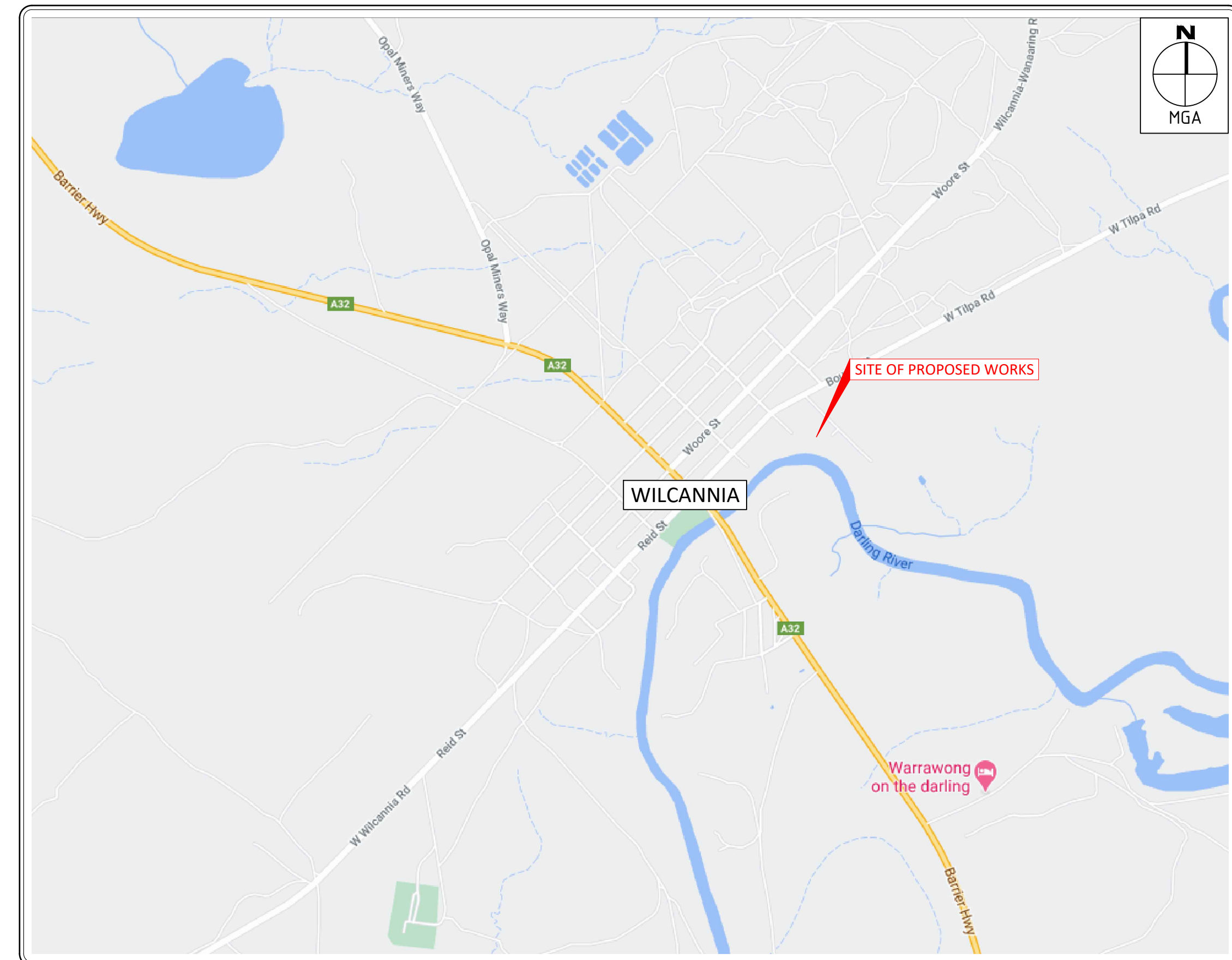


Civil Design and Documentation for "Maari Ma" Health Aboriginal Corporation Wilcannia Well Being Centre, Wilcannia, NSW 2836

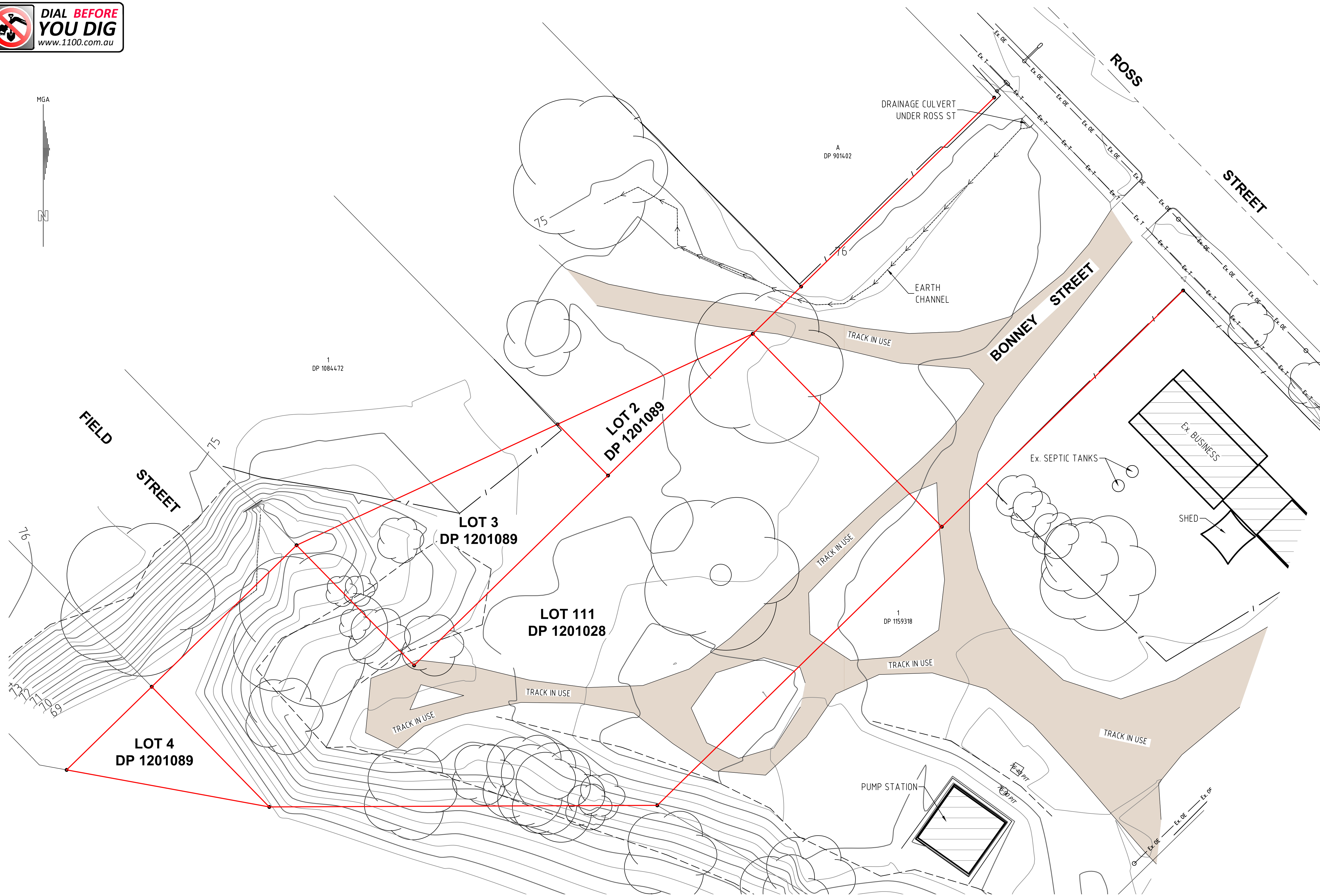
SCHEDULE OF DRAWINGS

SHEET No.	DESCRIPTION
32342-C00	COVER SHEET AND DRAWING SCHEDULE
32342-C01	EXISTING SITE PLAN
32342-C02	CONCEPT EARTH BATTER & BUILDING PADS DESIGN PLAN
32342-C03	PROPOSED STORMWATER MANAGEMENT PLAN
32342-C04	PROPOSED ROOF DRAINAGE PLAN
32342-C05	PROPOSED CARPARK DESIGN PLAN WITH LEVELS
32342-C06	STORMWATER - STANDARD NOTES AND DETAILS
32342-C07	RETAINING WALL - STANDARD NOTES AND DETAILS
32342-C10	BEARING PIER FOOTING DESIGN PLAN, DETAILS & NOTES



LOCALITY PLAN
NOT TO REDUCTION RATIO

SUBMISSION FOR DA



LEGEND	
	EXISTING SUBJECT CADASTRAL BOUNDARIES
	EXISTING ADJOINING CADASTRAL BOUNDARIES
	TOP/BOTTOM OF BANK
	EXISTING FENCE
	EXISTING OVERHEAD ELECTRICAL LINE
	EXISTING UNDERGROUND COMMUNICATIONS LINE
	EXISTING TREE - SIZE DENOTES APPROX. SPREAD
	EXISTING DRAINAGE CHANNEL
	EXISTING GRAVEL TRACK AREA
	EXISTING ROOFED AREA

- NOTES:
- CONTOUR INTERVAL = 0.50m
 - CONTOURS AND LEVELS SHOWN ARE FROM EXTERNALLY SUPPLIED CAD DATA. BARNSON TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THIS DATA.
 - NO CADASTRAL BOUNDARIES, EASEMENTS, RESTRICTIONS OR ENCUMBRANCES HAVE BEEN INVESTIGATED BY BARNSON.
 - SERVICE LOCATIONS AND DEPTHS SHOWN HEREON ARE FROM EXTERNALLY SUPPLIED CAD DATA. BARNSON TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THIS DATA. THE LOCATION OF AND DEPTHS OF ALL SERVICES SHOULD BE OBTAINED FROM SERVICE PROVIDERS, LOCATED AND VERIFIED ON SITE PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION.
 - UNDERGROUND SERVICES MAY EXIST WHICH HAVE NOT BEEN SHOWN ON THIS PLAN.

SCALE 1:300(A1)
 0 5 10 15 20 25
 0 5 10 15 20 25
 SCALE 1:600(A3)

EXISTING SITE PLAN
 REDUCTION RATIO 1:300 @ A1
 1:600 @ A3

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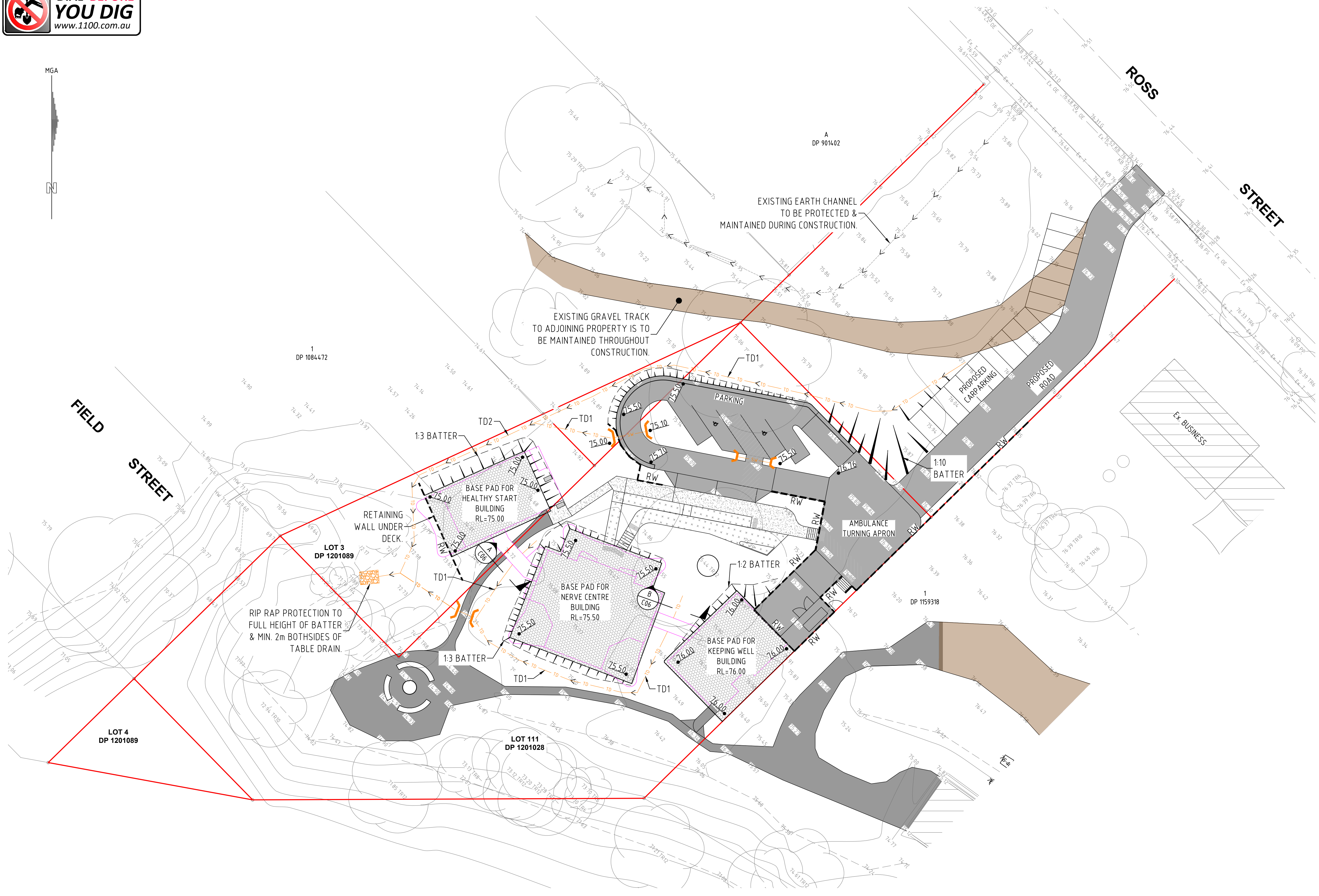
Client: TROPPO ARCHITECTS
 Project: "MAARI MA" WILCANNIA WELL BEING CENTRE
 ROSS & BONNEY STREETS, WILCANNIA NSW 2836
 Drawing Title: EXISTING SITE PLAN

Rev	Date	Amendment
A	16-04-2021	ISSUED FOR PRELIMINARY
B	23-04-2021	ISSUED FOR DA

Design	DOS	Certification	
Drawn	LT		
Check	LM	Drawing Number	Revision
Original Sheet Size = A1		32342 - C01	B



MGA

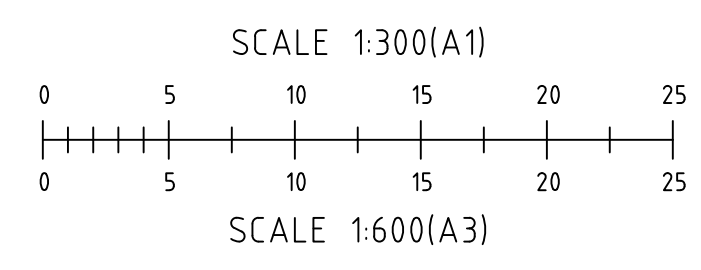


LEGEND

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING ADJOINING CADASTRAL BOUNDARIES
- TOP/BOTTOM OF BANK
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING UNDERGROUND COMMUNICATIONS LINE
- EXISTING TREE - SIZE DENOTES APPROX. SPREAD
- EXISTING GRAVEL TRACK AREA
- EXISTING ROOFED AREA

LEGEND (proposed)

- PROPOSED TABLE DRAIN 1 (1200WIDEx150DEEP)
- PROPOSED TABLE DRAIN 2 (2400WIDEx300DEEP)
- PROPOSED STORMWATER DRAINAGE PIPE
- PROPOSED RETAINING WALL (14.00 MAX.)
- PROPOSED CULVERT & HEAD WALLS
- EXISTING SURFACE LEVEL
- PROPOSED SURFACE LEVEL
- PROPOSED 1:3 BATTER UNLESS OTHERWISE STATED
- PROPOSED BUILDING PAD AREA
- PROPOSED BITUMEN ROAD AREA
- PROPOSED PATH TRACK AREA
- PROPOSED TIMBER DECK & RAMP AREA
- PROPOSED PAVING AREA



**CONCEPT EARTH BATTER & BUILDING PADS
DESIGN PLAN**

REDUCTION RATIO 1:300 @ A1
1:600 @ A3

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Client: TROPPO ARCHITECTS
 Project: "MAARI MA" WILCANNIA WELL BEING CENTRE
 ROSS & BONNEY STREETS, WILCANNIA NSW 2836
 Drawing Title: CONCEPT EARTH BATTER & BUILDING PADS
 DESIGN PLAN

Rev	Date	Amendment
A	16-04-2021	ISSUED FOR PRELIMINARY
B	23-04-2021	ISSUED FOR DA

Design	DOS	Certification
Drawn	LT	
Check	LM	Drawing Number
Original Sheet Size = A1		32342 - C02
		Revision
		B

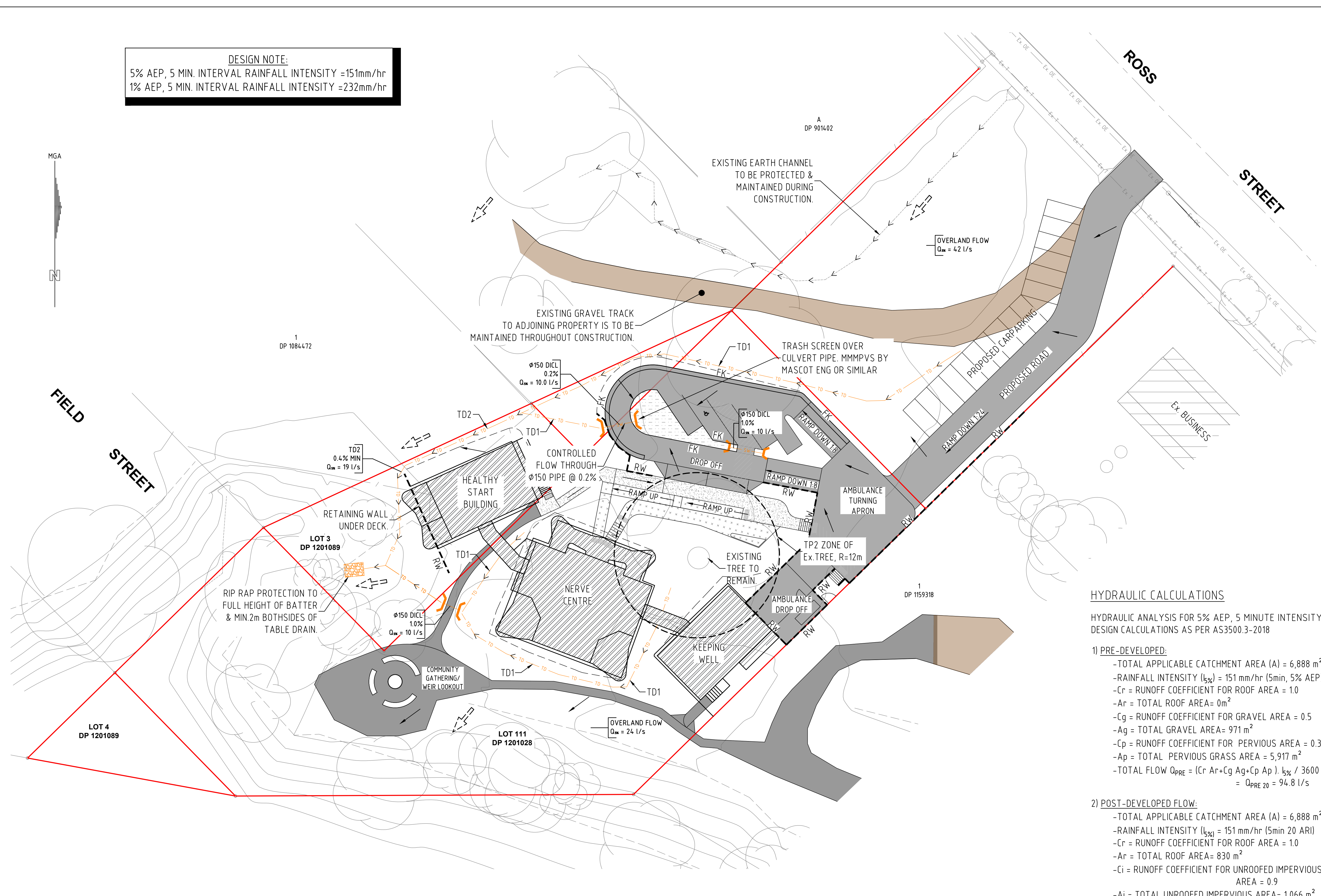
LEGEND

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING ADJOINING CADASTRAL BOUNDARIES
- TOP/BOTTOM OF BANK
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING UNDERGROUND COMMUNICATIONS LINE
- EXISTING TREE - SIZE DENOTES APPROX. SPREAD
- EXISTING GRAVEL TRACK AREA
- EXISTING ROOFED AREA

LEGEND (proposed)

- EXTENT OF PROPOSED ROOF
- PROPOSED TABLE DRAIN 1 (1200WIDEx150DEEP)
- PROPOSED TABLE DRAIN 2 (2400WIDEx300DEEP)
- PROPOSED STORMWATER DRAINAGE PIPE
- PROPOSED RETAINING WALL (1400 MAX.)
- PROPOSED CULVERT & HEADWALL
- PROPOSED OVERLAND FLOW PATH DIRECTION
- PROPOSED SURFACE FALL DIRECTION
- PROPOSED CONCRETE FLUSH KERB
- PROPOSED PIPE SIZE & MATERIAL
GRADIENT
5% AEP FLOW
- PROPOSED BITUMEN ROAD AREA
- PROPOSED PATH TRACK AREA
- PROPOSED TIMBER DECK & RAMP AREA
- PROPOSED PAVING AREA
- PROPOSED ON-GROUND OSD BASIN(4.5m2xAVG 110mm)

DESIGN NOTE:
 5% AEP, 5 MIN. INTERVAL RAINFALL INTENSITY =151mm/hr
 1% AEP, 5 MIN. INTERVAL RAINFALL INTENSITY =232mm/hr



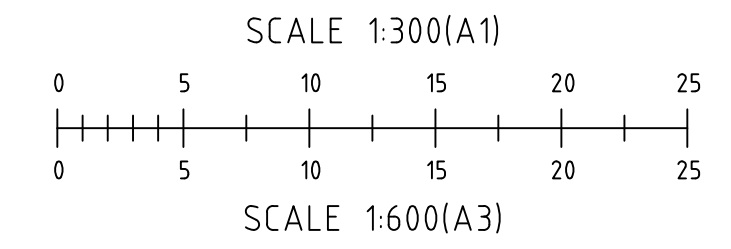
HYDRAULIC CALCULATIONS

HYDRAULIC ANALYSIS FOR 5% AEP, 5 MINUTE INTENSITY.
 DESIGN CALCULATIONS AS PER AS3500.3-2018

- 1) **PRE-DEVELOPED:**
 - TOTAL APPLICABLE CATCHMENT AREA (A) = 6,888 m²
 - RAINFALL INTENSITY (I_{5%}) = 151 mm/hr (5min, 5% AEP)
 - Cr = RUNOFF COEFFICIENT FOR ROOF AREA = 1.0
 - Ar = TOTAL ROOF AREA= 0m²
 - Cg = RUNOFF COEFFICIENT FOR GRAVEL AREA = 0.5
 - Ag = TOTAL GRAVEL AREA= 971 m²
 - Cp = RUNOFF COEFFICIENT FOR PERVIOUS AREA = 0.3
 - Ap = TOTAL PERVIOUS GRASS AREA = 5,917 m²
 - TOTAL FLOW Q_{PRE} = (Cr Ar + Cg Ag + Cp Ap) . I_{5%} / 3600
 = Q_{PRE 20} = 94.8 l/s
- 2) **POST-DEVELOPED FLOW:**
 - TOTAL APPLICABLE CATCHMENT AREA (A) = 6,888 m²
 - RAINFALL INTENSITY (I_{5%}) = 151 mm/hr (5min 20 ARI)
 - Cr = RUNOFF COEFFICIENT FOR ROOF AREA = 1.0
 - Ar = TOTAL ROOF AREA= 830 m²
 - Ci = RUNOFF COEFFICIENT FOR UNROOFED IMPERVIOUS AREA = 0.9
 - Ai = TOTAL UNROOFED IMPERVIOUS AREA= 1,066 m²
 - Cg = RUNOFF COEFFICIENT FOR GRAVEL AREA = 0.5
 - Ag = TOTAL GRAVEL AREA= 691 m²
 - Cp = RUNOFF COEFFICIENT FOR PERVIOUS AREA = 0.3
 - Ap = TOTAL PERVIOUS GRASS AREA = 4,301 m²
 - TOTAL FLOW Q_{POST} = Cr Ar + Ci Ai + Cp Ap . I_{5%} / 3600
 = Q_{POST 1} = 143.7 l/s
- 3) **RWT OSD VOLUME CALCULATION**
 TOTAL FLOW TO RWT = Cr Ar . I_{5%} / 3600 = 33.3 l/s
 REQUIRED STORAGE VOLUME = FLOW TO RWT × 5 × 60
 = 33.3 × 5 × 60 = 10.0 m³

HYDRAULIC CALCULATIONS CONT'D

- 4) **ON GROUND OSD VOLUME CALCULATION**
 - PRE DEVELOPED FLOW = Q_{PRE} = 94.8 l/s
 - TOTAL FLOW TO OSD BASIN = FLOW FROM IMPERVIOUS AREA
 = 660 × 0.9 × 151 / 3600 = 24.9 l/s
 - ALLOWABLE OUTFLOW = 9.3 l/s
 - REQUIRED RETENTION VOLUME = TOTAL FLOW - Q_{PRE}
 = (24.9 - 9.3) × 5 × 60 = 4.7 m³
 - VOLUME OF PROPOSED DETENTION BASIN = 4.5m² × 0.33/3 m = 5.0m³
 - MAX FLOW Ø150 STEEL PIPE CULVERT @ 0.2% = 10 l/s
 - PROVIDE TRASH SCREEN OVER PIPE CULVERT, MMMPVs BY MASCOT ENGINEERING OR SIMILAR.



PROPOSED STORMWATER MANAGEMENT PLAN

REDUCTION RATIO
 1:300 @ A1
 1:600 @ A3

SUBMISSION FOR DA



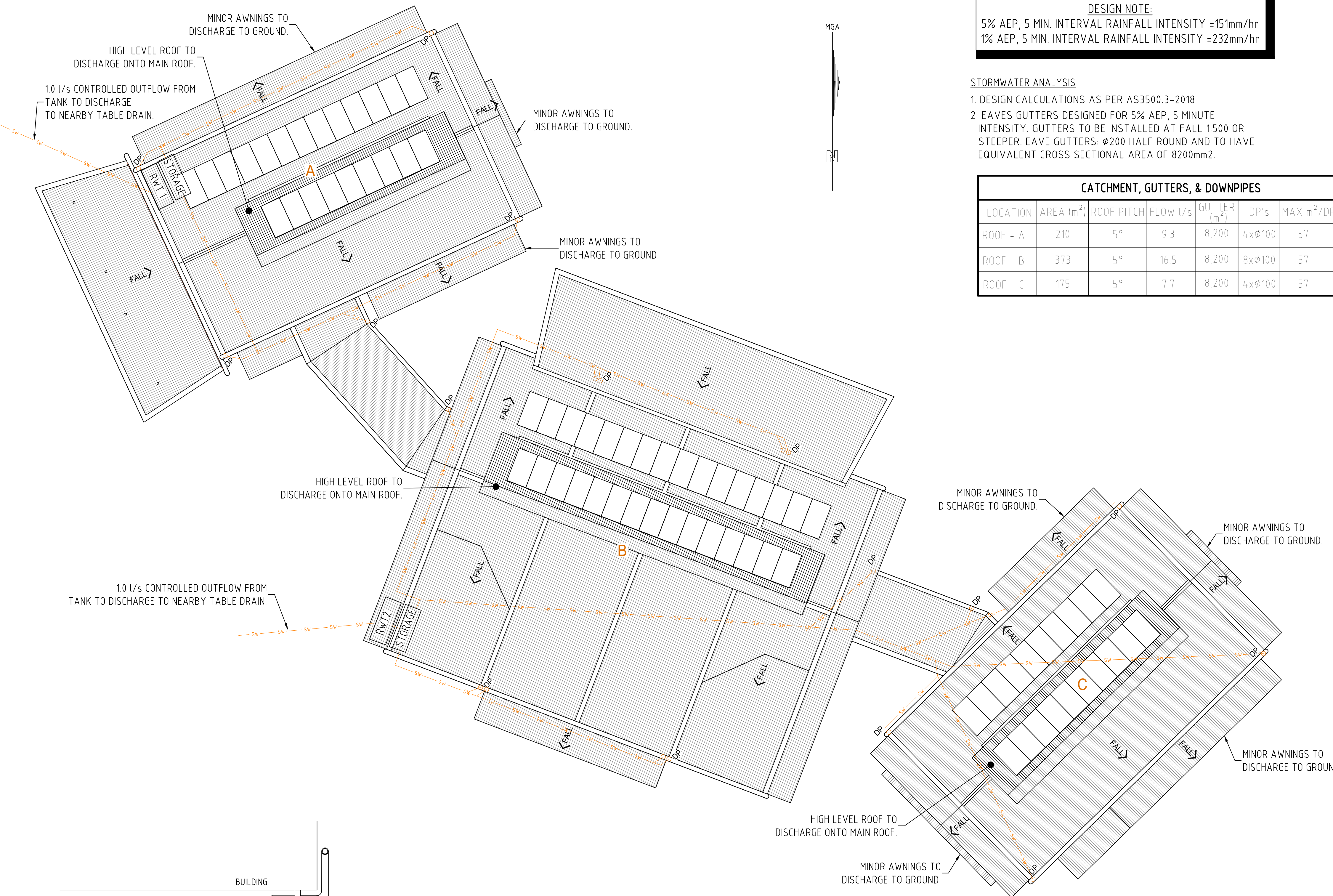
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 Project: "MAARI MA" WILCANNIA WELL BEING CENTRE
 ROSS & BONNEY STREETS, WILCANNIA NSW 2836
 Drawing Title: PROPOSED STORMWATER MANAGEMENT PLAN

Rev	Date	Amendment
A	16-04-2021	ISSUED FOR PRELIMINARY
B	23-04-2021	ISSUED FOR DA

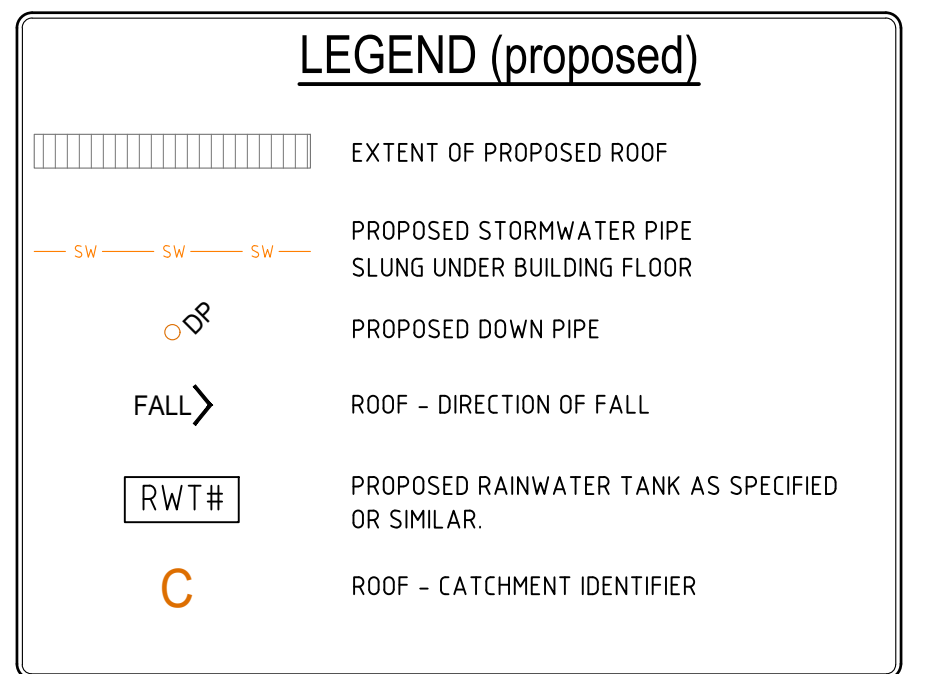
Design	DOS	Certification
Drawn	LT	
Check	LM	Drawing Number
Original Sheet Size = A1		32342 - C03
		Revision
		B



DESIGN NOTE:
 5% AEP, 5 MIN. INTERVAL RAINFALL INTENSITY = 151mm/hr
 1% AEP, 5 MIN. INTERVAL RAINFALL INTENSITY = 232mm/hr

STORMWATER ANALYSIS
 1. DESIGN CALCULATIONS AS PER AS3500.3-2018
 2. EAVES GUTTERS DESIGNED FOR 5% AEP, 5 MINUTE INTENSITY. GUTTERS TO BE INSTALLED AT FALL 1:500 OR STEEPER. EAVE GUTTERS: Ø200 HALF ROUND AND TO HAVE EQUIVALENT CROSS SECTIONAL AREA OF 8200mm².

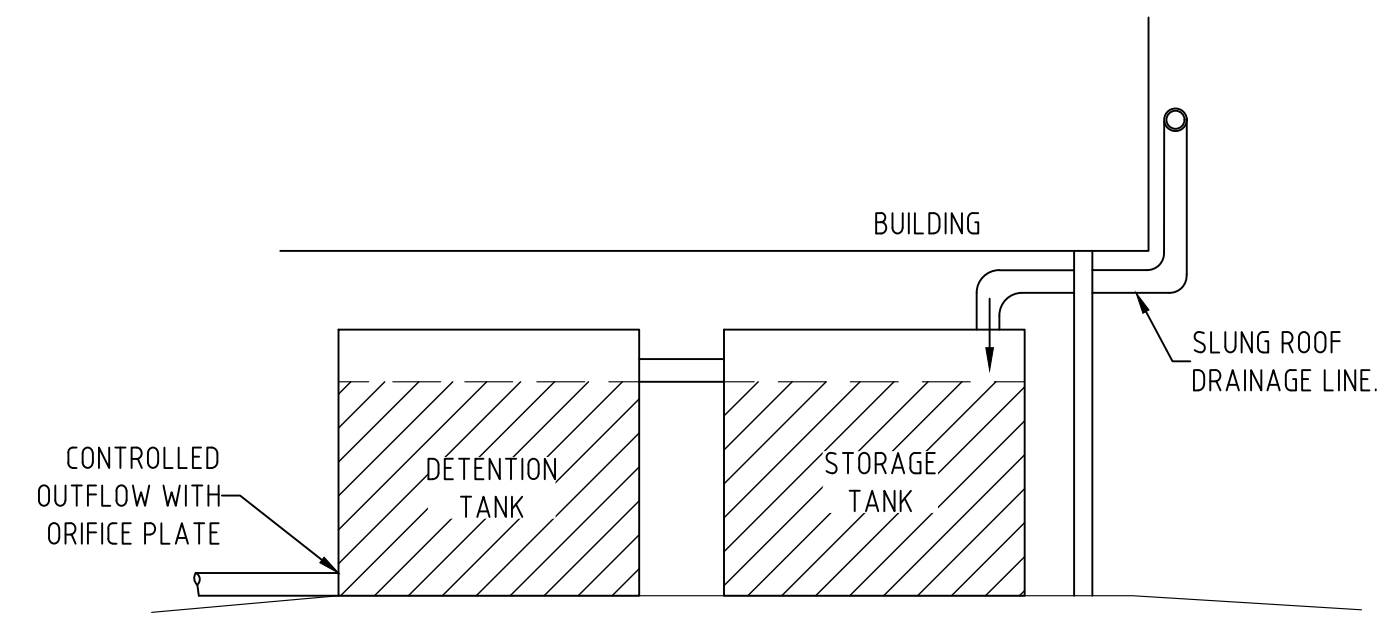
LOCATION	AREA (m ²)	ROOF PITCH	FLOW l/s	GUTTER (m ²)	DP's	MAX m ² /DP
ROOF - A	210	5°	9.3	8,200	4xØ100	57
ROOF - B	373	5°	16.5	8,200	8xØ100	57
ROOF - C	175	5°	7.7	8,200	4xØ100	57



HYDRAULIC CALCULATIONS CONT'D

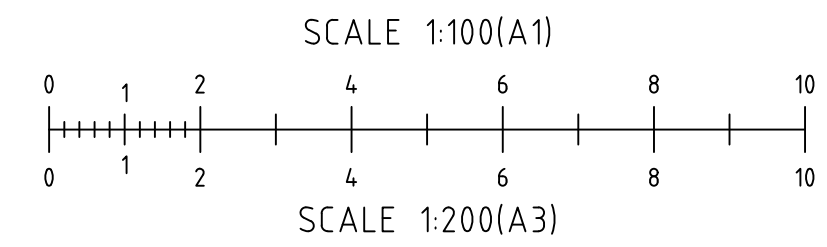
RWT 1 - 3000L DETENTION TANK
 3000L SLIMLINE TANK BY KINGSPAN (2500Lx700Wx1860H)
RWT 1 OSD VOLUME CALCULATION
 TOTAL FLOW TO RWT 1 = 9.3 l/s (ROOF A)
 REQUIRED STORAGE VOLUME = (9.3-1.0) x 5 x 60 = 9.7 x 5 x 60 = 2.47 m³
 OSD VOLUME PROPOSED = 3.0m³
ORIFICE CONTROL FLOW CALCULATIONS - RWT 1
 - AVAILABLE HEAD ABOVE PIPE CENTER LINE = 1.79m
 - EXIT VELOCITY = $\sqrt{2gh}$ = 5.92 m/s
 - ORIFICE COEFFICIENT = 0.8
 - FLOW THROUGH Ø16.4 ORIFICE = (0.8 x 5.92) x 0.0164²/4 x π = 0.001 m³/s
 - CONTROL OUTFLOW THROUGH Ø16.4 ORIFICE PLATE = 1.0 l/s

RWT 2 - 7000L DETENTION TANK
 7000L SLIMLINE TANK BY KINGSPAN (3300Lx1150Wx2020H)
RWT 2 OSD VOLUME CALCULATION
 TOTAL FLOW TO RWT 2 = 24.2 l/s (ROOF B + C)
 REQUIRED STORAGE VOLUME = (24.2-1.0) x 5 x 60 = 6.96 m³
 OSD VOLUME PROPOSED = 7.00m³
ORIFICE CONTROL FLOW CALCULATIONS - RWT 2
 - AVAILABLE HEAD ABOVE PIPE CENTER LINE = 1.95m
 - EXIT VELOCITY = $\sqrt{2gh}$ = 6.177 m/s
 - ORIFICE COEFFICIENT = 0.8
 - FLOW THROUGH Ø16.1 PIPE = (0.8 x 6.177) x 0.0161²/4 x π = 0.001 m³/s
 - CONTROL OUTFLOW THROUGH Ø16.1 ORIFICE PLATE = 1.0 l/s



RWT - TYPICAL TANK CROSS SECTION
 SCALE = 1:150

PROPOSED ROOF DRAINAGE PLAN
 REDUCTION RATIO 1:100 @ A1
 1:200 @ A3



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 Project: "MAARI MA" WILCANNIA WELL BEING CENTRE
 ROSS & BONNEY STREETS, WILCANNIA NSW 2836
 Drawing Title: PROPOSED ROOF DRAINAGE PLAN

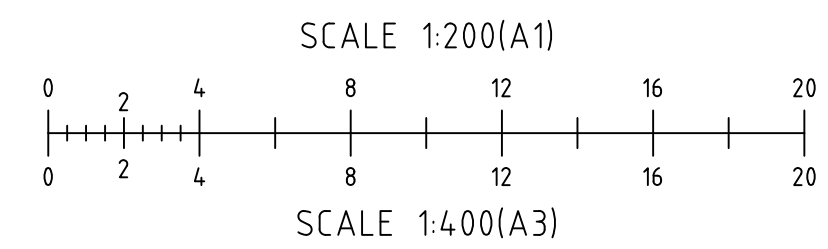
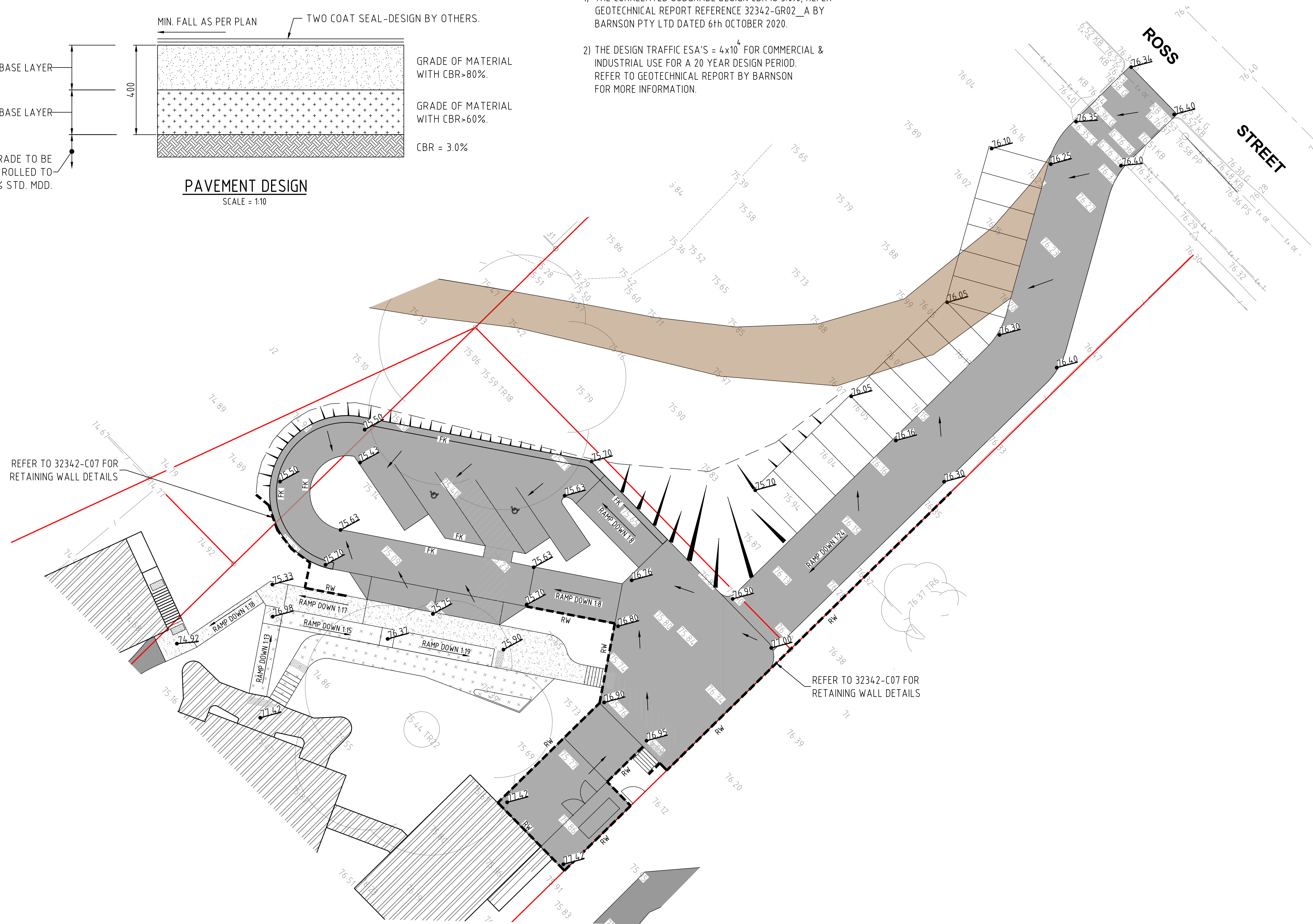
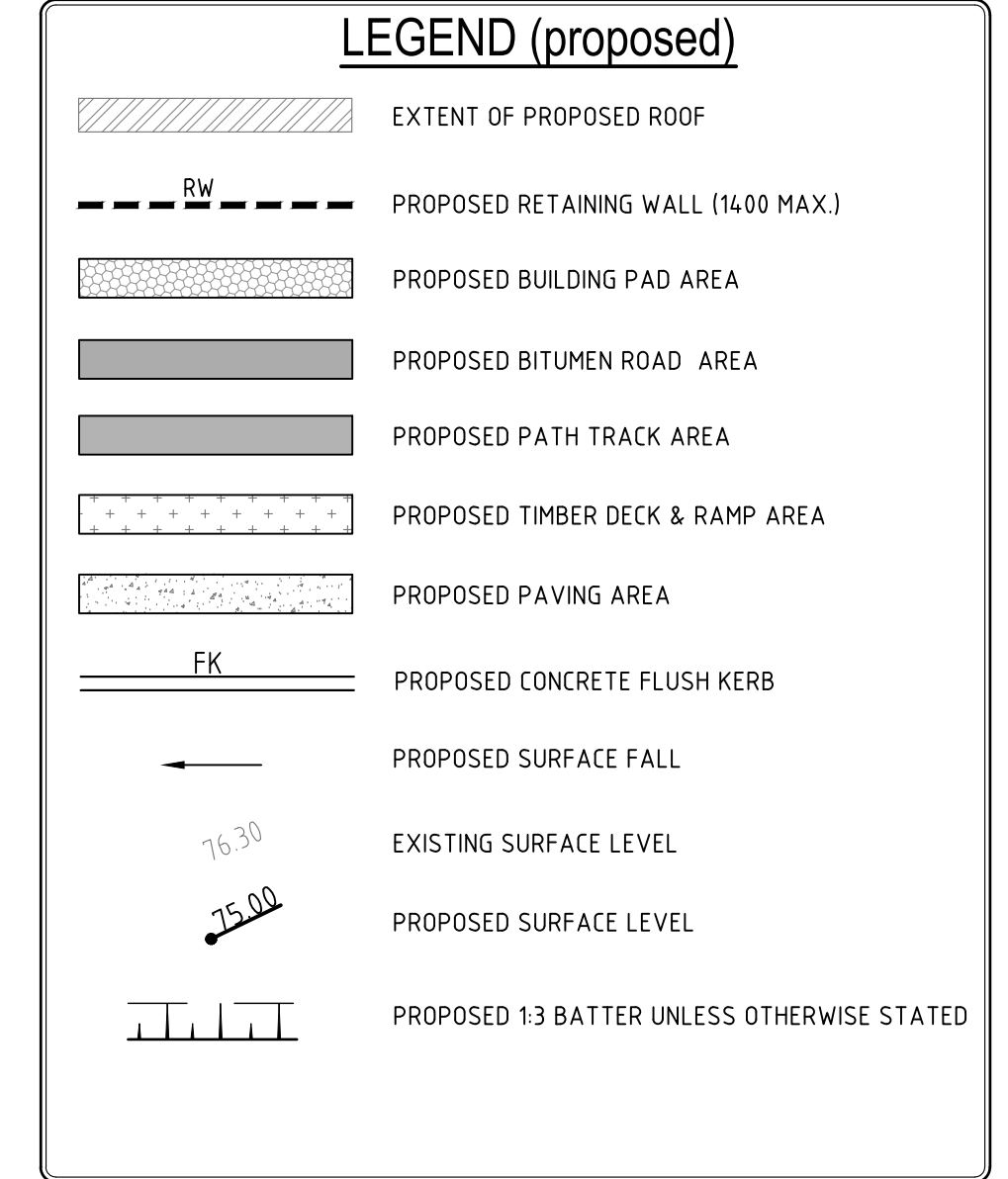
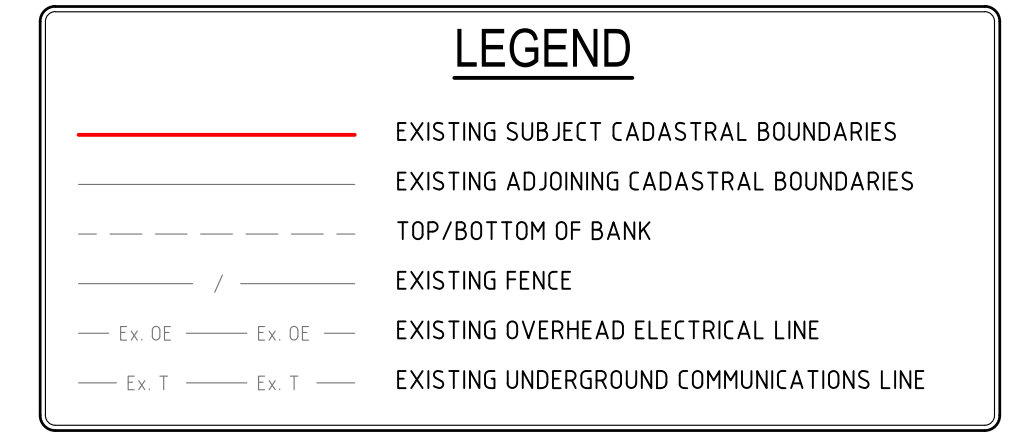
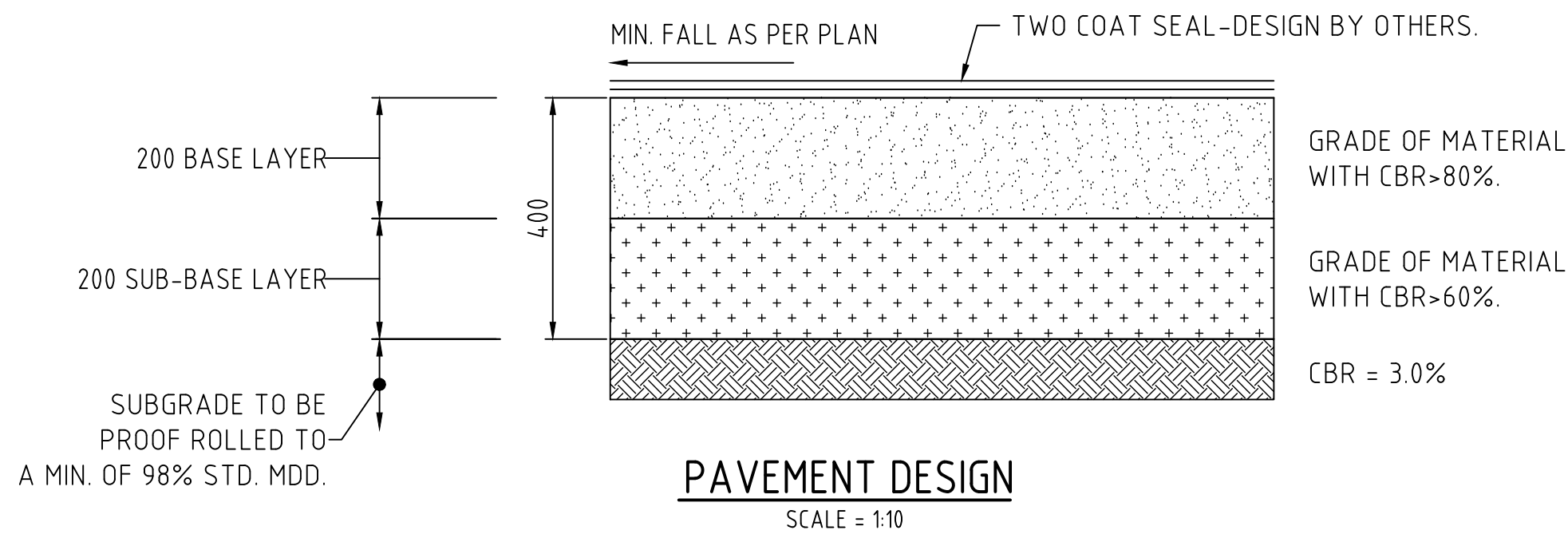
Rev	Date	Amendment
A	16-04-2021	ISSUED FOR PRELIMINARY
B	23-04-2021	ISSUED FOR DA

Design	DOS	Certification
Drawn	LT	
Check	LM	Drawing Number
Original Sheet Size = A1		32342 - C04
		Revision
		B

NOTE: REFER TO GEOTECHNICAL REPORT 32342-GR02_A DATED 6th OCTOBER 2020 BY BARNSON PTY LTD FOR MORE INFORMATION.

DESIGN NOTES

- 1) THE CORRELATED SUBGRADE DESIGN CBR IS 3.0%, REFER GEOTECHNICAL REPORT REFERENCE 32342-GR02_A BY BARNSON PTY LTD DATED 6th OCTOBER 2020.
- 2) THE DESIGN TRAFFIC ESA'S = 4x10⁴ FOR COMMERCIAL & INDUSTRIAL USE FOR A 20 YEAR DESIGN PERIOD. REFER TO GEOTECHNICAL REPORT BY BARNSON FOR MORE INFORMATION.



PROPOSED CARPARK DESIGN PLAN
REDUCTION RATIO 1:200 @ A1, 1:400 @ A3

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Client: TROPPO ARCHITECTS
 Project: "MAARI MA" WILCANNIA WELL BEING CENTRE
 ROSS & BONNEY STREETS, WILCANNIA NSW 2836
 Drawing Title: PROPOSED CARPARK DESIGN PLAN WITH LEVELS

Rev	Date	Amendment
A	16-04-2021	ISSUED FOR PRELIMINARY
B	23-04-2021	ISSUED FOR DA

Design	DOS	Certification
Drawn	LT	
Check	LM	Drawing Number
Original Sheet Size = A1		32342 - C05
		Revision
		B

STORMWATER NOTES

1. ALL DOWNPIPE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS (U.N.O)
2. EQUIVALENT STRENGTH VCP OR FCP PIPES MAY BE USED.
3. MINIMUM GRADE TO STORMWATER LINES TO BE 0.5% MINIMUM (U.N.O)
4. CONTRACTORS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
5. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
6. APPROVED PRECAST PITS MAY BE USED.
7. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75mm THICK SAND BED. IN ALL CASES, BACKFILL THE TRENCH WITH THE SAND TO 200mm ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS, BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150mm LAYERS TO 98% MAX. DRY DENSITY.
8. WHERE STORMWATER LINES PASS UNDER FLOOR SLABS, SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
9. ALL PIPES IN THE ROADWAY AND FOOTPATH AREAS, WHERE THE DEPTH OF PIPE IS LESS THAN 500mm FROM THE FINISHED SURFACE LEVEL ARE TO BE CONCRETE ENCASED.

PIPE TRENCH - FILL NOTES:

1. BEDDING SAND

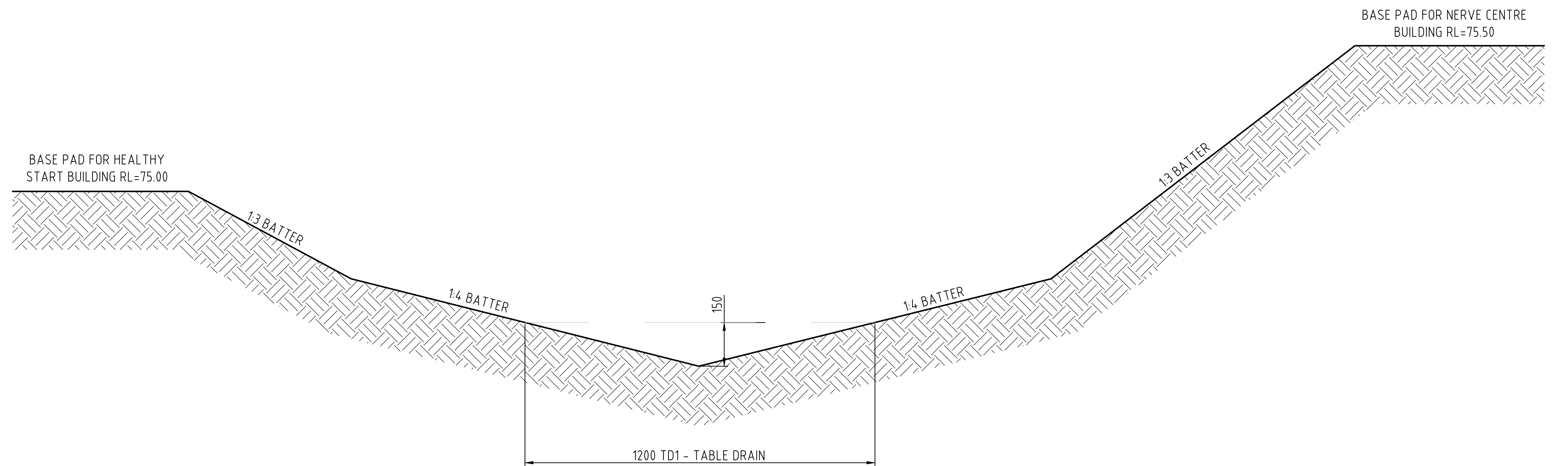
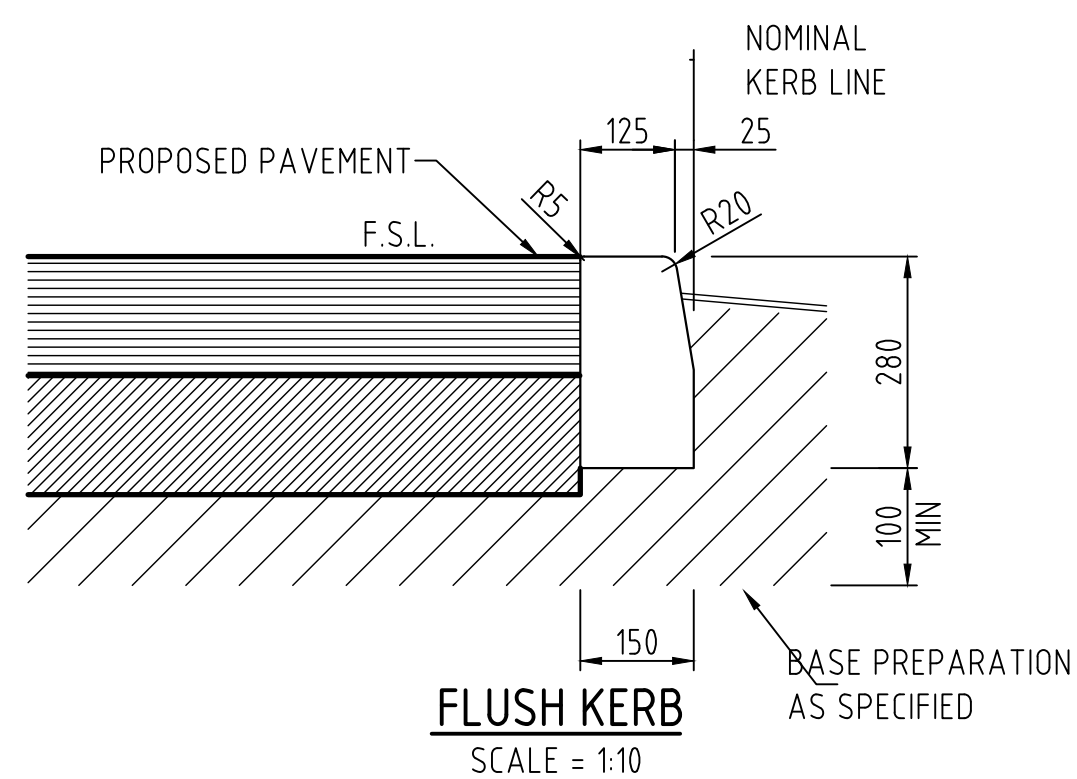
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 95% AS DETERMINED IN ACCORDANCE WITH AS1289.

2. APPROVED IMPORTED GRANULAR FILL

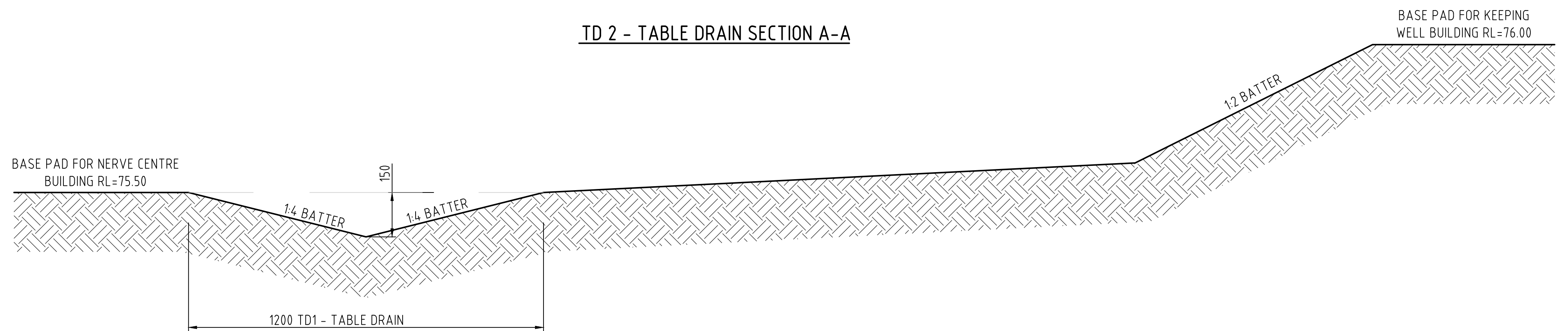
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK TO A DRY DENSITY OF 100% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

3. ORDINARY EXCAVATED FILL MATERIAL

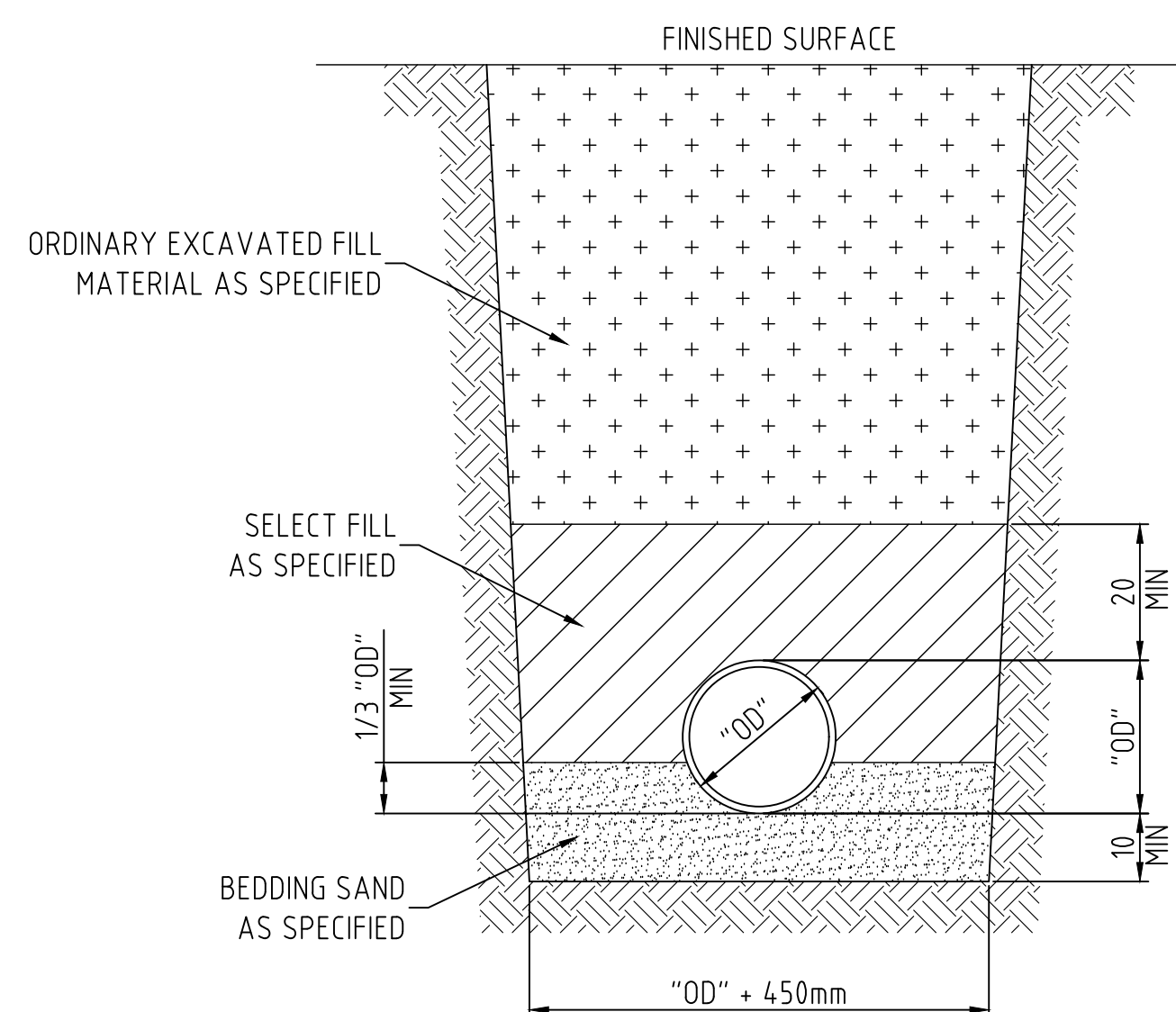
ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.



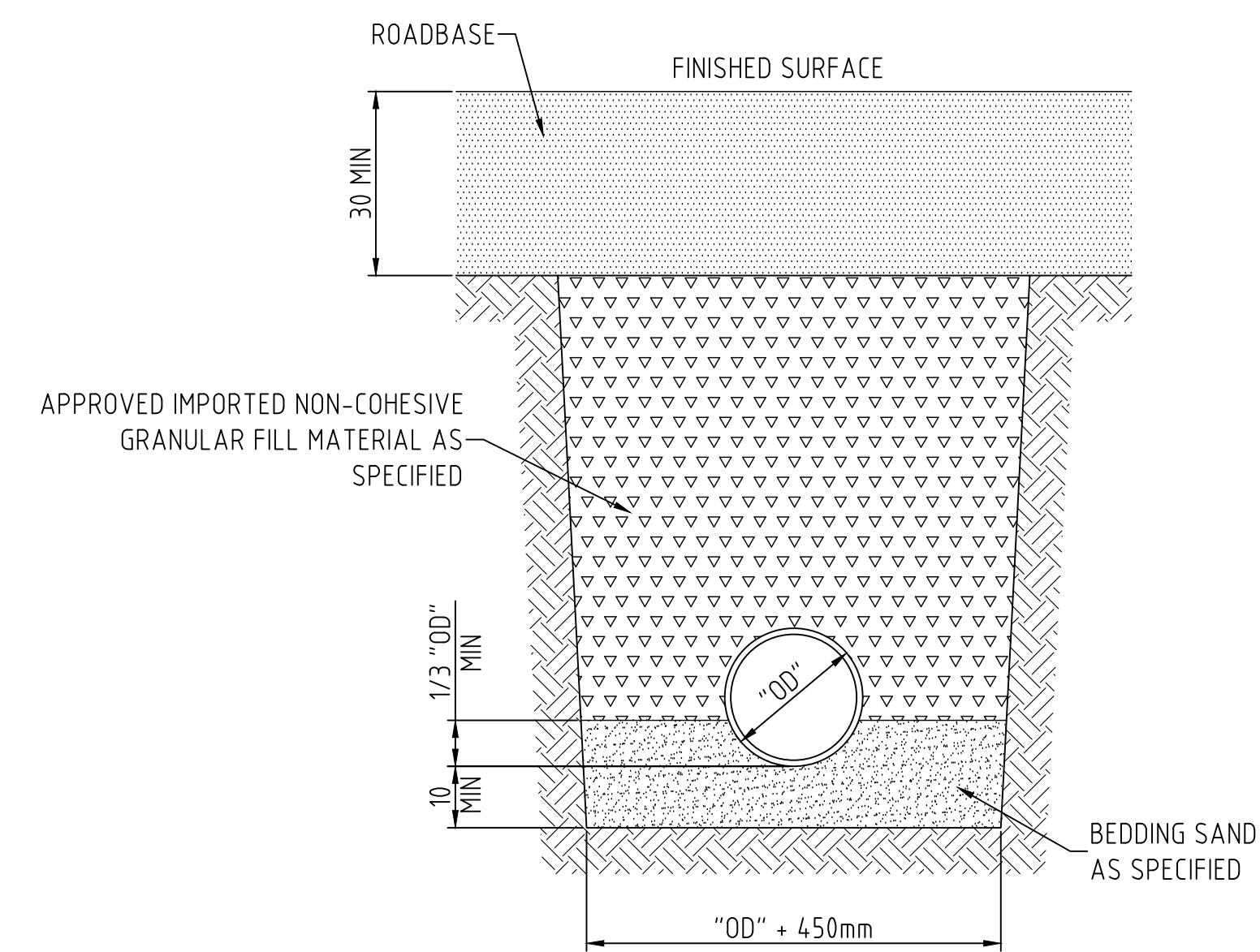
TD 2 - TABLE DRAIN SECTION A-A



TD 1 - TABLE DRAIN SECTION B-B



PIPE TRENCH - EARTH FOUNDATION
SCALE = 1:10



PIPE TRENCH - ROADWAY
SCALE = 1:10

NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL

SUBMISSION FOR DA

RETAINING WALL LOADING NOTES

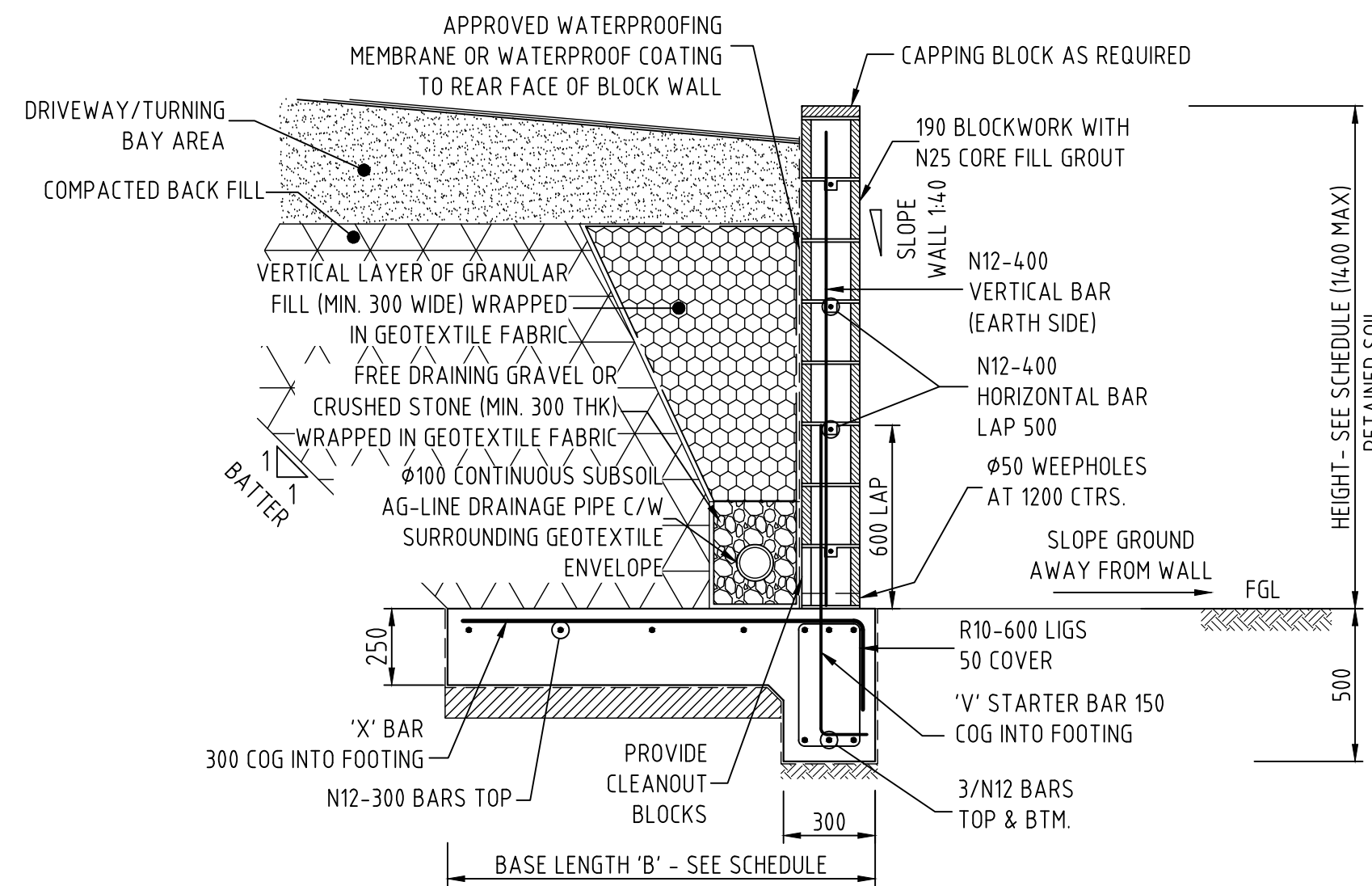
1. ALL LOADS HAVE BEEN DETERMINED ACCORDING TO AS1170-2002
2. DEAD LOADS:
 - A) SELF WEIGHT OF RETAINING WALL.
3. LIVE LOADS:
 - A) RETAINING WALL SURCHARGE LIVE LOAD = 5 kPa FOR MEDIUM VEHICLE LOADING TO AS1170-2002.
4. EARTH LOADS
 - A) RETAINED MATERIAL UNIT WIGHT, $\gamma = 20 \text{ kN/m}^3$
 - B) LATERAL EARTH PRESSURE, $K_a = 0.35$
 - C) NO HYDROSTATIC PRESSURES DESIGNED FOR.

RETAINING WALL NOTES

- A) RETAINING WALL
 1. CONCRETE EXPOSURE CLASSIFICATION = A2 TO AS3600-2009
 2. SLAB, BEAM & REINFORCEMENT AS PER DETAILS WITH 50 COVER
 3. CONCRETE IS TO BE GRADE N25 (25 MPa STRENGTH AT 28 DAYS)
 4. BASE PREPARATION: MIN. 100mm HARD-CORE BASE (DGB20 OR SIMILAR APPROVED) COMPACTED IN 150mm LAYERS TO 98% STANDARD COMPACTION.
 5. A WATERPROOF MEMBRANE CONSISTING OF A 0.2mm NOMINAL THICKNESS POLYETHYLENE FILM, SHALL BE PLACED UNDER ALL SLABS & BEAMS U.N.O. IT SHALL BE HIGH IMPACT RESISTANT IN ACCORD WITH CLAUSES 5.3.3.2 AND 5.3.3.3 OF AS2870-2011.
 6. SERVICES TO BE PLACED IN A 300mm WIDE x 450mm DEEP TRENCH A MINIMUM OF 600mm FROM FOOTING TO AVOID UNDERMINING OF FOOTINGS.

MASONRY NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700-2018.
2. THE DESIGN STRENGTH OF MASONRY SHALL BE IN ACCORDANCE WITH THE MASONRY SCHEDULE BELOW. MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
3. MORTAR JOINTS SHALL BE 10mm THICK AND HAVE A MAXIMUM TOOLED DEPTH OF 3mm UNLESS NOTED OTHERWISE.
4. CLEANOUT HOLES SHALL BE PROVIDED AT THE BASE OF ALL CORES OR CAVITIES WHICH ARE TO BE GROUTED OR FILLED.
5. REINFORCING STEEL SHALL BE FIXED SECURELY IN POSITION PRIOR TO GROUTING.
6. ALL MORTAR OBSTRUCTIONS IN CORES OR CAVITIES SHALL BE REMOVED PRIOR TO GROUTING & FILLING. THIS MAY BE DONE USING A ROD FROM THE TOP OF THE WALL. ALL MORTAR THUS REMOVED SHALL BE CLEANED FROM THE BOTTOM OF THE WALL PRIOR TO CLEAN OUT HOLES BEING CLOSED FOR GROUTING.
7. GROUT FOR BOND BEAMS, LINTELS, CORE FILLING OR CAVITY FILLING SHALL COMPRISE OF A MIX OF CEMENT : LIME : 10mm AGGREGATE = 1:0.25:3 UNLESS OTHERWISE NOTED. MAXIMUM SLUMP TO BE 230mm.
8. CORES AND CAVITIES SHALL BE FILLED IN 1000mm MAXIMUM LIFTS WHERE REQUIRED.
9. GROUT SHALL BE THOROUGHLY COMPACTED USING A PLAIN BAR.
10. NO CHASES SHALL BE CUT INTO LOAD BEARING MASONRY WALLS WITHOUT THE APPROVAL OF THE ENGINEER.
11. VERTICAL CONTROL JOINTS SHALL BE POSITIONED IN ALL MASONRY WALLS AT 6000mm MAXIMUM CENTERS, AND AT SPECIFIC LOCATIONS LISTED BELOW:
 - A) AT MAJOR CHANGES IN WALL HEIGHT.
 - B) AT CHANGES IN WALL THICKNESS OTHER THAN FOR PIERS & BUTTRESSES.
 - C) AT CONTROL JOINTS IN FOOTINGS, FLOOR SLABS AND ROOF SLABS.
 - D) AT CHASES AND RECESSES FOR PIPES, COLUMNS, FIXTURES ETC.
 - E) AT ONE OR BOTH SIDES OF A WALL OPENING.
 - F) NEAR WALL INTERSECTIONS.
 - G) NEAR RETURN ANGLES IN "L", "T" & "U" SHAPED STRUCTURES.
12. THE BUILDER SHALL SUBMIT TO THE ENGINEER DRAWINGS FOR REVIEW OF PROPOSED LOCATIONS FOR CONTROL JOINTS, PRIOR TO LAYING ANY BLOCKS OR BRICKS.
13. OBSERVATION FOR THE CONSTRUCTION OF NON-LOADBEARING MASONRY WALLS, PARTITIONS AND OTHER NON-LOADBEARING ELEMENTS IS NOT INCLUDED IN THE STRUCTURAL ENGINEERS SCOPE OF WORK.
14. WHERE MASONRY WALLS ARE NON-LOADBEARING AT EITHER HORIZONTAL OR VERTICAL FACES, THEY SHALL BE SEPARATED FROM THE CONCRETE BY 12mm THICK "CANEITE" OR EXPANDED POLYSTYRENE UNLESS NOTED OTHERWISE.
15. NON-LOADBEARING MASONRY WALLS ARE TO BE KEPT A MINIMUM OF 15mm CLEAR FROM THE SOFFIT OF BEAMS AND SLABS OVER. IF THE WALL SERVES AS A FIRE SEPARATING WALL, THEN THE GAP SHALL BE FILLED WITH AN APPROVED FIRE RATED FLEXIBLE SEALANT.
16. ALL MASONRY IS TO BE FIXED TO ADJOINING CONCRETE AND OR STEEL SUPPORTING MEMBERS BY MFA 3/3 MASONRY ANCHORS OR EQUIVALENT AT 600 MAXIMUM CENTERS VERTICALLY, AND MFA 4/M MASONRY ANCHORS OR EQUIVALENT AT 1000 MAXIMUM CENTERS HORIZONTALLY UNLESS NOTED OTHERWISE.
17. WALL TIES SHALL BE PROVIDED AT 600mm MAXIMUM CENTERS HORIZONTALLY & VERTICALLY AND CONSIST OF 3.1mm DIA GALVANISED WIRE UNLESS NOTED OTHERWISE.
18. ALL MASONRY ANCHORS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
15. MASONRY IS NOT TO BE ERECTED OFF SUSPENDED WORK UNTIL ALL FORMWORK & FALSEWORK SYSTEMS PROVIDING SUPPORT HAVE BEEN REMOVED.
19. A 300mm WIDE STRIP OF COARSE GRAINED MATERIAL IS TO BE PLACED BEHIND ALL RETAINING WALLS.

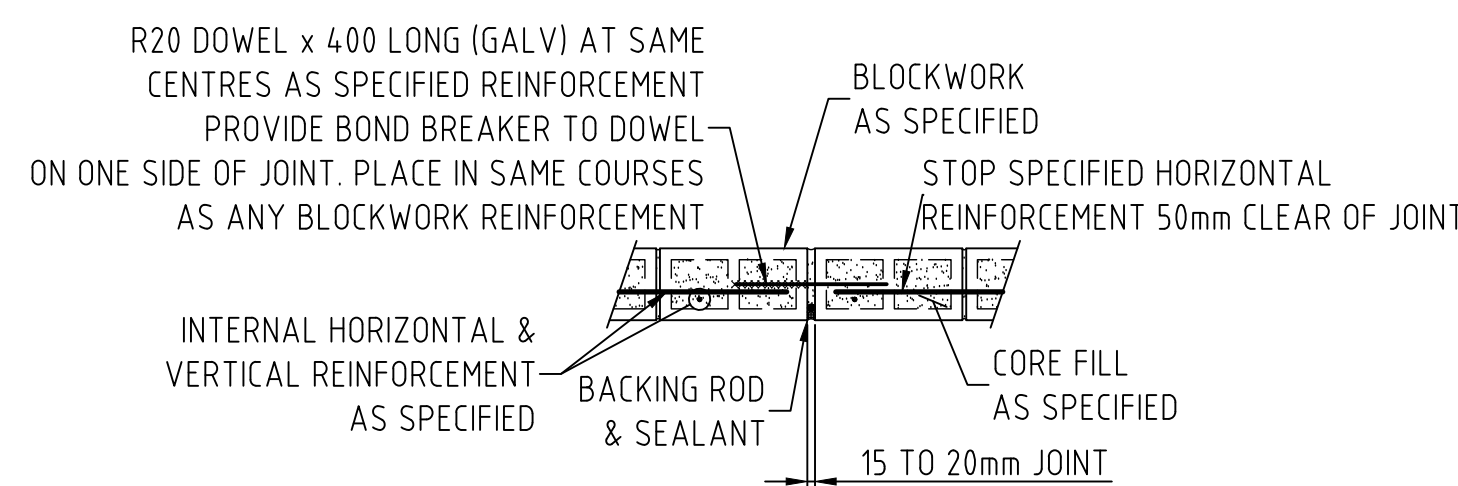


RETAINING WALL (MAX. 1400 HIGH)

RETAINING WALL SCHEDULE			
MAXIMUM HEIGHT (mm)	'V' STARTER BAR/ 'X' BAR (SIZE AND LAP)	BASE LENGTH 'B' LEVEL BACK FILL (mm)	BASE LENGTH 'B' MAX. 1:4 SLOPE (mm)
1400	N12 AT 400mm CTRS. 'V' BAR LAP 600 WITH VERT. BAR	1300	1700
1200	N12 AT 400mm CTRS. 'V' BAR LAP 600 WITH VERT. BAR	1100	1500
1000	N12 AT 400mm CTRS. 'V' BAR LAP 600 WITH VERT. BAR	1000	1200
800	N12 AT 400mm CTRS. 'V' BAR LAP 600 WITH VERT. BAR	800	1000
600	N12 AT 400mm CTRS. 'V' BAR LAP 600 WITH VERT. BAR	600	800

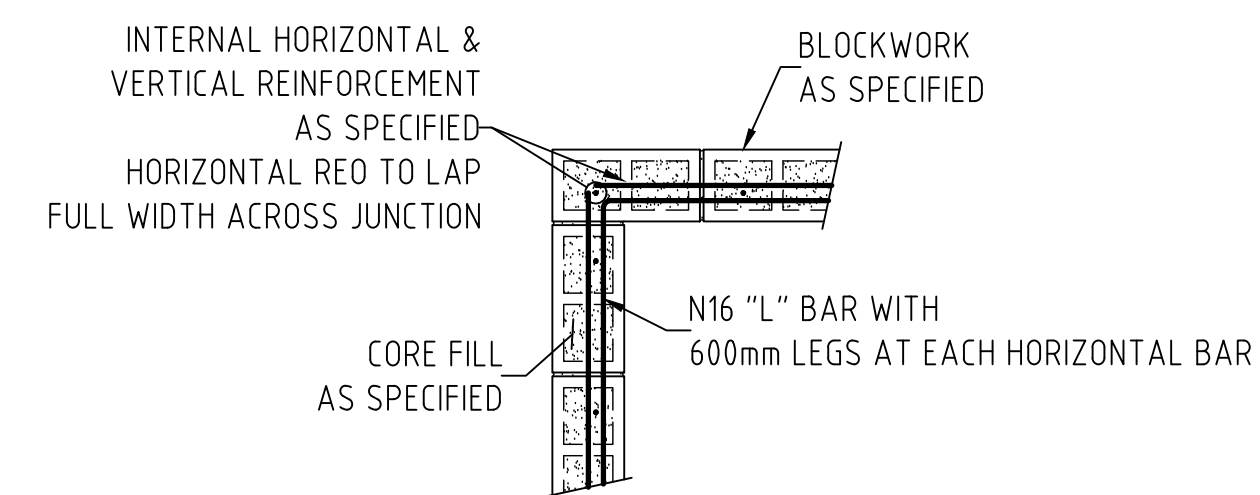
NOTE: REFER TO TYPICAL RETAINING WALL DETAIL

BLOCKWORK ARTICULATION JOINT NOTE:
ARTICULATION JOINT TO BE POSITIONED AT 6m MAX. CTRS. REFER SPECIFIC DETAIL.



BLOCKWORK ARTICULATION JOINT

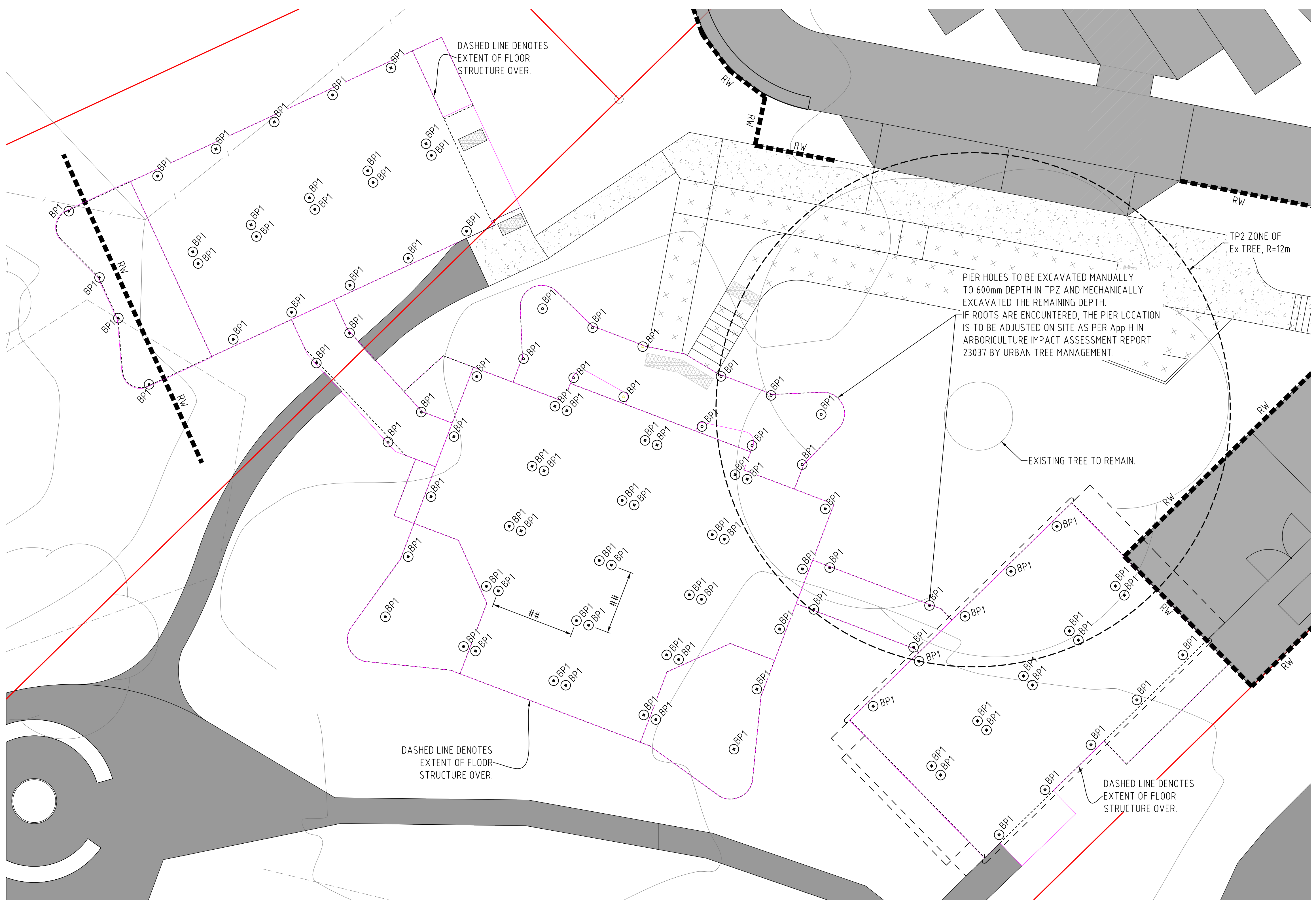
SCALE = 1:20



BLOCK WALL "L" INTERSECTION DETAIL

SCALE = 1:20

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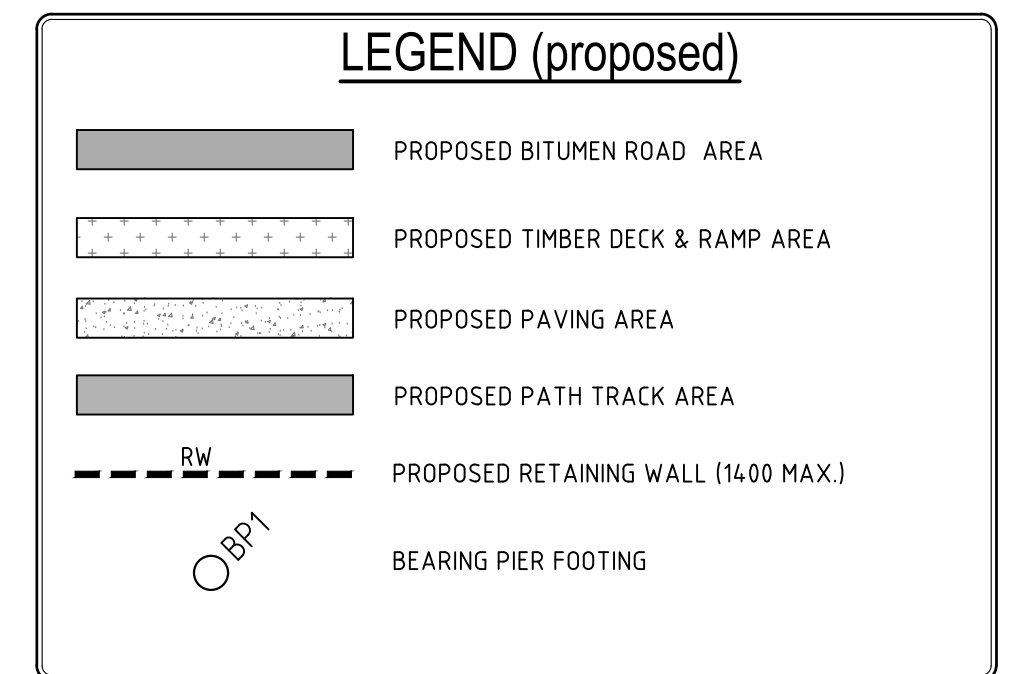


- GEOTECHNICAL NOTES**
- THESE SLAB & FOOTING HAS BEEN DESIGNED FOR A CLASS "H2-D" SITE AS DEFINED BY AS2870-2011, BASED UPON GEOTECHNICAL REPORT BY BARNSON PTY LTD, REFERENCE 32342-GR02_A DATED 06th OCTOBER 2020.
 - FACTORED ALLOWABLE BEARING CAPACITIES Q_a : TO BE CONFIRMED ON SITE:
 - A) PIER BASE = 450 kPa
 - SKIN FRICTION f_s : TO BE CONFIRMED ON SITE
 - A) PIER SHAFTS = 35 kPa

- PAD & STRIP FOOTING NOTES**
- CONCRETE EXPOSURE CLASSIFICATION = A1 TO AS3600-2009
 - CONCRETE IS TO BE GRADE N25 (25 MPa STRENGTH AT 28 DAYS AGE)
 - FOOTING DEPTH & WIDTH AS PER RELATIVE DETAILS
 - FOOTING REINFORCEMENT AS SPECIFIED IN RELEVANT DETAILS WITH 50mm COVER
 - SERVICES TO BE PLACED IN A 300mm WIDE x 450mm DEEP TRENCH A MINIMUM OF 600mm FROM EDGE OF BUILDING TO AVOID UNDERMINING OF FOOTINGS.

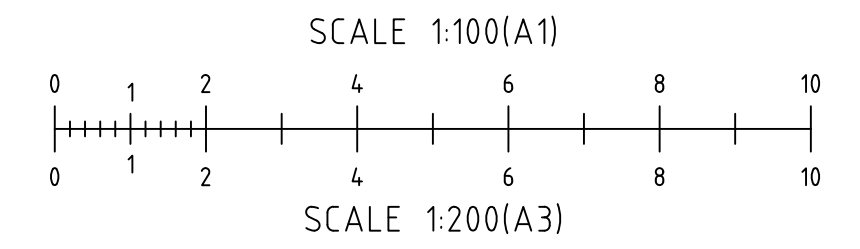
GENERIC DRAWINGS REFERENCE
 THIS PLAN SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING REFERENCE DRAWINGS WHICH FORM PART OF THE PROJECT SPECIFICATION: G1000, G1001, G1002, G1003, G1004, G1005, G1006, G1007 & 32342-S02.

LEGEND
 ## PIER FOOTING SPACING TO SUIT FLOORING SYSTEM DESIGN BY OTHERS

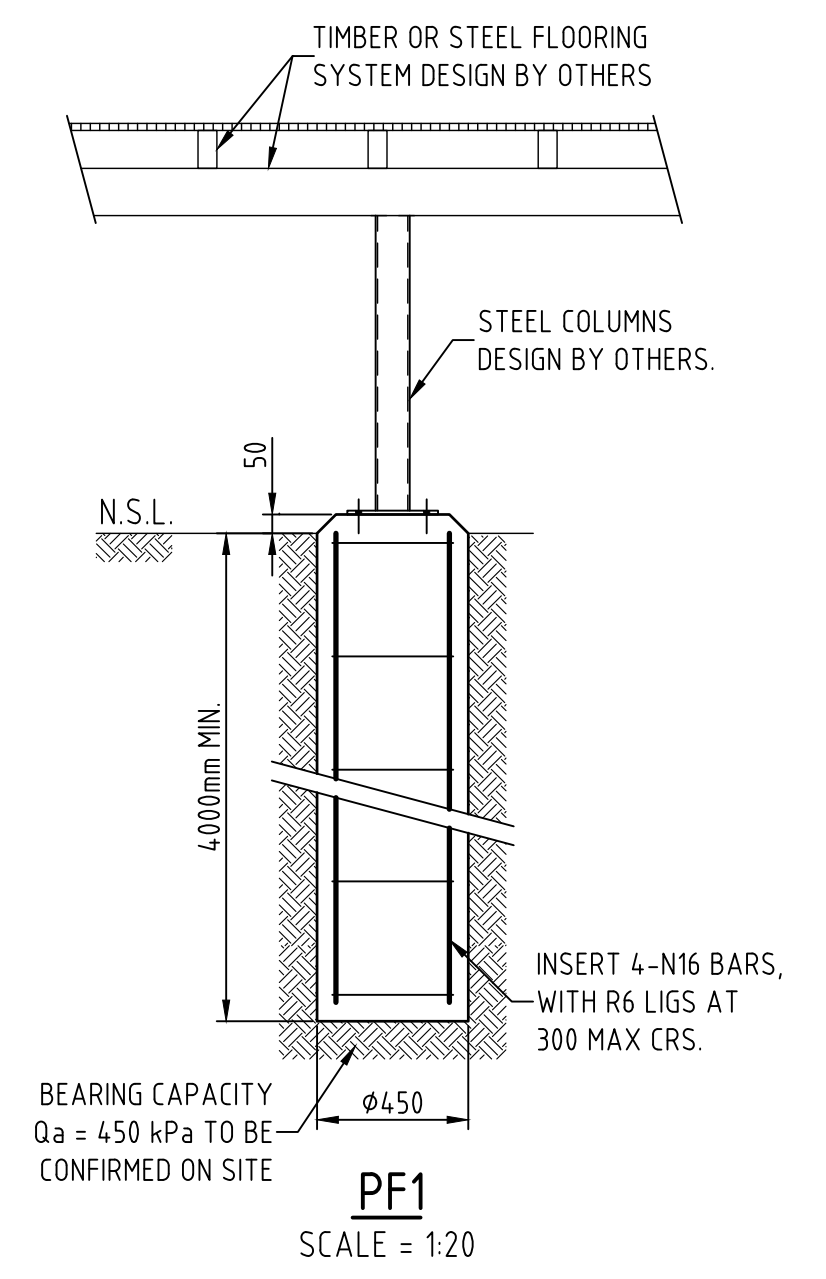


PIER HOLES TO BE EXCAVATED MANUALLY TO 600mm DEPTH IN TP2 AND MECHANICALLY EXCAVATED THE REMAINING DEPTH. IF ROOTS ARE ENCOUNTERED, THE PIER LOCATION IS TO BE ADJUSTED ON SITE AS PER App H IN ARBORICULTURE IMPACT ASSESSMENT REPORT 23037 BY URBAN TREE MANAGEMENT.

EXISTING TREE TO REMAIN.



BEARING PIER FOOTING DESIGN PLAN
 REDUCTION RATIO 1:100 @ A1, 1:200 @ A3



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THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Client: TROPPO ARCHITECTS
 Project: "MAARI MA" WILCANNIA WELL BEING CENTRE
 ROSS & BONNEY STREETS, WILCANNIA NSW 2836
 Drawing Title: BEARING PIER FOOTING DESIGN PLAN, DETAILS & NOTES

Rev	Date	Amendment
A	23-04-2021	ISSUED FOR DA

Design	DOS	Certification
Drawn	LT	
Check	LM	Drawing Number
Original Sheet Size = A1		32342 - C10
		Revision
		A