

PENSHURST PUBLIC SCHOOL UPGRADE

CIVIL ENGINEERING DRAWINGS

GENERAL NOTES

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS, SPECIFICATIONS AND AS1100 TECHNICAL DRAWING.
- G2 ANY DISCREPANCIES SHALL BE REFERRED TO THE CONTRACT ADMINISTRATOR FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- G3 DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- G4 ANY SET OUT DIMENSIONS SHOWN ON THE DRAWING SHALL BE VERIFIED BY THE BUILDER.
- G5 DURING CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN THE WORKS IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
- G6 ALL WORK SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA, CONDITIONS OF THE DEVELOPMENT CONSENT AND RELEVANT AUSTRALIAN STANDARD CODES.

COMPACTION DENSITY NOTES

- CD1 FILLING 98% STANDARD (AS1289 TEST 5.1.1)
- CD2 COHESIVE SUBGRADE 98% STANDARD (AS1289 TEST 5.1.1)
COHESIONLESS SUBGRADE 80% (AS1289 TEST 5.6.1)
- CD3 SUB BASECOURSE 95% MODIFIED (AS1289 TEST 5.2.1)
- CD4 BASECOURSE 98% MODIFIED (AS1289 TEST 5.2.1)

EROSION CONTROL NOTES

- E1 INSTALL SILT FENCES ON LOW SIDE OF SITE AND AS REQUIRED BY LOCAL COUNCIL PRIOR TO COMMENCEMENT OF TOPSOIL STRIPPING.
- E2 INSTALL DRAINAGE SYSTEM AND SILT FENCES AROUND PITS AS SOON AS PRACTICABLE.
- E3 REINSTATE GRASS COVER AS SOON AS PRACTICABLE.

DRAINAGE NOTES

- D1 ALL WORKS SHALL BE IN ACCORDANCE WITH AS3500.3
- D2 FOR PIPE DIAMETERS NOT EXCEEDING 150mm, USE:
- VITRIFIED CLAY PIPE TO AS1741 OR
- SEWER GRADE UPVC TO AS1260 OR
- CLASS 2 FIBRE REINFORCED CONCRETE TO AS4139
- D3 FOR PIPE DIAMETERS EXCEEDING 150mm, USE:
- CLASS 2 REINFORCED CONCRETE PIPE TO AS4058 OR
- CLASS 2 FIBRE REINFORCED CONCRETE PIPE TO AS4139
UNLESS OTHERWISE ON PLAN.
- D4 PVC PIPES SHALL BE SOLVENT WELDED, ALL OTHER PIPES SHALL BE RUBBER RING JOINTED UNLESS NOTED OTHERWISE.
- D5 UNLESS SPECIFIED OTHERWISE, BED & BACKFILL SHALL BE COMPACTED SAND TO 100mm ABOVE THE PIPE. REMAINDER OF BACKFILL SHALL BE COMPACTED EXCAVATED MATERIAL. WHEN UNDER VEHICULAR PAVEMENT, REMAINDER OF BACKFILL SHALL BE COMPACTED BASECOURSE.
- D6 LOADS ON PIPES DURING CONSTRUCTION SHALL NOT EXCEED THE REQUIREMENT OF AS3725, OR THE RECOMMENDATIONS OF THE PIPE MANUFACTURER.
- D7 TRENCH WIDTHS SHALL BE IN ACCORDANCE WITH AS3500, BUT NOMINALLY THE GREATER OF 1.5 PIPE DIAMETER OR PIPE DIAMETER PLUS 300.
- D8 FOR ROOF DRAINAGE REFER HYDRAULIC ENGINEERS DRAWING.
- D9 WSUD FEATURES
- ENVIROPOD INSERTS IN ALL PITS
- GROSS POLLUTANT TRAP VORTSENTRY MODEL H518 OR APPROVED EQUIVALENT.

CONCRETE NOTES

- C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- C2 CONCRETE QUALITY - AS NOTED BELOW. PROJECT ASSESSMENT OF STRENGTH GRADE SHALL BE USED.

CONCRETE QUALITY				
ELEMENT	Strength Grade	Slump mm	Max. Agg. mm	Cement Type
KERBS AND FOOTINGS	N25	80	20	GP
VEHICULAR PAVEMENT	N40	80	20	GP
REMAINDER	N32	80	20	GP

- C3 CLEAR COVER OF REINFORCEMENT SHALL BE AS NOTED ON THE DRAWINGS. REINFORCEMENT SHALL BE RIGIDLY SUPPORTED TO MAINTAIN SPECIFIED COVER DURING CONSTRUCTION.
- C4 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISH.
- C5 CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE CONTRACT ADMINISTRATOR.
- C6 CONDUITS, PIPES ETC., SHALL ONLY BE LOCATED IN THE MIDDLE ONE THIRD OF SLAB DEPTH. (UNLESS NOTED OTHERWISE.)
- C7 REINFORCEMENT SYMBOLS.
R - GRADE 250 PLAIN BAR IN ACCORDANCE WITH AS1302
N - GRADE 500 DEFORMED BAR DUCTILITY CLASS N (D500N) IN ACCORDANCE WITH AS/NZS4671 WITH A CARBON EQUIVALENT (CE) LIMIT OF 0.39 MAX.
SL - GRADE 500 SQUARE WELDED FABRIC, DEFORMED BARS DUCTILITY CLASS L (D500L) IN ACCORDANCE WITH AS/NZS4671
RL - GRADE 500 RECTANGULAR WELDED FABRIC, DEFORMED BARS DUCTILITY CLASS L (D500L) IN ACCORDANCE WITH AS/NZS4671.
- C8 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY; IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C9 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. OBTAIN APPROVAL FROM THE CONTRACT ADMINISTRATOR FOR ANY OTHER SPLICES.
- C10 WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- C11 FABRIC SHALL BE LAPPED 400 mm.
- C12 BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETERS CENTRES WITH 3 WRAPS OF TIE WIRE.
- C13 CURE CONCRETE IN ACCORDANCE WITH AS3600. METHOD OF CURING SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR APPROVAL.
- C14 WHERE SLABS OR BEAMS BEAR UPON MASONRY OTHER THAN REINFORCED BLOCK WALLS - THE TOP COURSE SHALL BE LEVEL, SMOOTH AND COVERED BY TWO LAYERS OF GALVANISED FLAT STEEL WITH GRAPHITE GREASE BETWEEN LAYERS.

ASPHALTIC CONCRETE PAVEMENT NOTES

- AC1 SUB BASECOURSE MATERIAL SHALL BE DGS 40 MATERIAL COMPLYING WITH R.M.S. FORM QA3051.
- AC2 BASECOURSE MATERIAL SHALL BE DGB 20 MATERIAL COMPLYING WITH R.M.S. FORM QA3051.
- AC3 ASPHALTIC CONCRETE SURFACING SHALL BE SUPPLIED AND LAID IN ACCORDANCE WITH R.M.S. SPECIFICATION RT16 & AS 2150 ASPHALTIC PAVING - GUIDE TO GOOD PRACTICE.

MASONRY NOTES

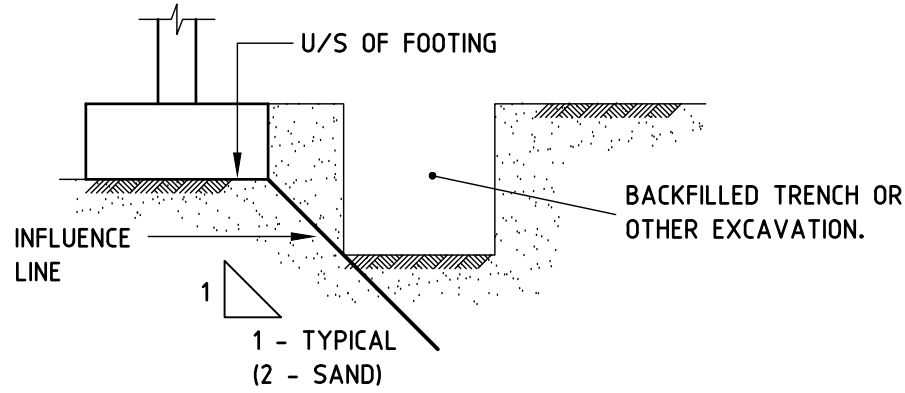
- M1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY CONTRACT DOCUMENTS.
- M2 MASONRY UNITS
MINIMUM CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH (f'uc) = 15 MPa.
- M3 MORTAR
MINIMUM MORTAR CLASSIFICATION M3
- M4 UNLESS NOTED OTHERWISE MASONRY WALLS BUILT AGAINST STEEL OR CONCRETE COLUMNS, WALLS OR BEAMS SHALL BE FIXED TO THOSE ELEMENTS USING 50 mm WIDE x 1.5 mm THICK WITH 50 mm UPTURN GALVANISED STEEL BONDING TIES AT 600 mm MAXIMUM CENTRES, POWER FIXED WITH 3.8 DIA. DRIVE PINS. EMBED EACH TIE A MINIMUM OF 400 mm INTO COURSING OF HOLLOW BLOCKWORK, 300 INTO SOLID BLOCK WORK AND BRICKWORK.
- M5 CAVITY AND VENER TIES TO BE TYPE A, MEDIUM DUTY, SPACED AT 600mm MAX. CTS. (VERTICAL AND HORIZONTAL).
AT EACH SIDE OF COLUMNS AND CONTROL JOINTS, CROSS WALLS, AND AROUND THE PERIMETER OF OPENINGS, PROVIDE TIES AT 300mm MAX. CTS.
- M6 CAVITIES IN MASONRY WALLS SHALL BE FILLED WITH MORTAR TO FINISH GROUND LEVEL PRIOR TO BACKFILLING AGAINST WALL. BACKFILLING AND COMPACTION OF FILL MATERIAL AGAINST BRICK WALLS SHALL BE CARRIED OUT SIMULTANEOUSLY ON EACH SIDE OF THE WALL.
- M7 REINFORCED CONCRETE BLOCK WALLS SHALL COMPLY WITH THE FOLLOWING:
- ALL BLOCKS SHALL BE DOUBLE "U" BLOCKS WITH SHALLOW TOP GROOVES FOR REINFORCEMENT.
 - ALL MORTAR DAGS SHALL BE REMOVED BEFORE FILLING CORES WITH GROUT. PROVIDE CLEAN OUT HOLES AT THE BASE OF ALL WALLS AND EACH POUR BREAK.
 - FILL ALL CORES WITH GROUT OF f'c 20 MPa SLUMP 230.
10 mm AGGREGATE SIZE. MINIMUM CEMENT CONTENT = 300kg/m³
 - ALL PERPENDS, EXCEPT WHERE REQUIRED FOR WEEPHOLES SHALL BE FULLY FILLED WITH MORTAR.
 - CORE GROUT IS TO BE COMPACTED TO ENSURE COMPLETE FILLING OF ALL CORES.
 - PROVIDE TEMPORARY PROPPING TO WALLS WHERE REQUIRED FOR STABILITY DURING CONSTRUCTION.
 - STARTER BARS SHALL BE ACCURATELY POSITIONED BY TEMPLATES OR SIMILAR MEANS.
 - STARTER BARS SHALL BE TIED TO VERTICAL WALL BARS THROUGH INSPECTION OPENINGS AT THE BASE OF THE WALL AND ALSO ACCURATELY FIXED IN POSITION AT THE TOP BY AN APPROPRIATE METHOD.
 - REINFORCEMENT SHALL BE ACCURATELY PLACED AND FIRMLY HELD IN POSITION TO A TOLERANCE OF ± 10 mm.

EXISTING SERVICES NOTES

- ES1 AT START OF PROJECT, IDENTIFY THE LOCATION, TYPE, SIZE AND LEVEL OF ALL SERVICES. ADVISE THE SUPERINTENDENT IMMEDIATELY OF ANY POTENTIAL CLASHES WITH PROPOSED WORKS.

FOUNDATION NOTES

- F1 UNLESS NOTED FOOTINGS SHALL BEAR UPON COMPACTED FILL OR VERY STIFF NATURAL CLAY WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 150KPa REFER TO GEOTECHNICAL REPORT No. 301045rpt PREPARED BY JK GEOTECHNICS DATED 9TH OF FEBRUARY 2017
- F2 FOUNDATION MATERIAL SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER FOR THE NOMINATED ALLOWABLE BEARING CAPACITY PRIOR TO COMMENCING FOOTING CONSTRUCTION.
- F3 FOOTINGS SHALL BE LOCATED CENTRAL UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE.
- F4 UNLESS OTHERWISE APPROVED, EXCAVATIONS NEAR NEW OR EXISTING FOOTINGS SHALL NOT BE WITHIN THE FOOTING INFLUENCE LINE.



LEGEND

	CONCRETE FOOTPATH PAVEMENT: 110mm THICK N32 CONCRETE SLAB REINFORCED WITH SL72 FABRIC (40 TOP COVER) ON 100mm COMPACTED DGB20 BASECOURSE MATERIAL ON COMPACTED SUBGRADE. CONCRETE FINISH TO LANDSCAPE ARCHITECT'S DETAIL.
	CONCRETE FOOTPATH PAVEMENT 2: 125mm THICK N32 CONCRETE SLAB REINFORCED WITH SL82 FABRIC (40 TOP COVER) ON 100mm COMPACTED DGB20 BASECOURSE MATERIAL ON COMPACTED SUBGRADE. CONCRETE FINISH TO LANDSCAPE ARCHITECT'S DETAIL.
	HEAVY DUTY CONCRETE PAVEMENT: 180mm THICK N40 CONCRETE SLAB REINFORCED WITH SL102 FABRIC (40 TOP COVER) ON 100mm DGB20 BASECOURSE MATERIAL ON COMPACTED SUBGRADE
	ASPHALTIC CONCRETE CARPARK PAVEMENT: 40mm AC10 ON 200mm COMPACTED DGB20 BASECOURSE MATERIAL ON 200mm COMPACTED DGS40 SUB-BASECOURSE MATERIAL ON COMPACTED SUBGRADE.
	SYNTHETIC TURF: 50mm THICK SYTHETIC TURF TO LANDSCAPE ARCHITECT'S DETAIL ON 150mm DGB20 BASECOURSE MATERIAL ON COMPACTED SUBGRADE
	EXISTING STORMWATER PIPE
	NEW STORMWATER PIPE
	SWALE
	NEW KERB RAMP
	NEW KERB & GUTTER
	ROLLED KERB
	KERB ONLY
	DOWNTURN
	KERB AND APRON
	FLUSH KERB
	KERB RETAINING WALL
	WHEEL STOP
	PROPOSED SPOT LEVEL
	EXISTING SPOT LEVEL
	GRATED DRAIN
	TOP OF WALL
	RETAINING WALL
	EDGE THICKENING
	NEW GRATED PIT
	NEW COVER PIT
	DOWELLED KEY JOINT
	PLATE DOWEL JOINT
	COLOUR CHANGE JOINT. DRAWINGS TO BE READ IN CONJUNCTION WITH LANDSCAPE ARCHITECTS PLANS FOR ALL AREAS OF COLOUR CHANGE IN CONCRETE PAVEMENT.
	2 EXTRA N12 BARS
	2 EXTRA N12 BARS
	CLEAR OUT
	DOWNPipe
	FLOOR WASTE
	PIPE ENLARGER DROPPER

DRAWING LIST

CIVIL WORKS	
3199-CIV-DD-01_001	STANDARD NOTES & DRAWING LIST
3199-CIV-DD-01_002	CIVIL WORKS PLAN
3199-CIV-DD-01_003	LONG SECTION - SHEET 1
3199-CIV-DD-01_004	LONG SECTION - SHEET 2
3199-CIV-DD-01_005	CIVIL WORKS DETAILS - SHEET 1
3199-CIV-DD-01_006	CIVIL WORKS DETAILS - SHEET 2
3199-CIV-DD-01_007	CIVIL WORKS DETAILS - SHEET 3
3199-CIV-DD-01_008	SEDIMENT & EROSION CONTROL PLAN & DETAILS

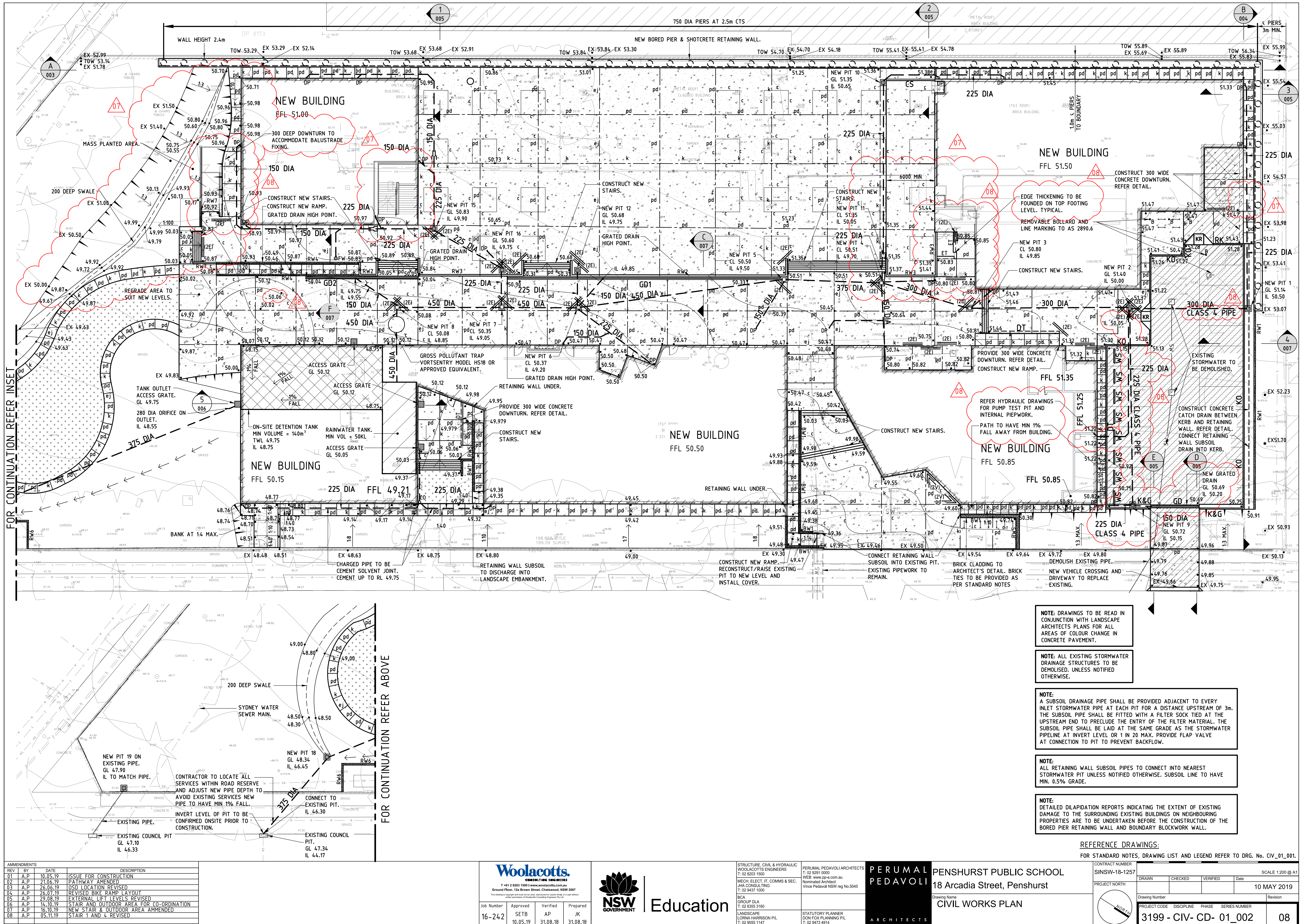
AMMENDMENTS			
REV	BY	DATE	DESCRIPTION
A	SETB	31.08.18	ISSUE FOR TENDER
B	SETB	05.04.19	DRAFT IFC
C	AP	18.04.19	GATEWAY L REVIEW - LEGEND UPDATED
01	A.P	10.05.19	ISSUE FOR CONSTRUCTION
02	A.P	21.06.19	CONCRETE PAVEMENT THICKNESS REVISED
03	A.P	16.10.19	DROPPER ADDED TO LEGEND
04	A.P	05.11.19	LEGEND UPDATED

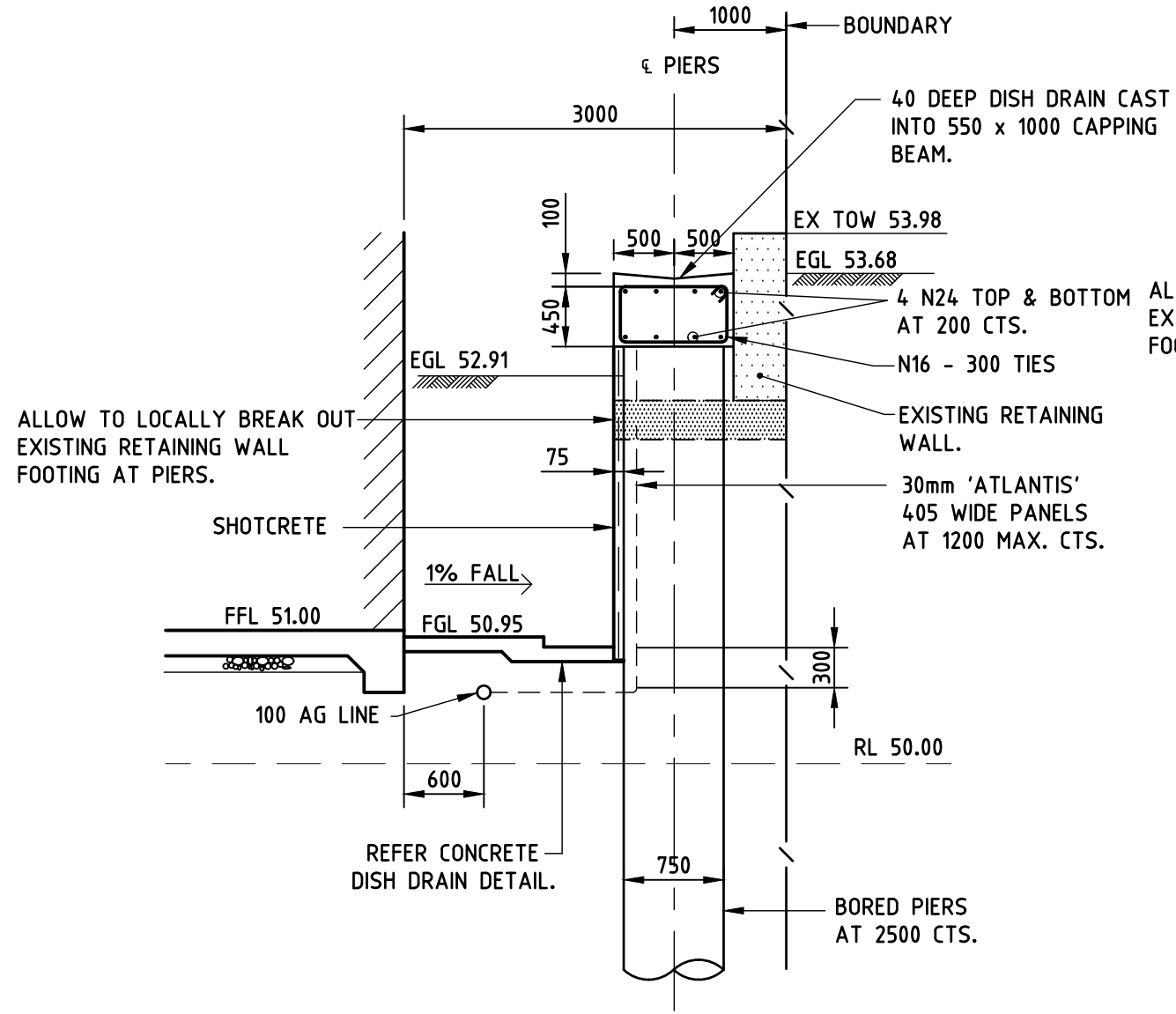
Woolacotts. CONSULTING ENGINEERS T +61 2 8203 1500 www.woolacotts.com.au Ground Floor, 12a Brown Street, Chatswood, NSW 2067 This drawing is copyright and shall not be used, reproduced or altered without the prior written permission of Woolacotts Consulting Engineers Pty Ltd.			
Job Number:	Approved:	Verified:	Prepared:
16-242	SETB 10.05.19	AP 31.08.18	JK 31.08.18



STRUCTURE, CIVIL & HYDRAULIC WOOLACOTT'S ENGINEERS T: 02 8203 1500 MECH, ELECT, IT, COMMS & SEC. JHA CONSULTING T: 02 9437 1000 BCA GROUP DIA T: 02 8355 3180 LANDSCAPE LORNA HARRISON P/L T: 02 9555 1147	PERUMAL PEDAVOLI ARCHITECTS T: 02 9291 0000 WEB: www.pp-a.com.au Nominated Architect Vince Pedavoli NSW reg No.5045 STATUTORY PLANNER DON FOX PLANNING P/L T: 02 9473 4914
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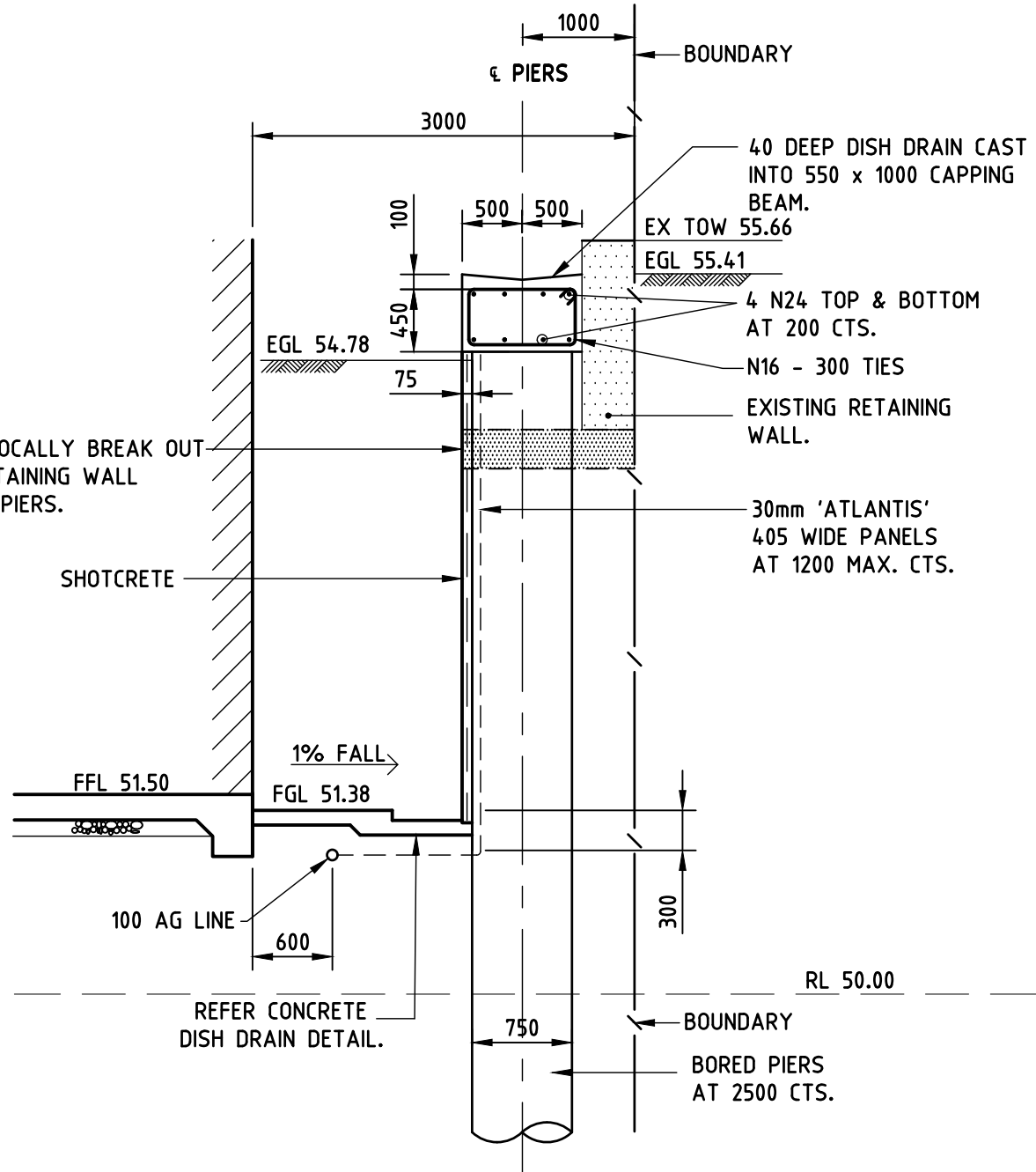
PERUMAL PEDAVOLI ARCHITECTS	PENSHURST PUBLIC SCHOOL 18 Arcadia Street, Penshurst Drawing Name STANDARD NOTES AND DRAWING LIST	CONTRACT NUMBER SINSW-18-1257 PROJECT NORTH 	SCALE - @ A1 DRAWN CHECKED VERIFIED Date 10 MAY 2019 Drawing Number Revision PROJECT CODE DISCIPLINE PHASE SERIES NUMBER 3199 - CIV- CD- 01_001 04
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SECTION 1
SCALE 1:50

ALLOW TO LOCALLY BREAK OUT EXISTING RETAINING WALL FOOTING AT PIERS.



SECTION 2
SCALE 1:50

SECTION 3
SCALE 1:50
SIMILAR

DATUM R.L. 48.00

DESIGN LEVEL

EXISTING LEVEL

SECTION E

SCALE 1:100

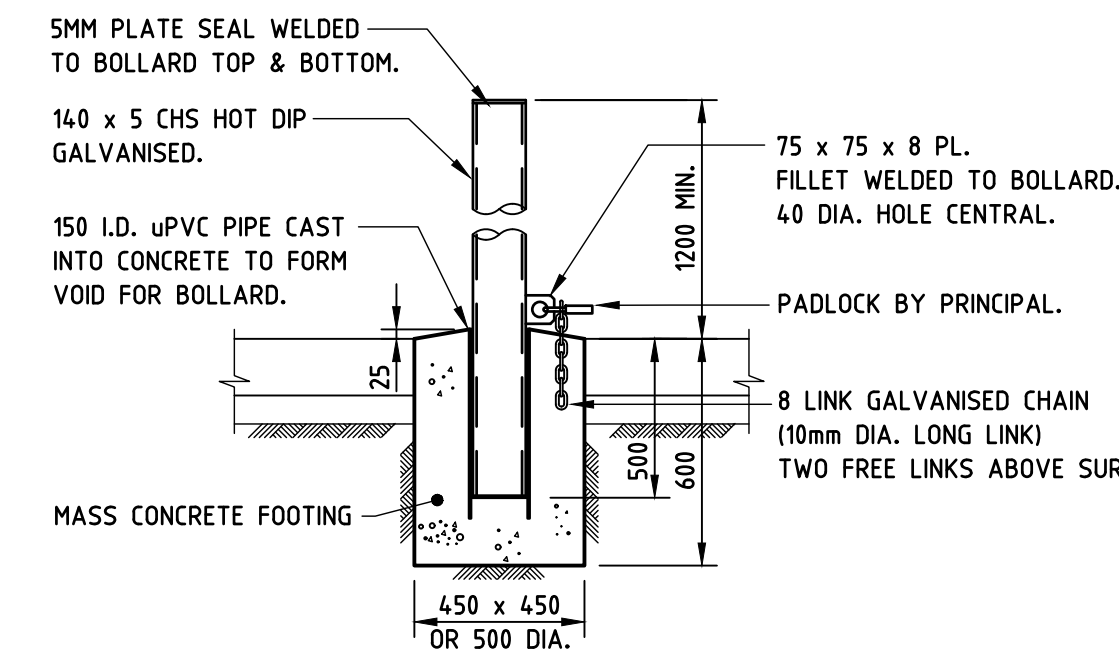
DATUM R.L. 48.00

DESIGN LEVEL

EXISTING LEVEL

SECTION D

SCALE 1:100

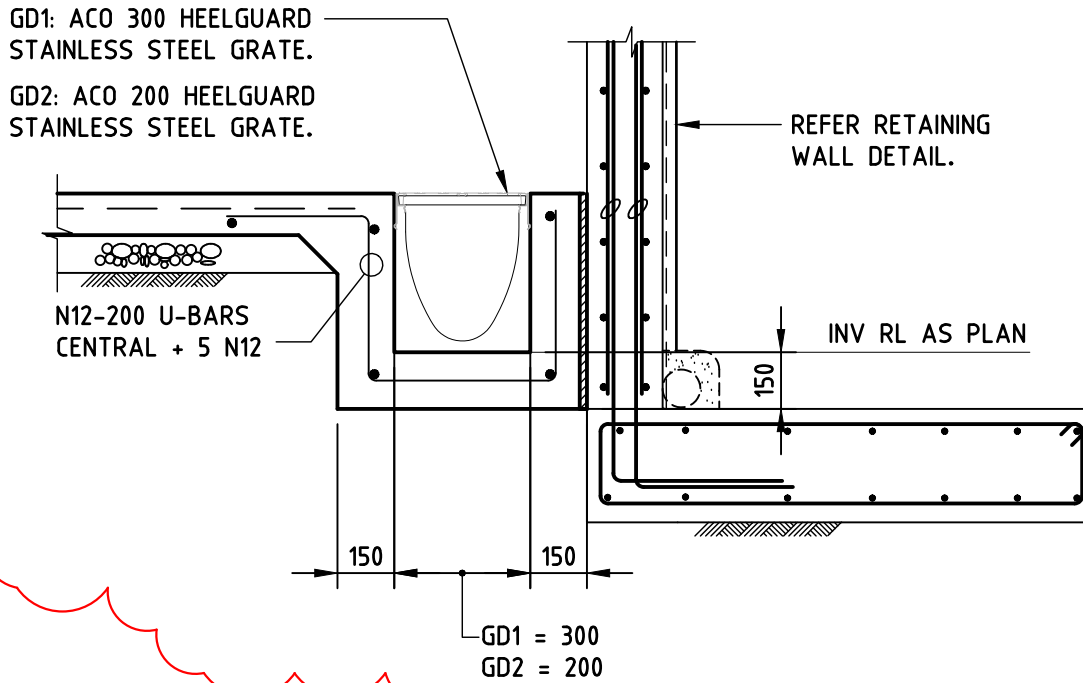


REMOVABLE BOLLARD (B)

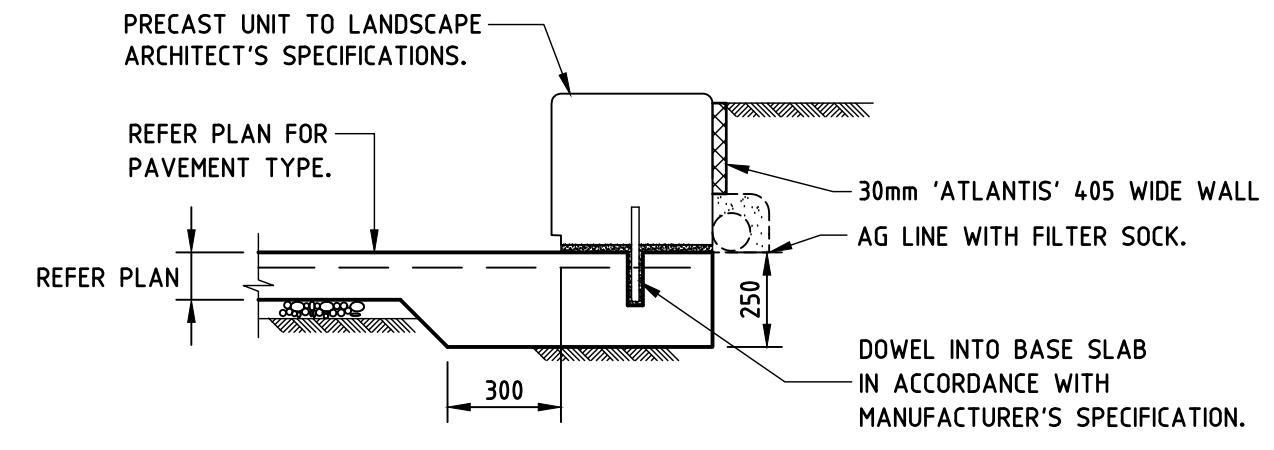
ALL COMPONENTS TO BE HOT DIP GALVANISED.

REFER LANDSCAPE ARCHITECT'S PLANS FOR LOCATIONS.

WHEEL STOP DETAIL (WS)

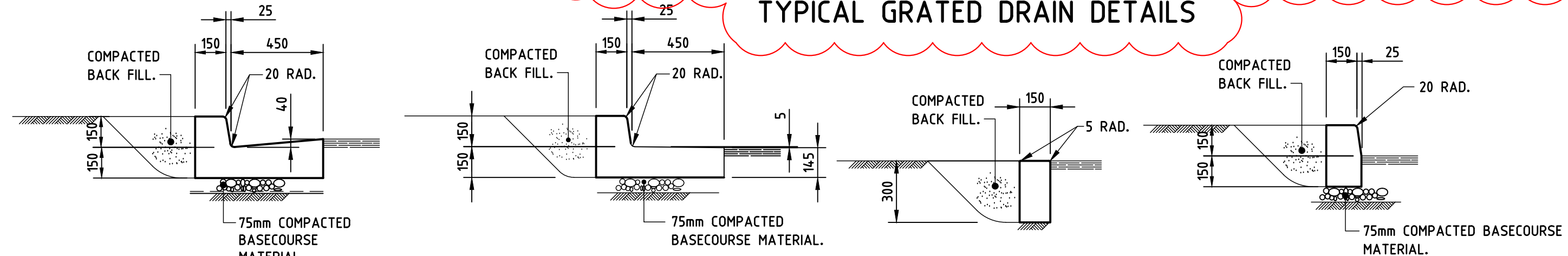


PRECAST SEATING WALL DETAIL (CW)



FOR ALL DIMENSIONS REFER LANDSCAPE ARCHITECT'S DETAILS.

TYPICAL GRATED DRAIN DETAILS

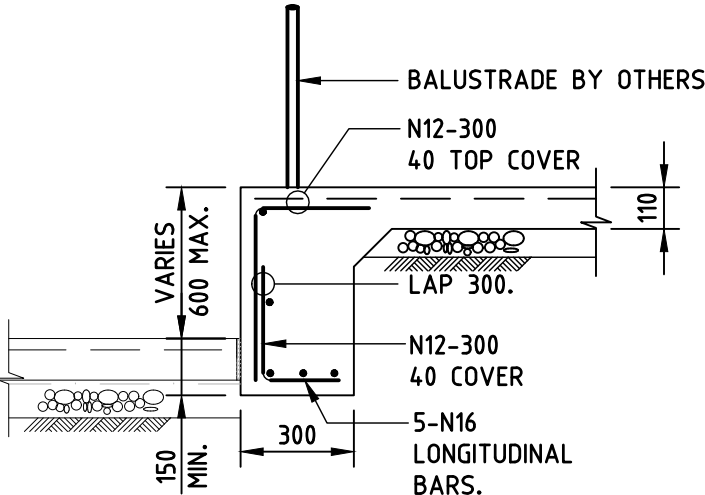


KERB & GUTTER (K&G)

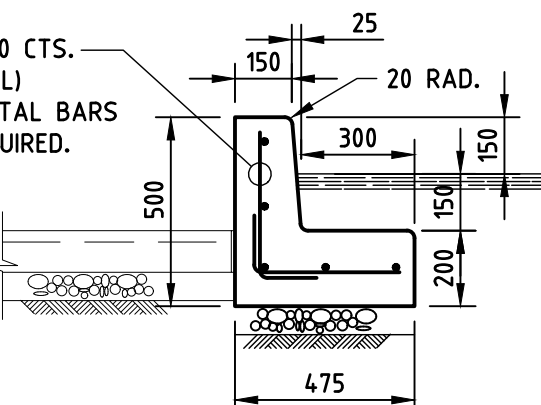
KERB AND APRON (K&A)

FLUSH KERB (FK)

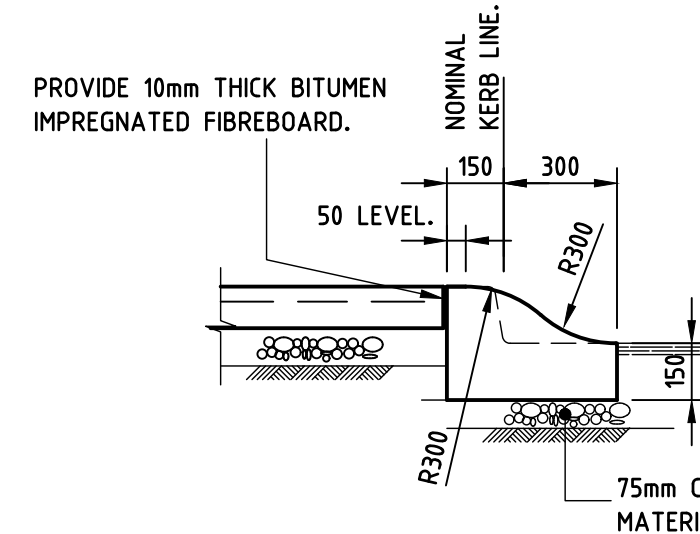
KERB ONLY - TYPE 1 (KO)



CONCRETE DOWNTURN (DT)



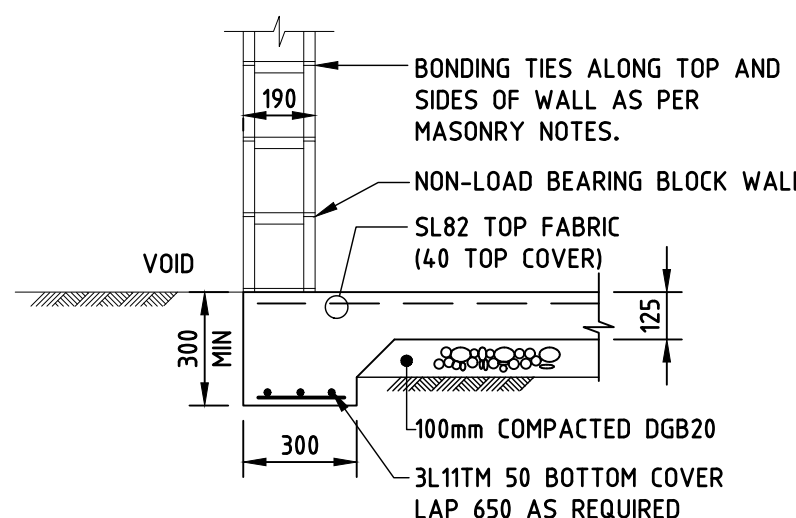
KERB ONLY - TYPE 2 (K2) DETAIL SIMILAR AT 300 HIGH KERB.



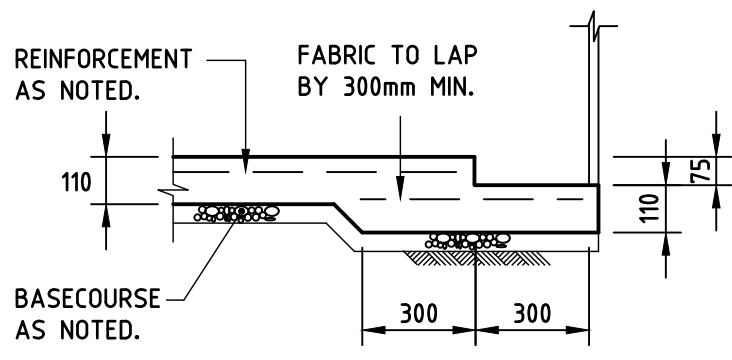
ROLL KERB ONLY (RK)

KERB AND GUTTER DETAILS

PROVIDE 10mm THICK BITUMEN IMPREGNATED FIBRE BOARD OR ABLEFLEX AT 9m CTS. AND TOOLED JOINT AT 3m CTS.

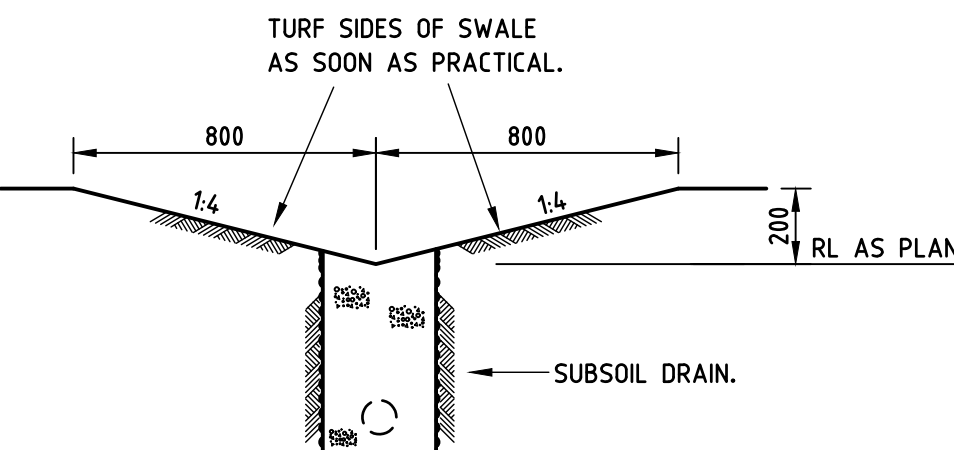


EDGE THICKENING (ET)



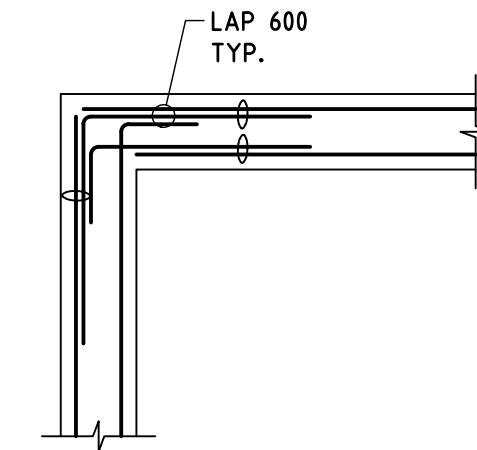
CONCRETE DISH DRAIN DETAIL

DISH DRAIN TO HAVE MIN 0.5% LONGITUDINAL FALL



TYPICAL SWALE DETAIL (WITH SUBSOIL DRAIN)

NOTE: SUBSOIL DRAINS ARE TO BE INSTALLED UNDER ALL NEW SWALES.



WALL CORNER DETAIL

VERTICAL BARS OMITTED FOR CLARITY.

REV	BY	DATE	DESCRIPTION
A	SETB	31.08.18	ISSUE FOR TENDER
B	SETB	05.04.19	DRAFT IFC
C	AP	18.04.19	GATEWAY L REVIEW
01	A.P.	10.05.19	ISSUE FOR CONSTRUCTION
02	A.P.	26.06.19	ORIFICE DETAIL MOVED - DWG 006
03	A.P.	04.07.19	SECTIONS D & E REVISED
04	A.P.	28.07.19	CONCRETE DISH DRAIN DETAIL ADDED
05	A.P.	16.10.19	GRADED DRAIN DETAILS AMENDED
06	A.P.	05.11.19	EDGE THICKENING DETAIL ADDED

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Job Number	Approved	Verified	Prepared
16-242	SETB 10.05.19	AP 31.08.18	JK 31.08.18



Education

STRUCTURE, CIVIL & HYDRAULIC
WOOLACOTT'S ENGINEERS
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BCA
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LANDSCAPE
LORNA HARRISON P/L
T: 02 9555 1147

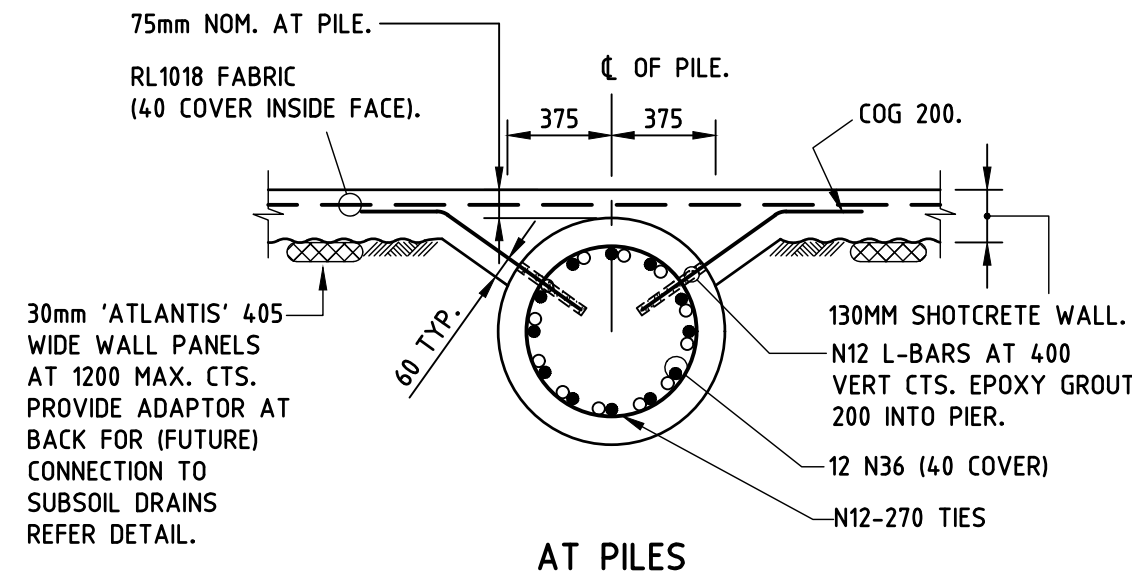
PERUMAL PEDAVOLI ARCHITECTS
T: 02 9291 0000
WEB: www.pp-a.com.au
Nominated Architect
Vince Pedavoli NSW reg No 5045

PERUMAL PEDAVOLI
ARCHITECTS

PENSHURST PUBLIC SCHOOL
18 Arcadia Street, Penshurst
Drawing Name
CIVIL WORKS DETAILS - SHEET 1

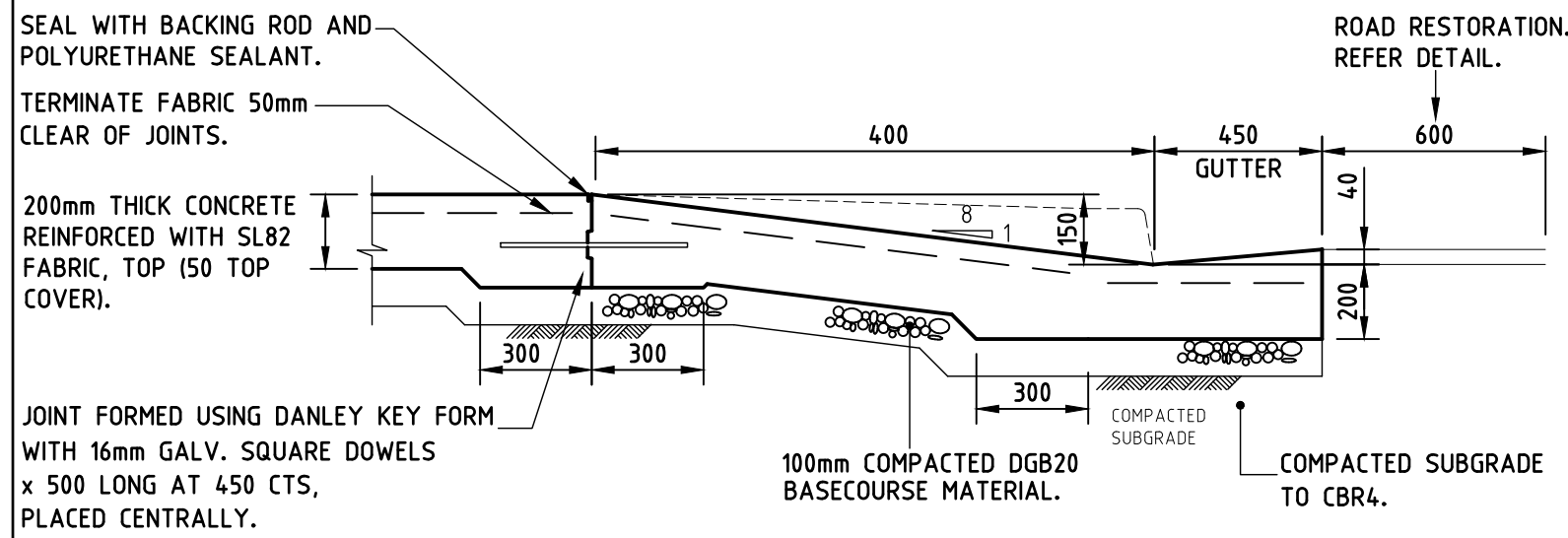
REFERENCE DRAWINGS:
FOR STANDARD NOTES & DRAWING LIST REFER TO DRG. No. CIV_01_001.

CONTRACT NUMBER	SINSW-18-1257	SCALE 1:20 @ A1
DRAWN	CHECKED	VERIFIED
DATE		10 MAY 2019
DRAWING NUMBER		Revision
PROJECT CODE	DISCIPLINE	PHASE
3199 - CIV - CD - 01_005		
SERIES NUMBER		06



TYPICAL SHOTCRETE WALL DETAIL

○ DENOTES SPLICE BARS

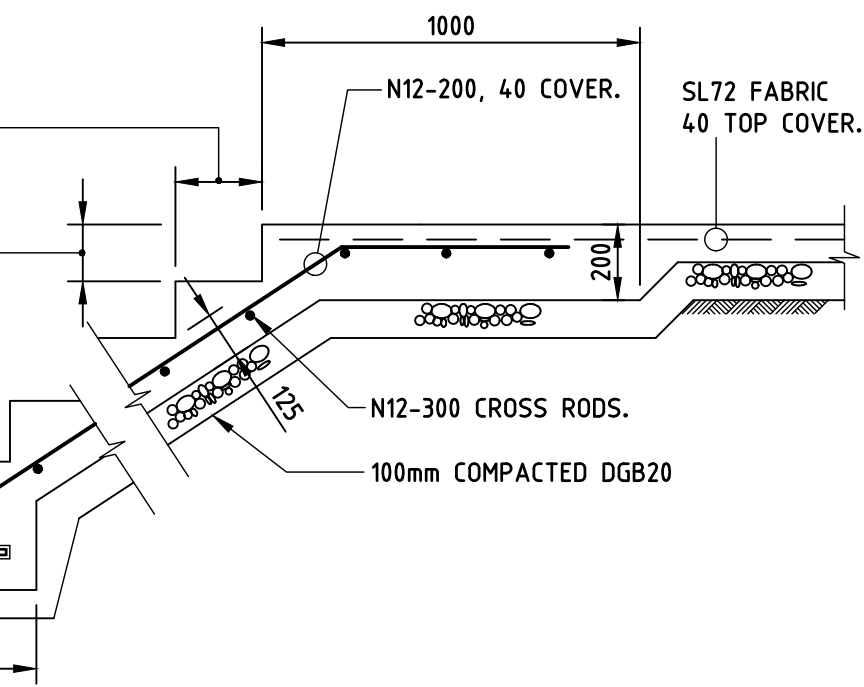


TYPICAL SECTION

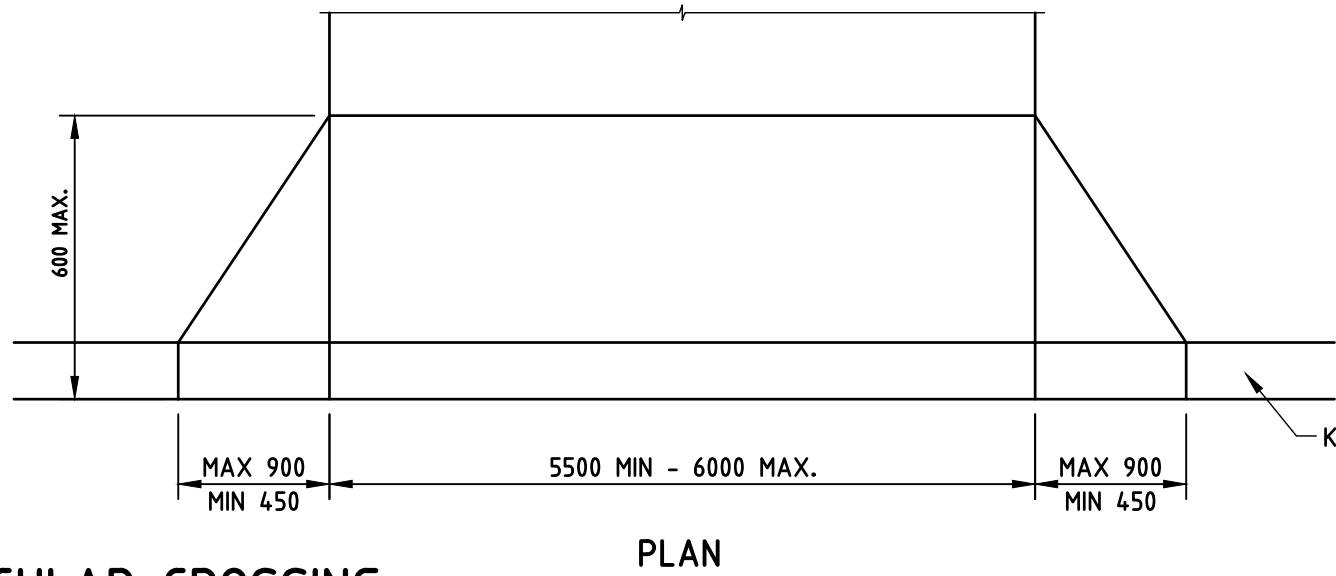
CONCRETE VEHICULAR CROSSING

NOTES:

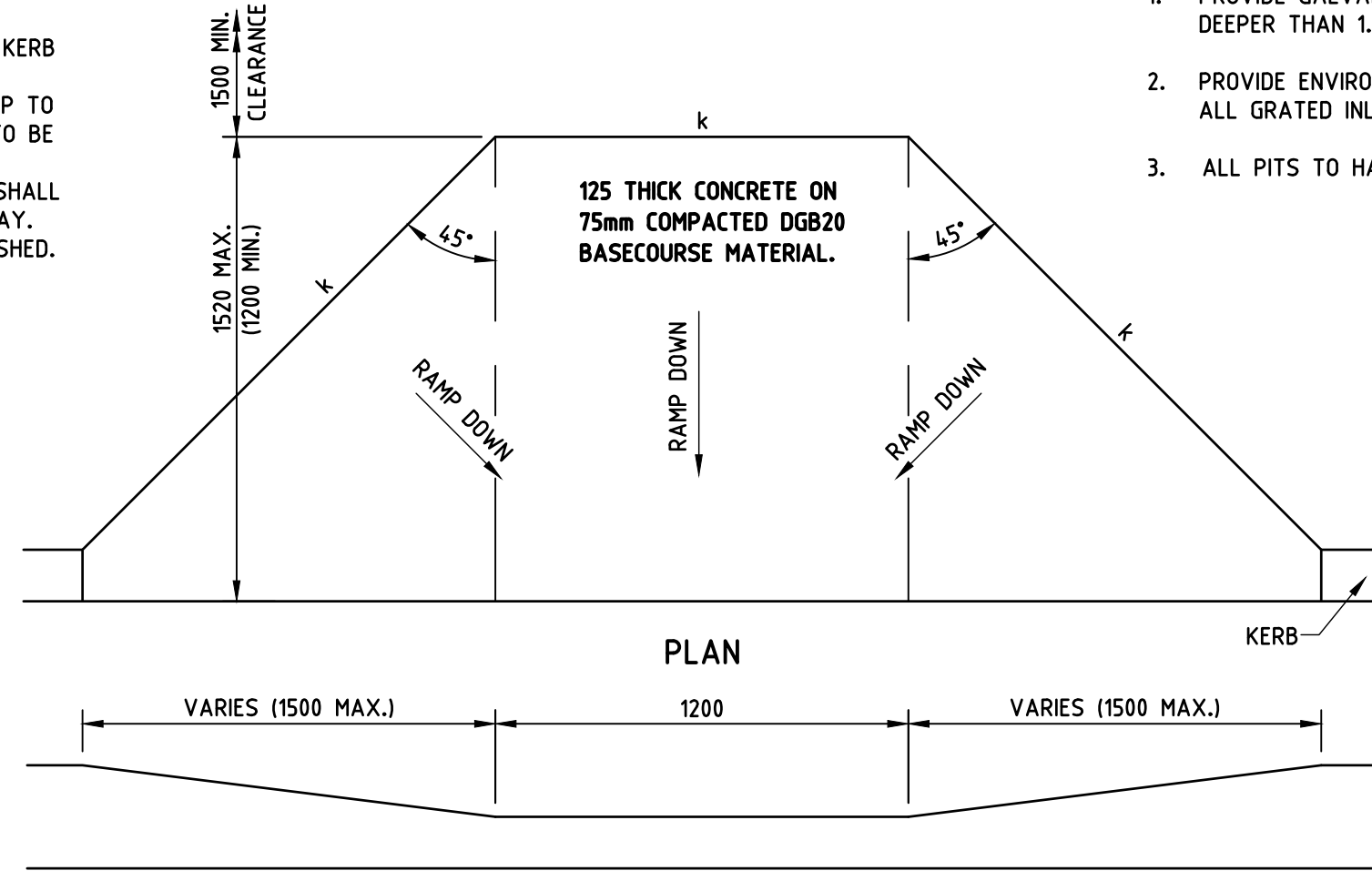
1. DRIVEWAY TO BE GENERALLY PERPENDICULAR TO KERB LINE, UNLESS APPROVED OTHERWISE.
2. FOR NARROW FOOTPATH WIDTHS, LENGTH OF RAMP TO BE AS SHORT AS POSSIBLE, OR LAYBACK ONLY TO BE USED IN APPROVED APPLICATIONS.
3. FOR DRIVEWAYS WIDER THAN 6m, A TOOL JOINT SHALL BE PROVIDED ALONG THE CENTRE OF THE DRIVEWAY.
4. DRIVEWAY CONCRETE SHALL BE WOOD FLOAT FINISHED.



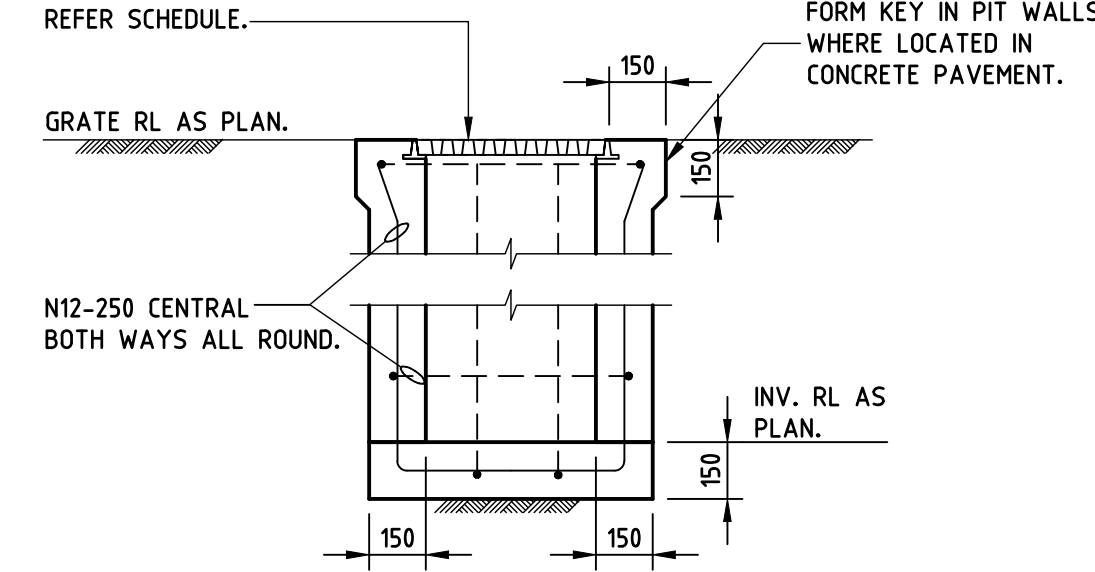
TYPICAL STAIR DETAIL



PLAN



ELEVATION



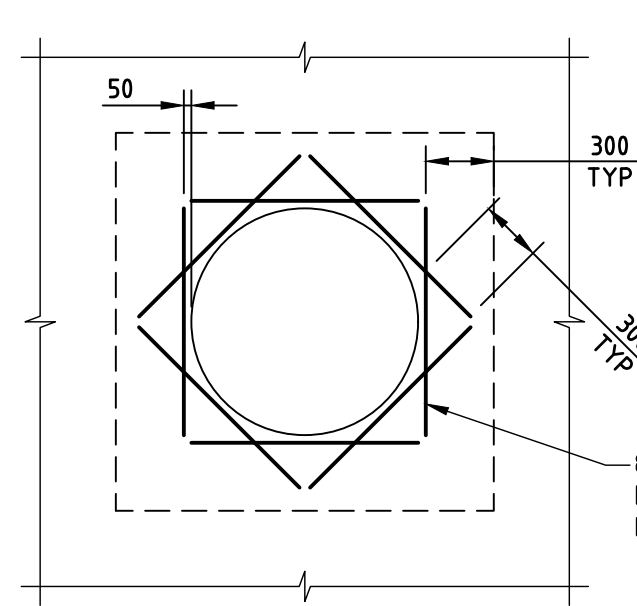
STANDARD PIT

PIT SCHEDULE

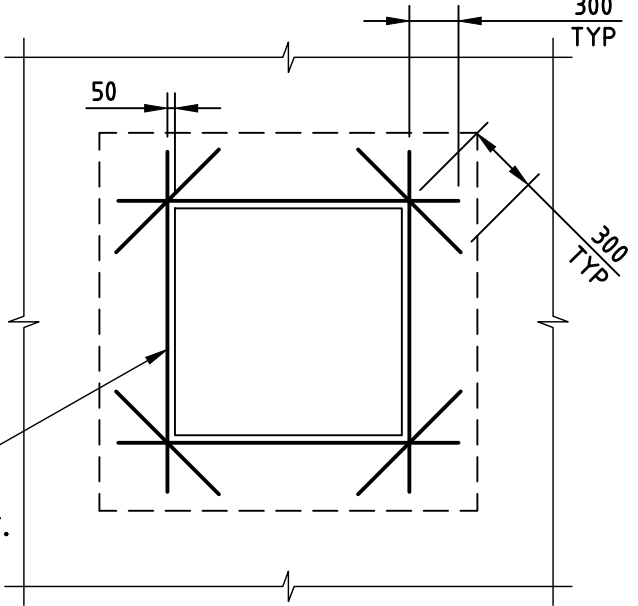
PIT No.	SIZE	GRATE/COVER & FRAME TYPE
1	600 x 600	CLASS 'A' GRATE AND FRAME
2	900 x 900	CLASS 'B' HEELGUARD STYLE GRATE AND FRAME
3	600 x 900	CLASS 'B' COVER AND FRAME
4	600 x 900	CLASS 'B' COVER AND FRAME
5	600 x 900	CLASS 'B' COVER AND FRAME
6	600 x 900	CLASS 'B' COVER AND FRAME
7	900 x 900	CLASS 'B' COVER AND FRAME
8	900 x 900	CLASS 'B' COVER AND FRAME
9	600 x 600	CLASS 'C' GRATE AND FRAME
10	600 x 600	CLASS 'B' HEELGUARD STYLE GRATE AND FRAME
11	900 x 900	CLASS 'B' COVER AND FRAME
12	600 x 900	CLASS 'B' HEELGUARD STYLE GRATE AND FRAME
15	600 x 900	CLASS 'B' HEELGUARD STYLE GRATE AND FRAME
16	600 x 600	CLASS 'B' HEELGUARD STYLE GRATE AND FRAME
18	900 x 900	CLASS 'B' GRATE AND FRAME
19	900 x 900	CLASS 'B' GRATE AND FRAME

NOTE:

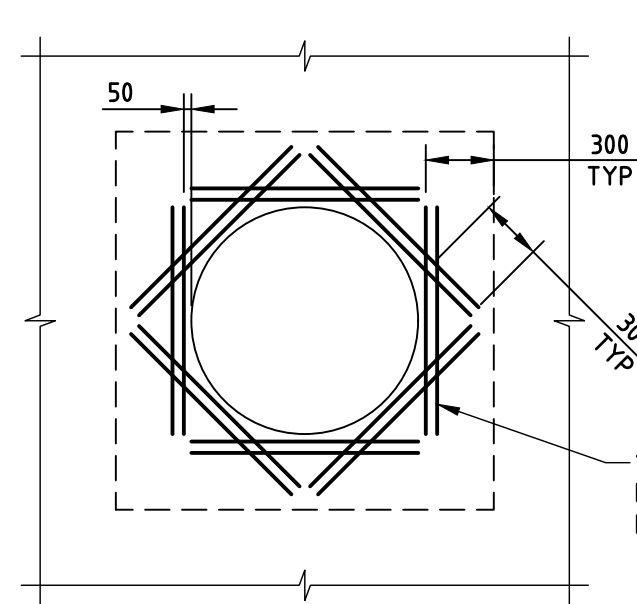
1. PROVIDE GALVANISED STEP IRONS AT PITS DEEPER THAN 1.2m IN ACCORDANCE WITH AS 3500.
2. PROVIDE ENVIROPOD INSERTS TO BE INSTALLED IN ALL GRATED INLET PITS.
3. ALL PITS TO HAVE LOCKABLE SECURE GRATES



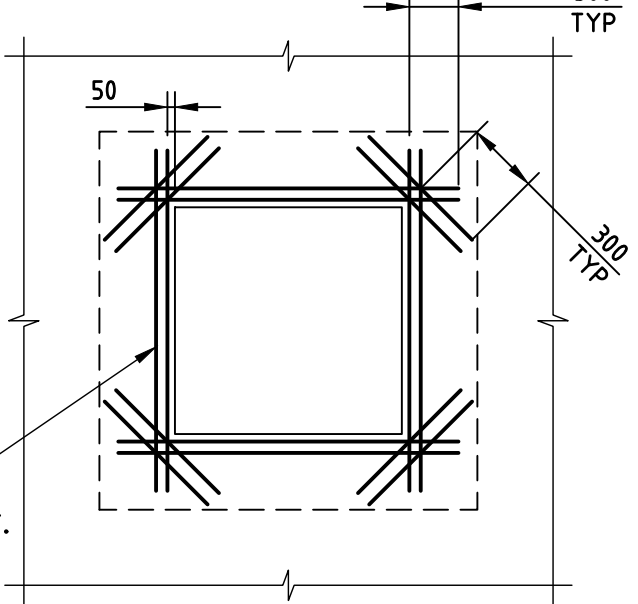
BASE SLAB - REINFORCING DETAIL FOR PENETRATIONS = <1200mm



BASE SLAB - REINFORCING DETAIL FOR PENETRATIONS = <1200mm IN BOTH DIRECTIONS

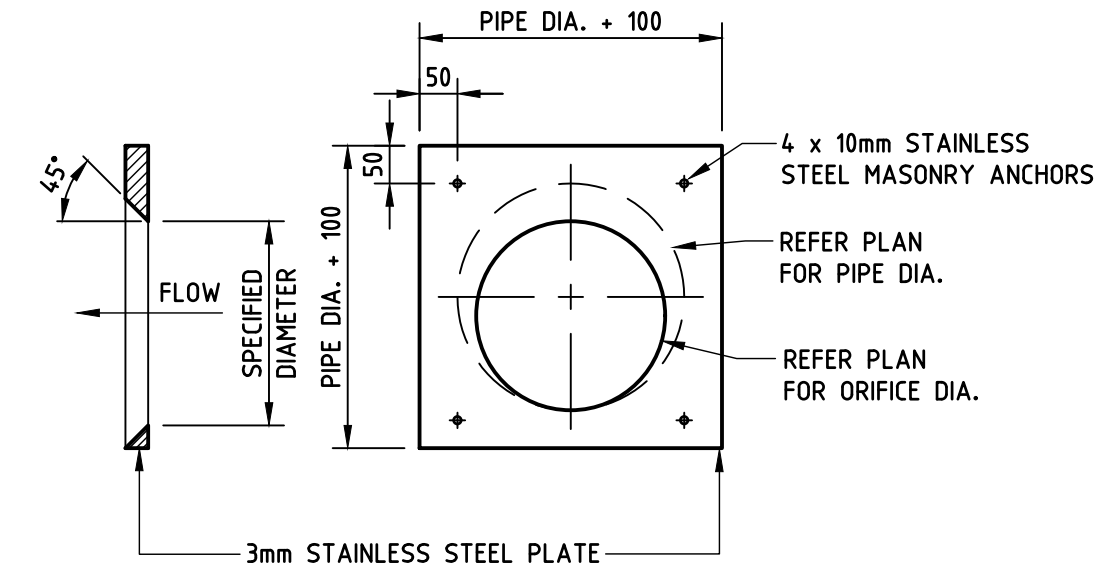


BASE SLAB - REINFORCING DETAIL DETAIL FOR CIRCULAR PENETRATIONS



BASE SLAB - REINFORCING DETAIL DETAIL FOR SQUARE PENETRATIONS

TYPICAL CONCRETE PAVEMENT PENETRATION DETAILS



ORIFICE DETAIL

NOT TO SCALE

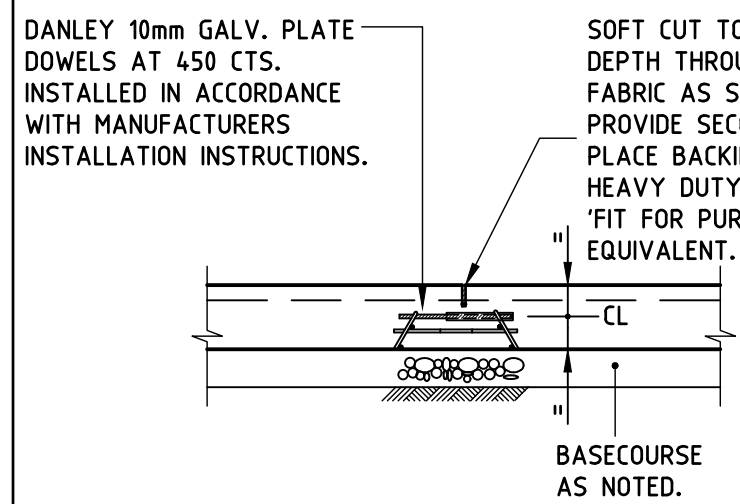
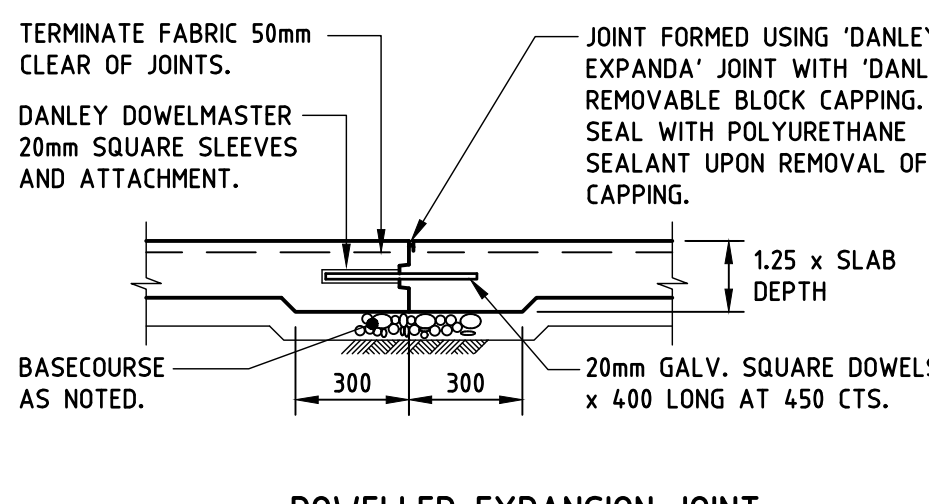
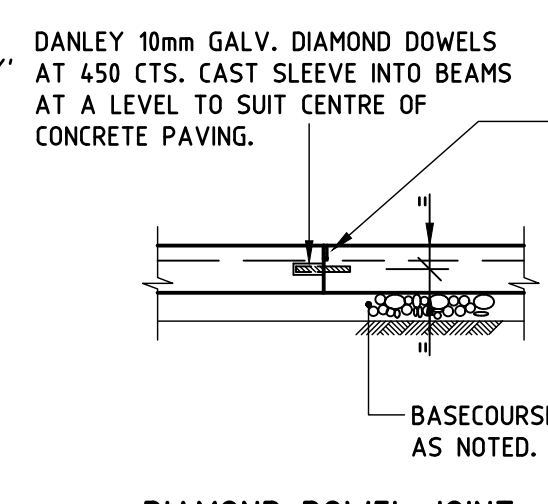


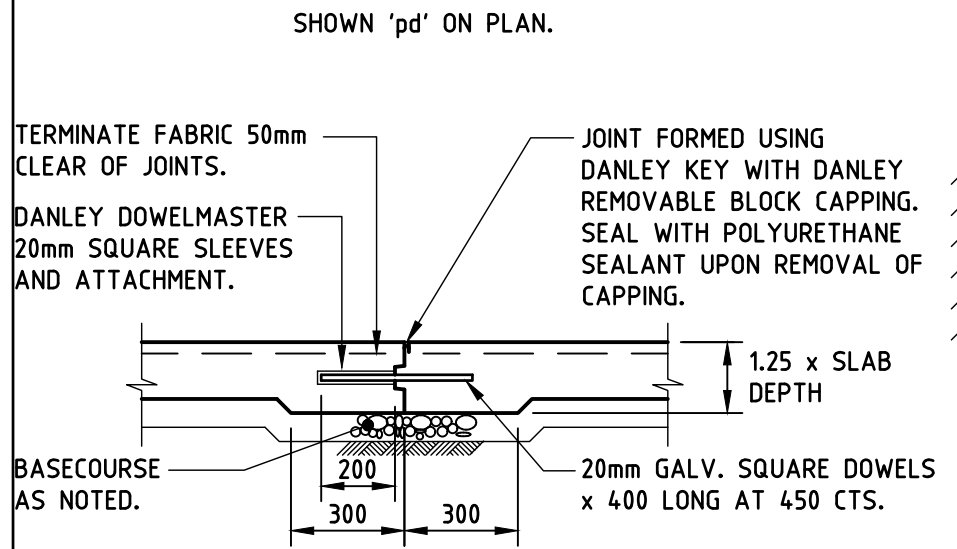
PLATE DOWEL JOINT SHOWN 'pd' ON PLAN.



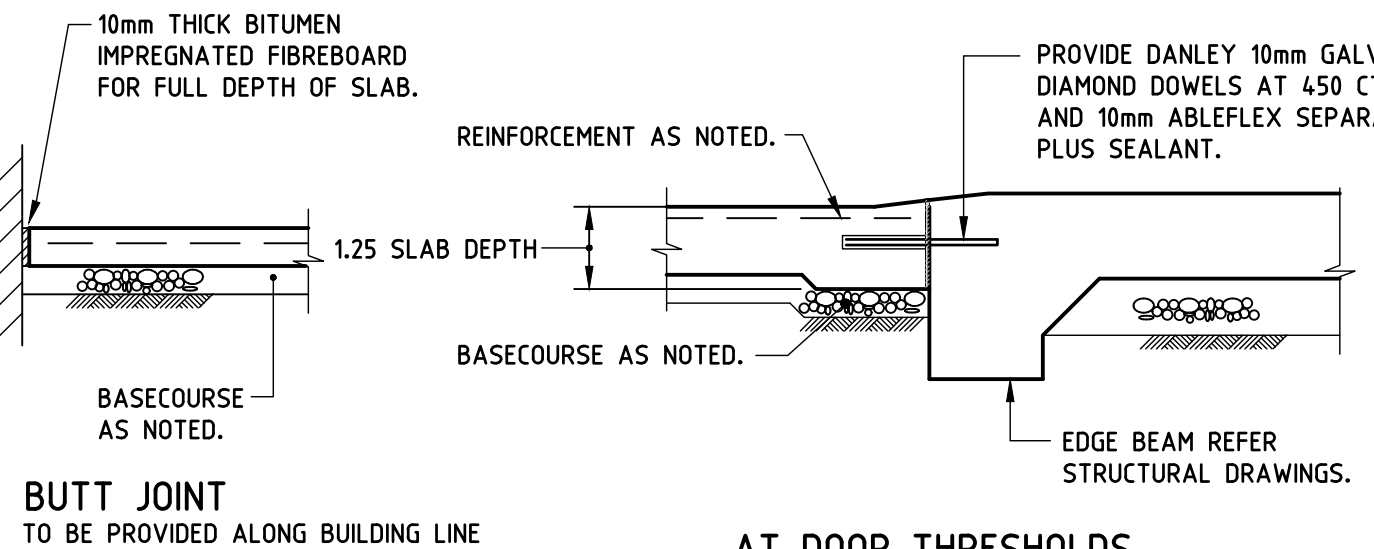
DOWELLED EXPANSION JOINT SHOWN 'ej' ON PLAN.



DIAMOND DOWEL JOINT SHOWN 'dd' ON PLAN.



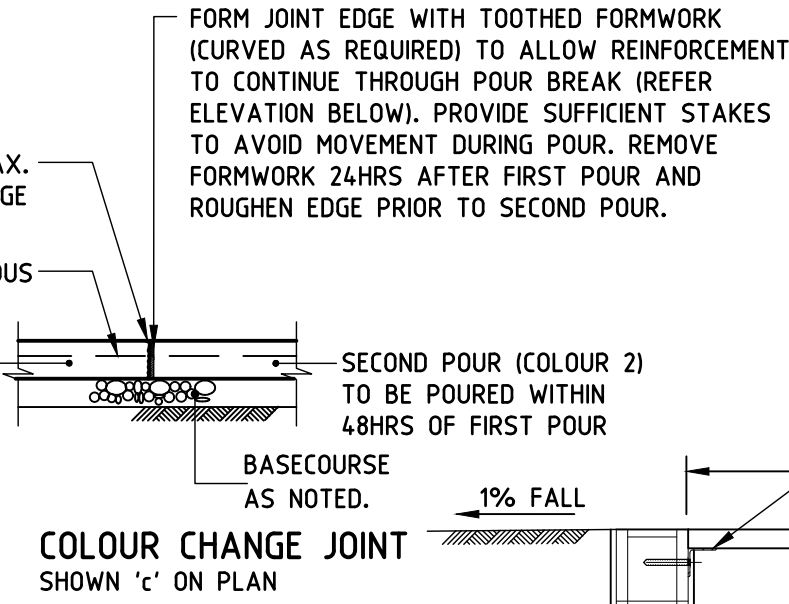
DOWELLED KEY JOINT SHOWN 'k' ON PLAN.



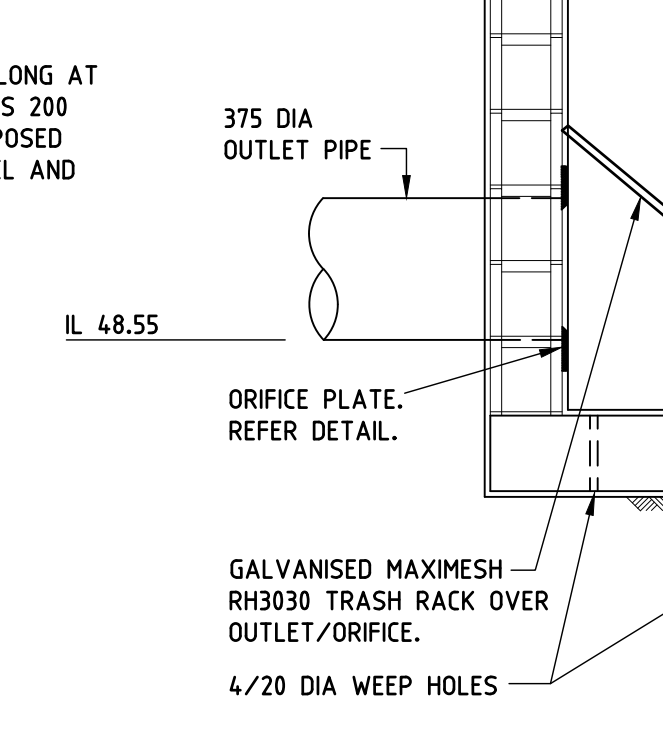
BUTT JOINT
TO BE PROVIDED ALONG BUILDING LINE WHERE CONCRETE PAVEMENT ABUTS. EXCEPT AT GRATED DRAINS AND DOORWAYS. FOR JOINTS AT GRATED DRAINS AND DOORWAYS REFER TO STRUCTURAL DRGS

AT DOOR THRESHOLDS

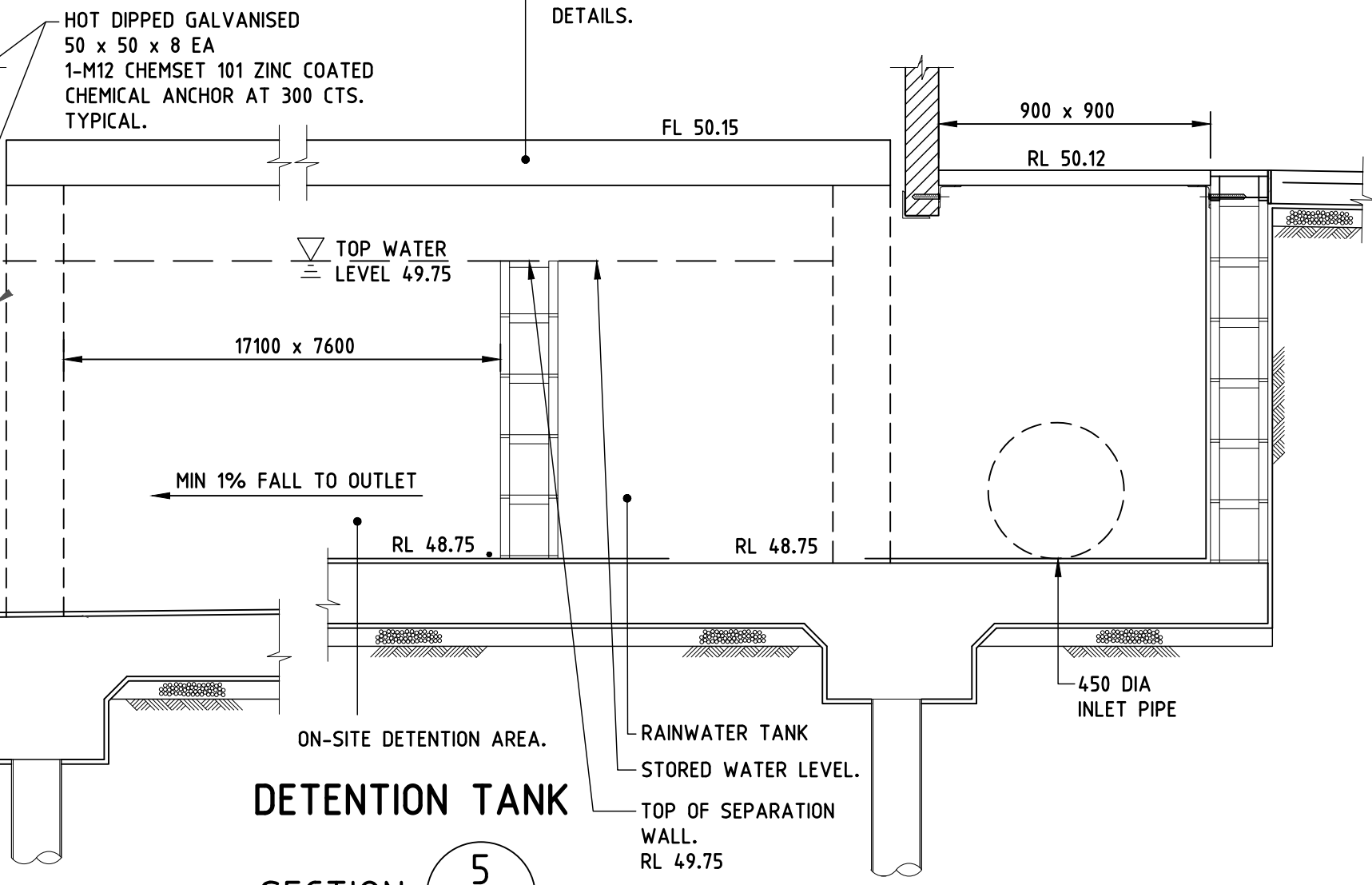
CONCRETE JOINT DETAILS



COLOUR CHANGE JOINT SHOWN 'c' ON PLAN



SAWCUT JOINT SHOWN 'sc' ON PLAN.



DETENTION TANK

SECTION 5 002

REFERENCE DRAWINGS:
FOR STANDARD NOTES & DRAWING LIST REFER TO DRG. No. CIV_01_001.

REV	BY	DATE	DESCRIPTION
A	SETB	31.08.18	ISSUE FOR TENDER
B	SETB	05.04.19	DRAFT IFC
C	AP	18.04.19	GATEWAY 4 REVIEW-COLOUR CHANGE JOINT DETAIL
01	A.P.	10.05.19	ISSUE FOR CONSTRUCTION
02	A.P.	21.06.19	PAVEMENT PENETRATION DETAILS ADDED
03	A.P.	26.06.19	OSD SECTION REVISED
04	A.P.	16.10.19	PIT SCHEDULE AMENDED

Woolacotts. CONSULTING ENGINEERS T: +61 2 8203 1500 www.woolacotts.com.au Ground Floor, 12a Brown Street, Chatswood, NSW 2067 This drawing is copyright and intellectual property of Woolacotts Consulting Engineers Pty Ltd			
Job Number	Approved	Verified	Prepared
16-242	SETB 10.05.19	JK 10.05.19	JK 10.05.19

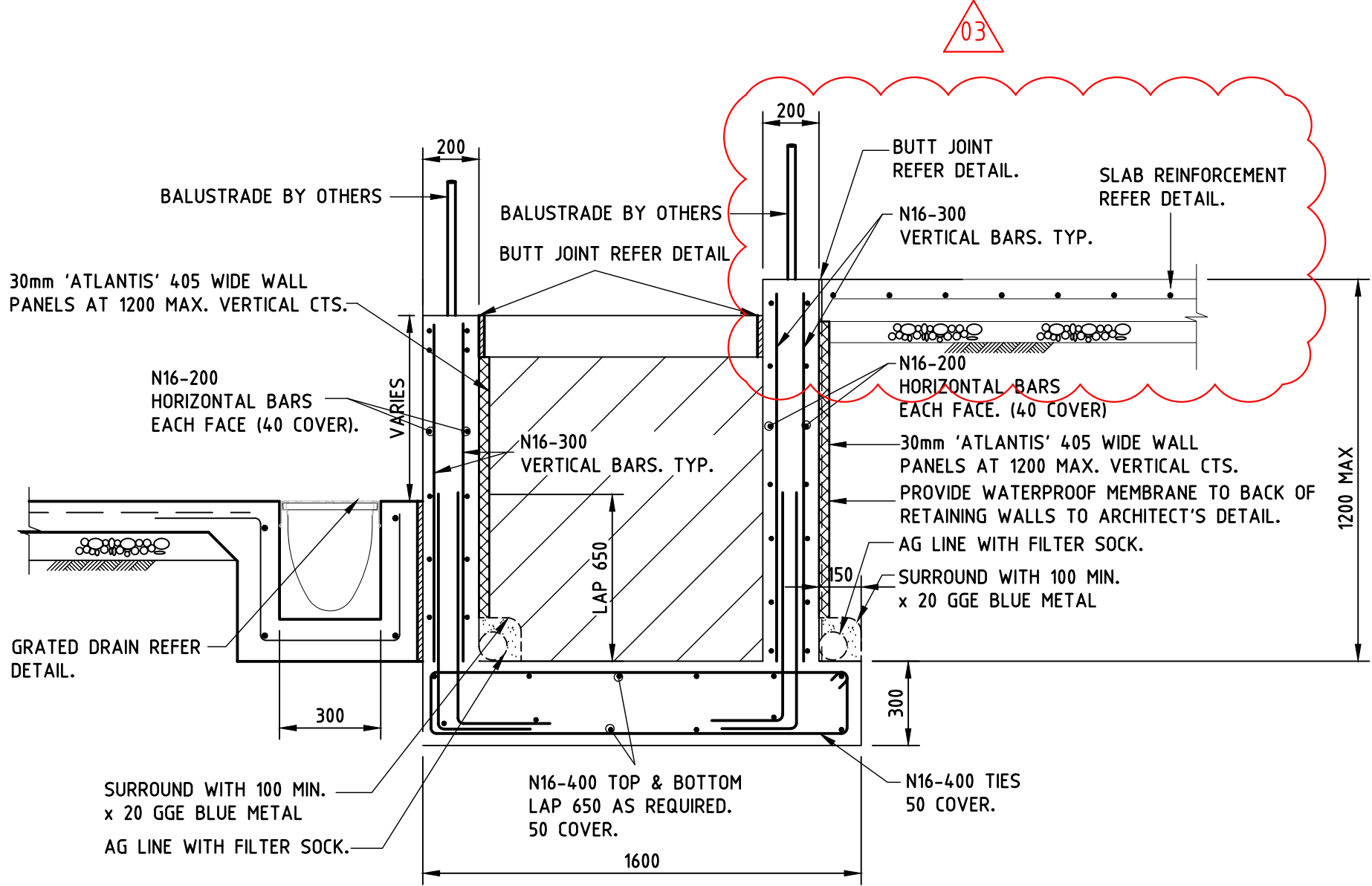


STRUCTURE, CIVIL & HYDRAULIC WOOLACOTT'S ENGINEERS T: 02 8203 1500 MECH, ELECT, IT, COMMS & SEC. JHA CONSULTING T: 02 9437 1000 BCA GROUP DIA T: 02 8355 3160 LANDSCAPE LORNA HARRISON PIL T: 02 9555 1147	PERUMAL PEDAVOLI ARCHITECTS T: 02 9291 0000 WEB: www.ppa.com.au Nominated Architect Voice Pedavoli NSW reg No.5045 STATUTORY PLANNER DON FOX PLANNING PIL T: 02 9473 6814
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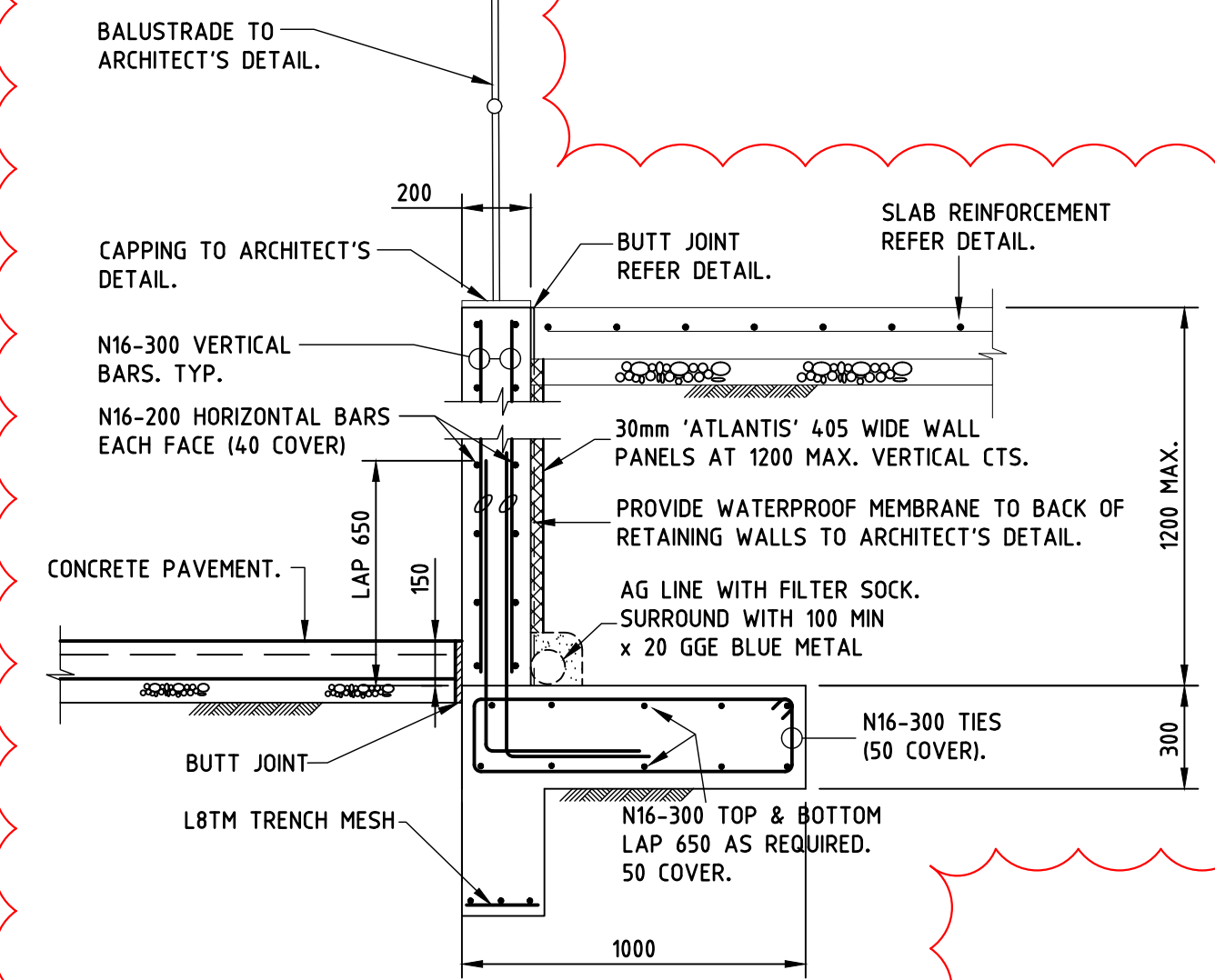
PENSHURST PUBLIC SCHOOL 18 Arcadia Street, Penshurst	
Drawing Name	CIVIL WORKS DETAILS - SHEET 2

CONTRACT NUMBER SINSW-18-1257	SCALE 1:20 @ A1
DRAWN	CHECKED
VERIFIED	Date
10 MAY 2019	
Drawing Number	Revision
PROJECT CODE	DISCIPLINE
PHASE	SERIES NUMBER
3199 - CIV- CD- 01_006	
04	

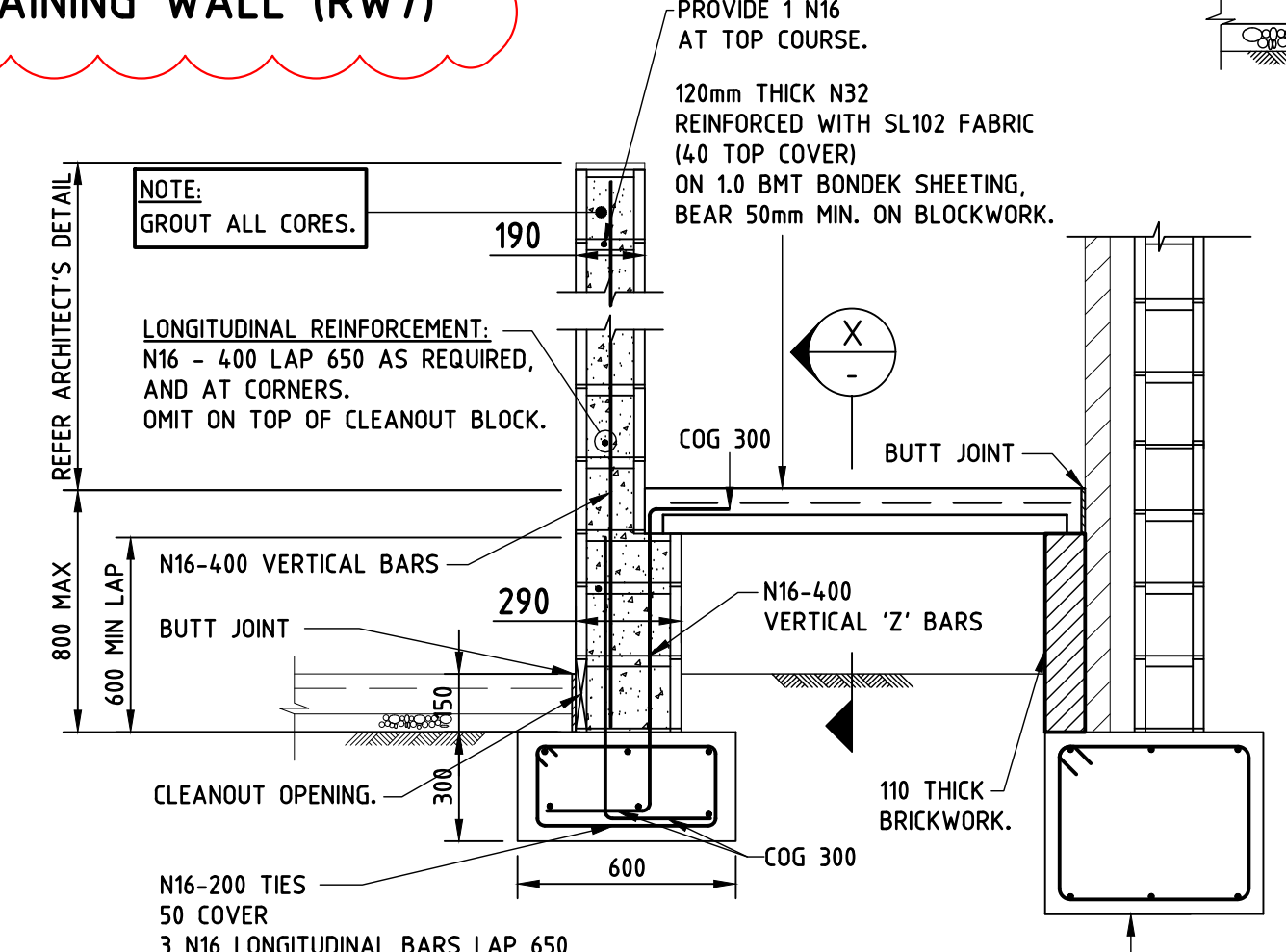


SECTION F 002

RETAINING WALL TYPE 4 (RW4)

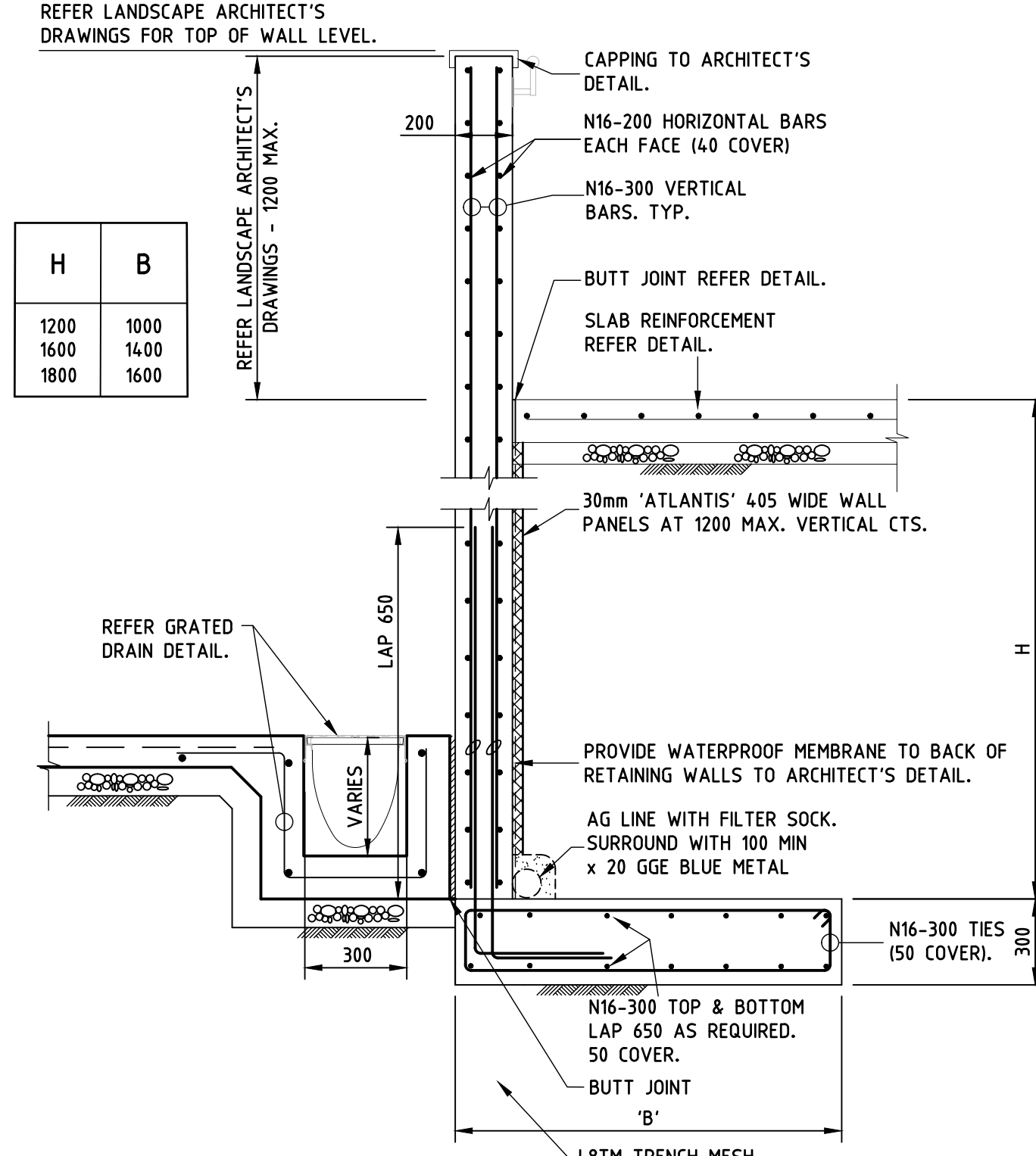


CONCRETE RETAINING WALL (RW7)



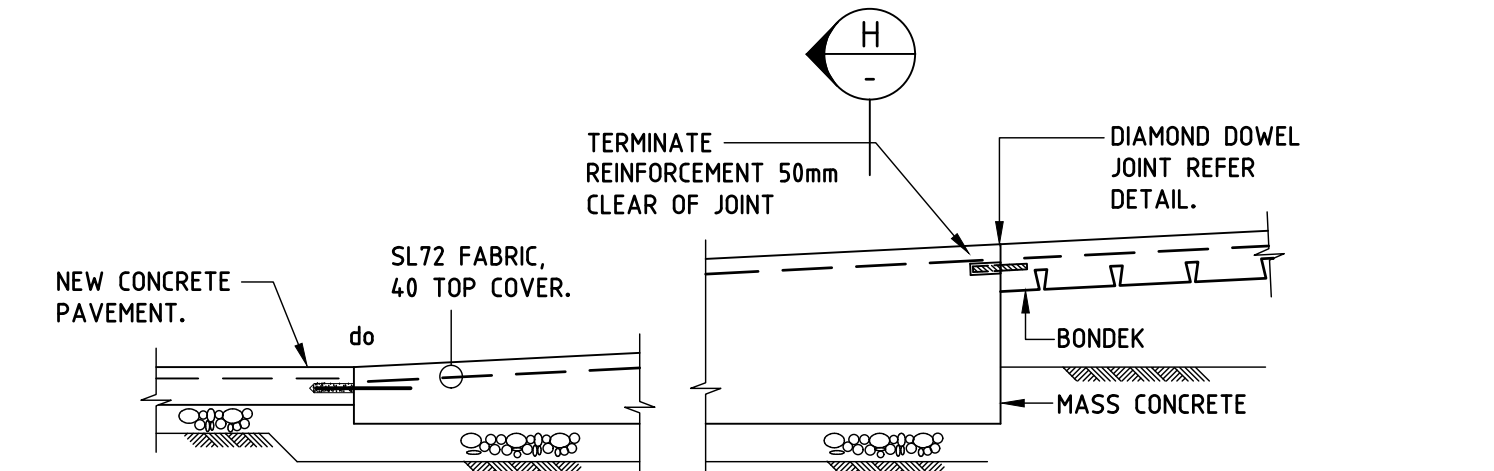
TYPICAL BW1 SECTION

AT BONDEK PORTION OF RAMP

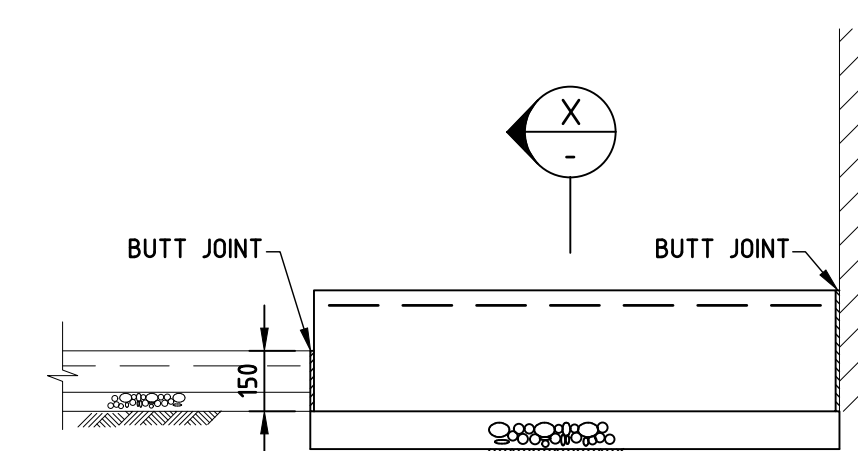


SECTION C 002

CONCRETE RETAINING WALL (RW2)

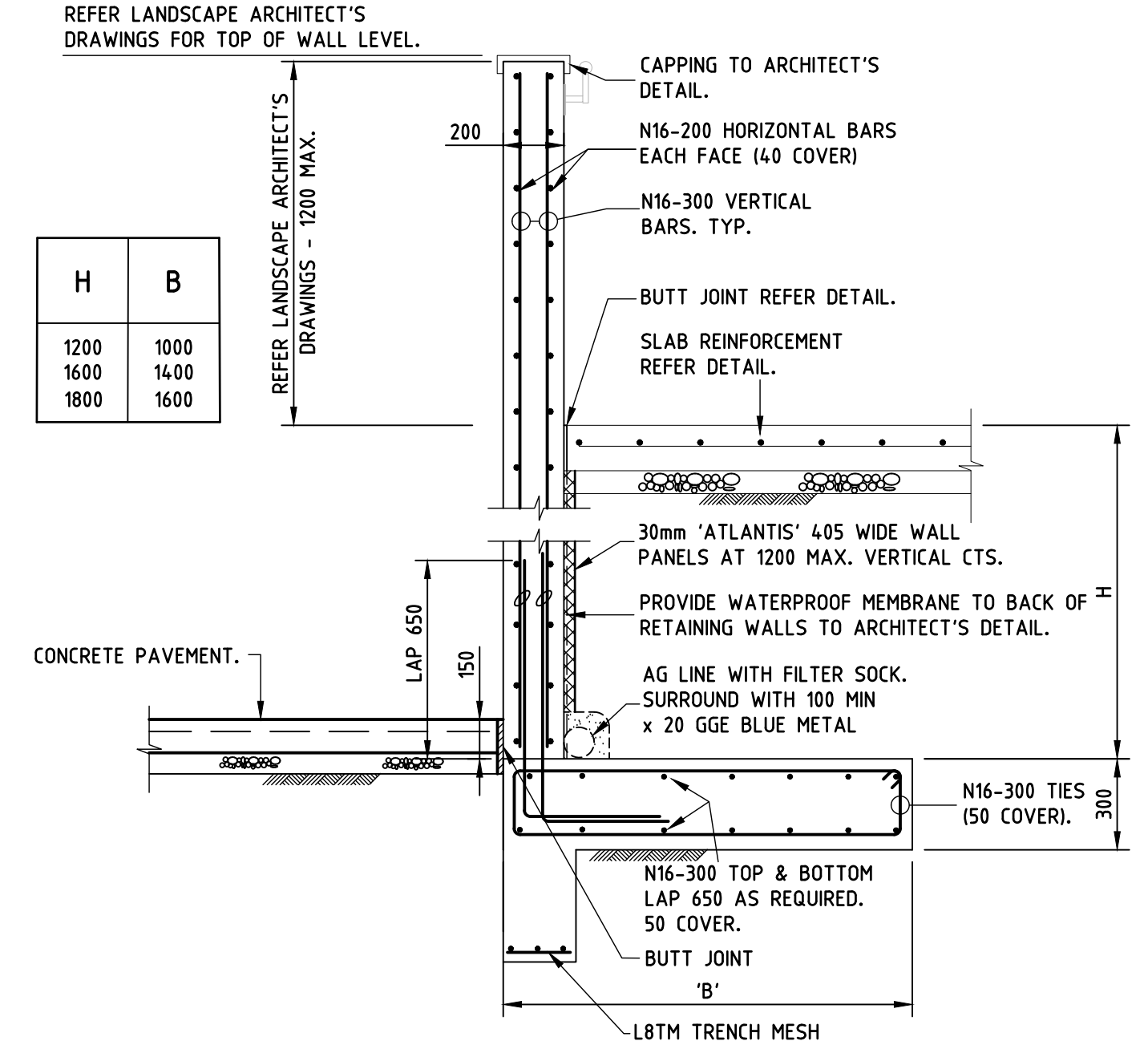


SECTION X

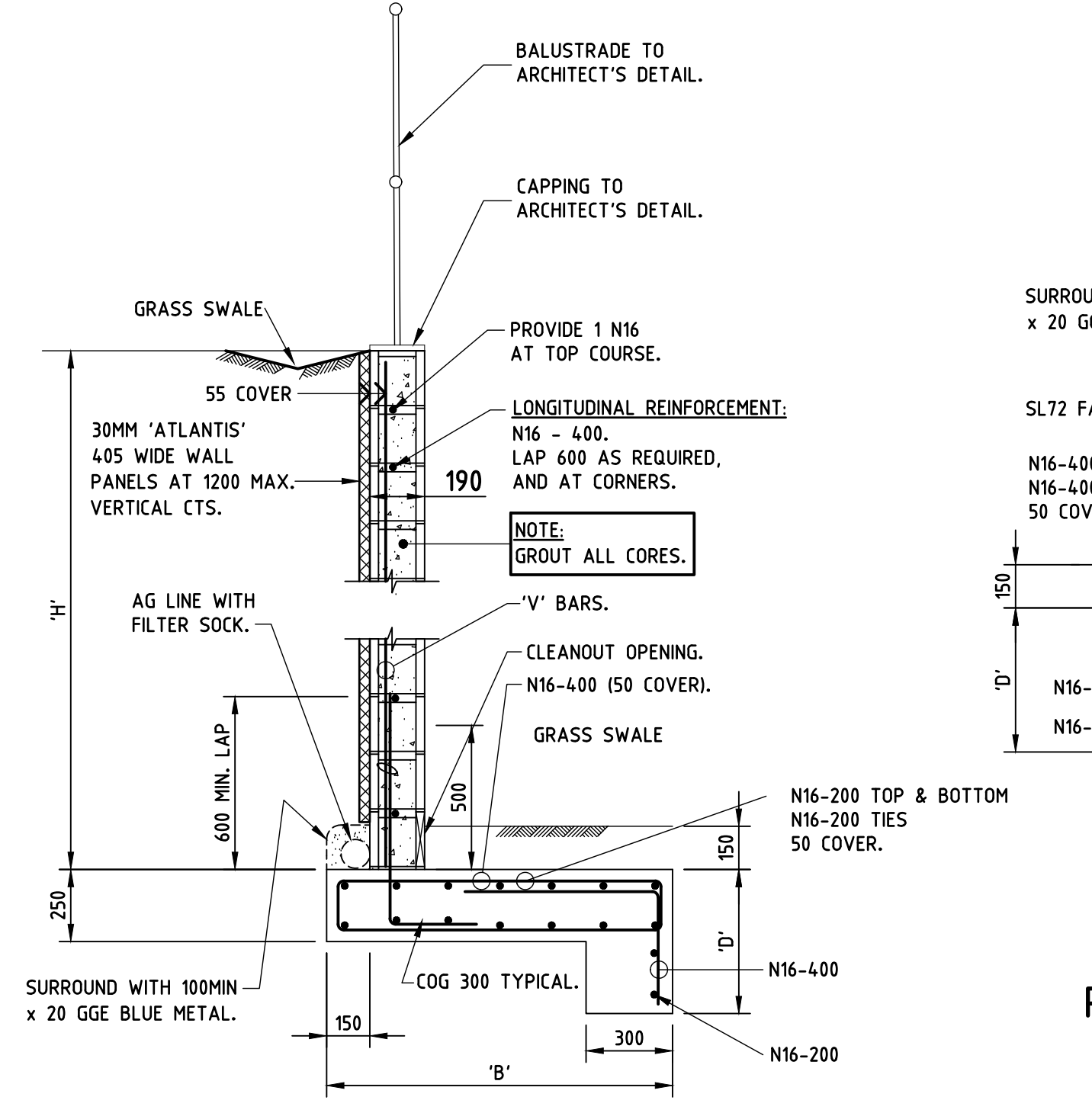


SECTION H

AT MASS CONCRETE PORTION OF RAMP.



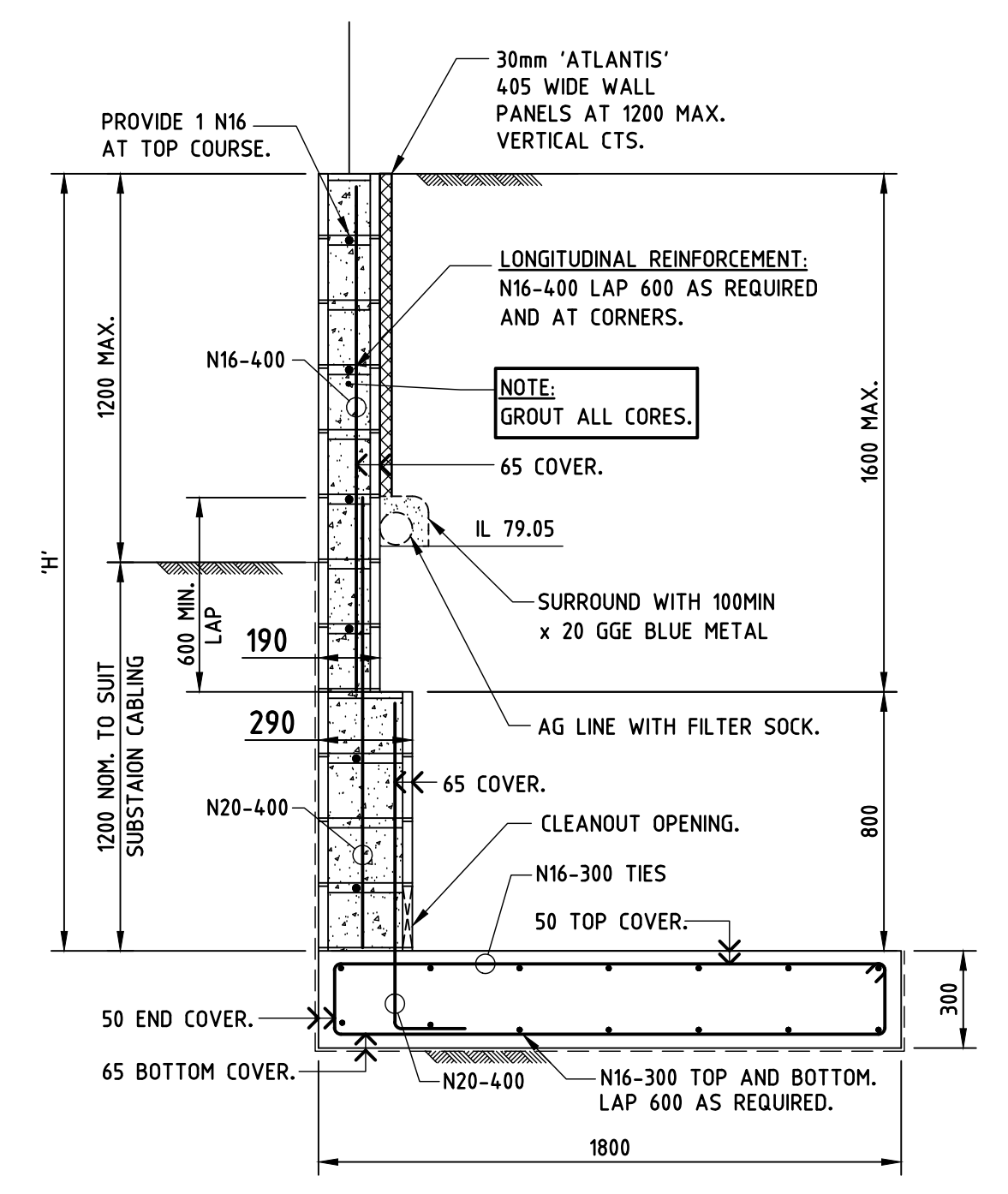
CONCRETE RETAINING WALL (RW3)



BLOCK RETAINING WALL 5 (RW5)

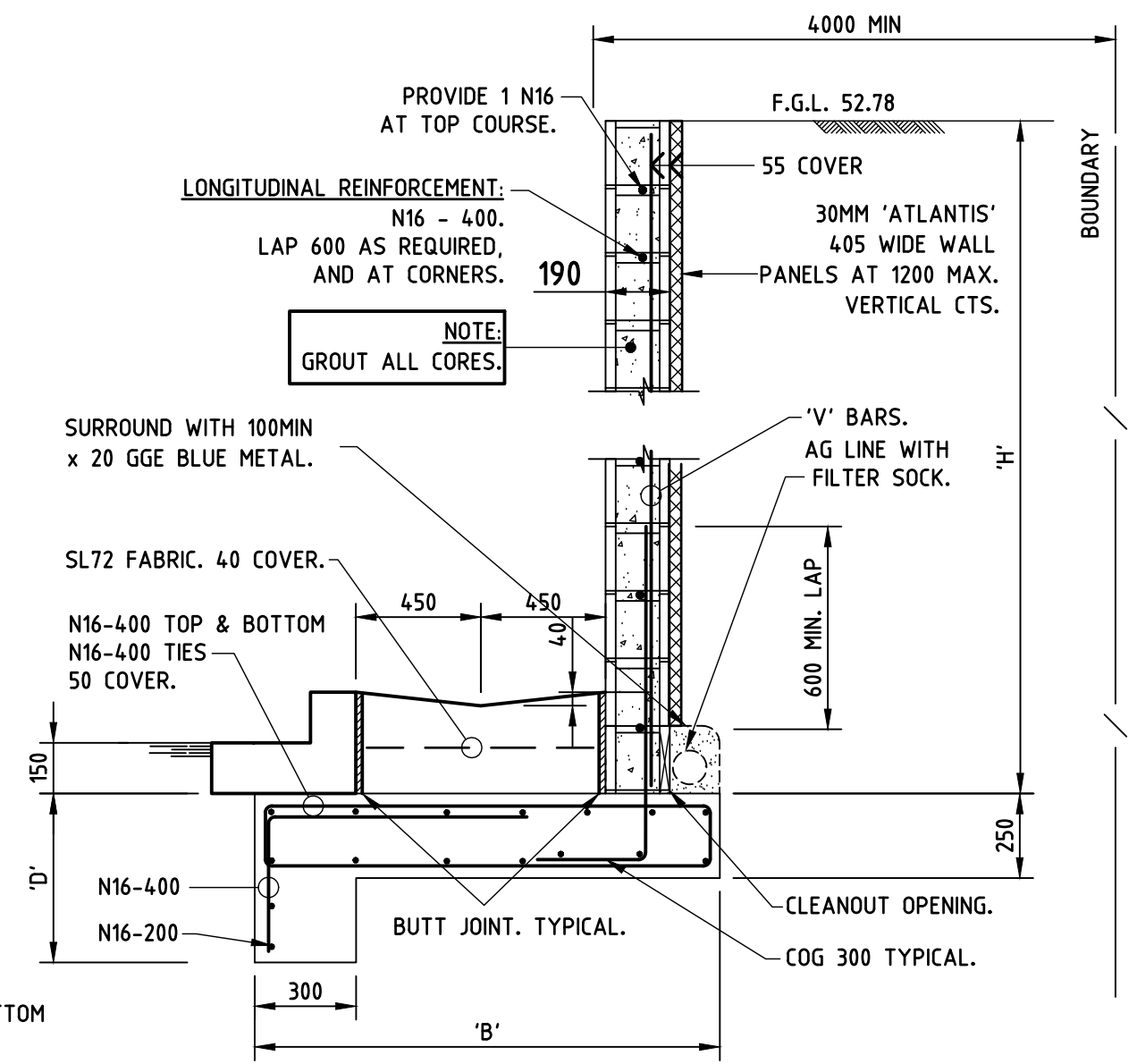
H	B	D	V-BARS
1000	750	250	N16-400
1400	1000	250	N16-400
1800	1450	450	N16-400

PROVIDE VERTICAL CONTROL JOINTS AT 12m MAX. CTS. (6m MAX FROM CORNERS) USING A 10mm BITUMEN IMPREGNATED FIBREBOARD SEPARATOR. TERMINATE HORIZONTAL REINFORCEMENT EACH SIDE OF JOINT. 50mm END COVER.



BLOCK RETAINING WALL 6 (RW6)

PROVIDE VERTICAL CONTROL JOINTS AT 12m MAX. CTS. (6m MAX FROM CORNERS) USING A 10mm BITUMEN IMPREGNATED FIBREBOARD SEPARATOR. TERMINATE HORIZONTAL REINFORCEMENT EACH SIDE OF JOINT. 50mm END COVER.



SECTION 4 002

RW1 RETAINING WALL TO 2.0M HEIGHT

H	B	D	V-BARS
800	750	250	N12-400
1000	750	250	N12-400
1200	800	250	N12-400
1400	1000	250	N16-400
1600	1200	350	N16-400
1800	1450	450	N16-400
2000	1700	550	N16-200

PROVIDE VERTICAL CONTROL JOINTS AT 12m MAX. CTS. (6m MAX FROM CORNERS) USING A 10mm BITUMEN IMPREGNATED FIBREBOARD SEPARATOR. TERMINATE HORIZONTAL REINFORCEMENT EACH SIDE OF JOINT. 50mm END COVER.

REFERENCE DRAWINGS:
FOR STANDARD NOTES & DRAWING LIST REFER TO DRG. No. CIV_01_001.

REV	BY	DATE	DESCRIPTION
01	A.P.	18.04.19	GATEWAY 4 REVIEW - RETAINING WALLS ADDED
02	A.P.	10.05.19	ISSUE FOR CONSTRUCTION
03	A.P.	26.07.19	BW1 DETAIL REVISED
04	A.P.	16.10.19	RW7 ADDED, RW6 REVISED.

Woolacotts
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Ground Floor, 12a Brown Street, Chatswood, NSW 2067

Job Number: 16-242
Approved: SETB 10.05.19
Verified: AP 10.05.19
Prepared: JK 10.05.19

NSW GOVERNMENT
Education

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JHA CONSULTING
T: 02 9437 1000

PERUMAL PEDAVOLI ARCHITECTS
T: 02 9291 0000
WEB: www.pp-a.com.au
Nominated Architect
Voice: Pedavoli NSW reg No.5045

PERUMAL PEDAVOLI
ARCHITECTS

PENSHURST PUBLIC SCHOOL
18 Arcadia Street, Penshurst

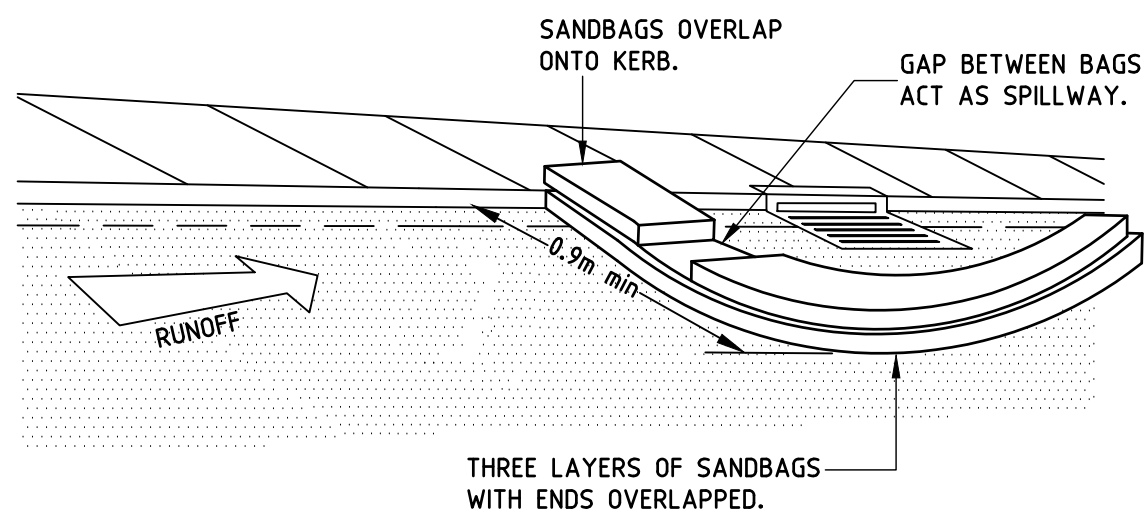
Drawing Name:
CIVIL WORKS DETAILS - SHEET 3

CONTRACT NUMBER: SINSW-18-1257
SCALE 1:20 @ A1

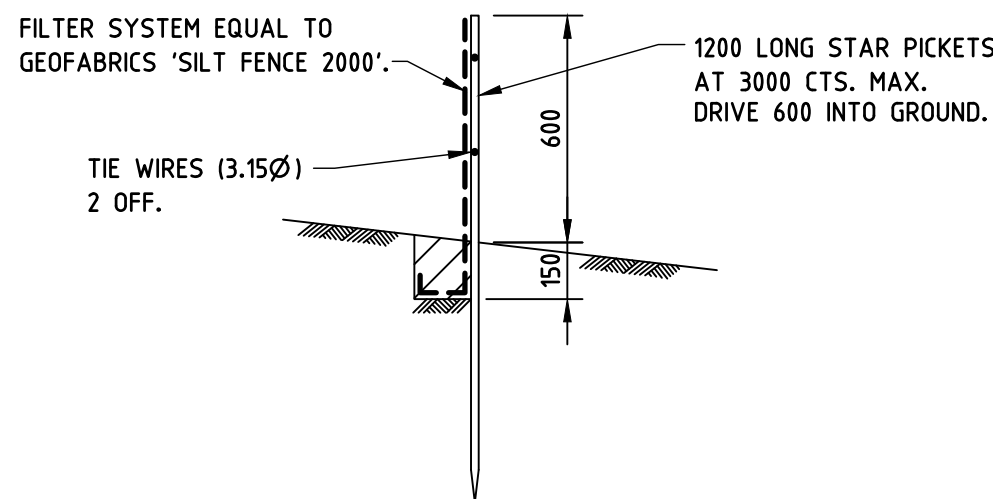
PROJECT NORTH

Drawing Number: 3199 - CIV - CD - 01_007
Revision: 03

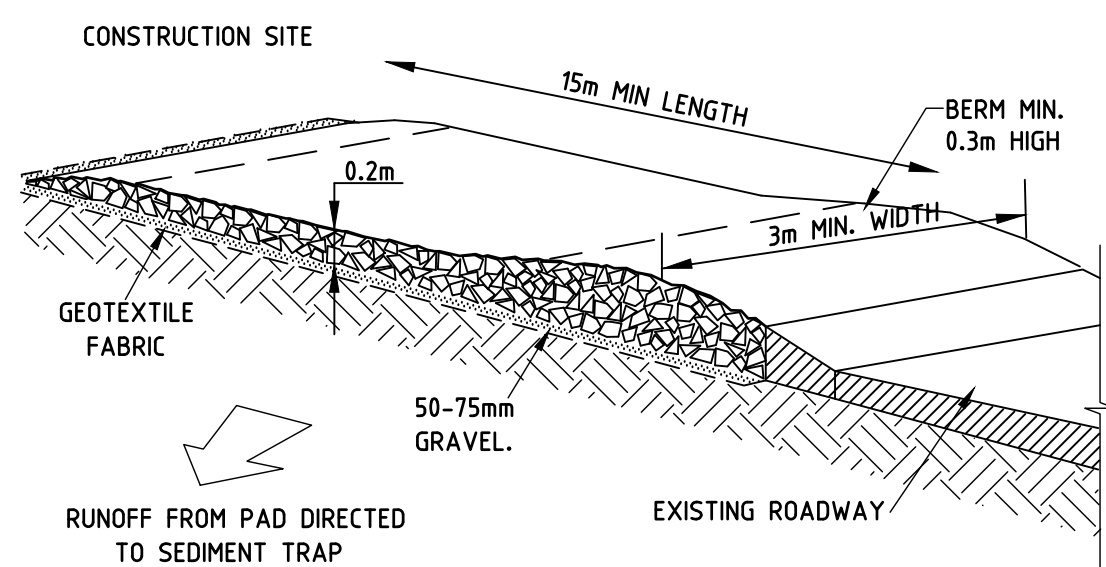
10 MAY 2019



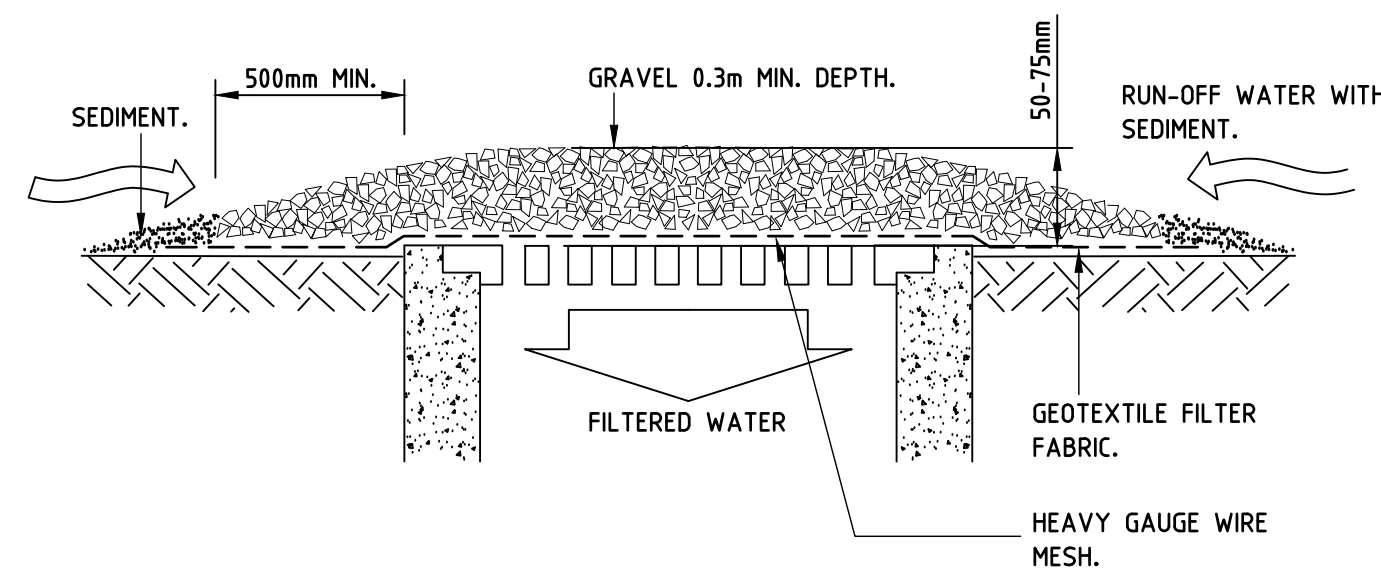
TYPICAL SANDBAG KERB INLET SEDIMENT TRAP



SILT FENCE DETAIL
TO BE PLACED AROUND LOW SIDE OF WORKS AND
AS REQUIRED TO PREVENT SOIL WASHING OFF SITE.



TEMPORARY CONSTRUCTION EXIT
TO BE PROVIDED WHERE CONSTRUCTION VEHICLES
LEAVE SITE.



WIRE MESH AND GRAVEL DROP
INLET SEDIMENT TRAP.
TO BE PROVIDED AT ALL NEW AND EXISTING
GRADED PITS WITHIN IMPERVIOUS AREAS.

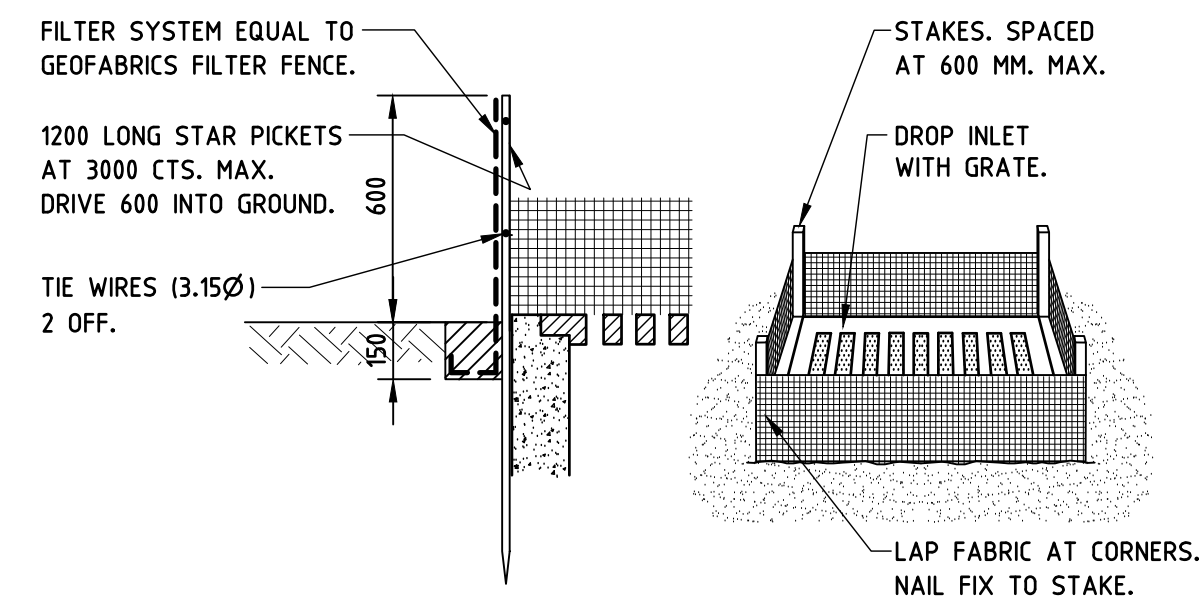
LEGEND

- TEMPORARY SITE EXIT
- DETENTION TANK
- RAINWATER TANK
- EXISTING STORMWATER PIPE
- SILT FENCE
- SILT TRAP
- SWALE

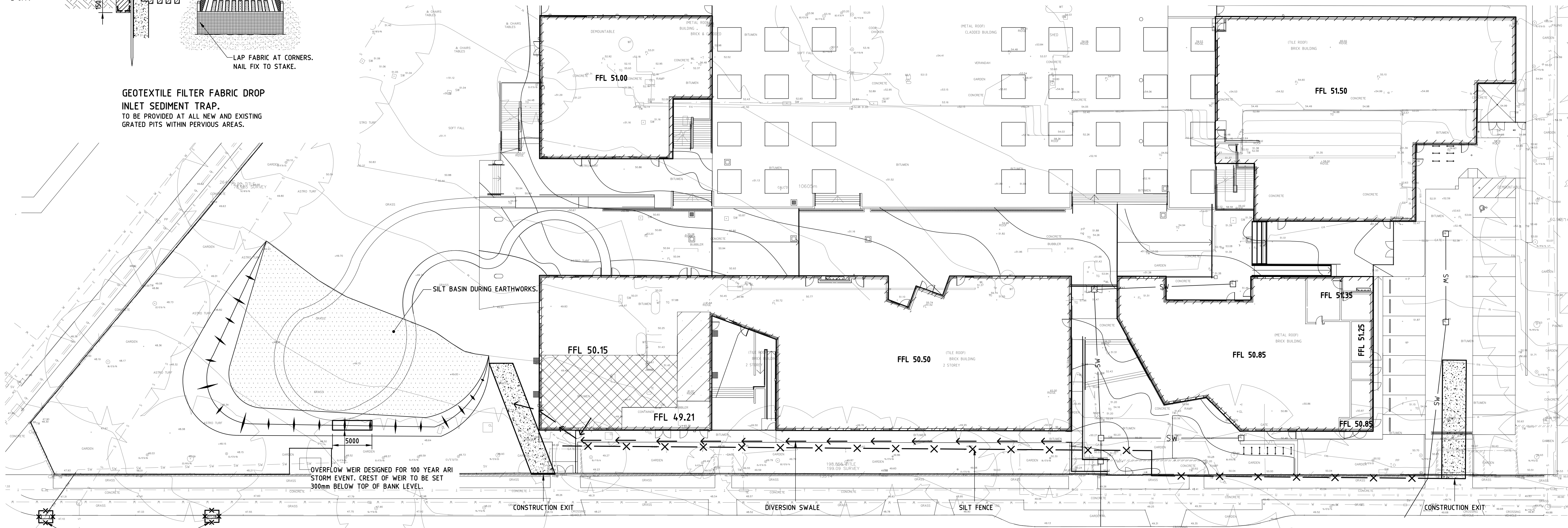
NOTE:
• PROVIDE SILT TRAP AROUND ALL EXISTING GRADED INLET PITS UNTIL
THEY ARE REMOVED/DEMOLISHED.
• PROVIDE SILT TRAPS AROUND ALL NEW PITS DURING CONSTRUCTION.

EROSION AND SEDIMENT CONTROL DETAILS

PROVIDE AS REQUIRED TO PREVENT SILT FROM LEAVING THE SITE.



GEOTEXTILE FILTER FABRIC DROP
INLET SEDIMENT TRAP.
TO BE PROVIDED AT ALL NEW AND EXISTING
GRADED PITS WITHIN PERVIOUS AREAS.



PROVIDE SILT TRAP AT EXISTING COUNCIL PITS.

SEDIMENT BASIN SUMMARY

SEDIMENT BASIN

VOLUME CALCULATED IN ACCORDANCE WITH "MANAGING URBAN STORMWATER
SOILS AND CONSTRUCTION VOLUME 1, 4TH EDITION 2004".

TYPE D AND F SOILS
DESIGN RAINFALL DEPTH (DAYS) = 5 DAYS
DESIGN RAINFALL DEPTH (%) = 85%
5DAY 85% RAINFALL EVENT (GRAFTON NSW) = 31.5mm
RAINFALL INTENSITY 2YEAR, 6MIN STORM = 9.82mm
RAINFALL EROSIVITY (R-FACTOR) = 3557
VOLUMETRIC RUNOFF COEFFICIENT = 0.64

BASIN VOLUMES

CATCHMENT AREA (ha) = 1.051ha
SETTLING ZONE VOLUME (m³) = 212m³
SEDIMENT STORAGE VOLUME (m³) = 106m³
TOTAL BASIN VOLUME (m³) = 318m³

SEDIMENT DETAIL TO BE CONSTRUCTED IN ACCORDANCE WITH DETAIL SD6-4
OF "MANAGING URBAN STORMWATER-SOILS AND
CONSTRUCTION, VOLUME 1, 4TH EDITION 2004"

AMENDMENTS			
REV	BY	DATE	DESCRIPTION
A	SETB	31.08.18	ISSUE FOR TENDER
B	SETB	26.03.19	SEDIMENT BASIN VOLUME ADDED
C	SETB	05.04.19	DRAFT IFC
D	AP	18.04.19	GATEWAY 4 REVIEW
01	A.P	10.05.19	ISSUE FOR CONSTRUCTION

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Ground Floor, 12a Brown Street, Chatswood, NSW 2067

Job Number	Approved	Verified	Prepared
16-242	SETB 10.05.19	AP 10.05.19	JK 10.05.19



Education

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T: 02 8355 3160
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LORNA HARRISON P/L
T: 02 9555 1147

PERUMAL PEDAVOLI ARCHITECTS
T: 02 9291 0000
WEB: www.op-i.com.au
Nominated Architect:
Vince Pedavoli NSW Reg No.5045

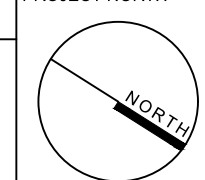
**PERUMAL
PEDAVOLI**
ARCHITECTS

PENSHURST PUBLIC SCHOOL
18 Arcadia Street, Penshurst

Drawing Name
**SEDIMENT & EROSION CONTROL
PLAN & DETAILS**

CONTRACT NUMBER
SINSW-18-1257

PROJECT NORTH



Drawn	Checked	Verified	Date	Scale
			10 MAY 2019	SCALE 1:250 @ A1
Revision				
Drawn Number	Discipline	Phase	Series Number	Revision
3199 - CIV- CD- 01_008				01