 f'c MPa	COVER mm.
CAP. BEAM - BOTTOM - TOP & SIDES	50 50	100 70
PILES	50	70

- ADMIXTURES, WHERE USED, SHALL COMPLY WITH THE REQUIREMENTS OF AS1478 AND AS1479. THESE COVER REQUIREMENTS MAY VARY DUE TO REQUIRED FIRE RESISTANCE RATING - REFER AS3600
- C3. ALL CONCRETE SUPPLY & TESTING SHALL CONFORM WITH AS1379 AND SHALL HAVE MAXIMUM SLUMP OF 80mm AND AGGREGATES IN ACCORDANCE WITH AS2758.1 TO A MAXIMUM SIZE OF 20mm
- C4. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN ON DRAWINGS OR SPECIFICALLY APPROVED BY THE ENGINEER.
- C5. NO HOLES, CHASES OR EMBEDMENTS OF PIPES, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS, SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- C6. ALL CONCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH AS3600. THE BASEMENT SLAB SHALL BE WATER CURED FOR A MINIMUM OF 7 DAYS. WHERE A SURFACE CURING COMPOUND IS USED, IT MUST BE APPLIED ONTO SLABS WITHIN 2 HOURS OF FINISHING OPERATION AND ONTO WALLS AND COLUMNS IMMEDIATELY AFTER REMOVAL OF THE FORMWORK.
- C7. HORIZONTAL FORMWORK SHALL BE STRIPPED WHEN APPROVED BY THE ENGINEER.
- C8. SLABS AND BEAMS SHALL BEAR ONLY ON THE BEAMS, WALLS ETC. SHOWN ON THE STRUCTURAL DRAWINGS. ALL OTHER BUILDING ELEMENTS SHALL BE KEPT 15mm CLEAR OF SOFFITS OF STRUCTURAL ELEMENTS.
- C9. COMPLETED STRUCTURAL ELEMENTS SHALL CONFORM WITH THE SHAPES, LINES, LEVELS, GRADES AND DIMENSIONS REQUIRED BY THE CONTRACT DRAWINGS.
- C10. ALL CONCRETE REINFORCEMENT SHALL CONFORM WITH AS/NZS 4671, DUCTILITY GRADE: CLASS N. NO REINFORCEMENT SHALL BE WELDED WITHOUT PRIOR APPROVAL.
- C11. R = STRUCTURAL GRADE ROUND BAR
N = "TEMPCORE" DEFORMED BAR
F = HARD DRAWN STEEL WIRE REINFORCING FABRIC
DESIGNATION CODE OF REINFORCEMENT BARS:-



UNO - UNLESS NOTED OTHERWISE.
NSOP - NOT SHOWN ON PLAN.
LV - LENGTH VARIES.

- C12. TRANSVERSE TIE BARS N12-300, WHERE NOT OTHERWISE SHOWN. SPLICE WHERE NECESSARY AND LAP WITH MAIN BARS 400mm.
- C13. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN ON THE STRUCTURAL DRAWINGS OR IN POSITIONS OTHERWISE APPROVED IN WRITING BY THE PRINCIPAL. LAPS SHALL BE IN ACCORDANCE WITH AS3600 AND NOT LESS THAN THE DEVELOPMENT FOR EACH BAR. SITE BENDING OF REINFORCING BARS SHALL BE DONE WITHOUT HEATING USING MECHANICAL BENDING TOOLS. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER. FABRICS SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 50mm. BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH THREE WRAPS OF TIE WIRE.
- C14. REINFORCEMENT IS SHOWN DIAGRAMMATICALLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C15. ALL REINFORCEMENT SHALL BE MAINTAINED IN POSITION DURING CONCRETING.

ROCK

- R1. INDIVIDUAL ROCKS SHALL BE FREE FROM CRACKS, CLEAVAGE PLANES, SEAMS AND DEFECTS WHICH WOULD RESULT IN THE BREAKDOWN OF THE ROCK IN A MARINE ENVIRONMENT
- R2. ROCK SHALL BE ROUGH AND ANGULAR
- R3. ROCK SHALL BE IGNEOUS WITH A MINIMUM DRY DENSITY OF 2,650kg/m3
- R4. PRIMARY ARMOUR ROCK SHALL HAVE A MASS GRADING AS FOLLOWS: MINIMUM MASS OF 2,850kg, MAXIMUM MASS OF 4,750kg, AND 50% OF ROCKS SHALL EXCEED A MASS OF 3,800kg (NOMINAL MINIMUM DIAMETER OF 1200mm, MAXIMUM DIAMETER OF 1400mm AND 50%ILE DIAMETER OF 1300mm)
- R5. SECONDARY ARMOUR ROCK SHALL HAVE A MASS GRADING AS FOLLOWS: MINIMUM MASS OF 270kg, MAXIMUM MASS OF 500kg, AND 50% OF ROCKS SHALL EXCEED A MASS OF 380kg (NOMINAL MINIMUM DIAMETER OF 530mm, MAXIMUM DIAMETER OF 660mm AND 50%ILE DIAMETER OF 600mm)
- R6. SECOND UNDERLAYER ROCK SHALL HAVE A MASS GRADING AS FOLLOWS: MINIMUM MASS OF 9kg, MAXIMUM MASS OF 28kg, AND 50% OF ROCKS SHALL EXCEED A MASS OF 19kg (NOMINAL MINIMUM DIAMETER OF 180mm, MAXIMUM DIAMETER OF 250mm AND 50%ILE DIAMETER OF 220mm)
- R5. THE RATIO OF THE MAXIMUM DIMENSION OF ANY ROCK TO THE MINIMUM DIMENSION, MEASURED AT RIGHT ANGLES TO THE MAXIMUM DIMENSION, SHALL NOT EXCEED 2.5
- R6. ROCK SHALL HAVE A MINIMUM SATURATED POINT LOAD STRENGTH INDEX (IS50) OF 5.0MPa
- R7. ROCK SHALL HAVE A MAXIMUM LOS ANGELES ABRASION VALUE OF 30%
- R8. ROCK SHALL HAVE A MAXIMUM SODIUM SULFATE WEIGHT LOSS OF 12%
- R9. ROCK SHALL BE UNWEATHERED, WITHOUT SIGNIFICANT QUANTITIES OF DELETERIOUS MINERALS SUCH AS ANALCIME (HYDRATED SODIUM ALUMINIUM SILICATE) AND EXPANSIVE CLAY MINERALS OR UNFAVOURABLE LINEATIONS WITHIN THE MICROFABRIC
- R10. ROCK SHALL HAVE NOT MORE THAN 15% (BY VOLUME) OLIVINE AND SHALL EXHIBIT NO ZONES OF SECONDARY ALTERATION SUCH AS CHLORITISATION
- R11. ROCK SHALL SHOW NO SIGNS OF STRESS-RELIEF
- R12. ROCK SHALL NOT BE ROLLED OR DROPPED INTO POSITION, IT SHALL BE PLACED.
- R13. PLACED ROCKS SHALL BE WEDGED AND LOCKED TOGETHER SUCH THAT THEY ARE NOT FREE TO MOVE

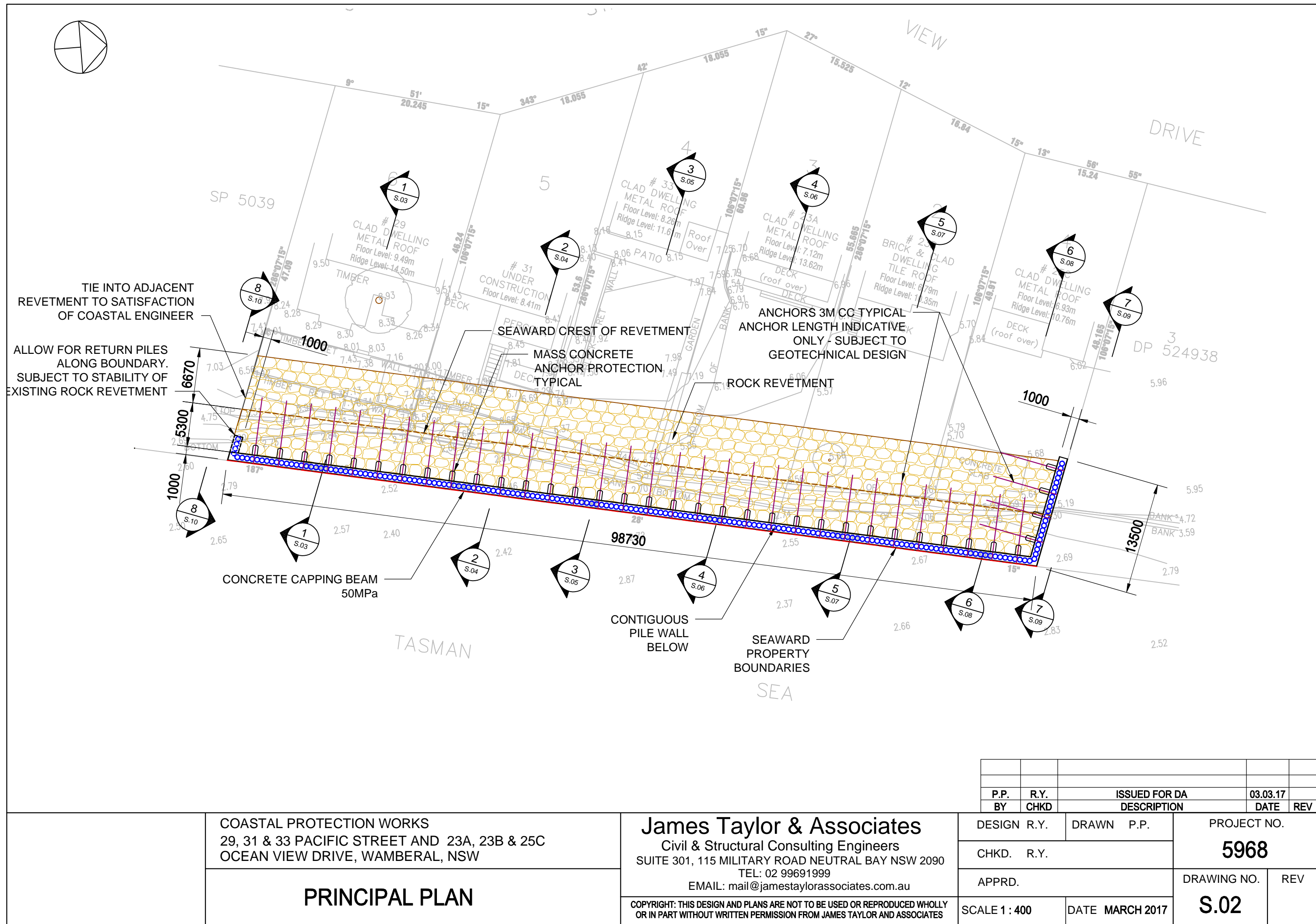
DRAWING LIST	
SHEET No	SHEET NAME
S.01	GENERAL NOTES
S.02	PRINCIPAL PLAN
S.03	SECTION 1
S.04	SECTION 2
S.05	SECTION 3
S.06	SECTION 4
S.07	SECTION 5
S.08	SECTION 6
S.09	SECTION 7
S.10	SECTION 8
S.11	DETAILS SHEET 1

REFERENCE DOCUMENTS

1. SURVEY DRAWING PREPARED BY:
CLARKE DOWDLE & ASSOCIATES
Ph. +61 2 43443553
REF No. 20265
DATED: 24.06.14
2. COASTAL ENGINEERING REPORTS
HORTON COASTAL ENGINEERING PTY LTD
Ph. 0407 012 538
DATED: 19.09.2016 AND 03.03.2017
(LATTER REF "IrJ0021-Horton Coastal ats NSW Coastal Panel - s34 responses.docx")
3. GEOTECHNICAL ENGINEERS REPORT JK
GEOTECHNICS
REF No. 30243Z Rrpt
4. PRE STORM PROFILES
DERIVED FROM OEH PHOTOGRAMMETRIC DATA
DATED: 05.04.16

MINIMUM BAR LAPS	
BAR ø	LAP (mm)
12	500
16	700
20	800
24	1000
28	1200
32	1400

	COASTAL PROTECTION WORKS 29, 31 & 33 PACIFIC STREET AND 23A, 23B & 25C OCEAN VIEW DRIVE, WAMBERAL, NSW	James Taylor & Associates Civil & Structural Consulting Engineers SUITE 301, 115 MILITARY ROAD NEUTRAL BAY NSW 2090 TEL: 02 99691999 EMAIL: mail@jamestaylorassociates.com.au	DESIGN R.Y.	DRAWN P.P.	PROJECT NO.	
	GENERAL NOTES		CHKD. R.Y.		5968	
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COASTAL PROTECTION WORKS
29, 31 & 33 PACIFIC STREET AND 23A, 23B & 25C
OCEAN VIEW DRIVE, WAMBERAL, NSW

PRINCIPAL PLAN

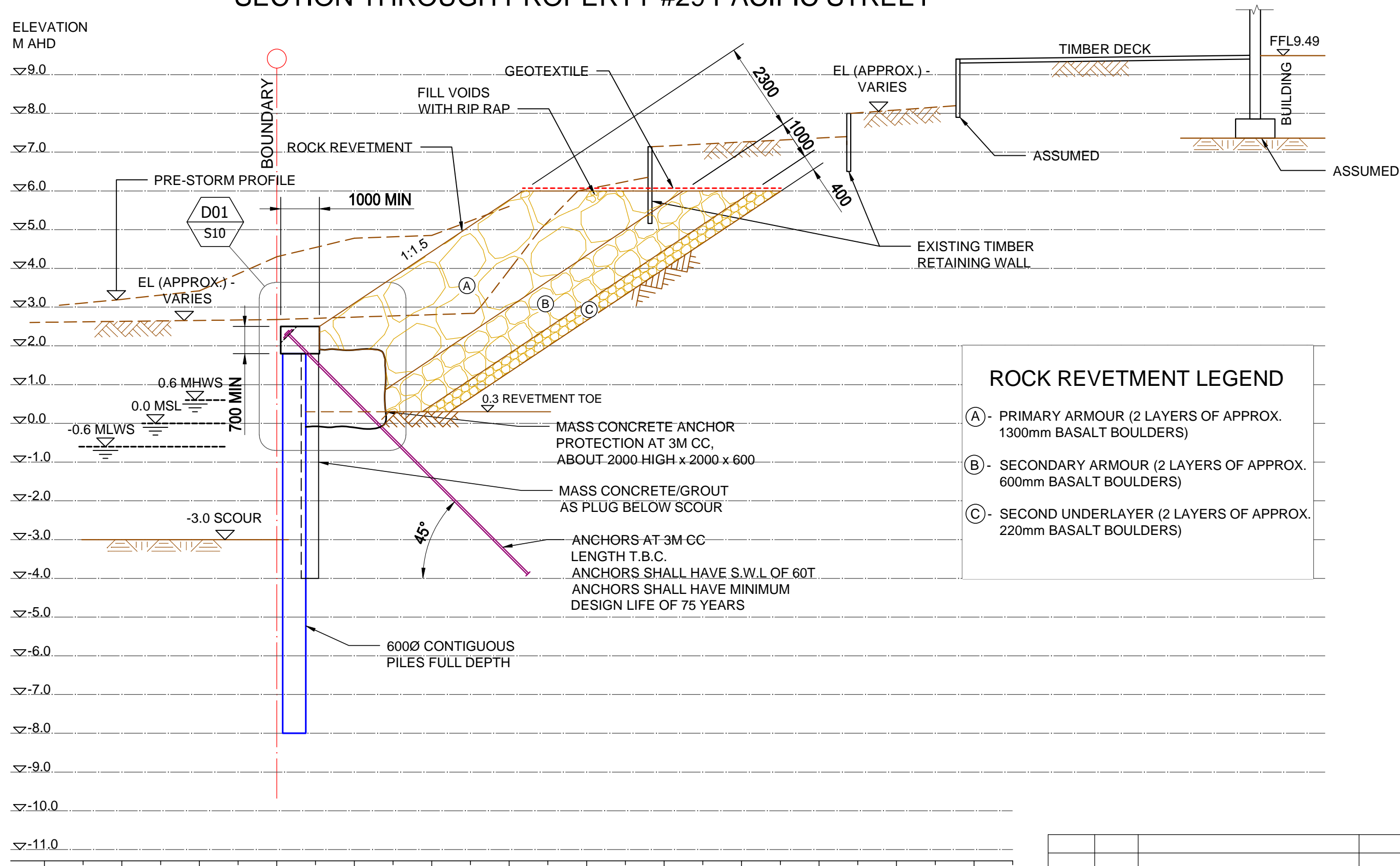
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SECTION THROUGH PROPERTY #29 PACIFIC STREET



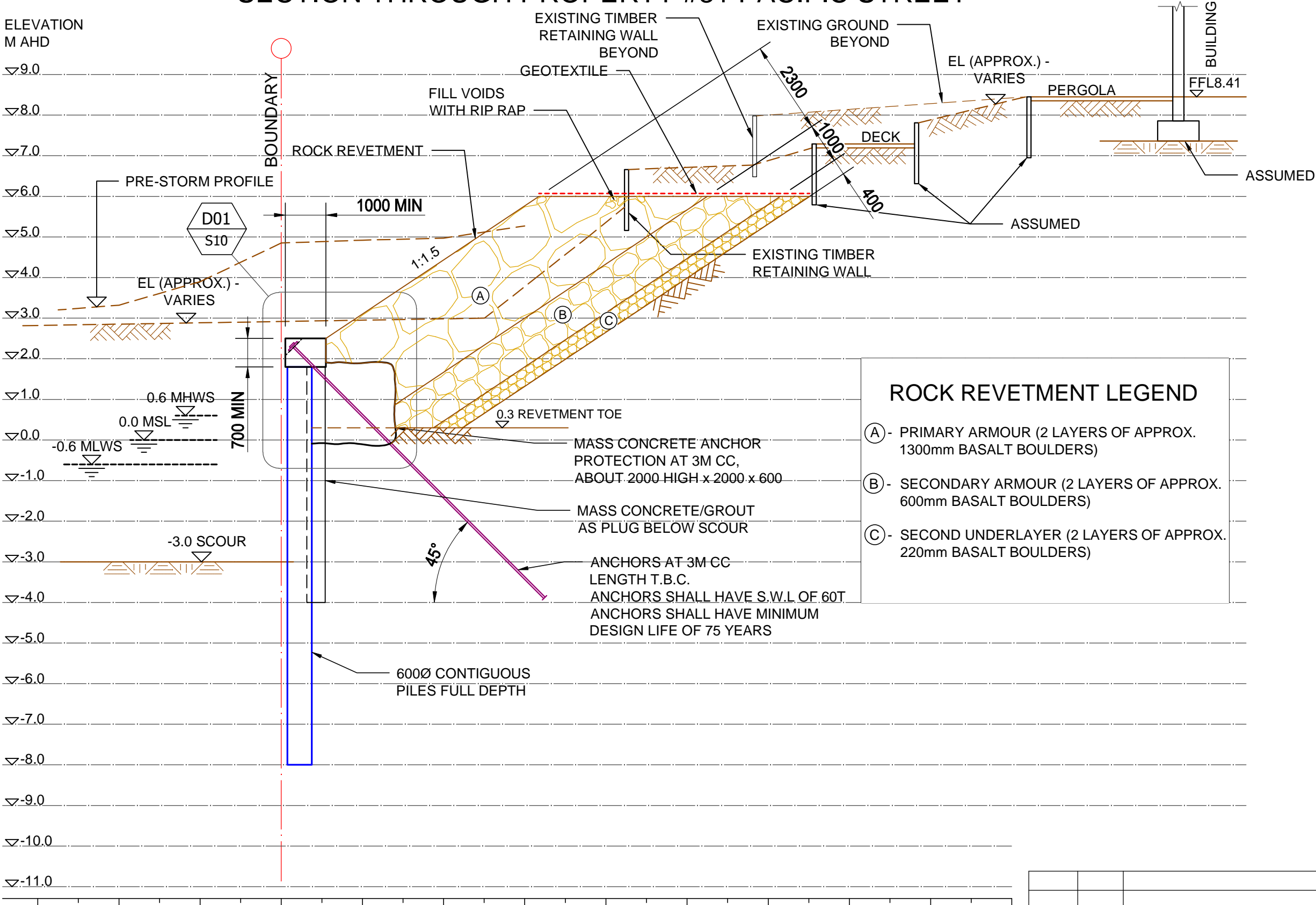
ROCK REVETMENT LEGEND

- (A) - PRIMARY ARMOUR (2 LAYERS OF APPROX. 1300mm BASALT BOULDERS)
- (B) - SECONDARY ARMOUR (2 LAYERS OF APPROX. 600mm BASALT BOULDERS)
- (C) - SECOND UNDERLAYER (2 LAYERS OF APPROX. 220mm BASALT BOULDERS)

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SECTION THROUGH PROPERTY #31 PACIFIC STREET



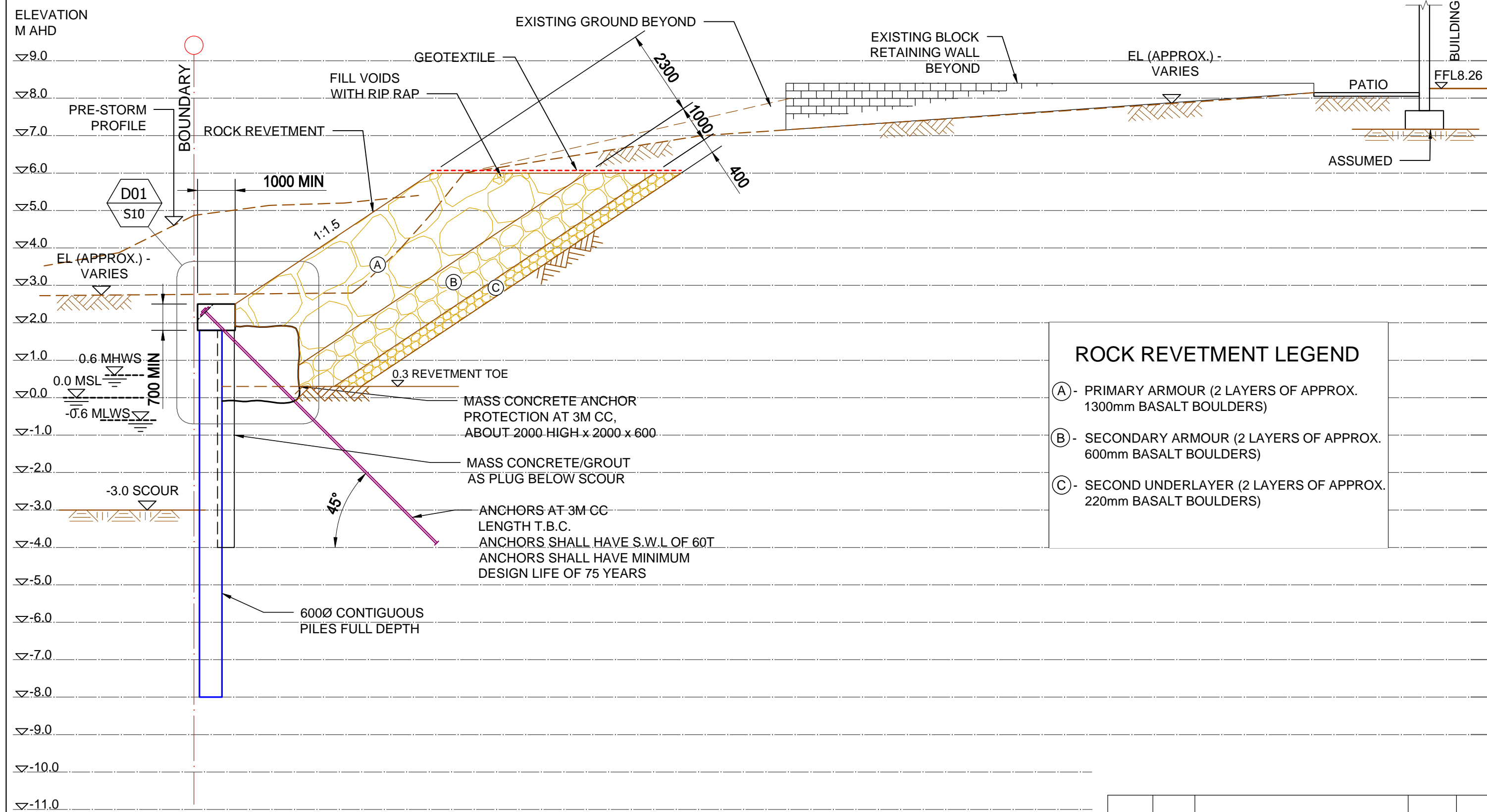
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SECTION THROUGH PROPERTY #33 PACIFIC STREET



ROCK REVETMENT LEGEND

- (A) - PRIMARY ARMOUR (2 LAYERS OF APPROX. 1300mm BASALT BOULDERS)
- (B) - SECONDARY ARMOUR (2 LAYERS OF APPROX. 600mm BASALT BOULDERS)
- (C) - SECOND UNDERLAYER (2 LAYERS OF APPROX. 220mm BASALT BOULDERS)

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SECTION THROUGH PROPERTY #23A OCEAN VIEW DRIVE

ELEVATION M AHD

▽9.0
▽8.0
▽7.0
▽6.0
▽5.0
▽4.0
▽3.0
▽2.0
▽1.0
▽0.0
▽-1.0
▽-2.0
▽-3.0
▽-4.0
▽-5.0
▽-6.0
▽-7.0
▽-8.0
▽-9.0
▽-10.0
▽-11.0

BOUNDARY

PRE-STORM PROFILE

D01 S10

EL (APPROX.) - VARIES

0.6 MHWS

0.0 MSL

-0.6 MLWS

700 MIN

-3.0 SCOUR

ROCK REVETMENT

1000 MIN

FILL VOIDS WITH RIP RAP

GEOTEXTILE

1:1.5

2300

1000

400

EL (APPROX.) - VARIES

0.3 REVETMENT TOE

MASS CONCRETE ANCHOR PROTECTION AT 3M CC, ABOUT 2000 HIGH x 2000 x 600

MASS CONCRETE/GROUT AS PLUG BELOW SCOUR

ANCHORS AT 3M CC LENGTH T.B.C. ANCHORS SHALL HAVE S.W.L OF 60T ANCHORS SHALL HAVE MINIMUM DESIGN LIFE OF 75 YEARS

45°

600Ø CONTIGUOUS PILES FULL DEPTH

DECK

BUILDING

FFL 7.12

ASSUMED

ROCK REVETMENT LEGEND

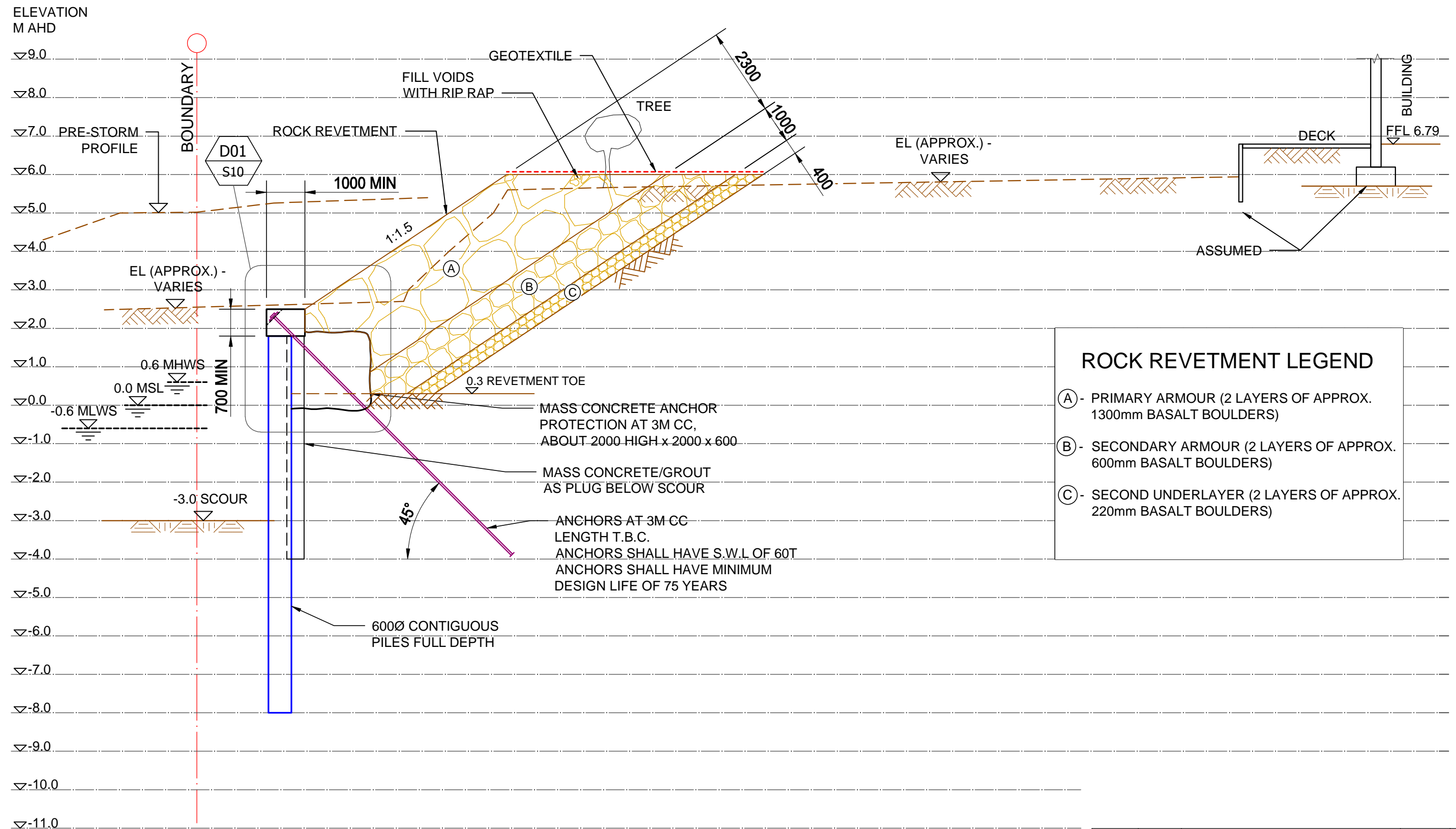
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SECTION THROUGH PROPERTY #23B OCEAN VIEW DRIVE



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29, 31 & 33 PACIFIC STREET AND 23A, 23B & 25C
OCEAN VIEW DRIVE, WAMBERAL, NSW

SECTION 5

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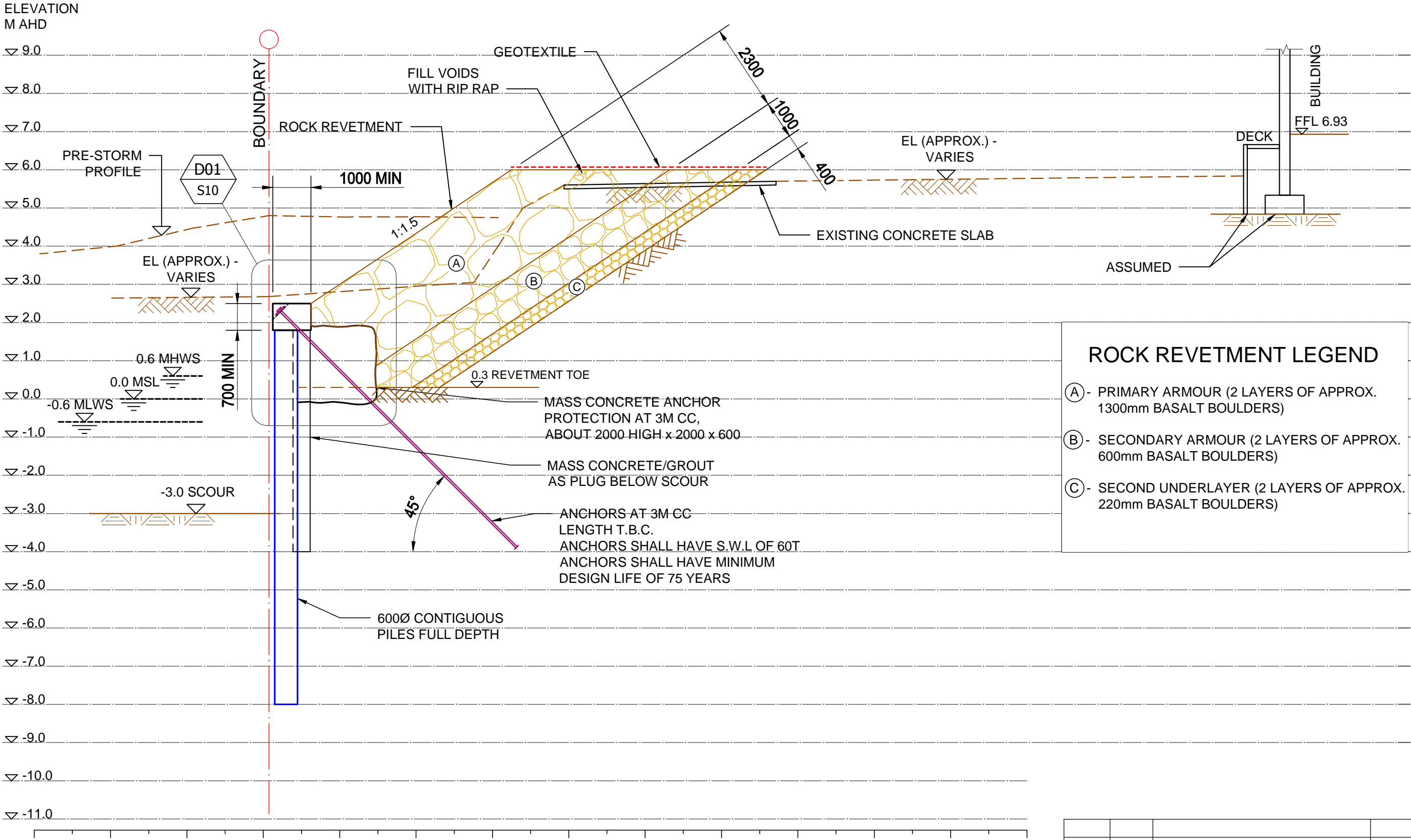
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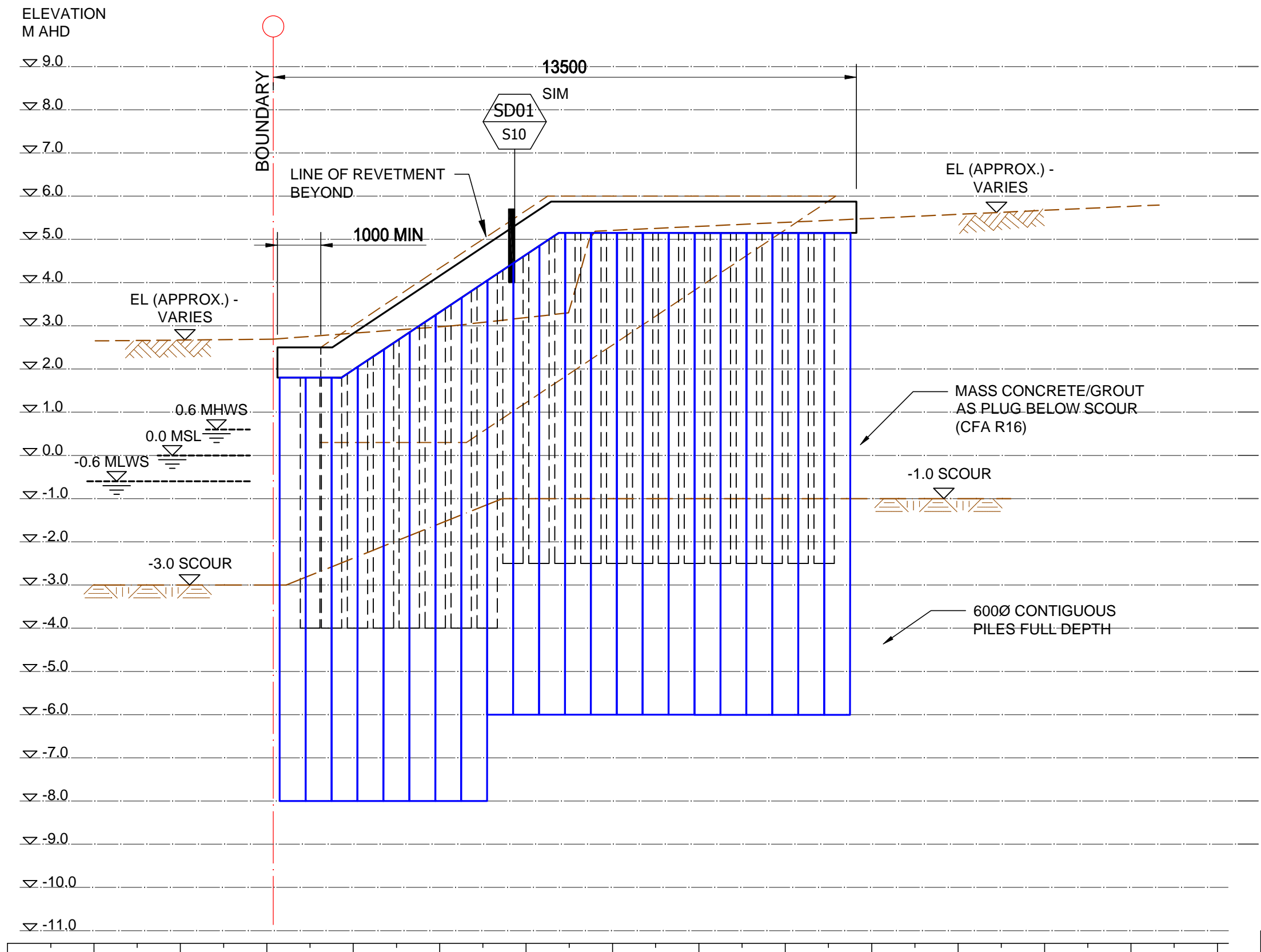
SECTION THROUGH PROPERTY #25C OCEAN VIEW DRIVE



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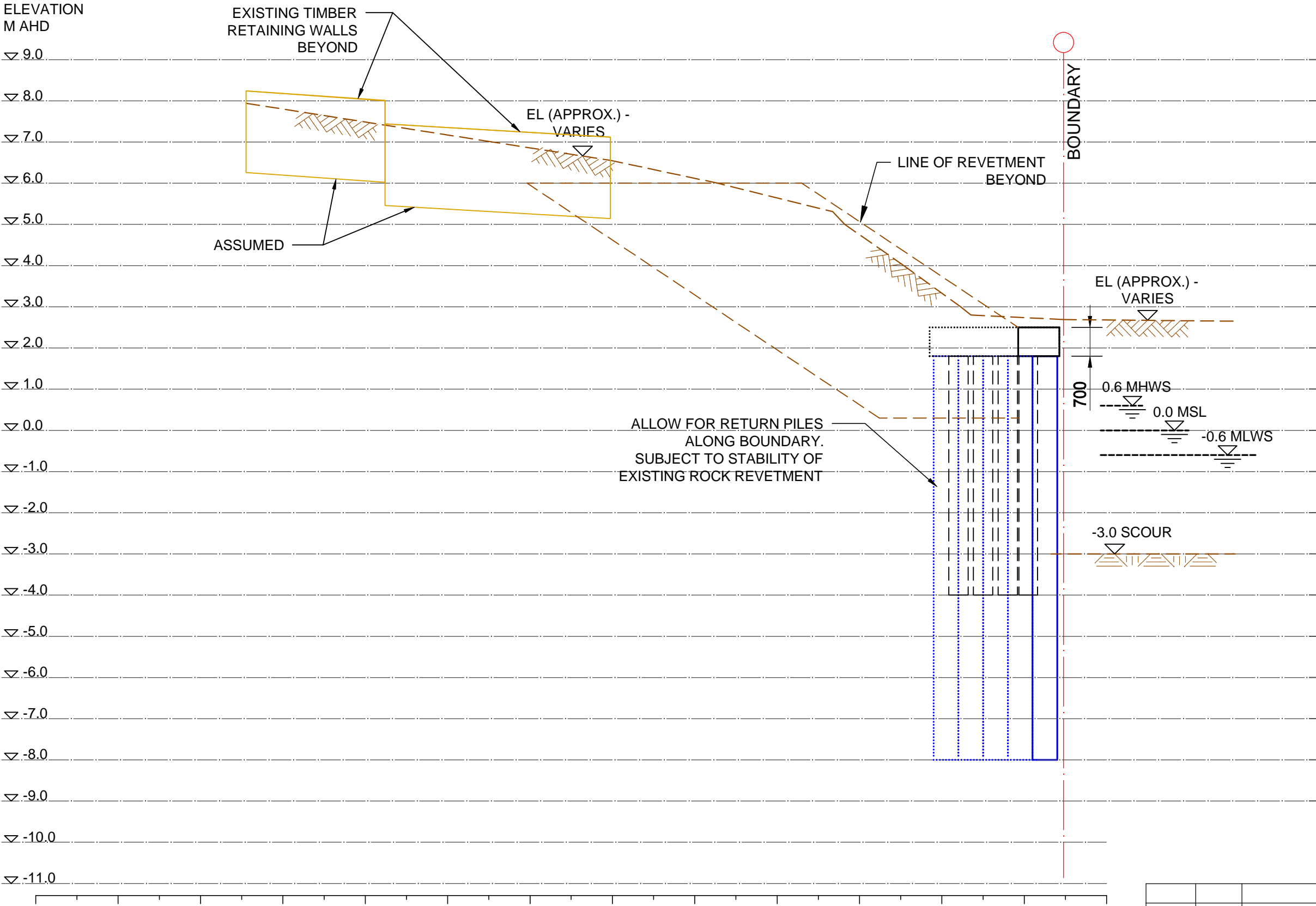
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