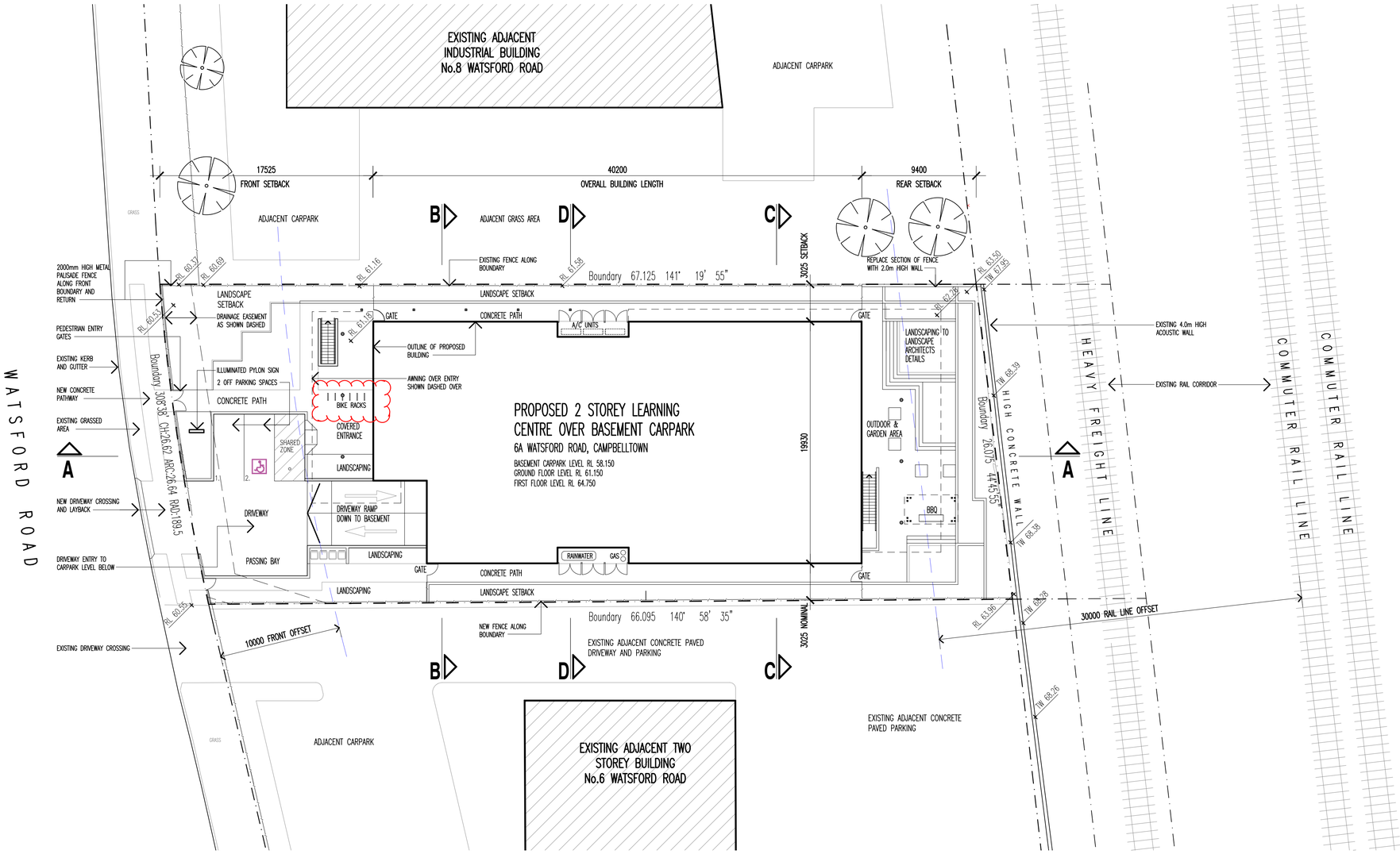


Site Plan

KEY:

- INDICATES EXISTING TREES TO REMAIN
- INDICATES PROPOSED TREES REFER TO LANDSCAPE ARCHITECT'S DRAWINGS
- RL XX.XX — EXISTING SPOT REDUCED LEVEL. VERIFY ON SITE.
- FFL XX.XXX — PROPOSED FINISH FLOOR LEVEL.
- RL XX.XXX — PROPOSED TOP OF CONCRETE SURFACE.
- + RL XX.XXX — PROPOSED FINISH LEVEL OR SPOT RL.

DRAWING LIST:

ARCHITECTURAL:		LANDSCAPE:	
DA-01	SITE PLAN	541-L1	LANDSCAPE PLAN
DA-02	LOWER GROUND FLOOR PLAN	541-L2	PLANTING PLAN
DA-03	GROUND FLOOR PLAN	HYDRAULIC:	
DA-04	FIRST FLOOR PLAN	SW00	COVER SHEET
DA-05	ROOF PLAN	SW01	SITE PLAN
DA-06	ELEVATIONS	SW02	ROOF PLAN
DA-07	SECTIONS	SW03	CALCULATION SHEET
DA-08	SITE ANALYSIS PLAN	SW04	DETAIL SHEET
DA-09	STREETSCAPE CHARACTER ANALYSIS	SW05	SEDIMENT & EROSION CONTROL PLAN
DA-10	RENDERED 3D IMAGES ANALYSIS		

SITE/DEVELOPMENT FIGURES:

SITE AREA	1748.2m2
TOTAL CARPARK AREA	430m2
INDOOR RECREATION AREA	290m2
TOTAL PROPOSED ONSITE PARKING	13 SPACES

LEARNING CENTRE CALCULATIONS:

GROUND FLOOR LEVEL	732m2
FIRST FLOOR LEVEL	721m2
TOTAL FLOOR AREA	1453m2

LOCATION PLAN

NSW GOVERNMENT Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 1 of 29

AMENDMENTS

No.	DATE	REVISION DESCRIPTION
A	OCT. 19	D.A. ISSUE TO COUNCIL
B	MAR. 20	UPDATED D.A. ISSUE
C	MAY. 20	UPDATED D.A. ISSUE WITH REVISIONS CLOUDED

NOTES:

BAR SCALE: 0m 1 2 3 4 5m 10m 15m 20m 30m 50m

NORTH POINT:

CLIENT:
MTC AUSTECH Warakirri College
WARAKIRRI COLLEGE
L2, 138 QUEEN STREET
CAMPBELLTOWN

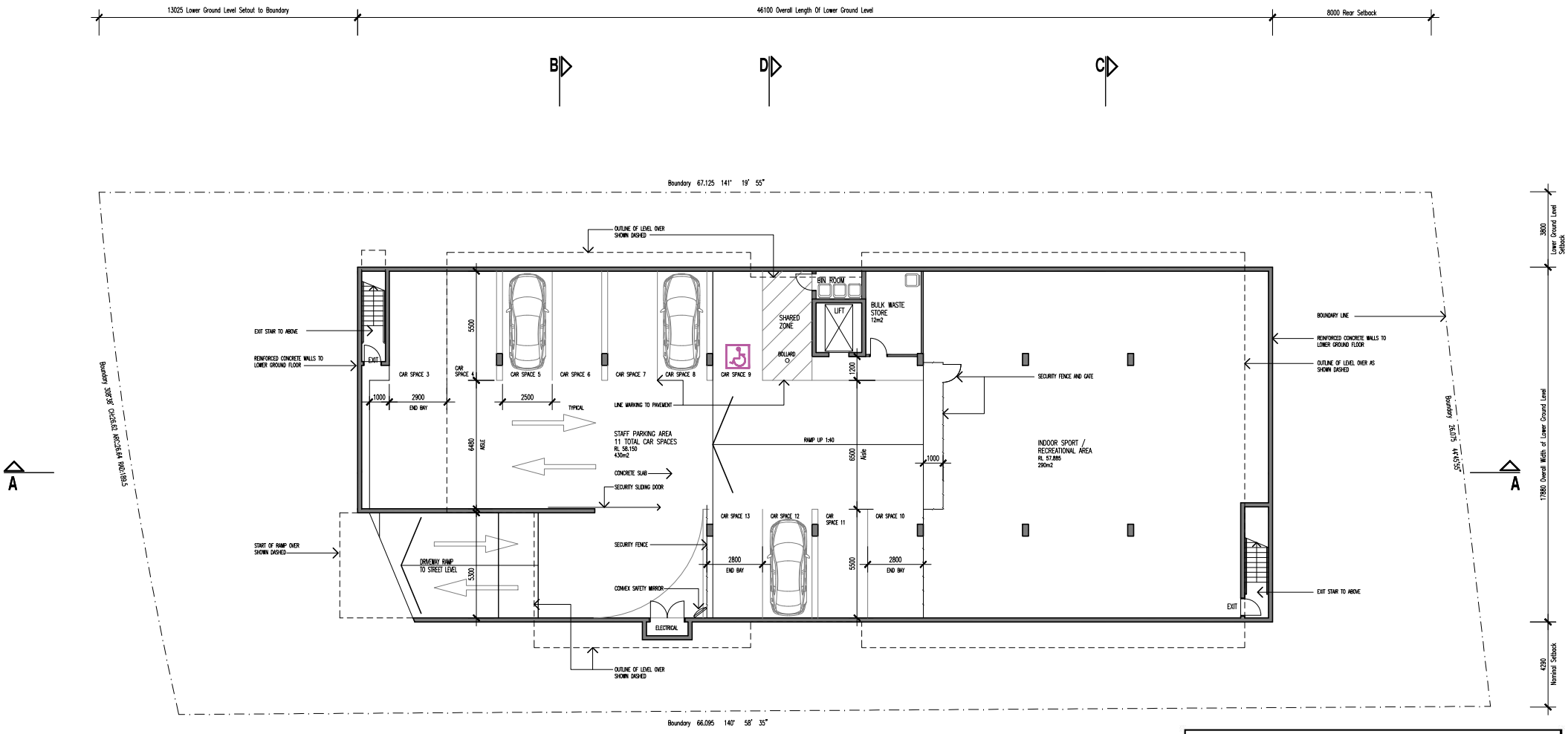
ARCHITECTS:
Koturic+Co.
STEVEN KOTURIC – NOM. ARCHITECT NSW REG. 9442
KOTURIC & Co. Pty. Ltd.
P.O. BOX 580 CONCORD NSW 2137
E: architects@koturicandco.com M: 0414 953 091

PROJECT:
NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

SCALE:	1:200 @ A1	DATE:	APRIL 2019
DRAWN:	DFP	JOB NO.	1901

DRAWING:
SITE PLAN

No. IN SET	DRAWING NO.	AMENDMENT:
	A-01	C



Lower Ground Floor Plan

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 2 of 29

AMENDMENTS		
No.	DATE	REVISION DESCRIPTION
A	OCT. 19	D.A. ISSUE TO COUNCIL
B	MAR. 20	UPDATED D.A. ISSUE.

NOTES:

BAR SCALE: 0m 1 2 3 4 5m 10m 15m 20m 25m

NORTH POINT:

CLIENT: WARAKIRRI COLLEGE
L2, 138 QUEEN STREET
CAMPBELLTOWN

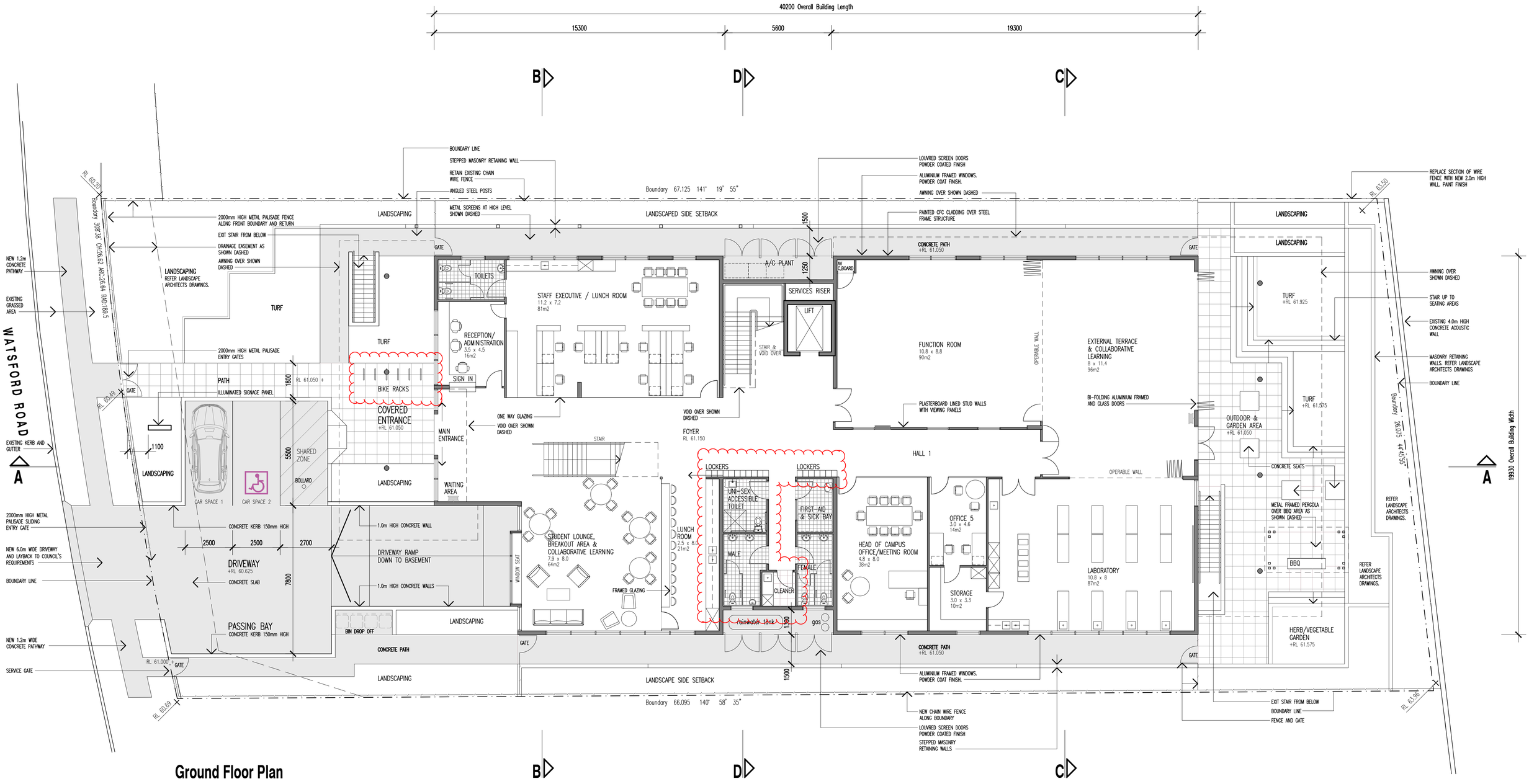
ARCHITECTS: Koturic+Co.
STEVEN KOTURIC – NOM. ARCHITECT NSW REG. 9442
KOTURIC & Co. Pty. Ltd.
P.O. BOX 580 CONCORD NSW 2137
E: architects@koturicandco.com M: 0414 953 091

PROJECT: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

SCALE: 1:100 @ A1 | DATE: APRIL 2019
DRAWN: DFP | JOB NO. 1901

DRAWING: LOWER GROUND FLOOR PLAN

No. IN SET	DRAWING NO.	AMENDMENT:
	A–02	B



Ground Floor Plan

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed: DC

Granted on: 12 August 2020 Sheet no: 3 of 29

AMENDMENTS		
No.	DATE	REVISION DESCRIPTION
A	OCT. 19	D.A. ISSUE TO COUNCIL
B	MAR. 20	UPDATED D.A. ISSUE
C	MAY. 20	UPDATED D.A. ISSUE WITH REVISIONS CLOUDED

NOTES:

BAR SCALE: 0m 1 2 3 4 5m 10m 15m 20m 25m

NORTH POINT:

CLIENT:
MTC AUSTRALIA Warakirri College
WARAKIRRI COLLEGE
L2, 138 QUEEN STREET
CAMPBELLTOWN

ARCHITECTS:
Koturic+Co.
STEVEN KOTURIC – NOM. ARCHITECT NSW REG. 9442
KOTURIC & Co. Pty. Ltd.
P.O. BOX 580 CONCORD NSW 2137
E: architects@koturicandco.com M: 0414 953 091

PROJECT:
NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

SCALE:	1:100 @ A1	DATE:	APRIL 2019
DRAWN:	DFP	JOB NO.	1901

DRAWING:
GROUND FLOOR PLAN

No. IN SET	DRAWING NO.	AMENDMENT:
	A–03	C

First Floor Plan

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 4 of 29

AMENDMENTS		
No.	DATE	REVISION DESCRIPTION
A	OCT. 19	D.A. ISSUE TO COUNCIL
B	MAR. 20	UPDATED D.A. ISSUE
C	MAY. 20	UPDATED D.A. ISSUE WITH REVISIONS CLOUDED

NOTES:

BAR SCALE: 0m 1 2 3 4 5m 10m 15m 20m 25m

NORTH POINT:

CLIENT:
WARAKIRRI COLLEGE
L2, 138 QUEEN STREET
CAMPBELLTOWN

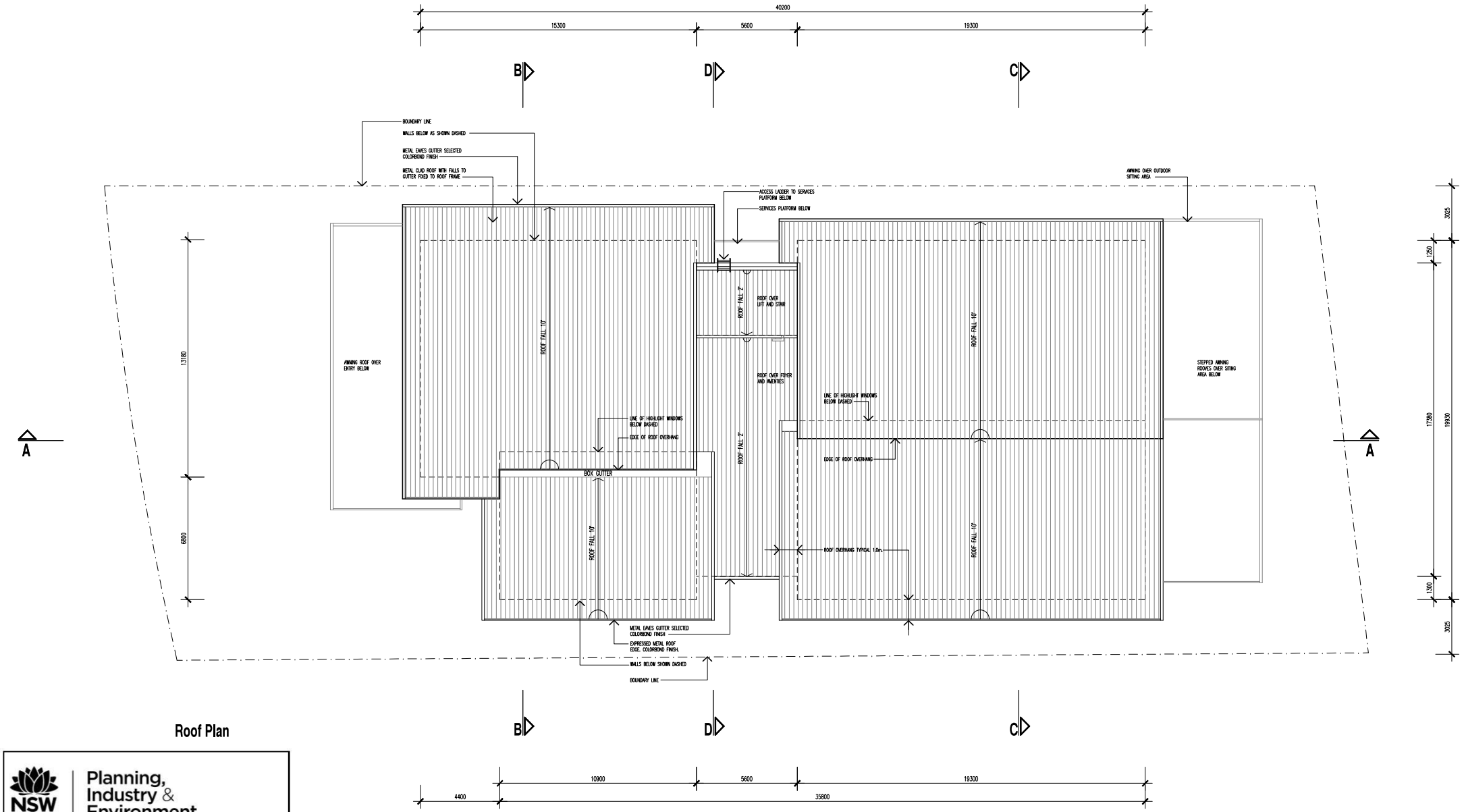
ARCHITECTS:
Koturic+Co.
STEVEN KOTURIC – NOM. ARCHITECT NSW REG. 9442
KOTURIC & Co. Pty. Ltd.
P.O. BOX 580 CONCORD NSW 2137
E: architects@koturicandco.com M: 0414 953 091

PROJECT:
NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

SCALE: 1:100 @ A1 | DATE: APRIL 2019
DRAWN: DFP | JOB NO. 1901

DRAWING:
FIRST FLOOR PLAN

No. IN SET	DRAWING NO.	AMENDMENT:
	A–04	C



Roof Plan

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 5 of 29

AMENDMENTS		
No.	DATE	REVISION DESCRIPTION
A	OCT. 19	D.A. ISSUE TO COUNCIL
B	MAR. 20	UPDATED D.A. ISSUE

NOTES:

BAR SCALE: 0m 1 2 3 4 5m 10m 15m 20m 25m

NORTH POINT:

CLIENT: WARAKIRRI COLLEGE
L2, 138 QUEEN STREET
CAMPBELLTOWN

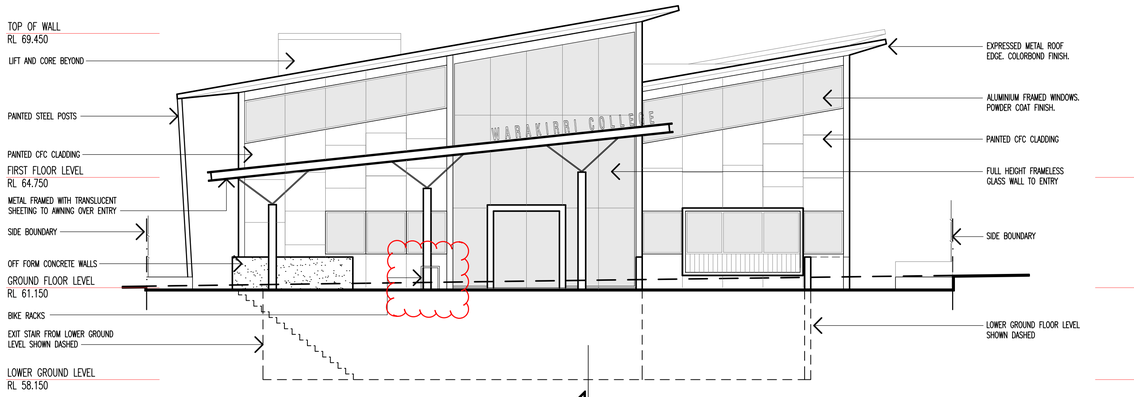
ARCHITECTS: Koturic+Co.
STEVEN KOTURIC – NOM. ARCHITECT NSW REG. 9442
KOTURIC & Co. Pty. Ltd.
P.O. BOX 580 CONCORD NSW 2137
E: architects@koturicandco.com M: 0414 953 091

PROJECT: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

SCALE: 1:100 @ A1 DATE: APRIL 2019
DRAWN: DFP JOB NO. 1901

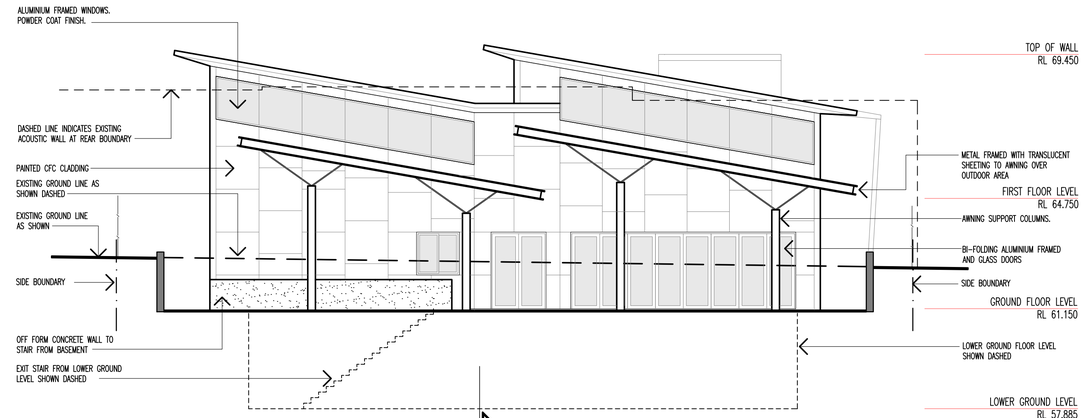
DRAWING: ROOF PLAN

No. IN SET	DRAWING NO.	AMENDMENT:
	A–05	B



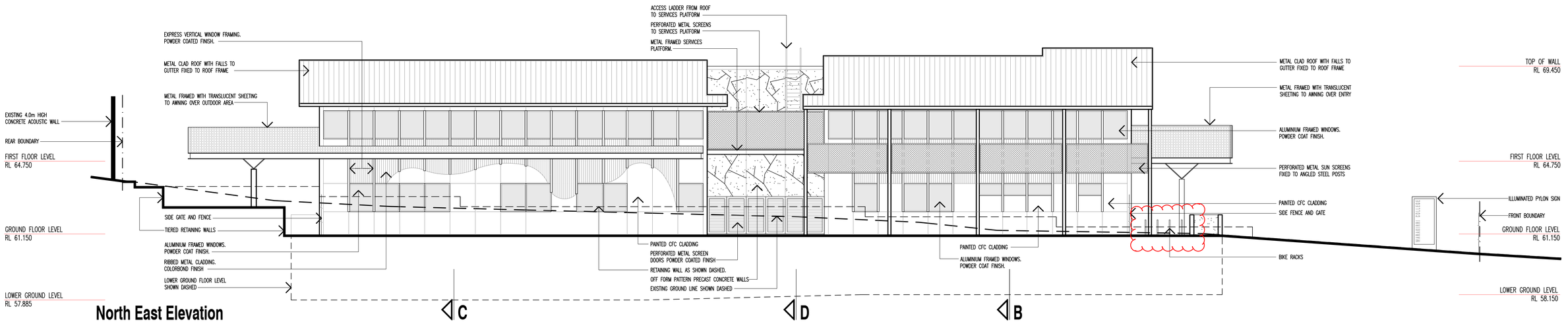
North West Elevation

A



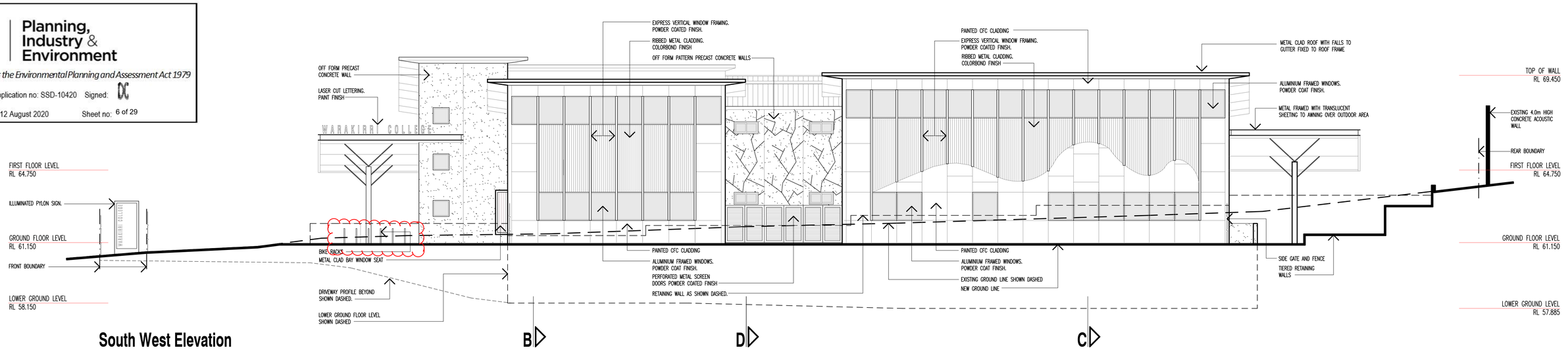
South East Elevation

A



North East Elevation

C D B



South West Elevation

B D C

AMENDMENTS

No.	DATE	REVISION DESCRIPTION
A	OCT. 19	D.A. ISSUE TO COUNCIL
B	MAR. 20	UPDATED D.A. ISSUE
C	MAY. 20	UPDATED D.A. ISSUE WITH REVISIONS CLOUDED

NOTES:

BAR SCALE: 0m 1 2 3 4 5m 10m 15m 20m 25m

CLIENT:
WARAKIRRI COLLEGE
L2, 138 QUEEN STREET
CAMPBELLTOWN

ARCHITECTS:
Koturic+Co.
STEVEN KOTURIC – NOM. ARCHITECT NSW REG. 9442
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E: architects@koturicandco.com M: 0414 953 091

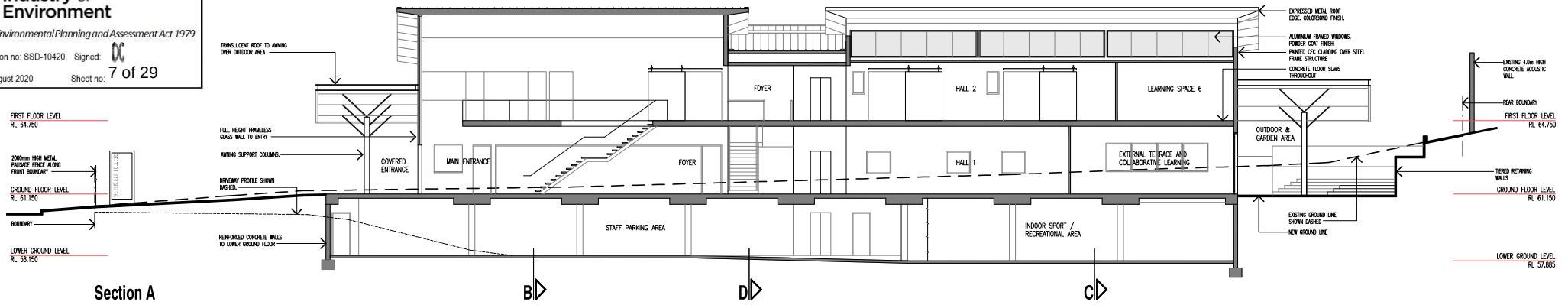
PROJECT:
NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

SCALE: 1:100 @ A1 | DATE: APRIL 2019
DRAWN: DFP | JOB NO. 1901

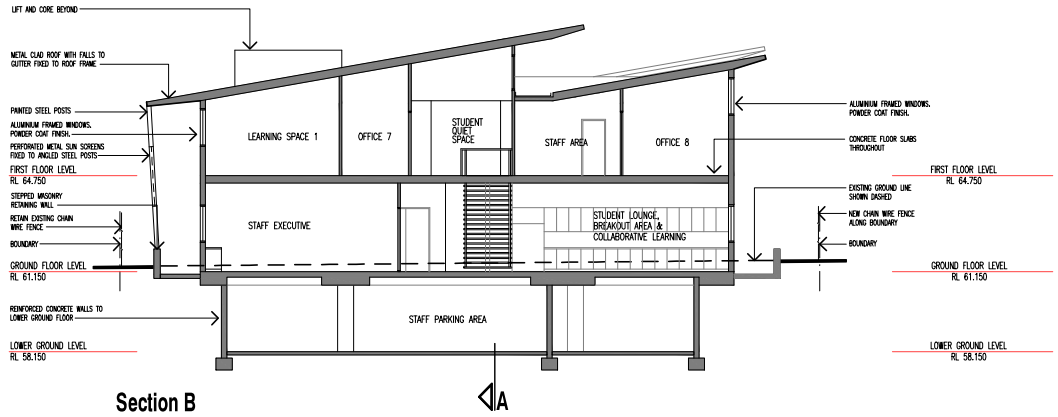
DRAWING:
ELEVATIONS

No. IN SET	DRAWING NO.	AMENDMENT:
	A–06	C

NSW GOVERNMENT | Planning, Industry & Environment
Issued under the Environmental Planning and Assessment Act 1979
Approved Application no: SSD-10420 Signed: DC
Granted on: 12 August 2020 Sheet no: 7 of 29



Section A



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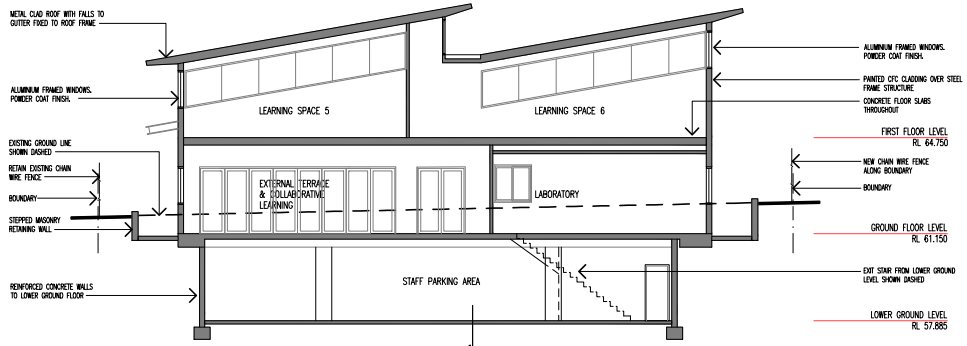

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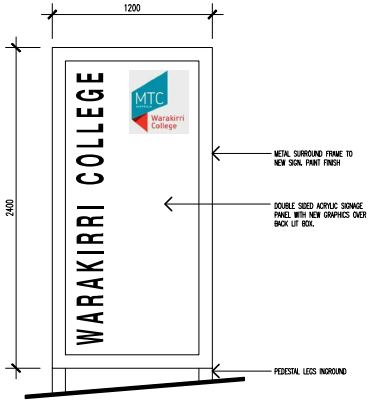
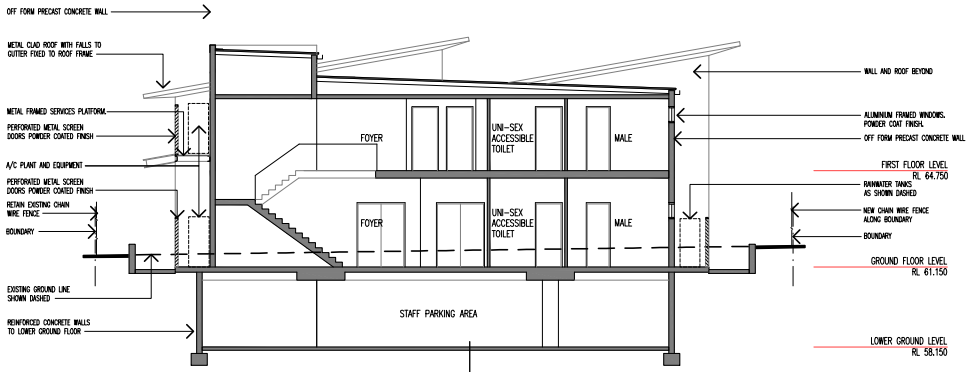


New Signage

SCALE 1:20



Section D

AMENDMENTS		
No.	DATE	REVISION DESCRIPTION
A	OCT. 19	D.A. ISSUE TO COUNCIL
B	MAR. 20	UPDATED D.A. ISSUE

NOTES:

BAR SCALE: 0m 1 2 3 4 5m 10m 15m 20m 25m

CLIENT: WARAKIRRI COLLEGE
L2, 138 QUEEN STREET
CAMPBELLTOWN

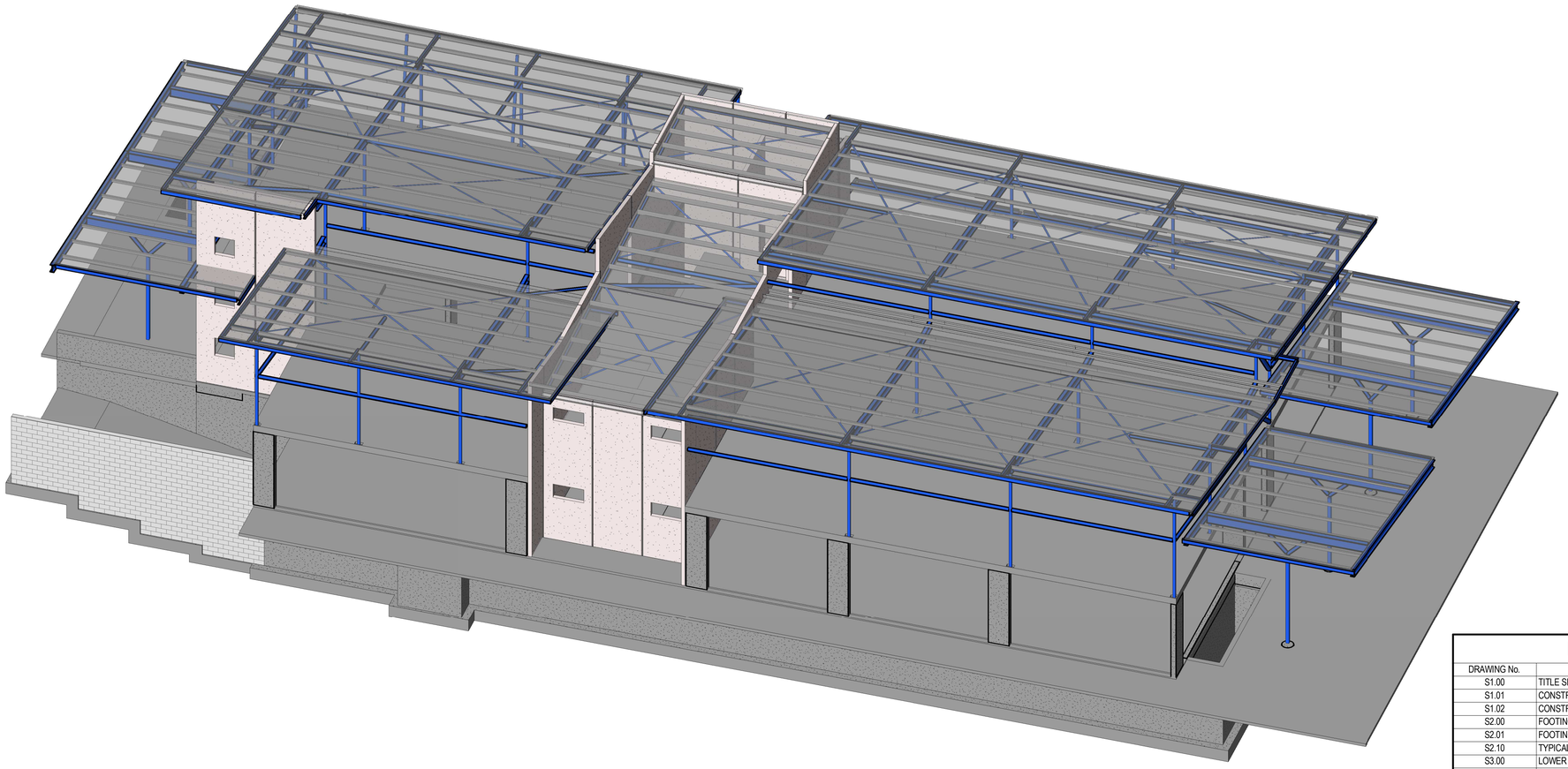
ARCHITECTS: Koturic+Co.
STEVEN KOTURIC – NOM. ARCHITECT NSW REG. 9442
KOTURIC & Co. Pty. Ltd.
P.O. BOX 580 CONCORD NSW 2137
E: architects@koturicandco.com M: 0414 953 091

PROJECT: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN
SCALE: 1:100 @ A1 DATE: APRIL 2019
DRAWN: DFP JOB NO. 1901

DRAWING: SECTIONS
No. IN SET | DRAWING NO. A–07 | AMENDMENT: B

A1

NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN



DRAWING LIST

DRAWING No.	DRAWING TITLE
S1.00	TITLE SHEET & DRAWING LIST
S1.01	CONSTRUCTION NOTES - SHEET 1
S1.02	CONSTRUCTION NOTES - SHEET 2
S2.00	FOOTING PLAN
S2.01	FOOTING DETAILS
S2.10	TYPICAL COLUMN AND WALL DETAILS
S3.00	LOWER GROUND SLAB PLAN
S3.01	SLAB ON GROUND DETAILS - LOWER GROUND
S4.00	GROUND FLOOR SLAB PLAN
S4.01	GROUND FLOOR SLAB DETAILS
S5.00	FIRST FLOOR SLAB PLAN
S6.00	ROOF STEEL FRAMING PLAN
S6.01	STEEL FRAMING SECTIONS - SHEET 1
S6.02	STEEL FRAMING SECTIONS - SHEET 2
S6.03	STEEL DETAILS - SHEET 1
S6.04	STEEL DETAILS - SHEET 2
S7.00	PRECAST PANEL PLAN
S7.01	PRECAST PANEL ELEVATIONS
S7.02	TYPICAL PRE-CAST PANELS DETAILS
S8.00	STAIR DETAILS-bak

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 8 of 29

ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KOTURIC + CO.

Level 5,
79 Victoria Avenue
Chatswood NSW 2067

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: TITLE SHEET & DRAWING LIST

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	**Approved**	**Scale**
D.M.	R.K.	

Drawing number: 19712-S1.00

Revision: 2

A1

GENERAL NOTES:

G1 THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION UNTIL THEY ARE MARKED 'FOR CONSTRUCTION' AND APPROVED BY THE RELEVANT AUTHORITIES.

G2 THE WORD 'ENGINEER' AS USED IN THESE NOTES REFERS TO AN EMPLOYEE OR NOMINATED REPRESENTATIVE OF H & H CONSULTING ENGINEERS P/L (TRADING AS HENRY & HYMAS)

G3 STRUCTURAL DRAWINGS AND NOTES SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS, REPORTS, SPECIFICATIONS AND ANY OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR CLARIFICATION OR DECISION BEFORE PROCEEDING WITH THE WORK.

G4 UNDIMENSIONED DISTANCES SHALL NOT BE OBTAINED BY SCALING OFF THE STRUCTURAL DRAWINGS OR MEASURING FROM THE ELECTRONIC DRAWINGS. DIMENSIONED SIZES OF ALL STRUCTURAL ELEMENTS AS SHOWN ON HENRY & HYMAS DRAWINGS SHALL TAKE PRECEDENCE OVER THOSE SHOWN ON OTHER CONSULTANT'S DRAWINGS. IT IS THE BUILDING CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS PRIOR TO SETTING-OUT ON SITE.

G5 STRUCTURAL ELEMENTS INDICATED ON THESE DRAWINGS ARE SHOWN IN THEIR INTENDED COMPLETE STATE. UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE BUILDING CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND ERECTION OF TEMPORARY WORKS INCLUDING PROPPING, BRACING, SHORING AND ANY OTHER REQUIREMENTS THAT ARE NECESSARY TO MAINTAIN THE STRUCTURE, OR ANY PART OF IT, IN A STABLE CONDITION DURING CONSTRUCTION. THE BUILDER SHALL OBTAIN ADVICE FROM APPROPRIATELY QUALIFIED AND EXPERIENCED PERSONNEL FOR THIS PURPOSE.

G6 NO PART OF THE STRUCTURE SHALL BE CONSTRUCTED ON OR ADJACENT TO ANY OF THE FOLLOWING UNLESS THE HAZARDS AND THE MITIGATION MEASURES IF REQUIRED, ARE INDICATED ON THE STRUCTURAL DRAWINGS;

- EMBANKMENTS, BATTERS, WATER RETAINING STRUCTURES, RETAINING WALLS, PITS, SEWERS, SERVICE TRENCHES, DRAINAGE CANALS, CREEKS OR ANY OTHER POTENTIAL SOURCE OF DAMAGE TO THE STRUCTURE. IF ANY SUCH HAZARDS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED AND APPROVAL OBTAINED PRIOR TO PROCEEDING.

G7 THE BUILDING CONTRACTOR SHALL LOCATE ALL EXISTING AND PROPOSED SERVICES AND EASEMENTS, ON AND ADJACENT TO THE SITE. APPROVALS FROM THE RELEVANT STATUTORY AUTHORITIES AND THE ENGINEER SHALL BE OBTAINED PRIOR TO BUILDING ON OR OVER ANY SERVICES OR EASEMENTS.

G8 EXCAVATION WORK SHALL NOT BE CARRIED OUT BELOW THE LEVEL OF ANY ADJOINING BUILDING FOOTINGS WITHOUT EXCLUSIVE APPROVAL FROM THE ENGINEER. THE BUILDING CONTRACTOR MUST OBTAIN WRITTEN CONSENT FROM THE ADJOINING PROPERTY OWNERS PRIOR TO THE INSTALLATION OF UNDERPINNING, GROUND ANCHORS, DRAINAGE LINES OR ANY OTHER WORK BEYOND THE PROPERTY BOUNDARY.

G9 NO HOLES OR CHASES SHALL BE MADE IN ANY STRUCTURAL ELEMENT, UNLESS SHOWN ON THESE DRAWINGS OR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.

G10 A FULL DEPTH 'Y' JOINT SHALL BE PROVIDED IN RENDER WHERE TWO DIFFERING STRUCTURAL MATERIALS MEET. EG. AT THE JUNCTION OF MASONRY WITH CONCRETE.

G11 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS, THE NATIONAL CONSTRUCTION CODE (FORMERLY BCA), AND THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES. ALL WORKMANSHIP SHALL CONFORM TO GOOD TRADE PRACTICE.

G12 WATERPROOFING REQUIREMENTS SHALL BE AS SPECIFIED BY THE ARCHITECT AND ARE NOT NECESSARILY INDICATED ON STRUCTURAL DRAWINGS.

G13 ONLY THE LATEST REVISIONS OF THE NOMINATED AUSTRALIAN STANDARDS SHALL APPLY WHERE REFERENCED ON THE DRAWINGS.

G14 IT MUST BE NOTED THAT APPROVAL OF A SUBSTITUTION OR ALTERNATIVE FROM THE ENGINEER IS NOT, IN ITSELF AN AUTHORISATION FOR A VARIATION.

G15 THE ENGINEER SHALL BE GIVEN AT LEAST 48 HOURS NOTICE FOR SITE INSPECTIONS.

FLOOR SLAB DESIGN LOADS:

L1 SUPERIMPOSED LOADS ARE GENERALLY IN ACCORDANCE WITH AS1170.1, AND AS NOTED BELOW UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED ELSEWHERE IN THE DOCUMENTATION.

LOCATION		SUPERIMPOSED DEAD LOAD (SDL) - kPa	LIVE LOAD (LL) - kPa
PUBLIC SCHOOLS	- GENERAL	1.5	3.0
	- STEEL ROOF	0.4	0.25
OTHER	- FIRE STAIRS	0.1	4.0
	- ACCESS STAIRS	1.5	4.0
	- AMENITIES	0.5	2.0
	- CORRIDORS & LOBBIES	1.5	4.0
	- TERRACES / BALCONIES	1.5	4.0

L2 WIND LOADS ARE IN ACCORDANCE WITH AS1170.2 AND AS FOLLOWS:
- WIND REGION - A2
- TERRAIN CATEGORY - 3
- IMPORTANCE LEVEL - 3
- ANNUAL PROBABILITY OF EXCEEDANCE -1/1000
- REGIONAL WIND VELOCITY(VR) - 46 m/s

L3 EARTHQUAKE LOADS ARE IN ACCORDANCE WITH AS1170.4 AND AS FOLLOWS:
- IMPORTANCE LEVEL - 3
- ANNUAL PROBABILITY OF EXCEEDANCE -1/1000
- SUBSOIL CLASS - Ce
- HAZARD FACTOR - 1.3

EARTHQUAKE DESIGN CATEGORY - EDC II

L4 SNOW LOADS ARE IN ACCORDANCE WITH AS1170.3 AND AS FOLLOWS:
- SNOW REGION - AC
- IMPORTANCE LEVEL - 2
- ANNUAL PROBABILITY OF EXCEEDANCE - 1/200
- PROBABILITY FACTOR - 1.6

FOUNDATIONS:

F1 FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT No. CES180704_ZDC-AB DATED 18/10/2018 PREPARED BY CONSULTING EARTH SCIENTISTS.

F2 FOOTINGS AND FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING BEARING PRESSURES:

PAD FOOTINGS - 150 kPa
STRIP FOOTINGS - 150 kPa
BORED PILES - 1000 kPa

FOUNDATION MATERIAL SHALL BE APPROVED BY THE CONSULTING GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE.

SAFETY IN DESIGN:

1. SAFETY IN DESIGN IS THE INTEGRATION OF CONTROL MEASURES EARLY IN THE DESIGN PROCESS TO ELIMINATE OR, IF NOT REASONABLY PRACTICABLE, MINIMISE RISKS TO HEALTH AND SAFETY THROUGHOUT THE LIFE OF THE STRUCTURE BEING DESIGNED.

   SAFETY IN DESIGN APPLIES TO THE DESIGN AND CONSTRUCTION PHASES, AND ALSO TO OPERATION, MAINTENANCE AND RENOVATION OF THE BUILDING OR FACILITY AS A WORKPLACE, AND FINALLY DEMOLITION OF THE STRUCTURE AT THE END OF ITS USEFUL LIFE.

2. ALL DESIGNERS INVOLVED IN THIS PROJECT MUST COMPLY WITH THE *'SAFE DESIGN OF STRUCTURES - CODE OF PRACTICE (2014)'* PUBLISHED BY NSW WORKCOVER UNDER THE *'WORK HEALTH AND SAFETY ACT OF 2011'*. SOME OTHER DOCUMENTS RELEVANT TO SAFETY IN DESIGN ARE AS FOLLOWS;
   - PRACTICAL GUIDE TO PLANNING THE SAFE ERECTION OF STEEL STRUCTURES (1ST EDITION OCTOBER 2016) - PUBLISHED BY STEEL AUSTRALIA
   - EXCAVATION WORK CODE OF PRACTICE 2015 – SAFEWORK AUSTRALIA
   - DEMOLITION WORK CODE OF PRACTICE 2015 – SAFEWORK AUSTRALIA

3. REFER TO THE SAFETY IN DESIGN (SID) REPORT DATED ???. A COMPLETED COPY OF THE SID REPORT SHALL BE PROVIDED BY THE DEVELOPER / PROJECT MANAGER TO DIVISION IN THE CONTRACT DOCUMENTATION SO THAT THE HAZARDS ARE BROUGHT TO THE ATTENTION OF THE TENDERERS/ THE BUILDING CONTRACTOR AND ADDRESSED IN THEIR SAFETY MANAGEMENT PLAN.

4. IF ANY FURTHER ISSUES ARE IDENTIFIED BY ANY PARTY INVOLVED IN THIS PROJECT THAT ARE NOT INCLUDED IN THE SAFETY IN DESIGN REPORT, SUCH ISSUES SHALL BE BROUGHT TO THE NOTICE OF THE PROJECT MANAGER/ SUPERINTENDENT IMMEDIATELY.

5. NORMAL HAZARDS AND RISKS DURING ALL LIFE CYCLE STAGES ARE THE RESPONSIBILITY OF THE RELEVANT PARTIES DURING THE STAGE CONCERNED, AS NOTED BELOW;

LIFE CYCLE STAGE	RESPONSIBILITY
CONSTRUCTION	PRINCIPAL BUILDING CONTRACTOR
OCCUPATION	OWNER / OPERATOR
MAINTENANCE	OWNER / OPERATOR / MAINTENANCE CONTRACTOR
DECONSTRUCTION (DECOMMISSIONING OF SERVICES / UTILITIES, STABILITY OF THE STRUCTURE DURING DEMOLITION AND SAFE DISPOSAL / RECYCLING OF MATERIALS ETC.)	DEMOLITION CONTRACTOR

BORED OR DRIVEN PILES:

BP1 BORED PILES HAVE BEEN DESIGNED FOR THE SAFE WORKING LOADS INDICATED ON THE PLANS BASED ON THE RECOMMENDED ALLOWABLE BEARING PRESSURE AND SHAFT ADHESION VALUES. REFER TO THE GEOTECHNICAL REPORT FOR SITE SPECIFIC GEOTECHNICAL INFORMATION.

DRIVEN PILES SHALL BE INSTALLED ON A 'DESIGN & CONSTRUCT' BASIS.

BP2 WHERE PILES ARE INSTALLED ON A 'DESIGN & CONSTRUCT' BASIS, THE PILING CONTRACTOR SHALL DESIGN AND INSTALL THE PILES IN ACCORDANCE WITH AS2159 AND THE PROJECT SPECIFICATIONS. ULTIMATE LOADS MAY BE DETERMINED BY MILTIPLYING THE WORKING LOADS BY A FACTOR OF 1.4. IT IS THE PILING CONTRACTOR'S RESPONSIBILITY TO GATHER FURTHER INFORMATION IF REQUIRED, THAT MAY NOT BE INCLUDED IN THE GEOTECHNICAL REPORT.

DESIGN CALCULATIONS AND THE INSTALLATION METHODS SHALL BE SUBMITTED FOR THE ENGINEER'S REVIEW PRIOR TO PILE INSTALLATION.

BP3 BORED PILES MAY HAVE TO BE LINED IN WEAK SOILS TO PREVENT COLLAPSE. CONTINUOUS FLIGHT AUGER (CFA) PILES OR 'TREMIE' METHOD OF CONCRETING MAY BE USED IF GROUND WATER IS ENCOUNTERED.

IT IS THE PILING CONTRACTOR'S RESPONSIBILITY TO USE APPROPRIATE PILING TECHNIQUES BASED ON THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT.

BP4 CENTRELINE OF THE PILES SHALL ALIGN WITH THE CENTRELINE OF THE COLUMNS ABOVE OR SYMMETRICALLY LOCATED UNDER THE PILECAPS AS APPLICABLE, UNO. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE COLUMN SETOUT.

BP5 THE PILING CONTRACTOR SHALL VERIFY THE FOUNDING MATERIAL AND THE DEPTH OF PILES PRIOR TO PLACING REINFORCEMENT AND POURING CONCRETE.

BP6 ALL PILES HAVE BEEN DESIGNED TO CARRY THE DESIGN LOADS AT A MAXIMUM OUT-OF-POSITION TOLERANCE OF 75 mm IN ACCORDANCE WITH AS2159. UNLESS THE PILING CONTRACTOR CAN DEMONSTRATE OTHERWISE, ANY PILES WHICH ARE OUT OF POSITION BY MORE THAN 75 mm WOULD REQUIRE APPROPRIATE RECTIFICATION SYSTEMS.

ALL PILES SHALL BE INSTALLED USING A RIG CAPABLE OF MAINTAINING A MAXIMUM VERTICAL TOLERANCE OF ± 20 mm PER METRE LENGTH.

BP7 NOTIFY THE ENGINEER IMMEDIATELY IF ANY OBSTRUCTIONS ARE ENCOUNTERED OTHER THAN THOSE INDICATED IN THE GEOTECHNICAL REPORT.

BP8 CONCRETE SHALL BE PLACED IN BORED PILES TO ENSURE A SOUND AND MONOLITHIC COMPACTED CONCRETE SHAFT UP TO THE CUT-OFF LEVEL. TAKE APPROPRIATE MEASURES TO AVOID SEGREGATION, BLEEDING AND GROUT DEFICIENCY OF THE PILE.

BP9 EACH PILE SHALL BE TRIMMED TO ± 25 mm OF THE CUT-OFF LEVEL, ANY DAMAGE CAUSED TO THE PILES DURING TRIMMING MUST BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

BP10 UPON COMPLETION OF PILING, THE PILING CONTRACTOR SHALL FURNISH THE FOLLOWING DOCUMENTS TO THE BUILDING CONTRACTOR AND THE ENGINEER.

i) A WORK-AS-EXECUTED SURVEY OF THE PLAN POSITIONS OF ALL PILES PREPARED BY A QUALIFIED SURVEYOR.
ii) A CERTIFICATE FROM A QUALIFIED ENGINEER (IN THE CASE OF 'DESIGN & CONSTRUCT' PILES) THAT ALL PILES HAVE BEEN DESIGNED, INSTALLED AND TESTED AS NECESSARY IN ACCORDANCE WITH AS2159 TO SAFELY CARRY THE LOADS AS INDICATED ON THE DRAWINGS.

BP11 *THE PILING RIG SHALL NOT BE DEMOBILISED FROM SITE UNTIL THE ENGINEER AND THE GEOTECHNICAL CONSULTANT HAVE ISSUED THE FINAL SIGN-OFF OF ALL PILES.*

REINFORCEMENT:

R1 REFER TO THE CONCRETE NOTES FOR SPECIFIED COVERS TO REINFORCEMENT. COVERS SHALL BE MAINTAINED AT ALL CHAMFERS, DRIP GROOVES AND RECESSES OR AS NOTED ON THE DRAWINGS.

R2 REINFORCEMENT IS SHOWN DIAGRAMATICALLY, IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.

R3 REINFORCEMENT SHALL NOT BE CUT OR WELDED ON SITE WITHOUT PRIOR APPROVAL FROM THE ENGINEER. AT SMALL PENETRATIONS LESS THAN 300 mm IN SIZE IN A WALL OR A SLAB, BARS SHALL BE DISPLACED TO EITHER SIDE.

R4 SITE BENDING OF REINFORCEMENT SHALL BE AVOIDED WHERE POSSIBLE. WHERE SITE BENDING IS SPECIFIED, OR UNAVOIDABLE, IT SHALL BE CARRIED OUT COLD, WITHOUT THE APPLICATION OF HEAT, AND IN ACCORDANCE WITH THE 'PRACTICE NOTE RPN1' OF THE STEEL REINFORCEMENT INSTITUTE OF AUSTRALIA (SRIA).

R5 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN ON THE DRAWINGS. WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICES. WHERE LAP LENGTHS ARE NOT SHOWN THEY SHALL BE AS INDICATED BELOW:

BAR SIZE	MINIMUM LAP LENGTH (mm)	
R10/N10	400	(500)
N12	500	(650)
N16	750	(950)
N20	1000	(1300)
N24	1250	(1600)
N28	1500	(1900)
N32	1750	(2200)
N36	2050	(2650)

NOTES : LENGTHS SHOWN IN BRACKETS APPLY TO HORIZONTAL BARS WITH MORE THAN 300 mm OF CONCRETE CAST BELOW THE BAR.

THE ABOVE DEVELOPMENT LENGTHS APPLY ONLY FOR MAIN REINFORCEMENT IN CONCRETE 32 MPa OR HIGHER WITH A MINIMUM CLEAR COVER OF 20 mm FOR WALLS / SLABS AND 30 mm FOR COLUMNS / BEAMS WITH AT LEAST R10 FITMENTS. LAP LENGTHS FOR ANY OTHER COMBINATIONS SHALL BE CALCULATED IN ACCORDANCE WITH SECTION 13 OF AS3600.

R6 REINFORCEMENT SYMBOLS:
N - DENOTES D500N DEFORMED BAR TO AS 4671
R - DENOTES 250R HOT ROLLED PLAIN BAR TO AS 4671
SL/ RL - DENOTES HARD DRAWN WIRE REINFORCEMENT FABRIC TO AS4671
W - DENOTES R500L HARD DRAWN PLAIN WIRE TO AS4671

R7 FABRIC REINFORCEMENT SHALL BE LAPPED WITH TWO TRANSVERSE WIRES PLUS 50 mm.

JOGGLES TO BARS SHALL CONSIST OF A LENGTH OF 12 BAR DIAMETERS BETWEEN THE BEGINNING AND THE END OF AN OFFSET OF ONE BAR DIAMETER.

HOOKS, BENDS AND COGS SHALL BE IN ACCORDANCE WITH AS3600, UNO ON THE DRAWINGS.

R8 ALL REINFORCEMENT BARS SHALL BE CHAIRED AT MAXIMUM CENTRES AS FOLLOWS:

BARS - 800 mm
FABRIC - 600 mm BOTH WAYS FOR MESH SL72 OR LOWER AND 800 mm FOR LARGER MESH.

EXTRA CHAIRS MAY BE REQUIRED ADJACENT TO THE SLAB EDGES AND JOINTS TO PREVENT UPWARD DEFLECTION OF THE FABRIC WHEN STOOD ON.

R9 PLASTIC TIPPED STEEL CHAIRS SHALL ONLY BE USED FOR EXPOSURE CATEGORIES A1 AND A2. FULL PLASTIC CHAIRS SHALL BE USED AT ELEMENT FACES HAVING AN EXTERNAL EXPOSURE IN THE COMPLETED STRUCTURE. WHERE REINFORCEMENT IS SUPPORTED ON GROUND PROVIDE PLATES UNDER ALL BAR CHAIRS.

ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED AND MAINTAINED IN CORRECT POSITIONS DURING CONCRETING.

R10 AT THE END SUPPORT OF A SLAB ON A MASONRY WALL, ALL BOTTOM REINFORCEMENT SHALL EXTEND OVER THE MASONRY WALL BY 75 mm FOR N12 BARS OR 95 mm FOR N16 BARS. BARS SHALL BE COGGED IF COVER REQUIREMENTS PROHIBIT THIS.

CONCRETE:

C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 AND OTHER RELEVANT AUSTRALIAN STANDARDS UNLESS VARIED BY THE ENGINEER.

C2 BEFORE THE COMMENCEMENT OF CONCRETING, THE BUILDING CONTRACTOR SHALL ENSURE THAT THE CONCRETOR IS FULLY AWARE OF ANY AREAS OF FORMWORK THAT HAVE BEEN PRE-CAMBERED OR PRE-SET. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT THE SPECIFIED DEPTHS OF BEAMS AND SLABS ARE ACHIEVED OVER THE PRE-CAMBERED OR PRE-SET FORMWORK.

C3 THE BUILDING CONTRACTOR SHALL PROVIDE CONSTANT SUPERVISION OF CONCRETE POURS AND ENSURE THAT ;

- ALL APPROVALS ARE OBTAINED FROM THE ENGINEER, PT CONTRACTOR, FORMWORK ENGINEER AND OTHER RELEVANT CONSULTANTS.
- REINFORCEMENT IS INSTALLED ACCORDING TO THE DESIGN DRAWINGS AND SECURED TO PREVENT DISPLACEMENT DURING CONCRETING.
- NO SITE WATER IS ADDED TO CONCRETE BEING POURED OR THE CONCRETE IN WAITING TRUCKS.
- ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS, SHALL BE FULLY VIBRATED USING A HIGH FREQUENCY MECHANICAL VIBRATOR TO ACHIEVE FULL COMPACTION BY COMPLETELY FILLING THE FORMWORK, FREE OF STONE POCKETS AND THOROUGHLY EMBEDDING THE REINFORCEMENT.
- NO CONCRETE IS POURED WHEN THE AMBIENT TEMPERATURE EXCEEDS 35°C,
- POURED CONCRETE IS PROTECTED FROM RAIN, WARM DRYING WINDS OR OTHER EXTREME WEATHER EVENTS.
- COLUMNS AND WALLS SHALL NOT BE POURED TOGETHER WITH THE SLAB OVER. A MINIMUM OF 6 HOURS GAP SHALL BE MAINTAINED BETWEEN THE POURS OF VERTICAL AND HORIZONTAL ELEMENTS.
- FORMED CONCRETE SURFACES SHALL HAVE FORMWORK CLASS AND SURFACE FINISHES IN ACCORDANCE WITH AS3610, OR AS SPECIFIED BY THE PROJECT ARCHITECT.

C4 CONDUITS, PIPES AND THE LIKE SHALL BE PLACED WITHIN THE MIDDLE THIRD OF THE SLAB DEPTH AND AT A MINIMUM SPACING OF NOT LESS THAN 3 DIAMETERS. CONDUITS AND PIPES SHALL NOT BE PLACED WITHIN THE CONCRETE COVER.

C5 NO HOLES, PENETRATIONS, CHASES AND CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.

C6 CONCRETE PLACEMENT SHALL BE PLANNED IN SUCH A WAY THAT SUFFICIENT TIME IS ALLOWED FOR THE FINISHING OPERATIONS TO BE COMPLETED WITHIN NORMAL WORKING HOURS. WHERE THE SLAB OR PAVEMENT IS CONSTRUCTED IN THE OPEN OR ON SITES EXPOSED TO WINDS, RAPID DRYING OF THE CONCRETE SURFACE RESULTING IN INCREASED RATE OF HARDENING MAY LEAVE INSUFFICIENT TIME TO TROWEL THE SURFACE. CONSTRUCTION OF THE BUILDING SHALL BE PROGRAMMED TO MINIMISE THESE PROBLEMS. FOR INTERIOR FLOORS, WHERE POSSIBLE, COMPLETE THE ROOF AND PREFERABLY THE WALLS BEFORE THE FLOOR SLAB IS PLACED.

C6 ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS, SHALL BE FULLY VIBRATED USING A HIGH FREQUENCY MECHANICAL VIBRATOR TO ACHIEVE FULL COMPACTION BY COMPLETELY FILLING THE FORMWORK, FREE OF STONE POCKETS (HONEYCOMBS) AND THOROUGHLY EMBEDDING THE REINFORCEMENT.

C7 THE FOLLOWING PRACTICES SHALL BE AVOIDED WHILE FINISHING AND TROWELLING THE SURFACE;

- EXCESSIVE WORKING OF THE CONCRETE SURFACE DURING COMPACTING, LEVELLING AND POWER-FLOATING OF A PAVEMENT. EXCESSIVE WORKING WOULD RESULT IN A LAYER OF CEMENT RICH MORTAR BEING BROUGHT TO THE SURFACE THAT IS PRONE TO RAPID WEARING, POSSIBLY CRAZE AND DUST BADLY.
- FLOATING OR TROWELLING WHILE BLEED WATER CONTINUES TO RISE OR REMAINS ON THE SURFACE. RE-WORKING OF BLEED WATER IN TO THE SURFACE LAYER WOULD SIGNIFICANTLY INCREASE THE WATER-CEMENT RATIO OF THE CONCRETE IN THE SURFACE LAYER RESULTING IN A WEAKENED SURFACE PRONE TO DUSTING AND DELAMINATION.
- USING A MIXTURE OF CEMENT AND STONE DUST (KNOWN AS DRIERS) TO ABSORB BLEED WATER THAT WOULD PRODUCE A VERY POOR WEARING SURFACE.

C8 VERTICAL CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED WITH AN EDGEBOARD. THOROUGHLY SCABBLE AND CLEAN THE FIRST POUR OF ALL LOOSE AND POORLY COMPACTED CONCRETE AND LAITANCE, SOAK AND APPLY 1 CEMENT : 2 SAND SLURRY OR AN APPROVED BONDING AGENT IMMEDIATELY PRIOR TO PLACING THE SECOND POUR. THE SECOND POUR SHALL BE THOROUGHLY COMPACTED AGAINST THE FIRST POUR.

C9 ALL CONCRETE SHALL BE PROPERLY CURED. CURING SHALL COMMENCE WITHIN 2 HOURS OF POURING AND SHALL CONTINUE FOR A MINIMUM OF 7 DAYS, USING AT LEAST ONE OF THE METHODS BELOW AND THEN FOLLOWED BY GRADUAL DRYING OUT. WHEN THE AMBIENT TEMPERATURE EXCEEDS 32°C CURING SHALL BE ACHIEVED USING METHODS a) OR b) ONLY.

a. PONDING OR CONTINUOUS SPRINKLING WITH POTABLE WATER.
b. USE AN ABSORBENT COVER KEPT CONSTANTLY WET
c. USE AN IMPERMEABLE SHEET MEMBRANE OVER A MOISTENED SURFACE. THE MEMBRANE SHALL BE FIXED AND LAPPED SO THAT NO AIR CIRCULATION CAN OCCUR AT THE CONCRETE SURFACE.
d. USE A CURING COMPOUND COMPLYING WITH AS3799, APPLIED UNIFORMLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHEN DRY THE COATING SHOULD BE CONTINUOUS, FLEXIBLE AND WITHOUT VISIBLE BREAKS OR PIN HOLES FOR AT LEAST SEVEN DAYS. THE COMPATIBILITY OF CURING COMPOUNDS WITH PROPOSED APPLIED FINISHES SHALL BE VERIFIED PRIOR TO APPLICATION.

FORMED SURFACES EXPOSED WITHIN 14 DAYS OF CASTING SHALL BE SPRAYED WITH AN APPROPRIATE CURING AGENT IMMEDIATELY UPON EXPOSURE.

C10 NO MASONRY OR PARTITION WALLS SHALL BE CONSTRUCTED ON SUSPENDED FLOORS UNTIL 7 DAYS AFTER PROPPING HAS BEEN REMOVED AND ONLY WITH THE APPROVAL OF THE ENGINEER.

CONCRETE (CONTINUED):

C11 **SPECIFICATIONS FOR CONCRETE:**

THE FOLLOWING SPECIFICATIONS SHALL APPLY UNLESS MORE STRINGENT REQUIREMENTS ARE NOTED ELSEWHERE IN THE DOCUMENTATION.

Element	Slump	Max. Agg. Size	Cement Type	Exposure Classif'n.	Min. Conc. Grade (f'c) MPa U.N.O	Conc. Cover (U.N.O.)	Comments
Mass Conc. Footings/Piers	80	20	GP	A2	25	-	
Reinforced Footings/Piers	80	20	GP	A2 (Non-Agressive Soils)	32	45	
				B1 (Low-Agressive Soils)	32	50	
				B2 (In High Sulphate or Saline Soils)	40	55	
Columns/Walls (Incl. Tilt-Up/Precast Wall Panels)	80	20	GP	A2 - Internal	Refer Column Details - 32 Min.	25	Greater Cover May Be Required for Fire. Refer C12.
				B1 - External (1-50 km from Coast)		40	
				B2 - External (Up to 1 km from Coast)	Refer Column Details - 40 Min.	45	
Core Filling Grout	230±30	10	GP	-	20	-	
Internal Suspended Slabs/Beams	80	20	Reinf't. GP (U.N.O.) Post-Tensioned - SL	A1 - (Residential or > 50 km from Coast Only)	Refer Plans - 32 Min.	20	Greater Cover May Be Req'd. for Fire. Refer C12.
				A2		25	
External Suspended Slabs/Beams	80	20	SL	B1 - External (1-50 km from Coast)	Refer Column Details - 40 Min.	30	Greater Cover May Be Req'd. for Fire. Refer C12.
				B2 - External (Up to 1 km from Coast)		45	
Internal Slab On Ground (Top Cover Only, Refer Reinf'd. Figs./Piers For Btm. Cover)	80	20	GP	A1 - (Residential or > 50 km from Coast Only)	32	25	With Wearing Allowance Of 5mm
				A2		30	
External Slab On Ground (Top Cover Only, Refer Reinf'd. Figs./Piers For Btm. Cover)	80	20	SL	B1 - External (1-50 km from Coast)	32	45	With Wearing Allowance Of 5mm
				B2 - External (Up to 1 km from Coast)	40	50	

NOTE:

1. ALL CONCRETE WITH SHRINKAGE LIMITED (SL) CEMENT SHALL HAVE A MAXIMUM SHRINKAGE STRAIN OF 650 MICROSTRAINS AS DETERMINED BY TESTS IN ACCORDANCE WITH AS 1012.13 AFTER 8 WEEKS OF DRYING.
2. WATER CEMENT RATIO OF CONCRETE SHALL NOT EXCEED 0.55 (EXCEPT FOR CORE FILLING GROUT IN BLOCK WALLS).

C12 UNLESS MORE STRINGENT CRITERIA IS SPECIFIED ELSEWHERE IN THE DOCUMENTATION, THE FOLLOWING CONCRETE COVERS SHALL BE USED FOR CONVENTIONALLY REINFORCED ELEMENTS ONLY. FOR POST-TENSIONED SLABS, REFER PT CONTRACTOR'S SHOP DRAWINGS.

Fire Resistance Level (Minutes)	Element Type					
	Flat Slab	Banded/Ribbed Slab			Column	Wall
		Simply Supported One Way	Continuous (One Two Way)			
30	25	25	25	25	25	25
60					30	
90					35	
120	30	35			40	30
180	40	50	35		50	50
240	45	60	45	35	55	55

HOLD

ABBREVIATIONS:

ALT - ALTERNATELY
BJ - BUILDING JOINT
BS - BOTH SIDES
BTM - BOTTOM
CFW - CONTINUOUS FILLET WELD
FPBW - FULL PENETRATION BUTT WELD
CJ - CONSTRUCTION JOINT
C/S - BRICK OR BLOCKWORK COURSE
CTS - CENTRES
EF - EACH FACE
EW - EACH WAY
FF - FAR FACE
HORIZ - HORIZONTAL
IJ - ISOLATION JOINT
LV - LENGTH VARIES
MJ - MOVEMENT JOINT
NF - NEAR FACE
NOM - NOMINAL
NSOE - NOT SHOWN ON ELEVATION
NSOP - NOT SHOWN ON PLAN
NTS - NOT TO SCALE
PT - POST-TENSIONED
RC - REINFORCED CONCRETE
S/S - STAINLESS STEEL
TMJ - TEMPORARY MOVEMENT JOINT
TOK - TOP OF KERB
TOW - TOP OF WALL
US - UNDERSIDE
VERT - VERTICAL
UNO - UNLESS NOTED OTHERWISE
(o) - OVER
(u) - UNDER
(b) - BEHIND

NSW GOVERNMENT Planning, Industry & Environment

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ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

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Drawn: H.W. | Designed: D.M. | Date: DEC. 2019
Checked: D.M. | Approved: R.K. | Scale:

Title: CONSTRUCTION NOTES - SHEET 1

Drawing number: 19712-S1.01

Revision: 2

A1

FORMWORK:

F1 FORMWORK AND FALSEWORK SHALL BE DESIGNED, CONSTRUCTED AND STRIPPED IN ACCORDANCE WITH AS3610.

THE BUILDING CONTRACTOR SHALL ENGAGE A QUALIFIED PROFESSIONAL FOR THE DESIGN, CONSTRUCTION AND CERTIFICATION OF FORMWORK, FALSEWORK AND THEIR SUPPORTS.

DESIGN INFORMATION REGARDING THE GROUND SUPPORT FOR FORMWORK AND FALSEWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION.

THE FORMWORK SHALL NOT BE DESIGNED TO RELY ON RESTRAINT OR STABILITY FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

F2 WHERE APPLICABLE, FORMWORK SHALL BE DESIGNED TO ACCOMMODATE MOVEMENT AND LOAD REDISTRIBUTION FROM POST-TENSIONING. THE FORMWORK DESIGNER SHALL CONSULT WITH THE POST-TENSIONING CONTRACTOR ON THE DESIGN REQUIREMENTS.

F3 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THE APPLIED FINISHES. BEAM DEPTHS ARE USUALLY NOTED FIRST AND INCLUDE THE SLAB THICKNESS. FOR CHAMFERS, DRIP GROOVES, REGLETS ETC., REFER TO THE ARCHITECT'S DRAWINGS AND/ OR SPECIFICATIONS.

F4 PROVIDE UPWARD CAMBER OR PRESET IN FORMWORK TO SLABS AND BEAMS WHERE NOTED ON THE DRAWINGS.

THE FORMWORKER SHALL MAKE THE BUILDING CONTRACTOR AND CONCRETOR FULLY AWARE OF THE LOCATIONS WHERE FORMWORK IS CAMBERED OR PRE-SET IN ORDER THAT THE FULL DEPTHS OF THE MEMBERS ARE ACHIEVED DURING CONCRETING.

F5 FOR HORIZONTAL RC ELEMENTS, FORMWORK MAY BE STRIPPED WHEN THE CONCRETE HAS REACHED 80% OF ITS SPECIFIED 28 DAY STRENGTH UNO ON THE DRAWINGS.

ALTERNATIVELY, FORMWORK MAY BE STRIPPED AND PROGRESSIVELY BACK-PROPPED AFTER 5 DAYS SUBJECT TO APPROVAL FROM THE ENGINEER. THE PROPPING SHALL REMAIN IN PLACE UNTIL THE CONCRETE HAS REACHED 80% OF THE SPECIFIED 28 DAY STRENGTH.

ADDITIONAL CONDITIONS MAY APPLY IF THE SLAB IS TRANSFERRING A STRUCTURE ABOVE OR SUBJECT TO EXCESSIVE CONSTRUCTION LOADING.

STRIPPING AND BACK PROPPING TO POST-TENSIONED SLABS SHALL BE AS DIRECTED BY THE POST-TENSION CONTRACTOR.

F6 VERTICAL FORMS TO BEAM SIDES, COLUMNS AND WALLS MAY BE STRIPPED AFTER 3 DAYS AND WHEN THE FORMWORKER IS SATISFIED THAT STRIPPING WILL NOT DAMAGE THE GREEN CONCRETE.

F7 THE FORMWORKER SHALL PROVIDE CLEANOUTS TO ALL COLUMNS AND WALLS AND LEAVE THEM OPEN FOR THE ENGINEER'S INSPECTION, AND CLOSE OFF IMMEDIATELY PRIOR TO POURING.

F8 IN MULTI STOREY CONSTRUCTION, PROPPING SHALL BE PROVIDED FOR AT LEAST 3 LEVELS BELOW THE FLOOR BEING CAST. PROP REMOVAL SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OVER-STRESSING THE PREVIOUSLY CAST FLOORS.

F9 REFER TO THE ARCHITECT'S SPECIFICATIONS FOR THE REQUIRED CLASS OF SURFACE FINISH TO THE FORMED SURFACES.

MASONRY CONSTRUCTION:

B1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700 AND AS NOTED ON THE DRAWINGS.

B2 BRICK AND BLOCK COMPRESSIVE STRENGTH (f'uc) SHALL BE 15 MPa MINIMUM UNO. STRENGTH GRADE SHALL BE CLEARLY INDICATED ON THE DELIVERY DOCKETS.

B3 JOINT MORTAR SHALL BE OF CLASS M3 WITH 1:1:6 (CEMENT: LIME: SAND) PROPORTIONS BY VOLUME AND COMPLY WITH AS3700. MORTAR JOINTS SHALL BE 10 mm THICK AND HAVE A MAXIMUM TOOLED DEPTH OF 3 mm UNO.

B4 NON-LOAD BEARING WALLS SHALL BE SEPARATED FROM THE LOAD-BEARING ELEMENTS BY 15 mm THICK 'CANEITE' OR EXPANDED POLYSTYRENE UNO AT BOTH HORIZONTAL AND VERTICAL FACES.

NON-LOAD BEARING WALLS SHALL BE TIED TO THE SOFFITS OF BEAMS OR SLABS OVER BY USING 'MET 4-1' TIES (OR APPROVED EQUIVALENT), AT 800 mm MAX. CENTRES, UNO ON THE DRAWINGS, TO MANUFACTURER'S SPECIFICATIONS.

B5 WHERE CONCRETE SLABS BEAR ON UNREINFORCED MASONRY, INCLUDING CLAY BRICKS, RENDER THE BEARING SURFACE OF THE MASONRY WALL WITH 1:3 (CEMENT : SAND) MORTAR TO ACHIEVE A LEVEL SURFACE AND PLACE A PRE-GREASED METAL SLIP JOINT PROTECTED BY 0.2 mm POLYETHYLENE SHEET TAPED TO THE FORMWORK BEFORE PLACING CONCRETE. SPECIAL DETAILS SUCH AS WATER-PROOFING MAY APPLY FOR ROOF SLABS OR SIMILARLY EXPOSED ELEMENTS.

B6 CONTROL JOINTS

1. CONTROL JOINTS SHALL BE PROVIDED IN MASONRY WALLS AS PER THE TABLE BELOW UNLESS CLOSER SPACINGS ARE SPECIFIED ELSEWHERE IN THE DOCUMENTATION.

MASONRY TYPE	LOCATION	JOINT SIZE (mm)	SPACING (m)
CONCRETE MASONRY	- EXTERNAL	10	7.0
	- EXTERNAL (WITH OPENINGS > 900mm IN HEIGHT)	10	5.0
	- INTERNAL (FACE FINISHED)	10	6.0
	- INTERNAL (RENDERED)	10	5.0
LIGHT-WEIGHT MASONRY	- INTERNAL / EXTERNAL	10	6.0
CLAY MASONRY	- INTERNAL / EXTERNAL	15	6.0 *
	- PARAPET WALLS	15	4.0

* - FOR REACTIVE 'CLASS M' SITES ONLY. REFER TABLE 4.3 OF AS3700.2011 FOR ARTICULATION JOINTS IN CLAY MASONRY.

2. CONTROL JOINTS SHALL BE PLACED AT HALF THE SPECIFIED SPACING FROM A CORNER. PROVIDE JOINTS TO MATCH JOINTS IN THE SUPPORTING STRUCTURE.

3. CONTROL JOINTS MUST BE KEPT FREE OF MORTAR AND SEALED WITH A POLYETHYLENE FOAM BACKING ROD SQUEEZED INTO THE GAP AND A GUNNED-IN MASTIC SEALANT. IF THE WALL IS TO BE FIRE-RATED, A FIRE-RATED SEALING SYSTEM WILL BE REQUIRED INSTEAD.

B7 BRICKWORK

1. BRICKWORK SUPPORTED BY A SUSPENDED FLOOR SLAB SHALL NOT BE ERECTED UNTIL THE CONCRETE HAS GAINED FULL 28 DAY STRENGTH AND THE FORMWORK HAS BEEN REMOVED OR APPROVAL HAS BEEN GIVEN BY THE ENGINEER.

2. FOR CAVITY WALLS, WALL TIES SHALL BE PROVIDED AT 600 mm MAXIMUM CENTRES BOTH VERTICALLY AND HORIZONTALLY AND CONSIST OF 3 mm DIA. 316 GRADE STAINLESS STEEL WIRES UNO.

3. WHERE AN EXTERNAL BRICK LEAF CONTINUES PAST THE SLAB EDGE, IT SHALL BE TIED TO THE SLAB EDGE BY USING 316 GRADE STAINLESS STEEL 'MET 6-1' TIES (OR APPROVED EQUIVALENT) AT 900 mm MAX. CENTRES

4. IN MULTI-STOREY CONSTRUCTION, MASONRY WALLS SHALL BE VERTICALLY SUPPORTED AT EVERY SECOND FLOOR ON A SHELF ANGLE FIXED TO THE SLAB EDGE OR A CORBEL.

BRICK WALL LINTEL SCHEDULE

MAX. SPAN mm	LINTEL SIZE	END BEARING
1000	90 x 10 BAR	110
1500	90 x 90 x 10 EA	110
2100	100 x 100 x 10 EA	110
2700	150 x 90 x 10 UA	150
3000	150 x 100 x 12 UA	150

NOTE:

1. PROVIDE LINTELS, NOT SHOWN ON PLAN, AT ALL OPENINGS TO EACH 110 BRICK SKIN IN ACCORDANCE WITH THE SCHEDULE ABOVE.
2. ERECT ANGLES WITH LONGEST LEG VERTICAL.
3. HOT DIP GALVANISE ALL LINTELS.
4. THERE MUST BE AT LEAST 3 COURSES OF BRICKWORK OVER THE CLEAR SPAN OPENING.
5. ALL LINTELS MUST BE PROPPED DURING BRICKWORK CONSTRUCTION.

B8 BLOCKWORK

1. IN CORE-FILLED BLOCKWORK, EXCESS MORTAR PROTRUDING INTO THE CORES SHALL BE REMOVED BY RODDING AFTER EACH COURSE IS LAID. EVERY CORE FILLED WITH GROUT SHALL HAVE A CLEANOUT BLOCK IN THE BOTTOM COURSE.

2. REINFORCEMENT SHALL BE PLACED AND SECURELY TIED IN POSITION AS SHOWN ON THE DRAWINGS. STARTER BARS SHALL BE HELD IN PLACE BY TYING TO HORIZONTAL BARS AT CLEANOUT BLOCKS. PROVIDE COVER TO REINFORCEMENT AS SHOWN IN THE DETAILS.

3. CORE FILLING GROUT SHALL BE AS NOTED IN CONCRETE NOTES IN LIFTS NO MORE THAN 1200mm IN HEIGHT.

STRUCTURAL STEEL:

S1 ALL STRUCTURAL STEEL, MATERIALS, FABRICATION AND ERECTION SHALL COMPLY WITH AS4100.

S2 STRUCTURAL STEEL SHALL BE GRADE 350 MINIMUM FOR HOLLOW SECTIONS AND GRADE 300 MINIMUM FOR ALL ROLLED SECTIONS UNO. STEEL FABRICATOR SHALL PROVIDE ALL CERTIFICATIONS FOR QUALITY AND GRADE OF STEEL MEMBERS AND STRUCTURAL BOLTS FOR THE ENGINEER'S REVIEW.

S3 BOLTS ARE DESIGNATED ON THE DRAWINGS BY THE NUMBER, DIAMETER, GRADE AND TIGHTENING PROCEDURE IN ACCORDANCE WITH AS4100 AND THE 'HANDBOOK 1: DESIGN OF STRUCTURAL STEEL CONNECTIONS' PUBLISHED BY ASI.

S4 BOLTS SHALL BE OF SIZE M20, GRADE 8.8/ S AND A MINIMUM OF 2 BOLTS PER CONNECTION UNO. CLEATS AND GUSSETS SHALL BE 10 mm THICK UNO.

ALL CLEATS AND DRILLINGS FOR FIXING OF TIMBER MEMBERS ETC. SHALL BE PROVIDED BY THE FABRICATOR.

S5 ALL PLATES INCLUDING BUT NOT LIMITED TO CAP, BASE AND GUSSET PLATES TO BE FULLY WELDED TO THE STEEL MEMBERS UNO.

S6 WELDING AND TESTING

UNLESS NOTED OTHERWISE, WELDS SHALL BE 6 mm CATEGORY 'SP' CONTINUOUS FILLET WELDS WITH APPROVED COVERED ELECTRODES.

WHERE STAINLESS STEEL IS WELDED TO MILD STEEL, USE A SUITABLE OVER ALLOYED ELECTRODE.

THE EXTENT OF NON-DESTRUCTIVE WELD EXAMINATION SHALL BE AS NOTED BELOW. RADIOGRAPHIC OR ULTRASONIC EXAMINATION SHALL BE TO AS1554.1, AS2177.1 AND AS2307.

TYPE OF WELD AND CATEGORY	EXAMINATION METHOD	EXTENT (% TOTAL LENGTH OF WELD)
FILLET WELDS, GP,SP	VISUAL INSPECTION	100%
BUTT WELDS, GP	VISUAL INSPECTION	100%
BUTT WELD, SP	VISUAL INSPECTION	100%
BUTT WELD SP	RADIOGRAPHIC OR ULTRASONIC INSPECTION	10%

FLASH WELDING AND TESTING OF ALL STUDS SHALL COMPLY WITH AS1554.2

S7 ALL CORNERS AND EDGES OF ALL EXTERNAL STEEL PLATES AND SECTIONS ARE TO BE ROUNDED TO A RADIUS OF NOT LESS THAN 2 mm PRIOR TO SURFACE PREPARATION.

S8 INTERNAL STEELWORK SHALL BE GRIT BLASTED TO CLASS 2.5 AND PAINTED WITH BLUE ZINC PHOSPHATE AND 75 mm DRY FILM THICKNESS UNLESS OTHERWISE NOTED IN ARCHITECTURAL SPECIFICATIONS.

ALL EXTERNAL STEELWORK AND STEEL MEMBERS SPECIFIED ON THE DRAWINGS OR OTHER RELATED CONTRACT DOCUMENTS AS GALVANISED SHALL CONFORM TO THE REQUIREMENTS OF AS4680. THE MINIMUM APPLICATION RATE FOR GALVANISING SHALL BE 550 g/ sqm.

PROVIDE 6 mm SEAL PLATES TO ALL HOLLOW SECTIONS, WITH "BREATHER" HOLES IF MEMBERS ARE TO BE HOT DIP GALVANISED.

S9 CAMBER OR PRESET TO STRUCTURAL STEEL ROOF BEAMS, TRUSSES, PORTALS ETC., SHALL BE PROVIDED AS NOTED ON THE DRAWINGS.

S10 ALL STRUCTURAL STEELWORK BELOW GROUND SHALL BE ENCASED IN CONCRETE WITH 75 mm COVER ALL AROUND OR PAINTED WITH 2 COATS OF APPROVED BITUMEN PAINT.

S11 ALL PROPRIETARY CHEMICAL AND MECHANICAL ANCHORS ARE TO BE INSTALLED AT SPACINGS, EDGE DISTANCES AND DEPTHS AS INDICATED ON THE DRAWINGS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS INCLUDING THE DRILLING METHOD, HOLE DIAMETER, CLEANING, CURING AND TIGHTENING.

S12 USE NON-SHRINK GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 40 MPa, TIGHTLY PACKED UNDER ALL BEARING AND BASE PLATES.

S13 IF ANY TRANSLUCENT ROOF SHEETING IS SPECIFIED ON THE ARCHITECTURAL DRAWINGS, THEY SHALL BE OF A GAUGE COMPATIBLE WITH THE SPECIFIED PURLIN SPACING. ALTERNATIVELY, PROVIDE ADDITIONAL C10012 PURLIN TRIMMERS AS REQUIRED TO SUPPORT THE SHEETING.

SAFETY MESH UNDER TRANSLUCENT SHEETING, IF REQUIRED, SHALL CONFORM TO WORKCOVER REQUIREMENTS.

S14 SUSPENDED CEILINGS AND BULKHEADS, WHERE SUPPORTED BY PURLINS, SHALL BE SUPPORTED BY WEB CONNECTIONS ONLY AND NOT HOOKED FROM THE BOTTOM LIP. *THE BUILDING CONTRACTOR SHALL ENSURE THAT ALL SUB-CONTRACTORS COMPLY WITH THIS REQUIREMENT.*

S15 ELECTRONIC OR HARD COPIES OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND APPROVAL OBTAINED BEFORE COMMENCING FABRICATION.

ENGINEER'S APPROVAL WILL ONLY COVER THE SECTION SIZES AND CONNECTIONS, NOT THE MEMBER LENGTHS OR DIMENSIONAL LAYOUT.

S16 STABILITY OF THE STRUCTURE DURING STEEL ERECTION IS THE STEEL ERECTOR'S RESPONSIBILITY. PROVIDE TEMPORARY BRACING AND/ OR GUY WIRES AS REQUIRED.

REFER TO THE 'STEEL ERECTION GUIDE' :

STRUCTURAL STEEL (CONTINUED):

S17 **STEELWORK ERECTION GUIDE**

S17.1 THIS GUIDE IS ONLY INTENDED TO PROVIDE THE STEEL ERECTOR WITH A RECOMMENDED PROCEDURE FOR ERECTING THE STEELWORK SAFELY AND EFFICIENTLY. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE SUPERVISED BY A COMPETENT PERSON IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. HENRY & HYMAS WILL NOT BE LIABLE FOR THE QUALITY OF ERECTION NOR ASSUME ANY RESPONSIBILITY FOR ANY CONSTRUCTION DEFECTS RESULTING FROM IMPROPER ERECTION TECHNIQUES OR NEGLIGENCE OF OTHER PARTIES.

S17.2 THE STEEL ERECTOR SHALL BE A COMPETENT PERSON FAMILIAR WITH THE FOLLOWING STANDARDS/ MANUALS AND OTHER INDUSTRY PRACTISES & GUIDELINES.

I) AS / NZS5131-2016 : STRUCTURAL STEELWORK - FABRICATION AND ERECTION
II) AS4100-1998 : STEEL STRUCTURES
III) PRACTICAL GUIDE TO PLANNING THE SAFE ERECTION OF STEEL STRUCTURES (1ST EDITION) - AUSTRALIAN STEEL INSTITUTE (2016)
IV) SAFE DESGN OF STRUCTURES CODE OF PRACTICE – SAFEWORK AUSTRALIA (2014)

17.3 THE CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTORS ON SITE. CONTRACTORS ARE RESPONSIBLE FOR FULL COMPLIANCE WITH ALL THE SAFETY REQUIREMENTS OF THE GOVERNING REGULATORY AUTHORITY AS WELL AS ANY ADDITIONAL REQUIREMENTS IMPOSED BY THE DEVELOPER.

17.4 THE STRUCTURE SHALL NOT BE SUBJECT TO EXCESSIVE CONSTRUCTION LOADING SUCH AS MATERIAL STACKING UNLESS EXPLICITLY NOTED ON THE DESIGN DRAWINGS.

17.5 ALL GUY ROPES AND PROPS SHALL BE DESIGNED BY A COMPETENT PERSON FOR AN OUT-OF-PLANE LOAD EQUAL TO 2.5% OF GRAVITY LOADS PLUS WIND LOADS ARISING FROM A 100 YEAR RETURN PERIOD. LONG SPAN RAFTERS/ TRUSSES SHALL BE BRACED AGAINST TWISTING AND BUCKLING.

17.6 OUTLINED BELOW IS HENRY & HYMAS' RECOMMENDED PROCEDURE FOR STEEL ERECTION. THE STEEL ERECTOR SHALL SUBMIT A DETAILED ERECTION SEQUENCE METHODOLOGY INCLUDING THE 'WITNESS AND HOLD POINTS' AND ANY DEVIATIONS FROM THE RECOMMENDED PROCEDURE FOR REVIEW BY HENRY & HYMAS PRIOR TO ERECTING ANY STEELWORK.

STEELWORK ERECTION SEQUENCE – STEEL FRAMED STRUCTURE *(DELETE IF NOT RELEVANT)*

STEP 1 - ERECT COLUMNS ALONG *GRID X* FROM GRID A TO B AND BRACE THEM WITH GUY ROPES OR PROPS TO RESTRAIN AGAINST POTENTIAL SWAY IN ANY DIRECTION. ERECT RAFTERS ALONG THE SAME GRID LINE STARTING FROM *GRID A* .

STEP 2 - ERECT COLUMNS AND RAFTERS ALONG *GRID X+1* AND PROGRESSIVELY ATTACH LEAD PURLINS/ STRUTS AND DIAGONAL BRACINGS BACK TO THE FRAME ALREADY ERECTED. SQUARE AND PLUMB BRACED BAYS BEFORE MOVING TO STEP 3.

STEP 3 - PROCEED WITH THE ERECTION OF THE REMAINING FRAMES ALONG *GRIDS X+2 TO X+N* INCLUDING ANY VERTICAL BRACING.

STEP 4 - TEMPORARY BRACING MAY BE REMOVED AFTER ALL THE PRIMARY MEMBERS SUCH AS COLUMNS, RAFTERS AND WALL/ ROOF BRACING ELEMENTS HAVE BEEN ERECTED AND SIGNED OFF BY HENRY & HYMAS, OR WHEN SUFFICIENT LATERAL STABILITY HAS BEEN ACHIEVED. INSTALLATION OF SECONDARY COMPONENTS SUCH AS PURLINS, GIRTS, FLY BRACING, FASCIA TRUSSES ETC. SHOULD FOLLOW.

STEELWORK ERECTION SEQUENCE – TILT PANEL BUILDING *(DELETE IF NOT RELEVANT)*

STEP 1 - ERECT TILT PANELS AND PROP TO GROUND AS SHOWN ON THE TILT PANEL SHOP DRAWINGS.

STEP 2 - ERECT COLUMNS ALONG *GRID X+1* FROM GRID A TO B AND BRACE THEM WITH GUY ROPES OR PROPS TO RESTRAIN AGAINST POTENTIAL SWAY IN ANY DIRECTION. ERECT RAFTERS ALONG THE SAME GRID LINE STARTING FROM GRID A AND PROGRESSIVELY ATTACH LEAD PURLINS/ STRUTS AND DIAGONAL BRACINGS BACK TO THE TILT PANELS ALONG *GRID X* .

STEP 3 - PROCEED WITH THE ERECTION OF REMAINING FRAMES ALONG *GRIDS X+2 TO X+N.*

STEP 4 - TEMPORARY BRACING MAY BE REMOVED AFTER ALL THE PRIMARY MEMBERS SUCH AS COLUMNS, RAFTERS AND WALL/ ROOF BRACING ELEMENTS HAVE BEEN ERECTED AND SIGNED OFF BY HENRY & HYMAS, OR WHEN SUFFICIENT LATERAL STABILITY HAS BEEN ACHIEVED. INSTALLATION OF SECONDARY COMPONENTS SUCH AS PURLINS, GIRTS, FLY BRACING, FASCIA TRUSSES ETC. SHOULD FOLLOW.

NOTE – WORDS IN RED ITALICS TO BE UPDATED BY H&H ENGINEER

HOLD

PRECAST & TILT PANELS:

P1 PRECAST OR TILT PANEL CONSTRUCTION SHALL COMPLY WITH AS3850 AND AS3600. ANY VARIATIONS TO THE DIMENSIONS, SPECIFIED PRODUCTS ETC., SHALL BE APPROVED BY THE ENGINEER.

P2 ALL REINFORCEMENT SHOWN ON THE STRUCTURAL DRAWINGS ARE FOR IN-SERVICE LOADINGS ONLY. THE PANEL CONTRACTOR SHALL DESIGN ANY ADDITIONAL REINFORCEMENT TO ENSURE THAT THE PANELS HAVE SUFFICIENT STRENGTH FOR LIFTING, TRANSPORT, ERECTION AND TEMPORARY SUPPORT CONDITIONS. ALL BRACINGS AND SUPPORTING STRUCTURES (DEADMAN OR PLOOR SLAB) SHALL BE STRUCTURALLY ADEQUATE TO SUPPORT THE WIND AND OTHER TEMPORARY LOADS.

P3 FLOOR BRACING INSERTS SHALL NOT BE LESS THAN 600 mm AWAY FROM ANY JOINTS.

P4 THE PANEL CONTRACTOR SHALL PROVIDE AN ENGINEER'S CERTIFICATE TO THE BUILDING CONTRACTOR AND THE ENGINEER CONFIRMING THAT THE DESIGNS COMPLY WITH AS3850, AS3606 AND AS/NZS1170.2. THIS CERTIFICATE IS AN ESSENTIAL REQUIREMENT FOR THE ENGINEER'S SIGN-OFF OF THE PANEL SHOP DRAWINGS.

P5 NO WELDING OR APPLICATION OF HEAT ARE PERMITTED TO ANY SPECIFIED INSERTS.

P6 REFER TO ARCHITECT'S DRAWINGS FOR SILL BEVEL, REBATE AND SPITTER DETAILS.

P7 ALL CAST-IN FERRULES SHALL BE OF 90 mm MINIMUM LENGTH INSTALLED WITH 300 mm LONG CROSS RODS.

P8 BASE OF ALL PANELS SHALL BE GROUTED TO PROVIDE A CONTINUOUS BEARING UNDER THE FULL LENGTH AND THICKNESS OF THE PANELS. WHERE PANELS SUPPORT SUSPENDED SLABS, GROUTING SHALL BE ADEQUATELY CURED PRIOR TO REMOVAL OF SLAB FORMWORK. PROVISION OF SHIMS IS PERMITTED ONLY AT THE POSITIONS SHOWN ON THE DRAWINGS.

P9 SURFACE QUALITY:

i) DIMENSIONAL TOLERANCES OF PANELS SHALL COMPLY WITH TABLE 3.11(A) OF AS3850 AND SECTION 17.5 OF AS3600. CASTING BEDS (FLOOR SLABS, PAVEMENTS OR TEMPORARY CASTING BEDS) SHALL BE POURED TO THE TOLERANCES WITHIN THE REQUIRED SURFACE FINISHES OF THE PANELS.
ii) ALL PANELS AND CASTING BEDS SHALL HAVE A STEEL TROWELLED FINISH WITHOUT TROWEL MARKS.

P10 CASTING - CONCRETE ELEMENTS MAY BE STACK-CAST IN THE REVERSE ORDER OF ERECTION. TILT PANELS SHALL BE CAST WITH THEIR EXTERNAL FACES DOWN TO MINIMISE THE NEED FOR COSMETIC PATCHING AFTER ERECTION.

NSW GOVERNMENT Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

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Granted on: 12 August 2020 Sheet no: 10 of 29

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REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

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Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: CONSTRUCTION NOTES - SHEET 2

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
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Drawing number: 19712-S1.02

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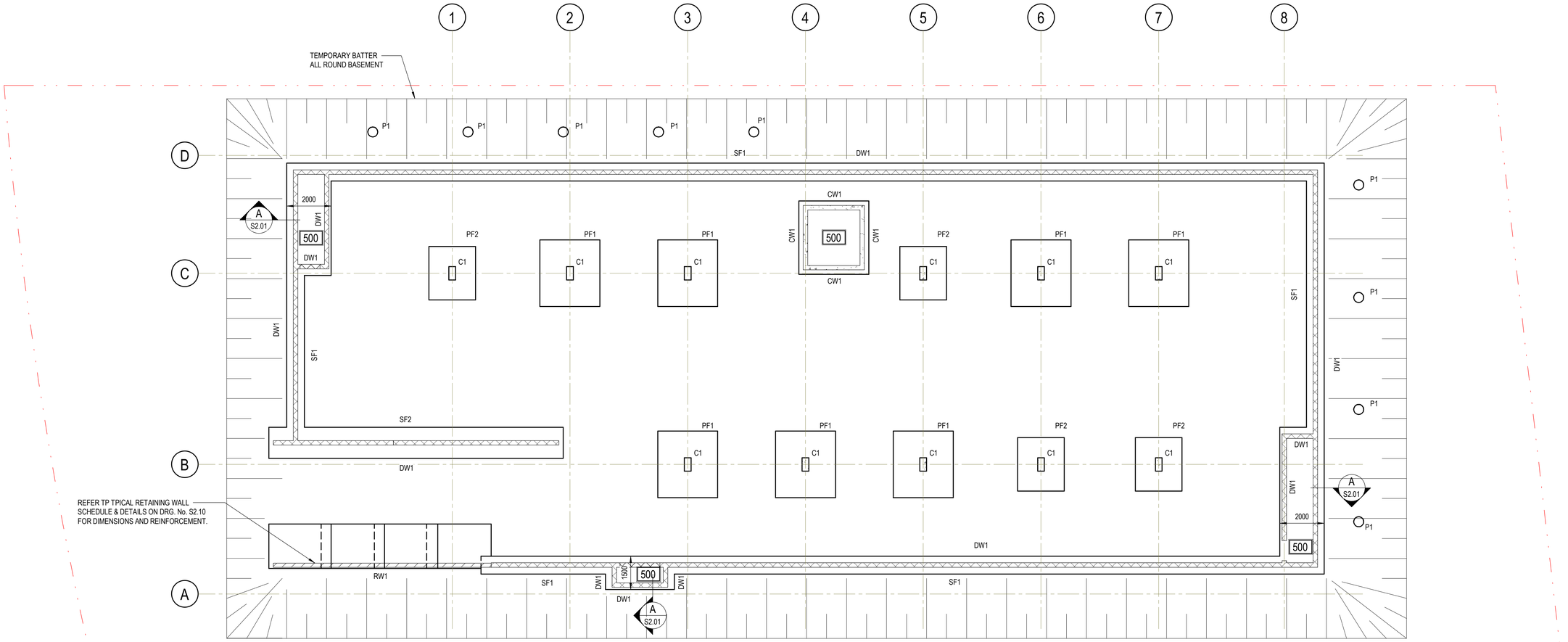

FOOTING PLAN

SCALE 1 : 100

FOUNDATIONS:

F1 FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT No. CES180704_ZDC-AB DATED 18/10/2018 PREPARED BY CONSULTING EARTH SCIENTISTS.

F2 FOOTINGS AND FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING BEARING PRESSURES:

PAD FOOTINGS	- 150 kPa
STRIP FOOTINGS	- 150 kPa
BORED PILES	- 1000 kPa

FOUNDATION MATERIAL SHALL BE APPROVED BY THE CONSULTING GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE.

FOOTING NOTES:

1. FOUNDATION MATERIAL SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE DESIGN AND SOIL PARAMETERS SCHEDULED HAVE BEEN ACHIEVED ON SITE.
2. REFER FOUNDATION NOTES FOR ALLOWABLE BEARING CAPACITY
3. ALL PADS TO COLUMNS SHALL BE SET OUT ON COLUMN CENTERLINE (REFER ARCHITECT'S DRAWINGS FOR SET OUT)
4. THE PROJECT DATUM AS NOMINATED BELOW SHALL BE ++ (REFER ARCHITECT'S DRAWING FOR FSL.)
5. PF +++++ SF +++++ (WHERE APPLICABLE) DENOTES TOP OF FOOTING LEVEL RELATIVE TO THE PROJECT DATUM LEVEL (REFER NOTE 5 ABOVE)
6. ALL TOP OF FOOTING LEVEL SHALL BE PF+ -400 SF+ -400 UNO.
7. PAD TAG DEFINITION:
   PF+ - (PAD NUMBER / TYPE) WHERE APPLICABLE
   SF+ - (STRIP FOOTING TYPE) WHERE APPLICABLE

PAD FOOTING SCHEDULE

MARK No.	SIZE DIM 'A'	SIZE DIM 'B'	SIZE DIM 'C' (DEPTH)	REINFORCEMENT 'X' BARS	REINFORCEMENT 'Y' BARS	f'c (MPa)	SOIL / ROCK ALLOWABLE BEARING CAPACITY
PF1	3000	2700	500	N16-200	N16-200	32.00	150 kPa
PF2	2400	2100	500	N16-200	N16-200	32.00	150 kPa

PIER SCHEDULE

MARK No.	DIAMETER	f'c (MPa)	REINFORCEMENT BARS	REINFORCEMENT LENGTH	REINFORCEMENT TIES / HELIX	SOCKET LENGTH	FOUNDING STRATA	ALLOWABLE END BEARING (MPa)	ALLOWABLE SKIN FRICTION (MPa)
P1	450	32	6 N24	6000 MIN.	N12-300 HELIX	300	ROCK CLASS IV	1000	150

NOTE:
ALL SHALLOW FOOTINGS (PAD & STRIP FOOTINGS) TO BE SOCKETED FOR MINIMUM 300mm INTO SOIL WITH ALLOWABLE BEARING CAPACITY OF150 kPa. GEOTECHNICAL BEGINNER TO CONFIRM.

NSW GOVERNMENT Planning, Industry & Environment

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2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

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Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: FOOTING PLAN

Drawn	Designed	Date
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D.M.	R.K.	As indicated

Drawing number: 19712-S2.00

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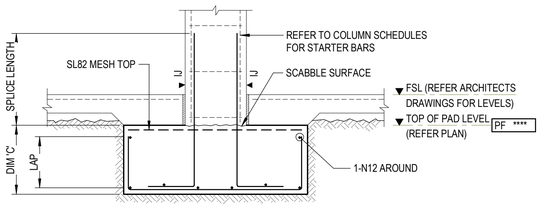
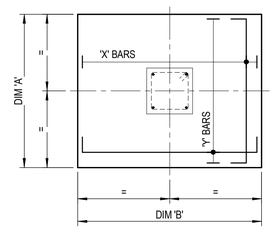


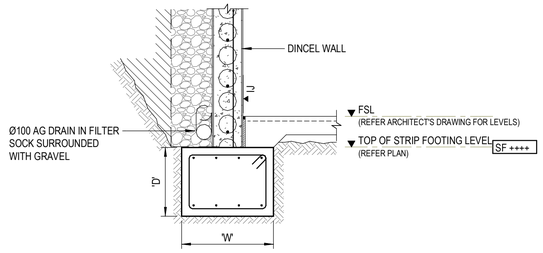
SECTION



PLAN

TYPICAL PAD FOOTING PF1 & PF2 DETAILS

1. 'X' BARS SHALL BE LAID FIRST AND LAST
2. FOR REINFORCEMENT 'X' AND 'Y' VALUES REFER TO THE PAD FOOTING SCHEDULE.
3. FOR DIMENSIONS 'A', 'B' AND 'C' VALUES REFER TO THE PAD FOOTING SCHEDULE

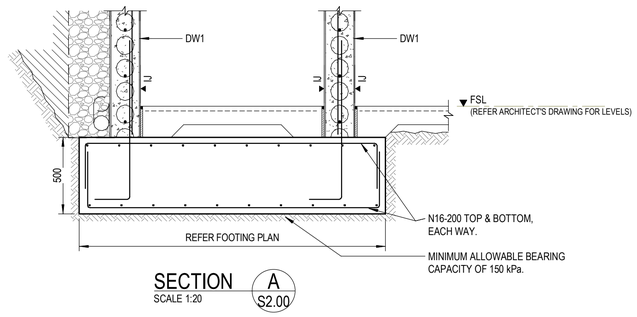


STRIP FOOTING:

SF1 —— 500 D x 800 W, REINFORCED WITH 4 N16 TOP & BOTTOM, R10-300 TIES
SF2 —— 500 D x 1400 W, REINFORCED WITH 7 N16 TOP & BOTTOM, R10-300 TIES

STRIP FOOTING SF1 & SF2 DETAILS

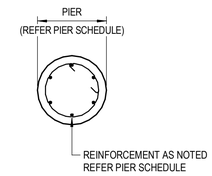
SCALE 1 : 20



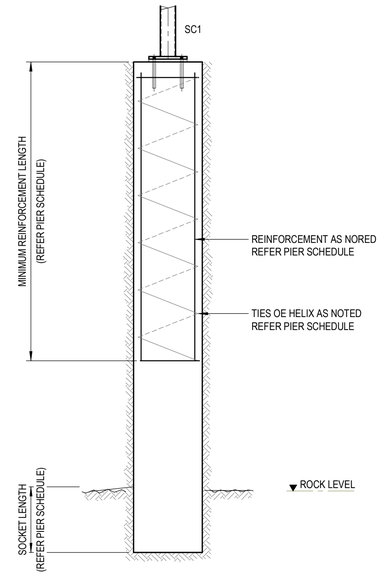
SECTION A S2.00

SCALE 1:20

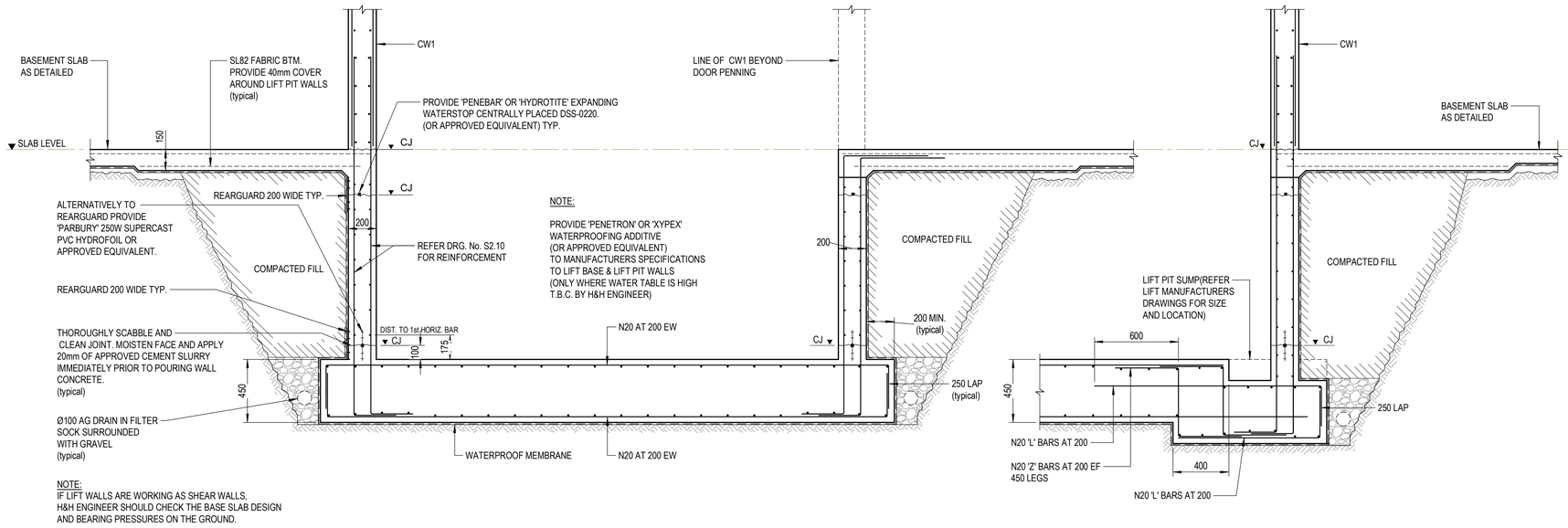
CONCRETE STRENGTH f'c = 32 MPa



PIER SECTION

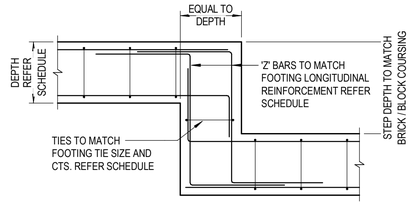


PIER ELEVATIONS



TYPICAL LIFT PIT SECTION

TYPICAL LIFT PIT SUMP DETAIL



TYPICAL FOOTING STEP DETAIL

SCALE 1 : 20

ISSUED FOR SSDA

NSW GOVERNMENT Planning, Industry & Environment

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Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: FOOTING DETAILS

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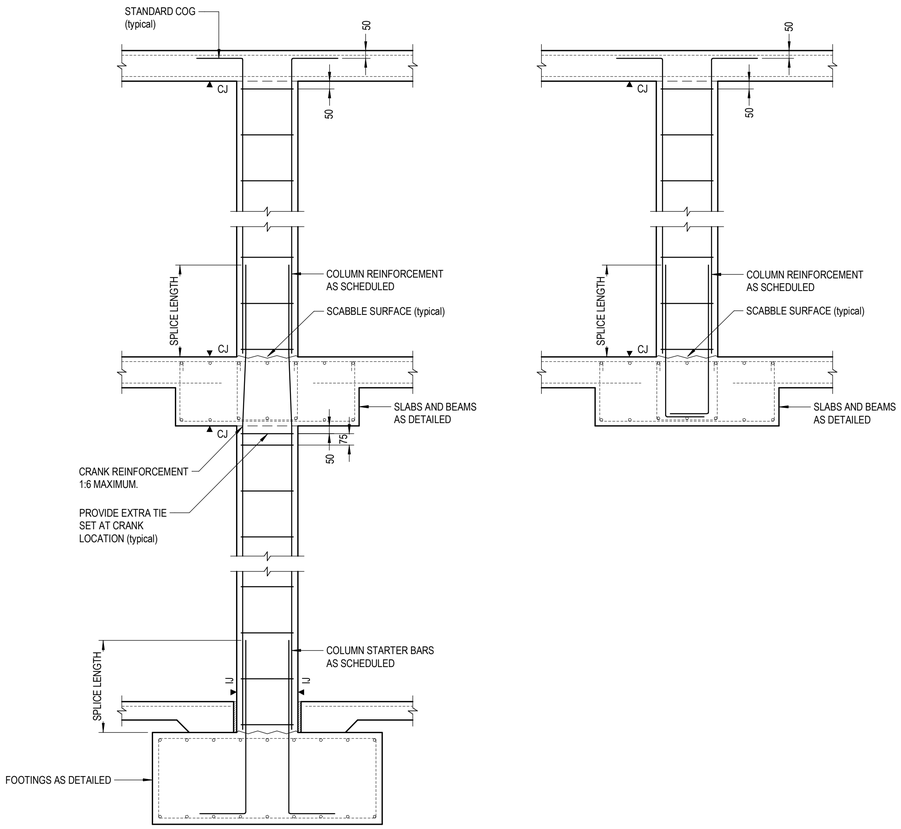
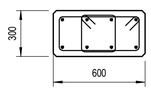
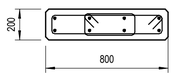


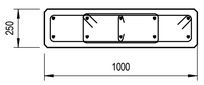
TYPICAL COLUMN ELEVATIONS



COLUMN 'C1' DETAIL

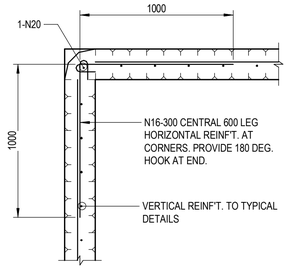


COLUMN 'C2' DETAIL

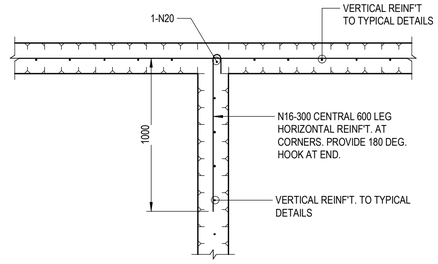


COLUMN 'C3' DETAIL

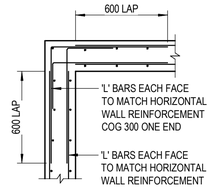
COLUMN SCHEDULE				
COLUMN TYPE	f'c (MPa)	COLUMN REINFT	STARTER BARS	TIES
C1	40	8 N20	8 N20	R10-300
C2	40	8 N20	8 N20	R10-200
C3	40	10 N20	10 N20	R10-250



TYPICAL DINCEL WALL CORNER REINFORCEMENT DETAIL



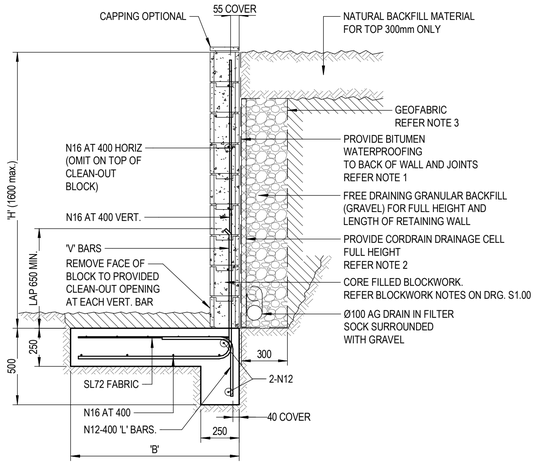
TYPICAL DINCEL WALL 'T' INTERSECTION REINFORCEMENT DETAIL



200 WALL - ALTERNATIVE CORNER DETAIL

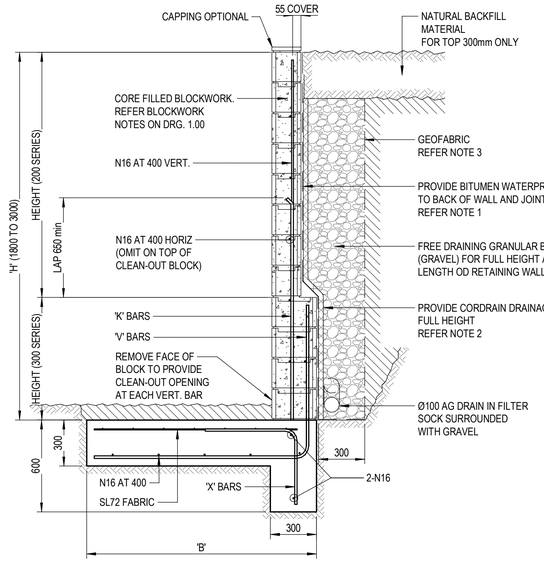
TYPICAL WALL INTERSECTION PLAN DETAILS

WALL SCHEDULE					
TYPE MARK	WALL TYPE	f'c (MPa)	VERTICAL REINFORCEMENT	STARTER BARS	HORIZONTAL REINFORCEMENT
CW1	200 RC WALL	40	N20-200 EACH FACE	N20-200 EACH FACE	N12-200 EACH FACE
DW1	200 DINCEL WALL	40	N16-333 CENTRAL	N16-333 CENTRAL	N12-300 CENTRAL



150 OR 200 SERIES BLOCK WALL

15.0 kPa SURCHARGE



200 OR 300 SERIES BLOCK WALL

15.0 kPa SURCHARGE

RETAINING WALL - RW1 SCHEDULE

TOTAL HEIGHT 'H' (mm)	HEIGHT OF BLOCK TYPE		'B' (mm)	'V' & 'X' BARS	'K' BARS
	200 SERIES	300 SERIES			
800	800	-	800	N16 AT 400	-
1000	1000	-	1200	N16 AT 400	-
1200	1200	-	1500	N16 AT 400	-
1400	1400	-	1800	N16 AT 400	-
1600	1600	-	2100	N16 AT 400	-
1800	1800	-	2300	N16 AT 200	N16 AT 400
2000	1400	600	2500	N16 AT 200	N16 AT 400
2200	1400	800	2700	N16 AT 200	N16 AT 200
2400	1400	1000	3000	N20 AT 200	N16 AT 200
2600	1400	1200	3300	N20 AT 200	N16 AT 200
2800	1400	1400	3500	N20 AT 200	N16 AT 200
3000	1400	1600	3800	N20 AT 200	N16 AT 200

NOTES:

1. ENSURE REAR FACE OF RETAINING WALL IS FULLY WATERPROOFED. USE EMER-PROOF ECOFLEX OR APPROVED EQUIVALENT IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION. EG: 2 COATS min. APPLIED IN OPPOSITE DIRECTIONS AND ALLOWED TO CURE FOR 7 DAYS. (TO BE CONFIRMED BY THE ARCHITECT)
2. INSTALL FULL HEIGHT DRAINAGE CELL TO REAR OF WALL. USE NYLEX CORDRAIN/18 OR APPROVED EQUIVALENT, AT 1500 CENTRES.
3. PROVIDE GEOFABRIC MATERIAL AS SEPARATION BETWEEN GRANULAR BACKFILL (GRAVEL) AND NATURAL BACKFILL MATERIAL. USE BIDIM A24 OR APPROVED EQUIVALENT.
4. MINIMUM ALLOWABLE BEARING PRESSURE AT BASE = 100 kPa

RETAINING WALL - B-S15

SCALE 1 : 20

ISSUED FOR SSDA

NSW GOVERNMENT Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 13 of 29

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KORURIC + CO.

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henry&hymas

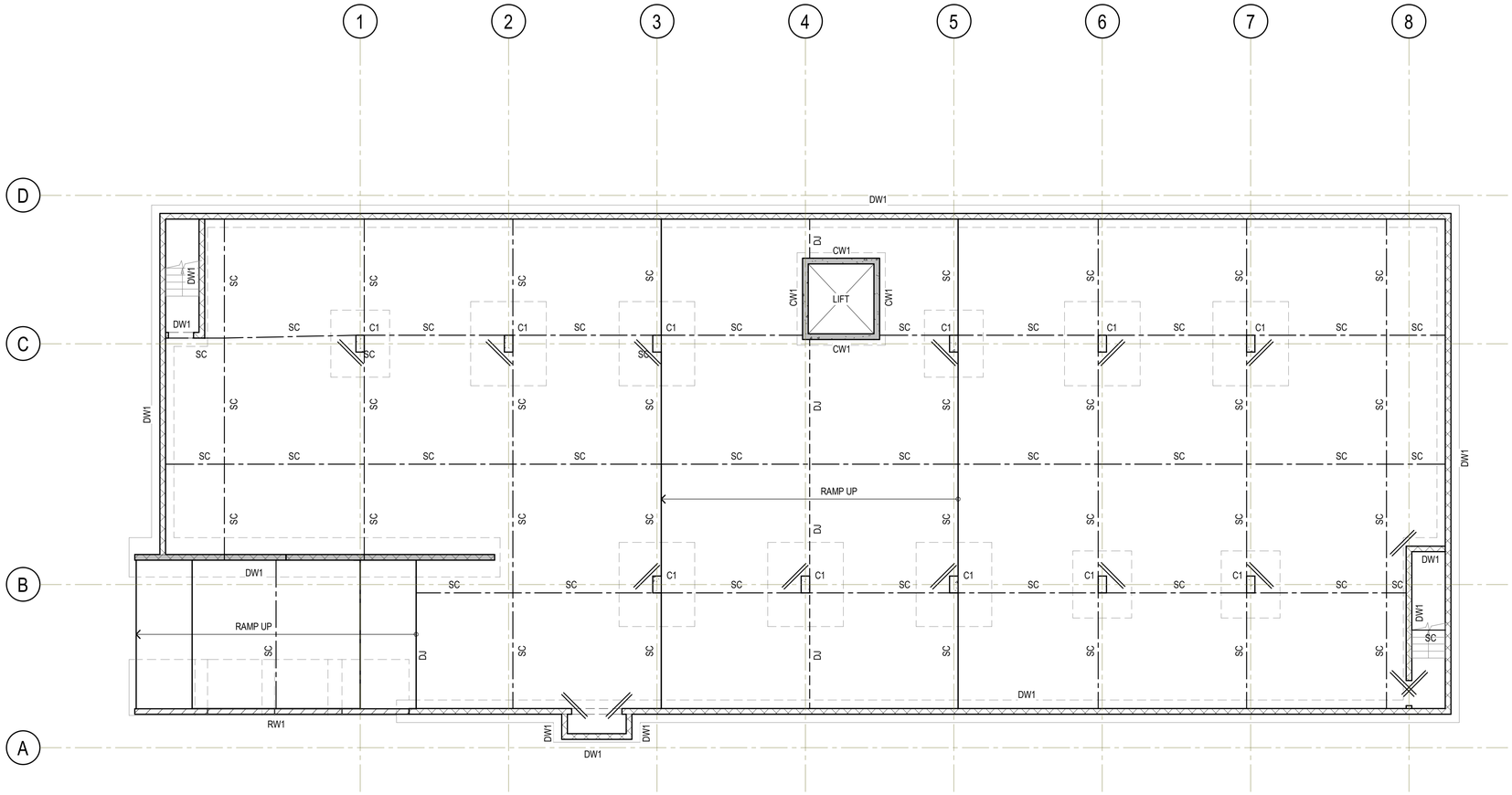
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: TYPICAL COLUMN AND WALL DETAILS

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	1 : 20

Drawing number: 19712-S2.10

Revision: 2



SLAB ON GROUND NOTES:

SG1 REFER 'CONCRETE NOTES' FOR SPECIFICATIONS ON CONCRETE SUPPLY, PLACING, FINISHING AND CURING.

SG2 FOLLOWING THE COMPLETION OF EARTHWORKS, A SUBBASE OF 100 mm THICKNESS UNO, SHALL BE PLACED OVER THE SUBGRADE AND COMPACTED TO 98% MODIFIED MAXIMUM DRY DENSITY.

SG3 INSTALL A VAPOUR BARRIER IF SPECIFIED. REINFORCEMENT MESH SHALL BE PLACED AT THE SPECIFIED DEPTH SUPPORTED ON BAR CHAIRS SPACED ON A 0.8 - 1.0 m GRID FOR MESH SIZES SL82 OR LARGER AND 0.6 m SPACING FOR LIGHER MESH. INDEPENDENT SUPPORTS NOT RESTING ON THE REINFORCEMENT OR SIDE FORMS SHALL BE USED TO CARRY OTHER CONSTRUCTION LOADINGS SUCH AS PLANT OR EQUIPMENT.

BAR CHAIRS SHALL BE FITTED WITH A PLATE SUPPORT UNDER THE LEGS TO PREVENT THEM PUNCTURING THE VAPOUR BARRIER AND SINKING INTO THE SUBBASE.

THE PRACTICE OF LAYING REINFORCING MESH ON THE SUBBASE BEFORE CONCRETE IS PLACED AND LIFTING IT INTO POSITION AFTER PLACING, OR PLACING IT ON THE FINISHED SURFACE OF THE CONCRETE AND 'WALKING IT IN', ARE STRICTLY NOT PERMITTED.

SG4 WHERE A VAPOUR BARRIER IS SPECIFIED BENEATH A SLAB ON GROUND, PROVIDE A 0.2 mm POLYETHYLENE MEMBRANE OF MEDIUM IMPACT RESISTANCE IN ACCORDANCE WITH THE PROVISIONS OF AS2870. THE SHEETING SHALL BE CONTINUOUS UNDER THE SIDE FORMS AND LAPPED AT THE JOINTS BY A MINIMUM OF 200 mm.

THE VAPOUR BARRIER SHALL BE PLACED DIRECTLY ON THE SUBBASE, BUT IF THE SURFACE IS ROUGH AND LIKELY TO DAMAGE THE PLASTIC SHEETING, A BLINDING LAYER OF FINE MATERIAL SUCH AS QUARRY DUST SHALL BE PROVIDED.

SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE VAPOUR BARRIER PRIOR TO AND DURING CONCRETING, AND ANY TEARS OR PERFORATIONS SHALL BE PATCHED IMMEDIATELY.

SG5 FOR THE CONCRETE SUPPLY TRUCKS TO BE ABLE TO DISCHARGE THEIR LOADS CLOSER TO THE FINAL POSITION, THE SITE SHALL BE PLANNED WITHOUT ANY OBSTACLES SUCH AS EXCAVATED SOIL, BUILDING MATERIALS AND CONSTRUCTION SHEDS/ OFFICES.. IF CONCRETE HAS TO BE MOVED BY MANUAL METHODS, IT SHALL BE CARRIED OUT WITH SHOVELS. POKER VIBRATORS SHALL NOT BE USED TO MOVE CONCRETE.

SG6 SAW CUTTING CONCRETE PAVEMENTS SHALL BE COMPLETED WITHIN 4 TO 12 HOURS AFTER CONCRETE HAS SET ACCORDING TO THE FOLLOWING PROCEDURE;

- MARK OUT SAW CUT LOCATIONS ACCURATELY USING A CHALK LINE
- SAW CUT IN ONE PASS TO THE CORRECT DEPTH
- RECORD THE TIME OF SAW CUT TO BE AND LOG WITH THE BUILDER
- COMMENCE SAW CUTTING WITH THE 1ST CUT FROM THE OUTSIDE EDGE AND CONTINUE IN A ROTATIONAL ORDER TOWARDS THE MIDDLE OF SLAB THE PANEL. REFER SLAB ON GROUND DETAILS.

SLAB ON GROUND LEGEND:

+++ DENOTES SLAB THICKNESS

PT ++ DENOTES LOCAL SLAB SETDOWN

+++ DENOTES SLAB STEPDOWN

DENOTES 2-N12 TRIMMERS TOP x 1200 LONG

SLAB JOINTS DENOTED THUS:

TKJ DENOTES TIED KEYED JOINT

DJ DENOTES KEYED JOINT

SC DENOTED DOWELED JOINT

TG DENOTES SAW CUT JOINT

IJ DENOTES TOOLED GROOVE

LOWER GROUND SLAB PLAN

SCALE 1 : 100

- 120 THICK SLAB ON GROUND (f'c = 32 MPa) WITH SL82 TOP MESH WITH 30 COVER (U.N.O.) ON 50 mm SAND & 100mm CRUSHED ROAD BASE OR DGB20 COMPACTED TO 98% SDD.
- ALL COLUMNS AND WALLS TO BE ISOLATED FROM SLAB ON GROUND BY ISOLATION JOINTS (IJ) ALL AROUND. REFER TO DRG. No. S3.01 FOR ISOLATION JOINT DETAIL.

NSW GOVERNMENT Planning, Industry & Environment

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Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 14 of 29

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2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
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Web www.henryandhymas.com.au

henry&hymas

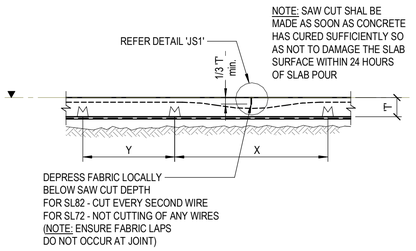
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: LOWER GROUND SLAB PLAN

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	**Approved**	**Scale**
D.M.	R.K.	As indicated

Drawing number: 19712-S3.00

Revision: 2

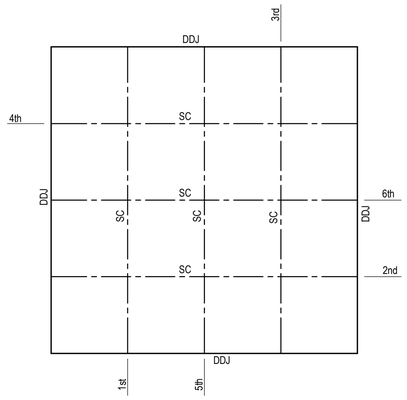


SAW CUT JOINT
NOTED 'SC' ON PLAN

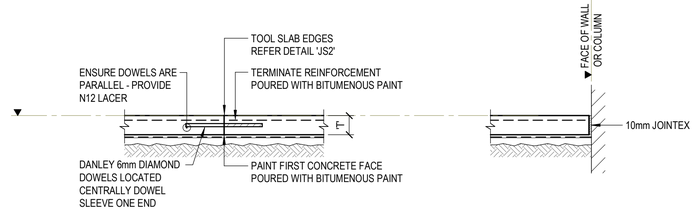
NOTE:
X = INDICATES CHAIR SPACING AT SAW CUT
- SL72 = 1000
- SL82 = 1200

Y = INDICATES CHAIR SPACING TYPICALLY THROUGHOUT
- SL72 = 600 c/c
- SL82 = 800 c/c

* SAW CUT LOCATIONS SHALL BE ACCURATELY MARKED OUT USING CHALK LINE
* SAW CUTS SHALL BE MADE IN ONE PASS TO CORRECT DEPTH
* TIME OF SAW CUT TO BE RECORDED AND LOGGED WITH BUILDER
* SAW CUT ORDER SHALL COMMENCE AT 1ST CUT FROM OUTSIDE EDGE AND CONTINUE IN A ROTATIONAL ORDER TOWARDS MIDDLE OF SLAB PANEL. REFER EXAMPLE BAYS BELOW:

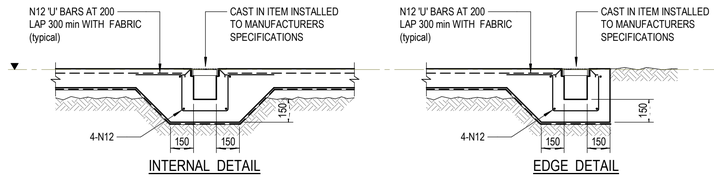


EXAMPLE SAW CUT SEQUENCE

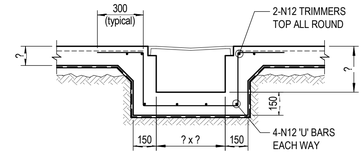


DOWELED JOINT
NOTED DJ ON PLAN

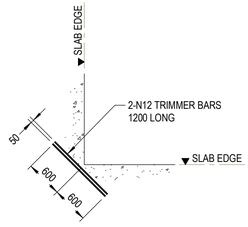
ISOLATION JOINT
TYPICAL AT ALL WALLS AND COLUMNS



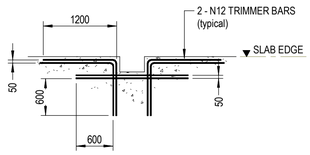
TYPICAL GRATED DRAIN
SCALE 1 : 20



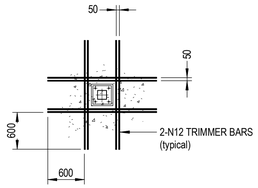
TYPICAL SUMP DETAIL



RE-ENTRANT CORNER - INTERNAL

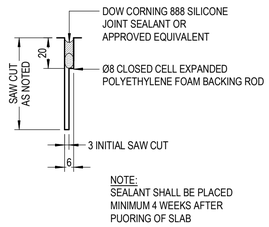


EDGE PENETRATION

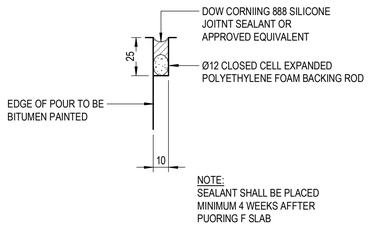


COLUMN RECESS
FOR COLUMN RECESS DETAILS REFER PLAN

TYPICAL TRIMMING DETAILS
SCALE 1 : 50



TYPICAL SAW CUT JOINT SEALANT DETAIL 'JS1'



TYPICAL CONTINUOUS POUR DOWELED JOINT DETAIL 'JS2'
MAXIMUM DOWEL JOINT SPACING 25m. NOTIFY ENGINEER IF JOINT SPACING EXCEEDS 25m

NSW GOVERNMENT | Planning, Industry & Environment
Issued under the Environmental Planning and Assessment Act 1979
Approved Application no: SSD-10420 Signed:
Granted on: 12 August 2020 Sheet no: 15 of 29

ISSUED FOR SSDA

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2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE
Architect: KOTURIC + CO.

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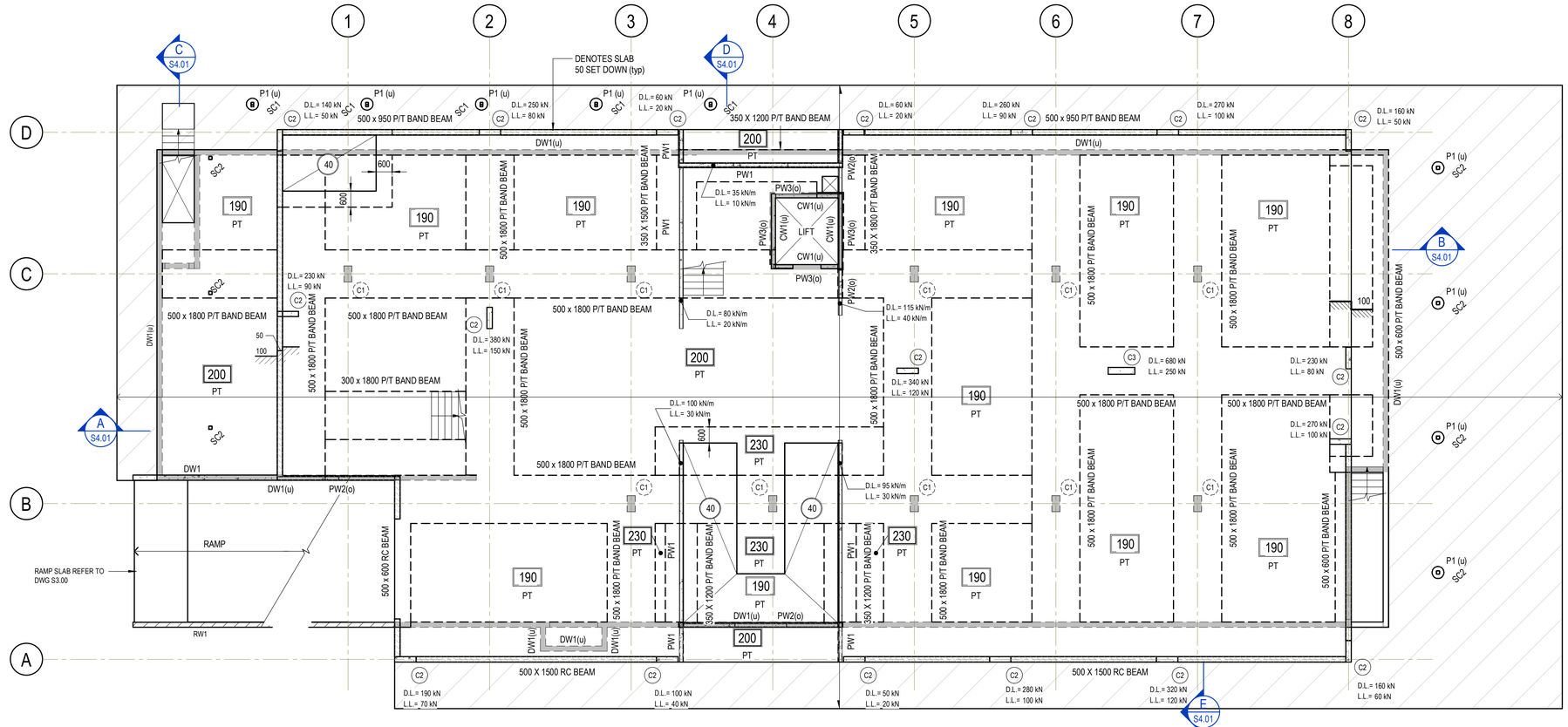
henry&hymas

Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: SLAB ON GROUND DETAILS - LOWER GROUND

Drawn: H.W. | Designed: D.M. | Date: DEC. 2019
Checked: D.M. | Approved: R.K. | Scale: As indicated
Drawing number: 19712-S3.01 | Revision: 2



GROUND FLOOR SLAB PLAN

SCALE 1 : 100

SLAB TO BE 40 MPa CONCRETE. 200mm THICK UNO

POST - TENSIONED SLAB AND BEAM CONSTRUCTION FLOOR DESIGN PARAMETERS

DESIGN LOADING: — LIVE LOAD REDUCTIONS SHALL NOT BE USED

LIVE LOADS	-	GENERALLY:	3.0 kPa
		CORRIDORS / STAIRS:	4.0 kPa
SUPERIMPOSED DEAD LOAD	-	INTERNAL AREAS:	1.5 kPa
		EXTERNAL AREAS:	3.0 kPa
POINT LOADS - DL++	-	DENOTES DEAD LOAD OF ++kN	
POINT LOADS - LL++	-	DENOTES LIVE LOAD OF ++kN	
LINE LOADS - DL/m++	-	DENOTES DEAD LOAD OF ++kN/m	
LINE LOADS - LL/m++	-	DENOTES LIVE LOAD OF ++kN/m	

CONCRETE STRENGTH:

UNLESS NOTED OTHERWISE MINIMUM CONCRETE STRENGTH SHALL BE:

-	GENERALLY	f'c = 40 MPa

FIRE RATING:

UNLESS NOTED OTHERWISE FIRE RATING SHALL BE: 2 HOURS

DEFLECTION LIMITATION:

TOTAL DEFLECTION:	L/250 OR 25mm (typical UNO)
	L/125 (CANTILEVER)
INCREMENTAL DEFLECTION:	L/500
	L/1000 (AT MASONRY WALLS

COVER:

INTERNAL:	25mm
EXPOSED SURFACES:	40mm

PROVIDE PLASTIC OR CONCRETE BAR CHAIRS TO ALL EXPOSED SURFACES.

NOTE:

1. THE MINIMUM CONCRETE STRENGTH AS NOTED MAY BE INCREASED BY THE POST TENSIONING DESIGNER TO FACILITATE THE STRESSING PROGRAM.
2. THE POST TENSIONING CONTRCTOR SHALL DESIGN AND DOCUMENTS ALL ELEMENTS CAST INTEGRALLY WITH THE POST TENSIONED FLOOR INCLUDING ALL EDGE BEAMS.
3. STRUCTURAL SIZES AND FRAMING AS INDICATED ON PLAN ARE INDICATIVE ONLY, THE POST TENSIONING CONTRACTOR MAY VARY THE INDICATED SIZES AS REQUIRED TO COMPLY WITH AUSTRALIAN STANDARDS OR TO PRODUCE A MORE ECONOMICAL DESIGN.
4. FOR CO-ORDINATION PURPOSES, ANY VARIATIONS TO THIS PLAN/DESIGN MADE BY THE POST TENSIONING CONTRACTOR SHALL BE APPROVED BY HENRY AND HYMAS.

GROUND LEGEND:

+++ / PT — DENOTES SLAB THICKNESS

++ — DENOTES LOCAL SLAB SETDOWN

+++ — DENOTES SLAB STEPDOWN

DENOTES 120 THICK SLAB ON GROUND (f'c = 32 MPa) WITH SL82 TOP MESH WITH 40 COVER ON 50 mm SAND & 100mm CRUSHED ROAD BASE OR DGB20 COMPACTED TO 98% SDD.

NSW GOVERNMENT | Planning, Industry & Environment

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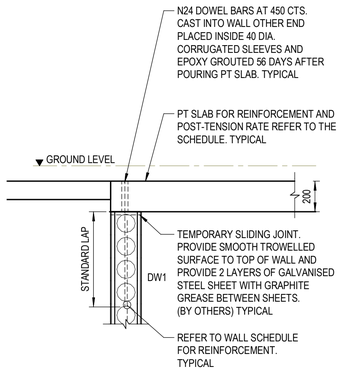
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: GROUND FLOOR SLAB PLAN

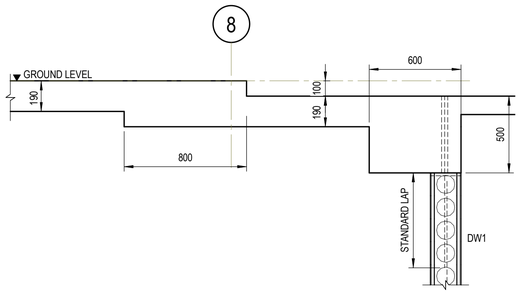
Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Aproved	Scale
D.M.	R.K.	As indicated

Drawing number: 19712-S4.00

Revision: 2



SECTION A S4.00
SCALE 1 : 20



SECTION B S4.00
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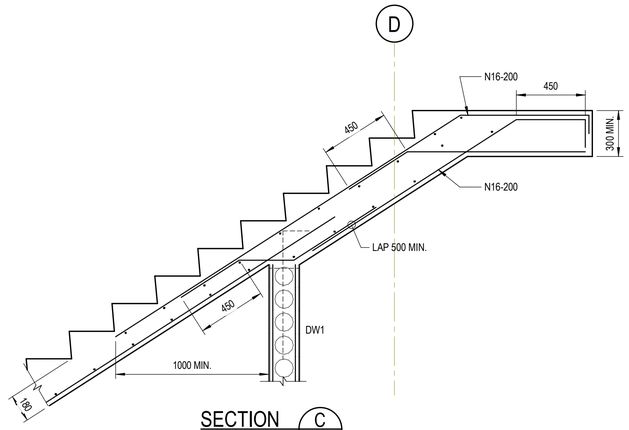
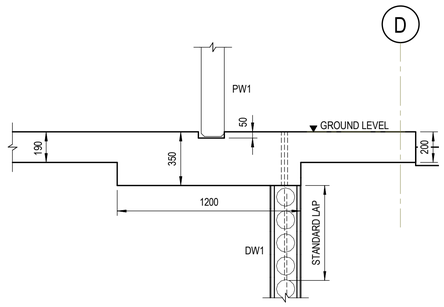


SECTION C S4.00
SCALE 1 : 20



SECTION D S4.00
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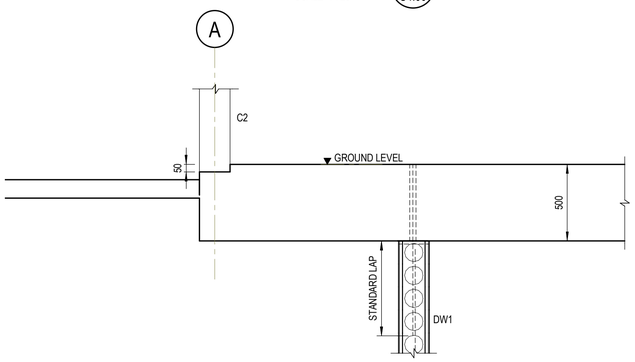

SECTION E S4.00
SCALE 1 : 20

Planning, Industry & Environment
NSW GOVERNMENT
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Project
NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title
GROUND FLOOR SLAB DETAILS

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	1 : 20

Drawing number
19712-S4.01

Revision
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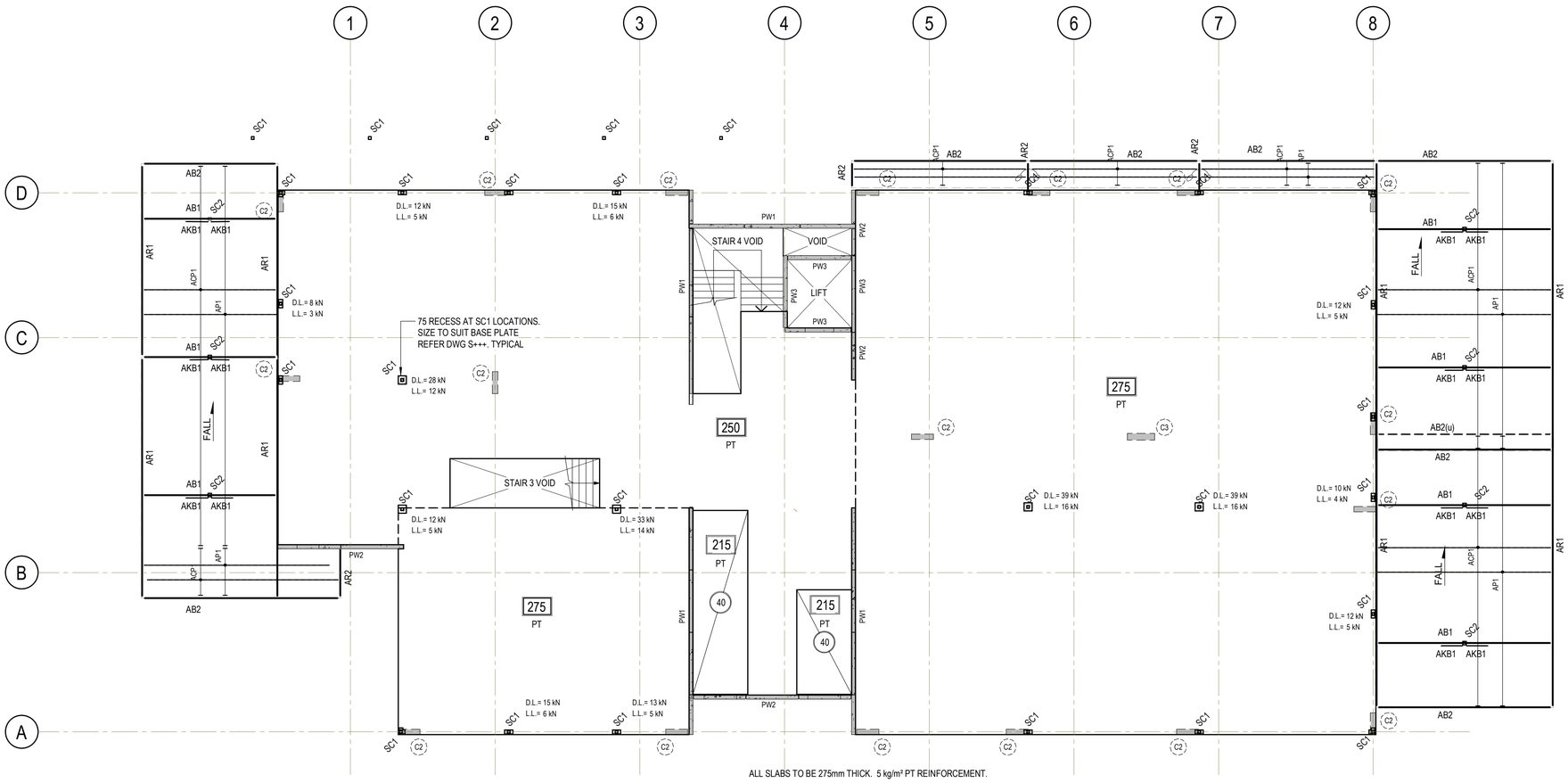

ALL SLABS TO BE 275mm THICK. 5 kg/m² PT REINFORCEMENT.

FIRST FLOOR SLAB PLAN

SCALE 1 : 100

CONCRETE GRADE f'c = 40MPa

POST - TENSIONED SLAB AND BEAM CONSTRUCTION FLOOR DESIGN PARAMETERS

DESIGN LOADING: — LIVE LOAD REDUCTIONS SHALL NOT BE USED

LIVE LOADS	-	GENERALLY:	3.0 kPa
		CORRIDORS / STAIRS:	4.0 kPa
SUPERIMPOSED DEAD LOAD	-	INTERNAL AREAS:	1.5 kPa
		EXTERNAL AREAS:	3.0 kPa
POINT LOADS - DL++	-	DENOTES DEAD LOAD OF ++kN	
- LL++	-	DENOTES LIVE LOAD OF ++kN	
LINE LOADS - DL/m++	-	DENOTES DEAD LOAD OF ++kN/m	
- LL/m++	-	DENOTES LIVE LOAD OF ++kN/m	

CONCRETE STRENGTH:

UNLESS NOTED OTHERWISE MINIMUM CONCRETE STRENGTH SHALL BE:
- GENERALLY f'c = 40 MPa

FIRE RATING:

UNLESS NOTED OTHERWISE FIRE RATING SHALL BE: 2 HOURS

DEFLECTION LIMITATION:

TOTAL DEFLECTION: L/250 OR 25mm (typical UNO)
L/125 (CANTILEVER)

INCREMENTAL DEFLECTION: L/500
L/1000 (AT MASONRY WALLS

COVER:

INTERNAL: 25mm
EXPOSED SURFACES: 40mm
PROVIDE PLASTIC OR CONCRETE BAR CHAIRS TO ALL EXPOSED SURFACES.

NOTE:

1. THE MINIMUM CONCRETE STRENGTH AS NOTED MAY BE INCREASED BY THE POST TENSIONING DESIGNER TO FACILITATE THE STRESSING PROGRAM.
2. THE POST TENSIONING CONTRCTOR SHALL DESIGN AND DOCUMENTS ALL ELEMENTS CAST INTEGRALLY WITH THE POST TENSIONED FLOOR INCLUDING ALL EDGE BEAMS.
3. STRUCTURAL SIZES AND FRAMING AS INDICATED ON PLAN ARE INDICATIVE ONLY, THE POST TENSIONING CONTRACTOR MAY VARY THE INDICATED SIZES AS REQUIRED TO COMPLY WITH AUSTRALIAN STANDARDS OR TO PRODUCE A MORE ECONOMICAL DESIGN.
4. FOR CO-ORDINATION PURPOSES, ANY VARIATIONS TO THIS PLAN/DESIGN MADE BY THE POST TENSIONING CONTRACTOR SHALL BE APPROVED BY HENRY AND HYMAS.

AWNING STEEL MEMBER SCHEDULE

MEMBER TAG	AWNING MEMBER SIZE
AB1	360 UB 45
AB2	150 PFC
AR1	310 UB 32
AR2	200 PFC
AKB1	100 x 5.0 SHS
ACP1	C15019 AT 1200CTS MAX. 2 ROWS OF BRIDGIE, LAP AS NOTED
AP1	Z15019 AT 1200CTS MAX. 3 ROWS OF BRIDGIE, LAP AS NOTED

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Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 18 of 29

ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KOTURIC + CO.

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Web www.henryandhymas.com.au

henry&hymas

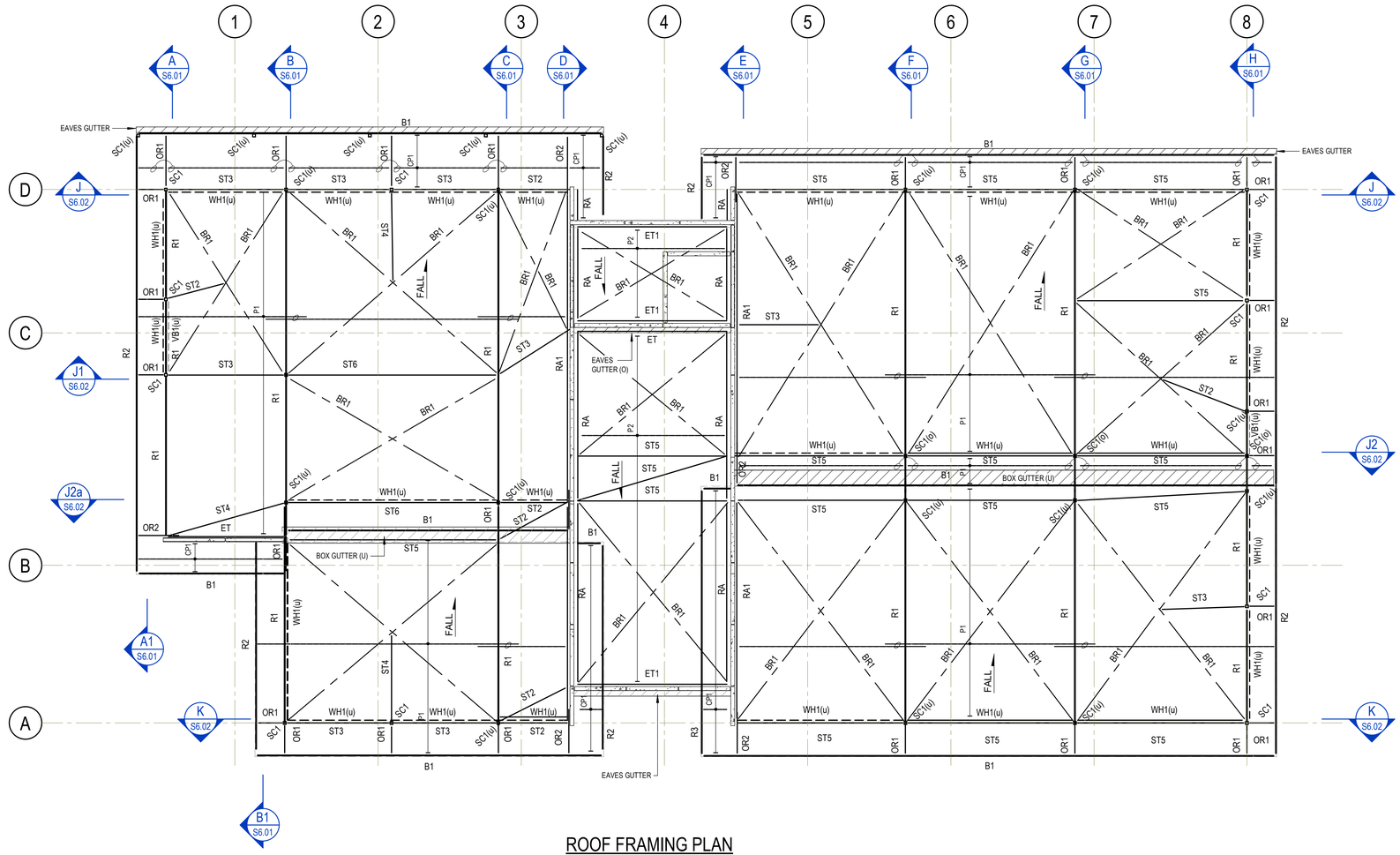
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: FIRST FLOOR SLAB PLAN

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	As indicated

Drawing number: 19712-S5.00

Revision: 2



ROOF FRAMING PLAN

SCALE 1 : 100

STEEL MEMBER SCHEDULE

MEMBER TAG	MEMBER SIZE
SC1	100 x 5.0 SHS
SC2	125 x 6 SHS
B1	150 PFC (IN PURLIN ZONE)
OR1	150 UB 18
OR2	150 PFC
R1	310 UB 32
R2	150 PFC (IN PURLIN ZONE)
R3	200 PFC
WH1	100 x 5.0 SHS
BR1	75 x 6 FLAT
ET	90 x 6 EA
ET1	150 PFC (WEB HORIZONTAL)
RA	90 x 6 EA
RA1	150 PFC (WEB HORIZONTAL)
VB1	125 x 6.0 SHS
CP1	C15019 AT 1200CTS MAX. 2 ROWS OF BRIDGIE, LAP AS NOTED
P1	Z15024 AT 1200CTS MAX. 2 ROWS OF BRIDGIE, LAP AS NOTED
P2	Z15019 AT 1200CTS MAX. 2 ROWS OF BRIDGIE, LAP AS NOTED
G1	C15019

STRUTS		
ST1	ø76.1 x 2.3 CHS	(EQUIVALENT SHS = 75 x 2.5)
ST2	ø88.9 x 2.6 CHS	(EQUIVALENT SHS = 75 x 2.5)
ST3	ø101.6 x 2.6 CHS	(EQUIVALENT SHS = 100 x 3.0)
ST4	ø114.3 x 3.2 CHS	(EQUIVALENT SHS = 100 x 3.0)
ST5	ø139.7 x 3.0 CHS	(EQUIVALENT SHS = 125 x 4.0)
ST6	ø165.1 x 3.0 CHS	(EQUIVALENT SHS = 125 x 4.0)
ST7	ø165.1 x 3.5 CHS	(EQUIVALENT SHS = 125 x 4.0)
ST8	ø168.3 x 4.8 CHS	(EQUIVALENT SHS = 150 x 5.0)
ST9	ø168.3 x 6.4 CHS	(EQUIVALENT SHS = 150 x 5.0)
ST10	ø219.1 x 4.8 CHS	(EQUIVALENT SHS = 200 x 5.0)
ST11	ø219.1 x 6.4 CHS	(EQUIVALENT SHS = 200 x 6.0)
ST12	ø219.1 x 8.2 CHS	(EQUIVALENT SHS = 200 x 6.0)
PURLINS		

PURLIN NOTES:

1. UNLESS NOTED OTHERWISE ALL PURLINS SHALL BE LAPPED AS FOLLOWS:-

SPAN	MINIMUM LAP
≤ 6000	900
> 6000 ≤ 8000	1200
> 8000 ≤ 12000	1500
> 12000	1800

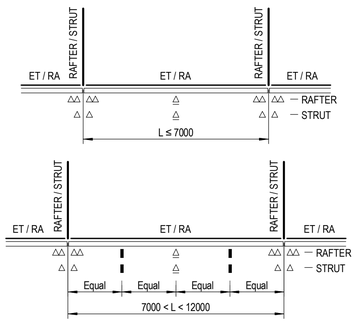
2. PURLINS, GIRTS AND BRIDGING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION.
3. UNLESS NOTED OTHERWISE PROVIDE PURLIN / GIRT BRIDGING AS FOLLOWS:-

PURLIN SIZE	MAXIMUM PURLIN SPAN		
	0 BRIDGES	1 BRIDGES	2 BRIDGES
100	2000	4000 (3000)	6000 (5000)
150	3000	6000 (5000)	9000 (7000)
200	4000	8000 (7000)	12000 (9000)
250	5000	10000 (8000)	15000 (12000)

NOTED: FIGURES IN BRACKETS APPLY TO SIMPLY SUPPORTED PURLINS

NOTES:

1. FOR ALL GENERAL STEELWORK NOTES REFER CONSTRUCTION NOTES ON DRAWING S1.00
2. REFER PANEL ELEVATION FOR FERRULE LOCATIONS.
3. ALL BOLTS FOR FERRULE CONNECTION SHALL BE GRADE 8.8/S WITH 30mm MINIMUM ENGAGEMENT TO FERRULES.
4. ALL BOLTS FOR STEEL TO STEEL CONNECTIONS SHALL BE M20 GRADE 8.8/S U.N.O
5. ALL BRACE MEMBERS SHALL BE TIED TO EVERY SECOND PURLIN CROSSED WITH UNISTRUT STRAP TO PREVENR SAG.
6. PRECAMBER TO ALL STRUCTURE STEEL RAFTERS, TRUSSES AND PORTALS SHALL BE 5mm FOR EVERY 2000mm OF SPAN UNLESS NOTED OTHERWISE ON PLAN. (REFER LEGEND BELOW FOR DESIGNATION)
7. UNLESS NOTED OTHERWISE ALL EXTERNAL STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANISED.
8. UNLESS NOTED OTHERWISE FLY BRACE RAFTERS EVERY 3rd PURLIN.
9. PROVIDE FIRE PROTECTION TO ALL STRUCTURAL STEEL ELEMENTS AS REQUIRED (REFER ARCHITECT'S DRAWING FOR FIRE RATING REQUIREMENTS)



TYPICAL ET / RA FIXING DETAIL

LEGEND:

▽	DENOTES M20 FERRULE INSERTS PLUS PLATE TO ET AND RA MEMBERS (SITE WELDED AFTER STEEL ERECTION - REFER DETAILS)
▽	DENOTES M20 FERRULE INSERTS MIN. 95mm LONG INSTALLED WITH 400mm LONG CROSS BAR
▼	DENOTES M24 FERRULE INSERTS PLUS PLATE TO ET AND RA MEMBERS (SITE WELDED AFTER STEEL ERECTION - REFER DETAILS)
▼	DENOTES M24 FERRULE INSERTS
▮	DENOTES M20 TRUBOLT
WP	WELD PLATE (refer detail for location)
RAFTER - PC**	DENOTES UPWARD PRECAMBRE OF **mm AT MIDSPAN
RAFTER - PS**	DENOTES UPWARD PRESENT OF **mm AT SPLICE

Planning, Industry & Environment

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Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 19 of 29

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2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
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henry&hymas

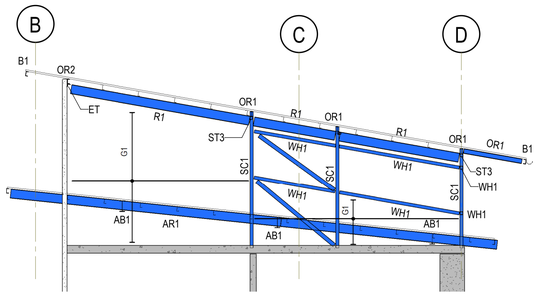
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: ROOF STEEL FRAMING PLAN

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	As indicated

Drawing number: 19712-S6.00

Revision: 2



SECTION A
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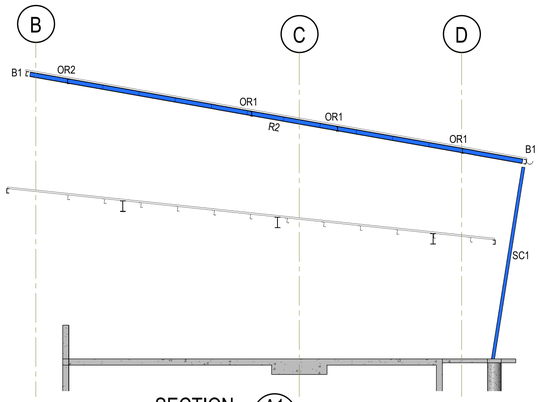

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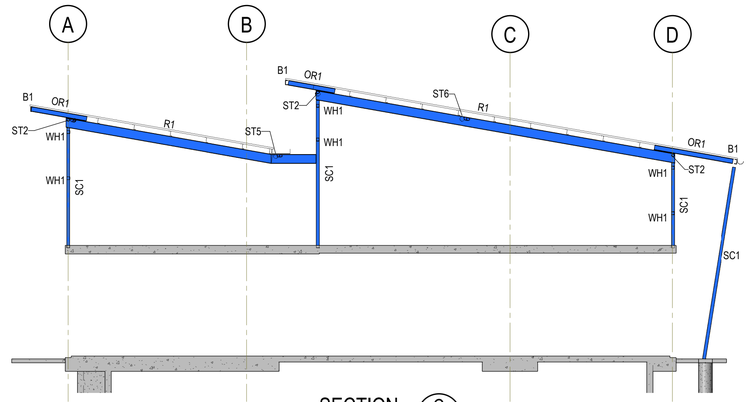
SCALE 1 : 100 S6.00



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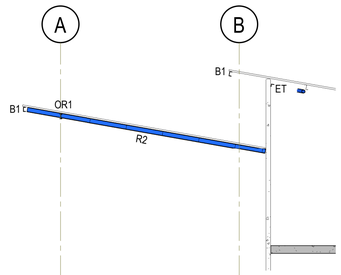

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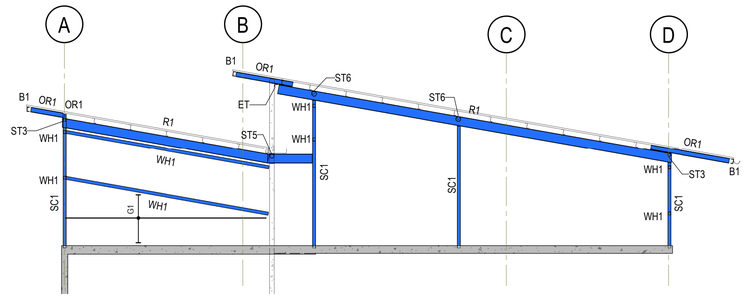

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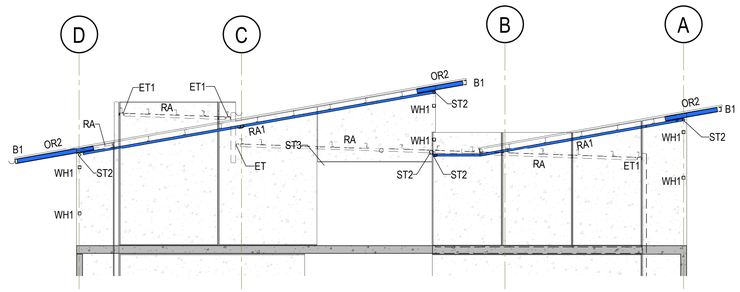

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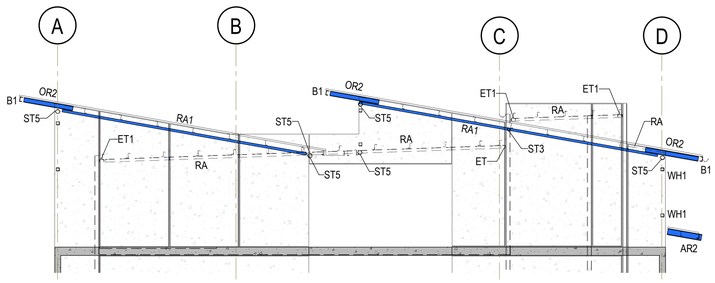

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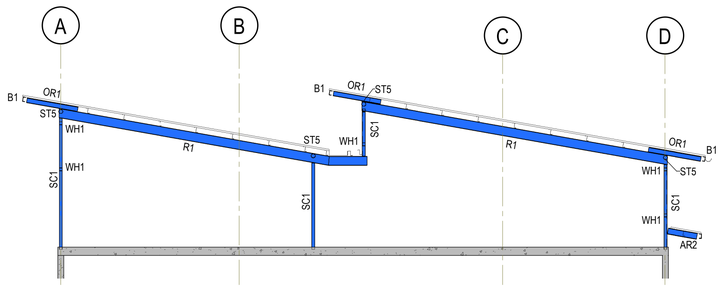

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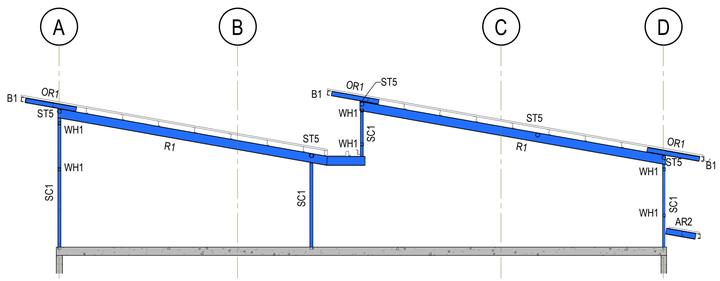

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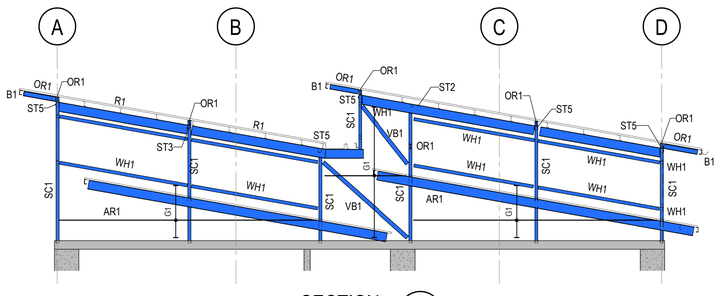

SECTION H
SCALE 1 : 100 S6.00

NSW GOVERNMENT Planning, Industry & Environment

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Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 20 of 29

ISSUED FOR SSDA

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2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KOTURIC + CO.

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henry&hymas

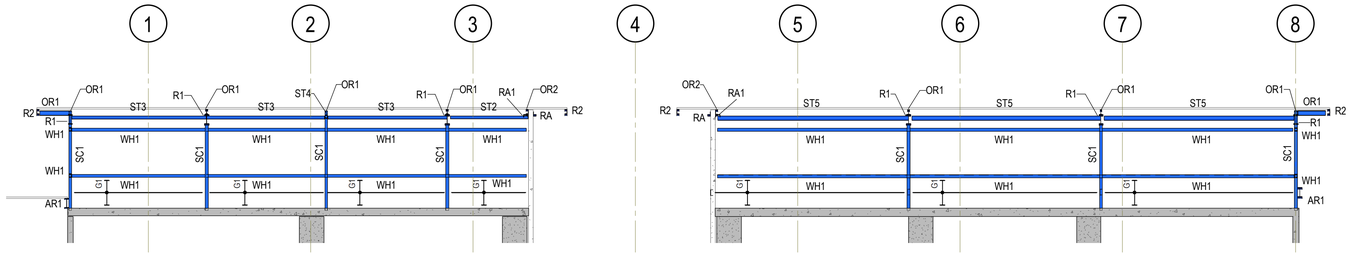
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: STEEL FRAMING SECTIONS - SHEET 1

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	1 : 100

Drawing number: 19712-S6.01

Revision: 2



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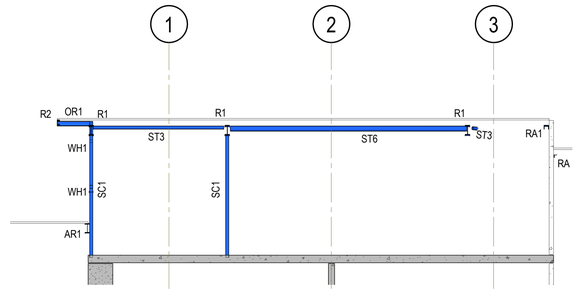
SCALE 1 : 100 S6.00



SECTION J1
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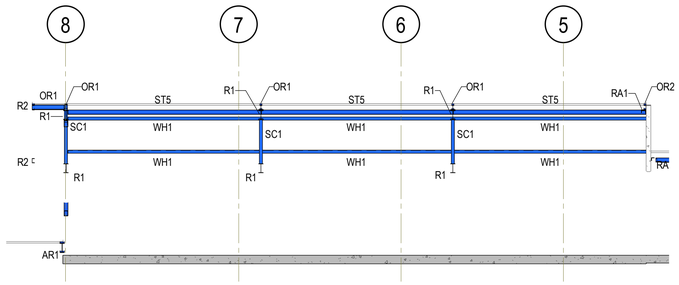

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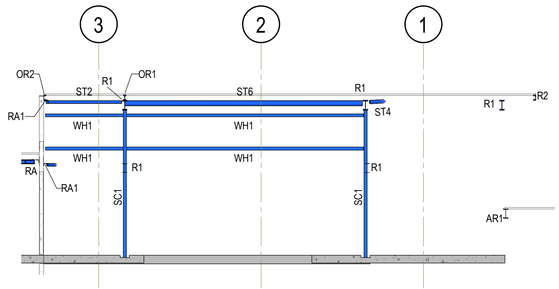

SECTION J2a
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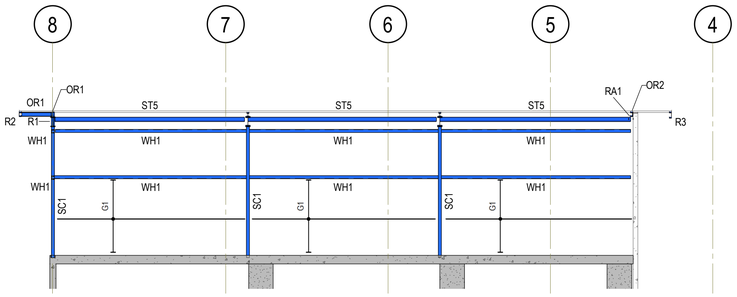

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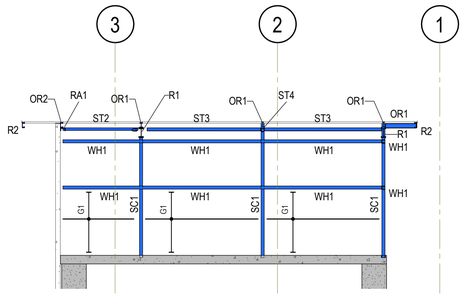

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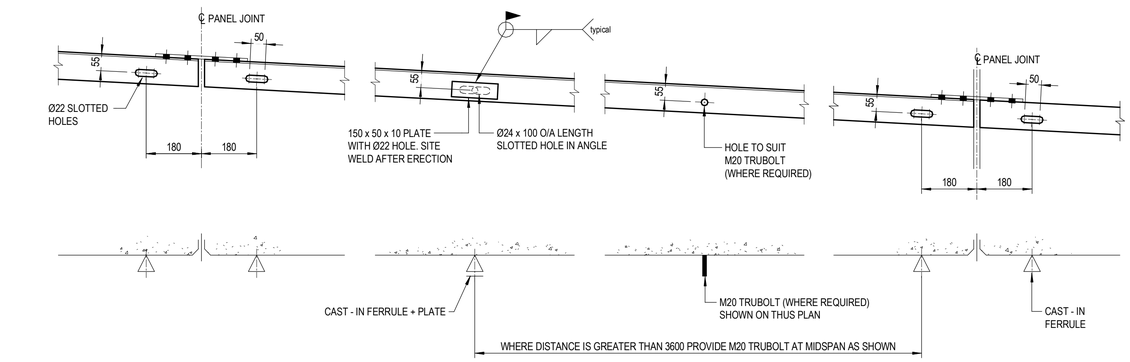
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: STEEL FRAMING SECTIONS - SHEET 2

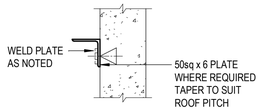
Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	**Approved**	**Scale**
D.M.	R.K.	1 : 100

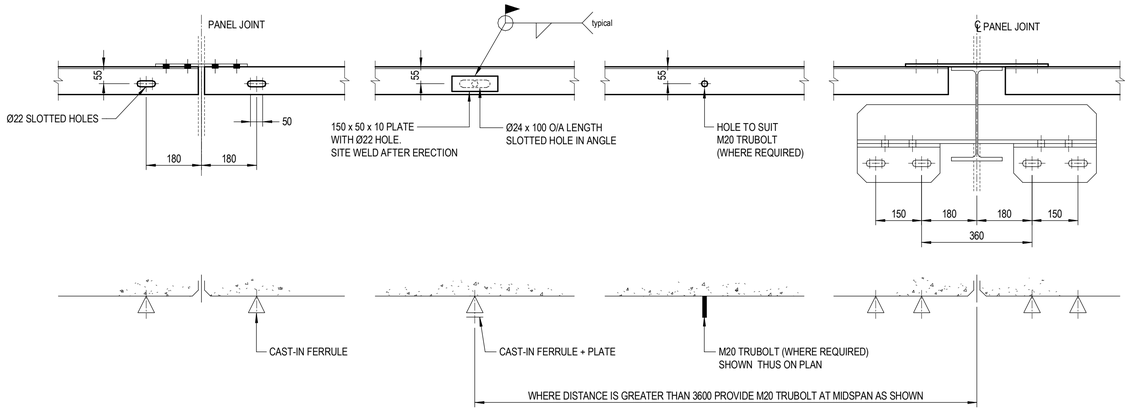
Drawing number: 19712-S6.02

Revision: 2

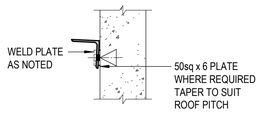


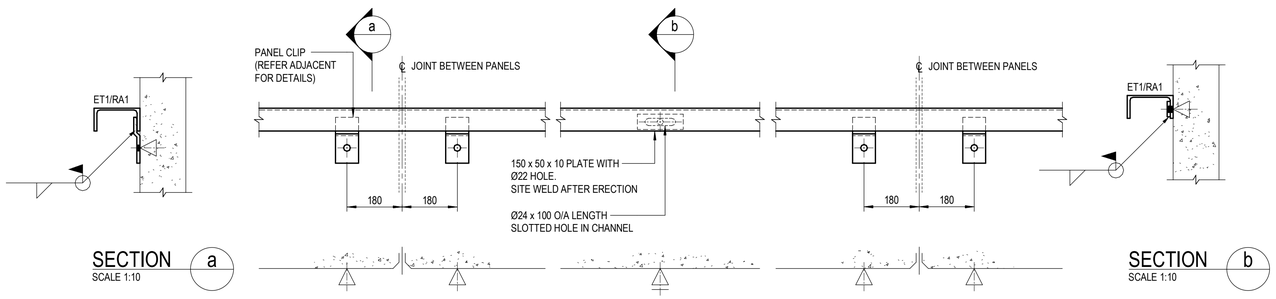
TYPICAL ELEVATION - FERRULE TO 'RA' MEMBERS



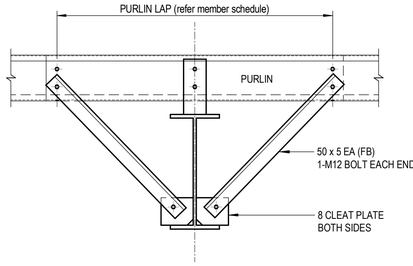


TYPICAL ELEVATION - FERRULE TO 'ET' MEMBERS



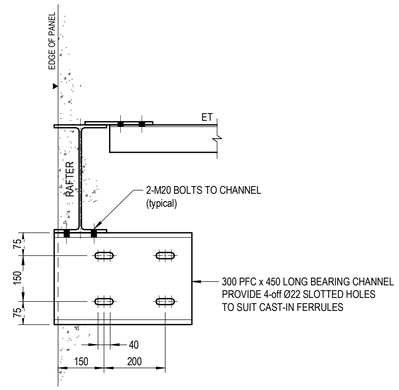


TYPICAL FERRULE TO 'ET1 & 'RA1' MEMBERS



TYPICAL FLYBRACE DETAIL

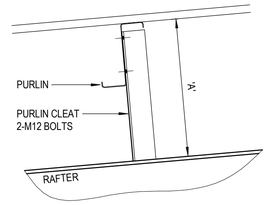
SCALE 1 : 10
NOTED FB ON PLAN



ELEVATION

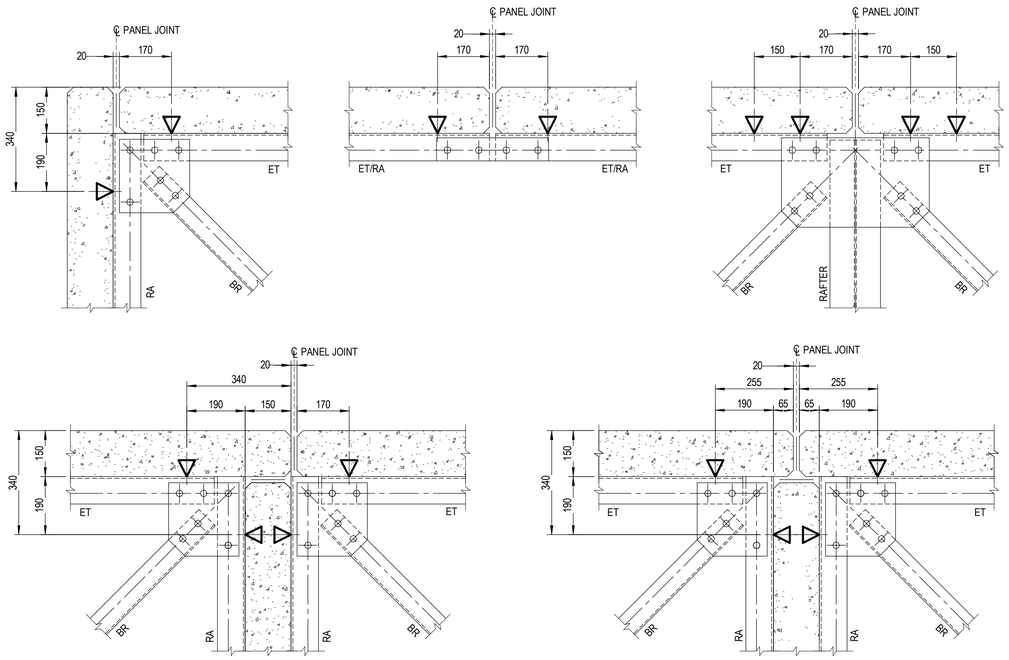
TYPICAL RAFTER END TO PANEL DETAIL

SCALE 1 : 10



TYPICAL PURLIN CLEAT DETAIL

CLEAT SCHEDULE	
HEIGHT 'A' mm	CLEAT SIZE
0 - 250	8 PLATE
250 - 350	10 PLATE
350 - 450	12 PLATE
450 +	75 x 6 EA



TYPICAL FERRULE SETOUT DETAILS

- FOR MEMBER SIZES AND CONNECTIONS REFER STRUCTURAL STEEL DETAILS
- FERRULE SETOUT DIMENSIONS SHOWN ABOVE ARE INDICATIVE ONLY. REFER PANEL DETAILERS DRAWINGS FOR FINAL FERRULE SETOUT

NSW GOVERNMENT Planning, Industry & Environment

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Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 22 of 29

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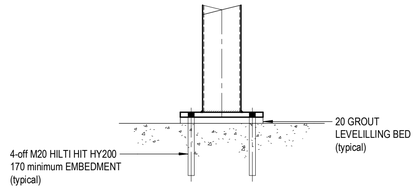
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: STEEL DETAILS - SHEET 1

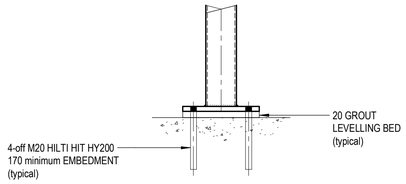
Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	1 : 10

Drawing number: 19712-S6.03

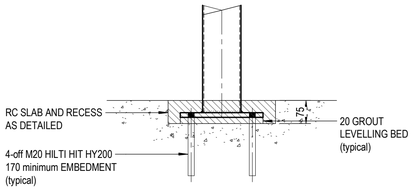
Revision: 2



SECTION - FOOTING / SLAB



SECTION - FOOTING / SLAB



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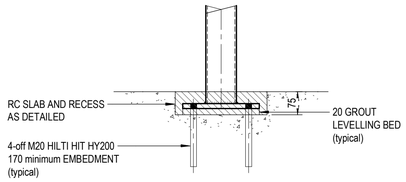

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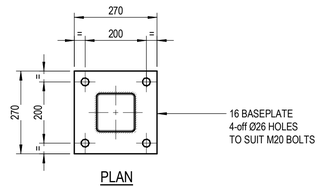
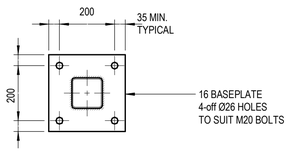


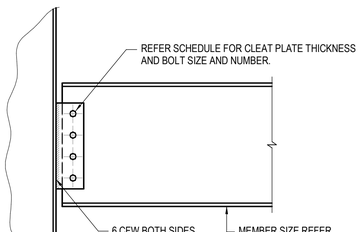
PLAN

TYPICAL COLUMN BASEPLATE 125 SHS



PLAN

TYPICAL COLUMN BASEPLATE (100 SHS)



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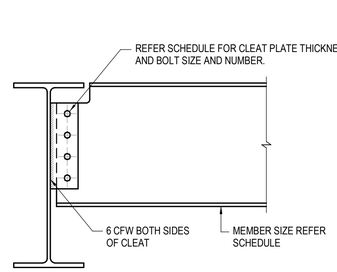

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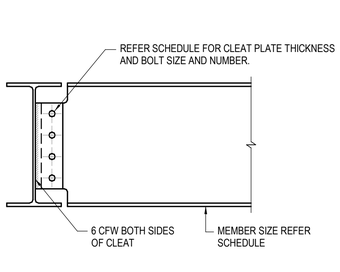
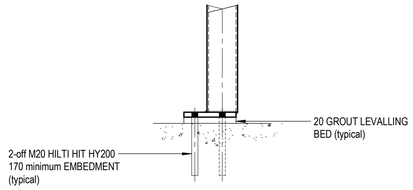


DOUBLE WEB COPED

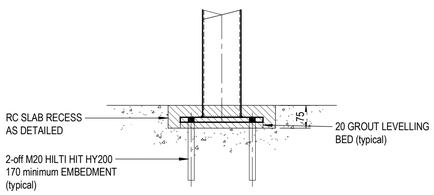
WEB SIDE PLATE CONNECTION SCHEDULE

MEMBER SIZE	BOLTS (No. - SIZE, GRADE)	CLEAT PLATE THICKNESS (mm)
CHANNELS		
180 PFC, 200 PFC, 230 PFC	2-M20 8.8/S	10
250 PFC	2-M20 8.8/S	10
300 PFC	3-M20 8.8/S	10
380 PFC	4-M20 8.8/S	10
UNIVERSAL BEAMS / COLUMNS		
180 UB	2-M20 8.8/S	10
200 UB & 200UC	2-M20 8.8/S	10
250 UB & 250 UC	2-M20 8.8/S	10
310 UB & 310 UC	3-M20 8.8/S	10
360 UB	3-M20 8.8/S	10
410 UB	4-M20 8.8/S	10
460 UB	5-M20 8.8/S	10

TYPICAL WEB SIDE PLATE CONNECTION DETAILS 180 PFC / 180 UB AND ABOVE



SECTION - FOOTING / SLAB



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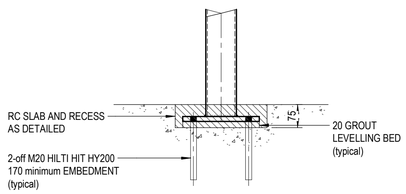

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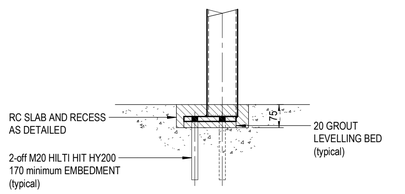

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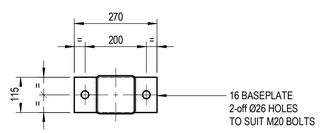
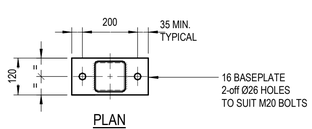


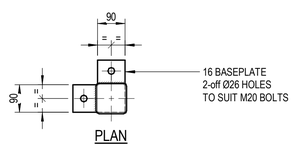
PLAN

TYPICAL COLUMN BASEPLATE (125 SHS)



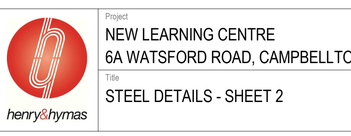
PLAN

TYPICAL COLUMN BASEPLATE (100 SHS)



PLAN

TYPICAL COLUMN BASEPLATE (100 SHS)



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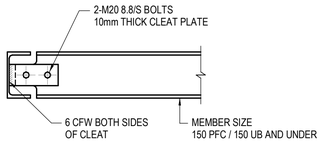

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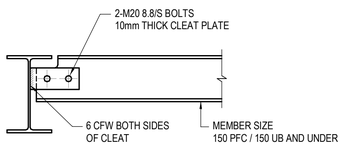

SINGLE WEB COPED

TYPICAL WEB SIDE PLATE CONNECTION DETAILS 150 PFC / 150 UB AND BELOW

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 23 of 29

ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KOTURIC + CO.

Level 5,
79 Victoria Avenue
Chatswood NSW 2067

Telephone +61 2 9417 8400
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Web www.henryandhymas.com.au

henry&hymas

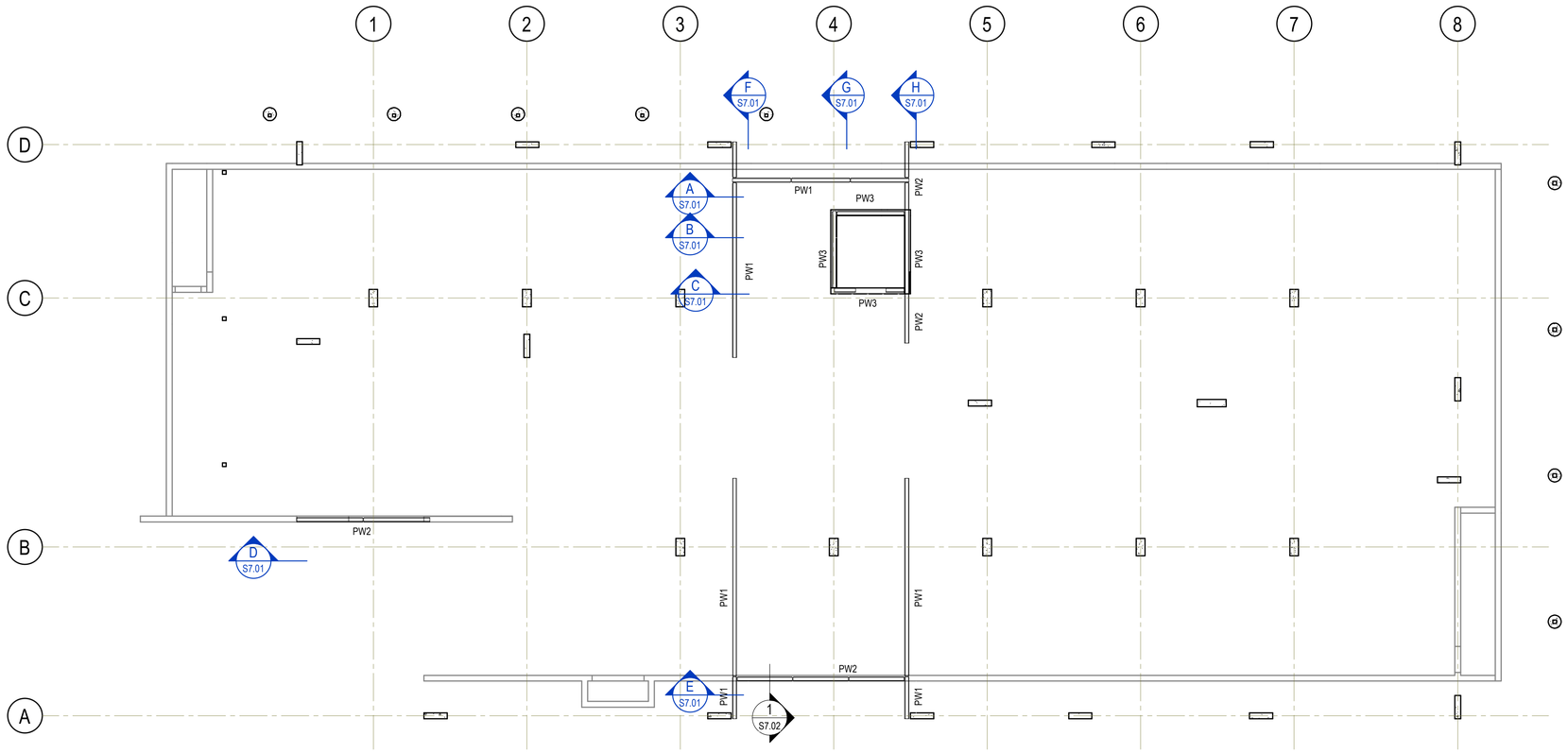
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: STEEL DETAILS - SHEET 2

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	1 : 10

Drawing number: 19712-S6.04

Revision: 2



PANEL NOTES:

1. INSIDE FACE SHAL BE THE FACE INTERNAL TO THE STRUCTURAL
2. FOR FERRULE AND RESTRAINT DETAILS REFER DRAWING ++++++-++

PANEL STRUCTURAL REINFORCEMENT:

1. THESE ELEVATIONS ARE PROVIDED FOR THE PURPOSES OF PANEL DETAILING ONLY AND SHOW THE MINIMUM STRUCTURAL (INSERVICE) REINFORCEMENT TO BE INCLUDED IN THE PANEL DESIGN. THE REINFORCEMENT SHOWN IS NOT NECESSARILY SUFFICIENT FOR LIFTING. PANELS SHALL BE CONSTRUCTED TO THE PANEL ARRANGEMENTS AND DETAIL SHEET PROVIDED SEPARATELY.
2. UNLESS OTHERWISE NOTED ALL PANELS SHALL BE 150 THICK WITH SL82 FABRIC REINFORCEMENT CENTRAL.
3. TWO HARD COPIES OF THE PANEL SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL. THIS APPROVAL SHALL COVER THE IN-SERVICE LOADING CONDITIONS ONLY.
4. THE TILT-UP PANEL CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ANY ADDITIONAL REINFORCEMENT WHICH MAY BE REQUIRED TO ENSURE LIFTING STRESSES ARE WITHIN THE RELEVENT CODES AND ALL BRACING AND SUPPORTING STRUCTURES (DEADMAN OR FLOOR SLAB) ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL RELEVANT WIND LOADINGS. THE SUB CONTRACTOR SHALL PROVIDE AN ENGINEERS CERTIFICATION (WITH THEIR REGISTRATION NUMBER) FOR ALL THESE ITEMS TO THE BUILDER & FORWARD A COPY TO H & H CERTIFYING THAT THEY COMPLY WITH AS3850, AS3608 AND AS/NZS1170.2
H & H ARE UNABLE TO REVIEW OR SIGN OFF PANEL SHOP DRAWINGS UNTIL WE RECEIVE THIS DESIGN CERTIFICATION

PRECAST PANEL PLAN

SCALE 1 : 100

PW1 150 PRECAST PANEL, SL82 MESH CENTRAL (f'c 32 MPa)
PW2 180 PRECAST PANEL, SL82 MESH EACH FACE (f'c 32 MPa)
PW3 200 PRECAST PANEL, SL92 MESH EACH FACE (f'c 32 MPa)

NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 24 of 29

ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KOTURIC + CO.

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Web www.henryandhymas.com.au

henry&hymas

Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

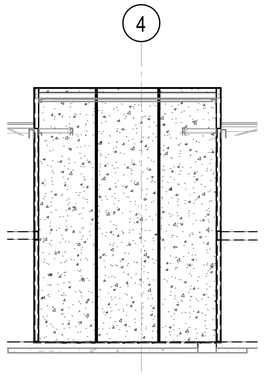
Title: PRECAST PANEL PLAN

Drawn	Designed	Date
K.S.	D.M.	DEC. 2019
Checked	**Approved**	**Scale**
D.M.	R.K.	As indicated

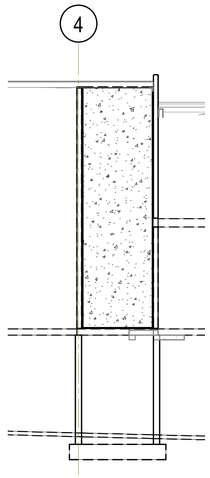
Drawing number: 19712-S7.00

Revision: 2

A1



SECTION A
SCALE 1 : 100
S7.00



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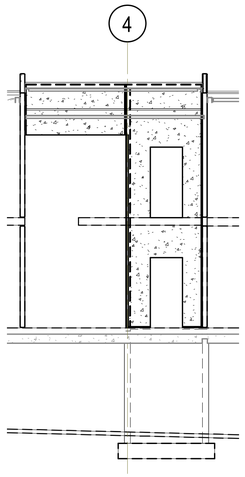

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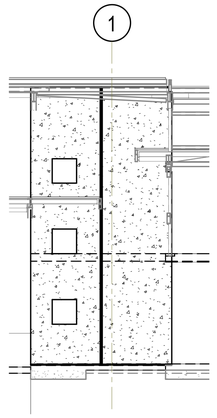

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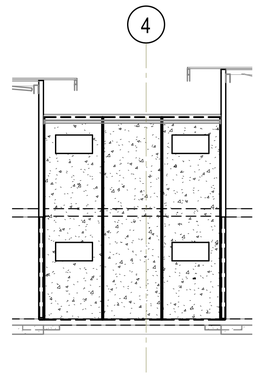
SCALE 1 : 100
S7.00



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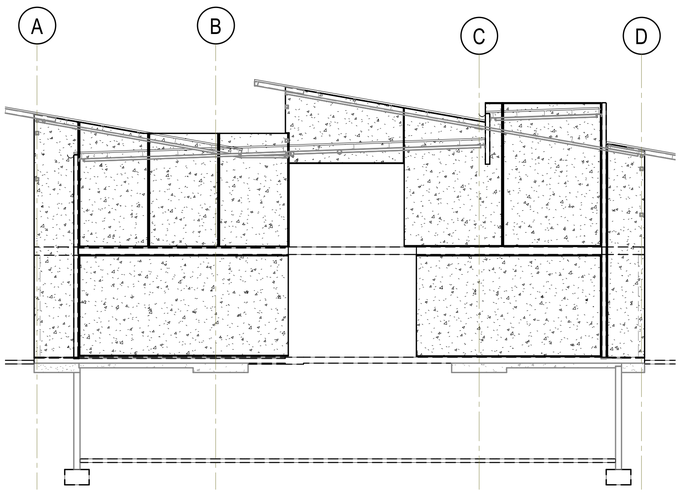
S7.00



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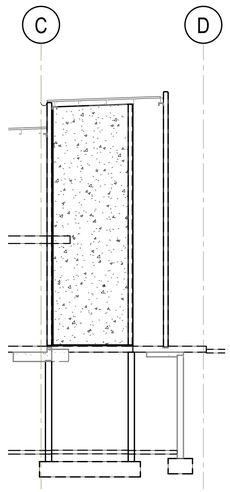
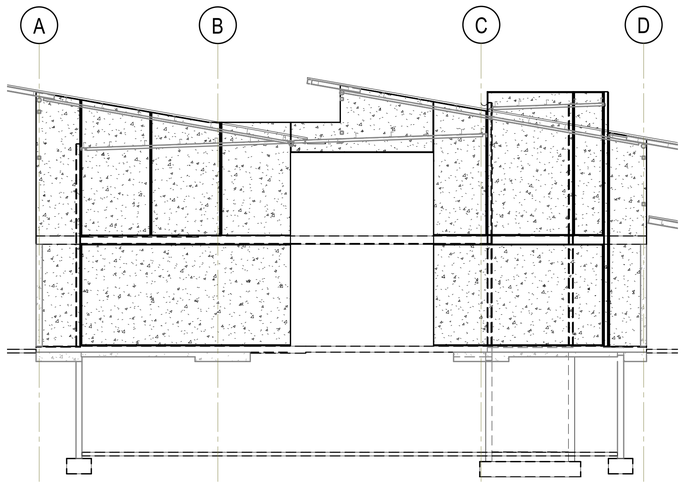
SCALE 1 : 100
S7.00



SECTION G
SCALE 1 : 100
S7.00



SECTION H
SCALE 1 : 100
S7.00

NSW GOVERNMENT Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 25 of 29

ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client
WARAKIRRI COLLEGE

Architect
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henry&hymas

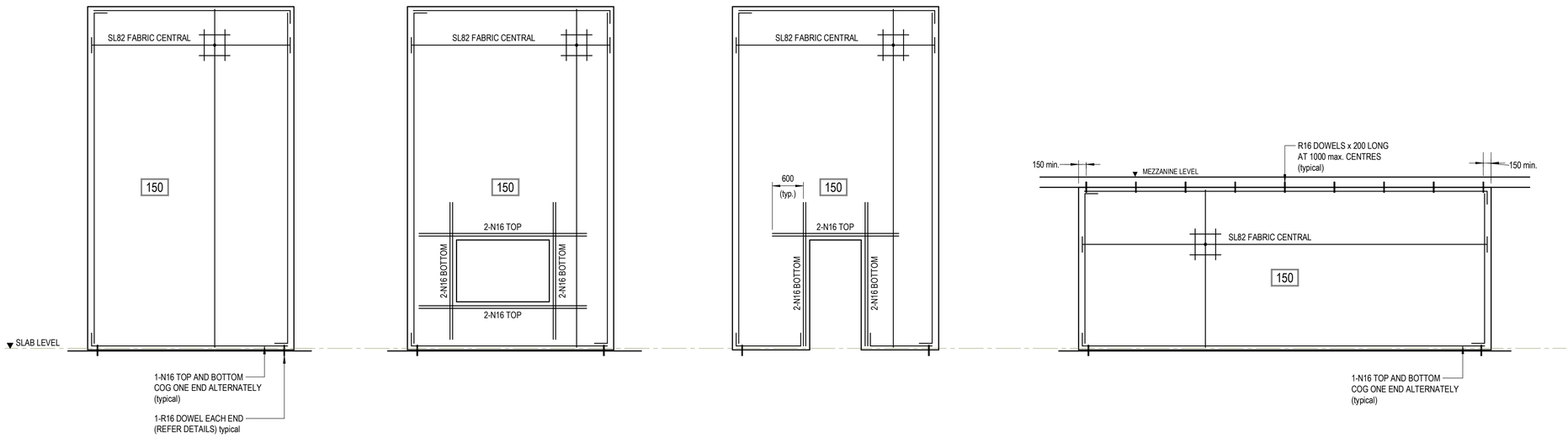
Project
NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title
PRECAST PANEL ELEVATIONS

Drawn	Designed	Date
K.S.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	1 : 100

Drawing number
19712-S7.01

Revision
2



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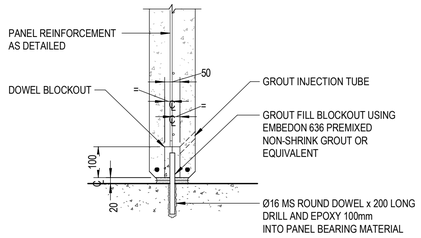
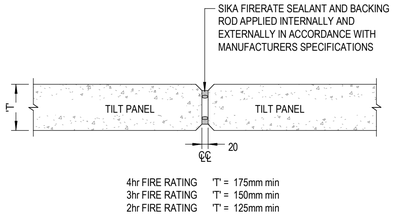
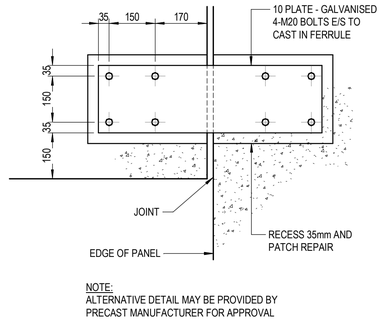
TYPICAL PRECAST PANEL ELEVATIONS



TYPICAL PANEL DOWEL DETAIL
SCALE 1 : 10

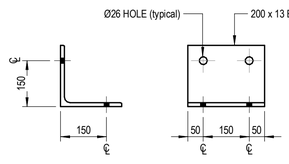


TYPICAL FIRE RATED PANEL JOINT DETAIL
SCALE 1 : 10

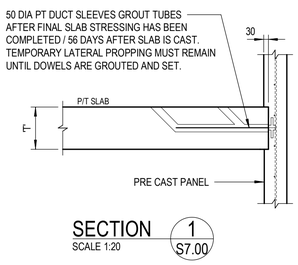


NOTE:
ALTERNATIVE DETAIL MAY BE PROVIDED BY
PRECAST MANUFACTURER FOR APPROVAL

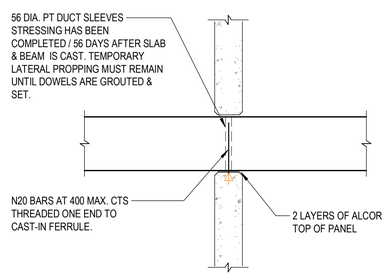
TYPICAL TIED PLATE DETAIL
SCALE 1 : 10



TYPICAL ERECTION ANGLE DETAIL
SCALE 1 : 10



SECTION 1 / S7.00
SCALE 1:20



TYPICAL PANEL / SLAB & BEAM CONNECTION DETAIL

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 26 of 29

ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KOTURIC + CO.

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Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

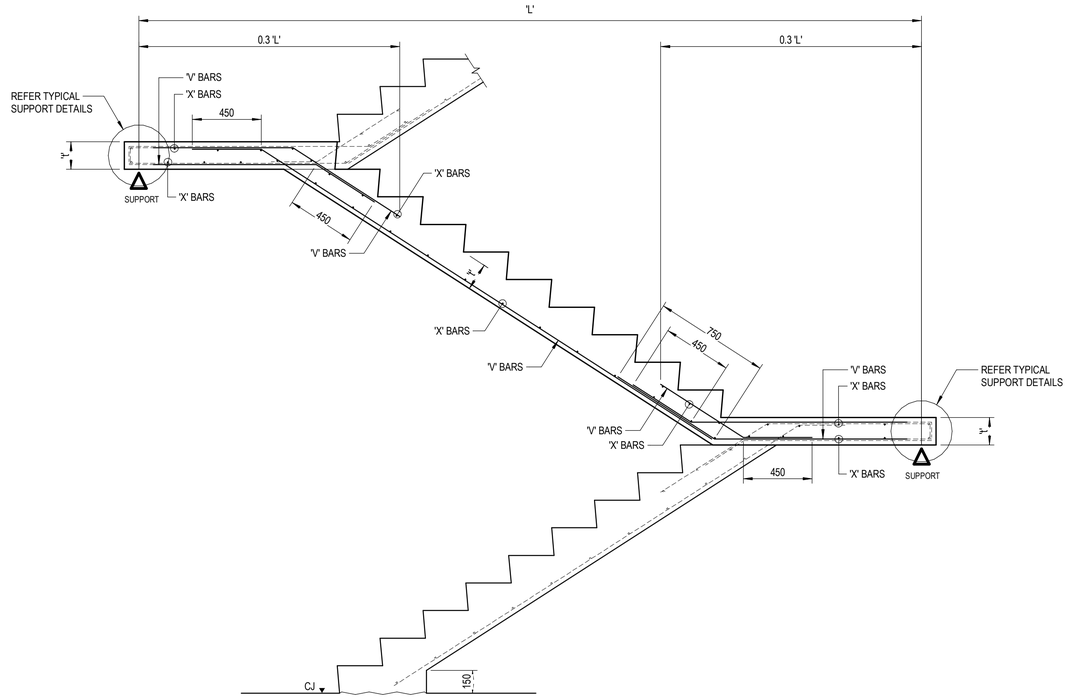
Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: TYPICAL PRE-CAST PANELS DETAILS

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	As indicated

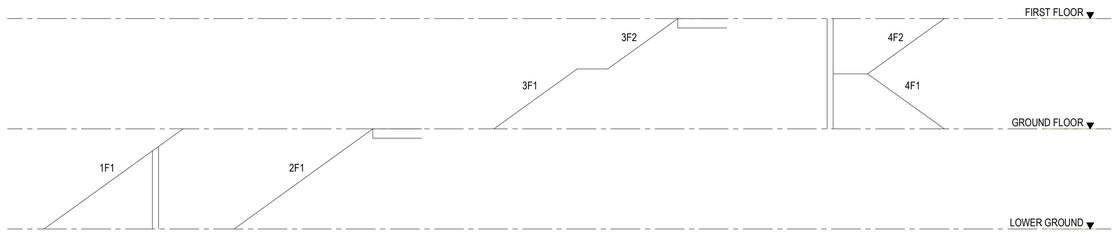
Drawing number: 19712-S7.02

Revision: 2



TYPICAL SECTION THROUGH STAIR FLIGHT

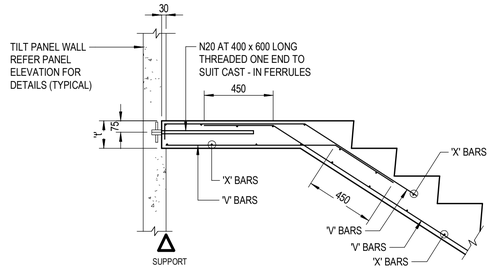
FOR REINFORCEMENT DESIGNATIONS i.e. 'X' or 'V' BARS
REFER STAIR SCHEDULES (TYPICAL)



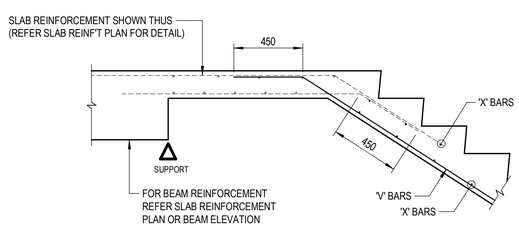
STAIR KEY ELEVATION

SCALE 1 : 100

STAIR No. SCHEDULE			
FLIGHT No.	THROAT THICKNESS	V BARS	X BARS
1F1	180	N16-150	N12-300
2F1	180	N16- 200	N12-300
3F1	200	N20-175	N12-300
3F2	200	N20-175	N12-300
4F1	180	N16-150	N12-300
4F2	200	N20-170	N12-300

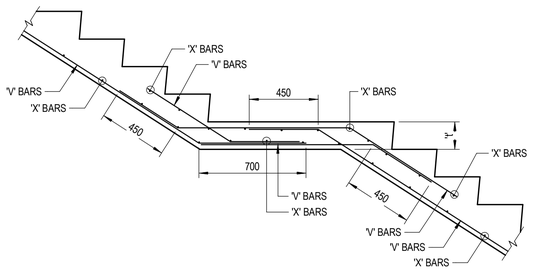


PRE CAST PANEL WALL



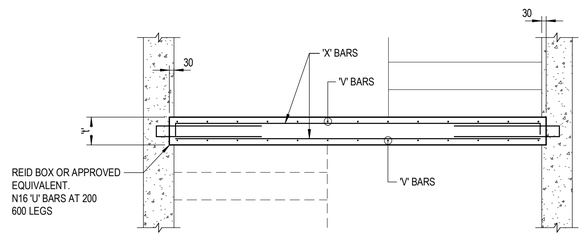
R.C. BEAM

TYPICAL STAIR SUPPORT DETAILS



TYPICAL SECTION THROUGH MID-LANDING

FOR REINFORCEMENT DESIGNATIONS i.e. 'X' or 'V' BARS
REFER STAIR SCHEDULES (TYPICAL)



RC WALL LANDING

STAIR LANDING TYP DETAIL

SCALE 1 : 20

NSW GOVERNMENT Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 27 of 29

ISSUED FOR SSDA

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
2	ISSUED FOR SSDA	HW	D.M.	05-03-2020
1	ISSUED FOR TENDER	K.S.	N.V.	19-12-2019

Client: WARAKIRRI COLLEGE

Architect: KOTURIC + CO.

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henry&hymas

Project: NEW LEARNING CENTRE
6A WATSFORD ROAD, CAMPBELLTOWN

Title: STAIR DETAILS-bak

Drawn	Designed	Date
H.W.	D.M.	DEC. 2019
Checked	Approved	Scale
D.M.	R.K.	As indicated

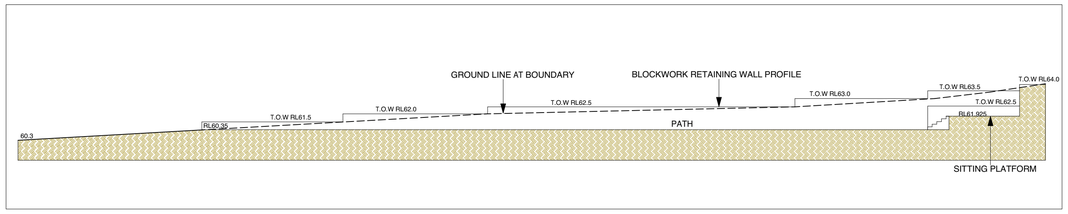
Drawing number: 19712-S8.00

Revision: 2

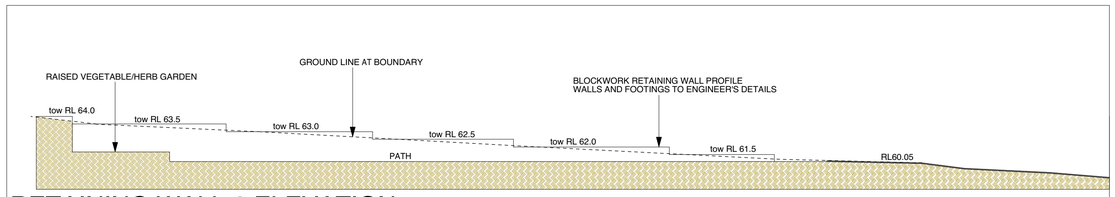
EXISTING SITE

VIEW 1

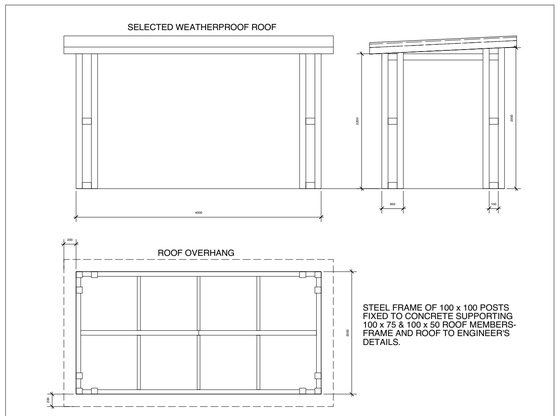
VIEW 2



RETAINING WALL 1 ELEVATION scale 1:200



RETAINING WALL 2 ELEVATION scale 1:200



BBQ PERGOLA DETAIL scale 1:50

CONSTRUCTION NOTES

1. DRAINAGE & SOIL

Waterproof membrane to be installed and tested by builder. Membrane is to be applied to all vertical and horizontal surfaces of planter boxes and retaining walls. A layer of Atlantis drainage cell (or equivalent) covered by filter fabric shall be installed to the entire floors of all planter boxes and covered by 150mm of coarse washed river sand. Give sufficient notice so that inspection of drainage layer may be made before placing topsoil.

Soil to planter boxes shall be a "Planter Box Soil Mix" equivalent to that supplied by Australian Native Landscapes Pty. Ltd. installed in layers no more than 200mm in depth and lightly compacted by watering. Soil shall be installed so as to mound towards centre of planter boxes to compensate for slump and to provide maximum possible soil depth. Soil shall finish 50mm below planter box edges. Avoid differential subsidence and produce a finished surface which is smooth and free from lumps of soil.

2. MULCH

Mulch shall be suplied by an approved supplier and chosen for stability from wind and rain. Mulches to evenly applied to garden beds to a depth of 75mm. Mulch shall not be composted and shall be free from foreign bodies and propagules of exotic weed species. Mulch shall be installed to finish 25mm below level of planter box edges .

3. PLANT MATERIAL

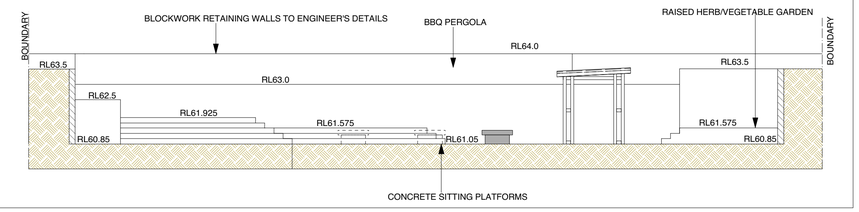
Shall all be well grown for pot size, disease free and true to type supplied by an approved grower. Plant material may be inspected off site prior to delivery at the client's discretion. No substitutions shall be made without the approval of the landscape designer.

4. IRRIGATION

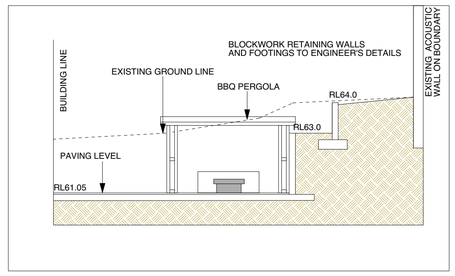
A drip irrigation system with controller, backflow prevention and rain cut-off switch shall be installed by a licensed contractor to Sydney Water standards and AS 3500. All planter boxes shall be covered by the irrigation system. The builder is responsible for ensuring that all necessary sleeving is installed so that planting bays can be irrigated. Power and water take-off points are also to be supplied by the builder.

PROPOSED LANDSCAPE

RETAINING WALLS SECTION A-A scale 1:100



RETAINING WALLS SECTION B-B scale 1:100



NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 28 of 29

Revision	Date	Amendement
F	17/10/19	For DA submission
E	11/10/19	Design development
D	1/10/19	Design development
C	29/9/19	Design development
B	24/9/19	Design development
A	19/9/19	Add section

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Drawn: CM	The Contractor is to check all dimensions from the actual work; notify designer of discrepancies in the drawings and seek instructions.
Date: 15/08/2019	Authority is required for any reproduction.
Checked	This drawing is based on architectural drawings by Koturic & Co. Pty Ltd and is subject to copyright.
Printed Date	
File Name: 541	

Project

New Learning Centre

6A Watsford Road, Campbelltown

For

Warakirri College

Sheet Name

Landscape plan

Scales	Sheet
1:200/ as shown	A1
Drawing Number: 541-L1	Revision Number: F

Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-10420 Signed:

Granted on: 12 August 2020 Sheet no: 29 of 29

Corymbia sp. ON NEIGHBOURING PROPERTY

D0.3 / S2 / H15

D0.4 / S4 / H15

63.49

NORTH

WATSFORD ROAD

BOUNDARY LINE 78.125m 32119'20"

8 x CVM | 1 x CM | 5 x EF | 27 x WAB | 7 x SC | 13 x SP | 14 x ASR | 7 x SA | 6 x WBG | 5 x EF

5 x DE | 6 x EM | 10 x GR | 5 x EM | 3 x BE | 10 x CSF | 3 x GRG | 8 x LT | 18 x DSS

STAIRS

TOILET | TOILET | STAFF EXECUTIVE 78m2 | OFFICE 1 | 16 x LT | 6 x CS | STORE 6m2

RECEPTION/ ADMINISTRATION 22m2 | OFFICE 2 | OFFICE 3 | OFFICE / MEETING | STAIR & VOID OVER | LIFT | FUNCTION ROOM 95m2 | OPERABLE WALL | EXTERNAL TERRACE & COLLABORATIVE LEARNING 96m2

SIGN IN

PROPOSED 2 STOREY LEARNING

1 x BS | 17 x WAB | 5 x EM | 5 x CVM | 16 x DSS | 6 x GR | 5 x ASM | 10 x ASM

1 | 2

MAIN ENTRANCE | STAIR | FOYER RL 61.150 | HALL 1 | WAITING AREA

UNI-SEX ACCESSIBLE TOILET | FIRST-AID & SICK BAY | LUNCH ROOM 25m2 | OFFICE 14m2

STUDENT LOUNGE, BREAKOUT AREA & COLLABORATIVE LEARNING 85m2

MALE | FEMALE | CLEANER | KITCHEN & PREP. AREA 15m2 | STORAGE 10m2 | LABORATORY 90m2

rainwater tank | rainwater tank

1 x TL | EXISTING *Acacia* spp. | 1 x SA | 8 x CVM | EXISTING *Acacia* spp. | 3 x SA | 26.075m 444445 | 3 x HV | EXISTING *Acacia* spp. | Boundary 26.075,44°48'55" | 2 x HS | 4 x SA | 3 x HV | EXISTING *Acacia* spp. | 5 x RS | 5 x SA | 3 x WBG | BOUNDARY LINE | 2 x TL | EXISTING *Acacia* spp.

HERB & VEGETABLE GARDEN

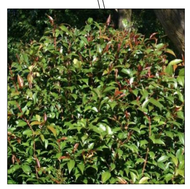
Photinia HEDGE

BOUNDARY LINE 77.085m 14058'

1 x CVM | 10 x CA | 5 x EF | 6 x SP | 8 x ASR | 8 x SA | 7 x ASR | 11 x SC | 4 x GRJ

LINE OF BUILDING AWNING


Acmena smithii 'BWNRED' "Red Head"


Acmena smithii var. minor 'Baby Lily'


Banksia ericifolia


Banksia serrata


Callistemon viminalis 'LC01' "Macarthur"


Callistemon viminalis 'CC19' "Scarlet Flame"


Cordyline stricta


Correa alba


Corymbia maculata


Dianella caerulea 'Silver Streak'


Doryanthes excelsa


Eriostemon (syn. Philotheca) myoporoides


Eucalyptus ficifolia 'Baby Scarlet'


Grevillea 'Roybn Gordon'


Grevillea rosmarinifolia 'H16' "Crimson Villea"


Grevillea rhyolitica x juniperina ' TWD01' "Cherry Cluster"


Hardenbergia violacea 'HB1"Meema"


Hibbertia scandens


Lomandra longifolia 'Tanika'.


Rhagodia spinescens 'SAB01 "Aussie Flat Bush"


Syzygium australe 'Resilience'


Syzygium 'Cascade'


Syzygium paniculatum 'Backyard Bliss'


Tristaniopsis laurina


Westringia fruticosa 'Aussie Box'


Westringia hybrid 'WES03' "Blue Gem"

PLANT SCHEDULE

CODE	PLANT NAME	AV. MATURE HT.	No.	POT SIZE in mm
ASR	Acmena smithii 'BWNRED' "Red Head".	6m	21	400
ASM	Acmena smithii var. minor 'Baby Lily'	1.0m	15	200
BE	Banksia ericifolia	3m	3	400
BS	Banksia serrata	6m	1	400
CVM	Callistemon viminalis 'LC01' "Macarthur"	1.8m	22	200
CSF	Callistemon viminalis 'CC19' "Scarlet Flame"	1.0m	10	200
CC	Cordyline stricta	2.0m	6	200
CA	Correa alba	1.2m	10	200
CM	Corymbia maculata	15m	1	75L
DSS	Dianella caerulea 'Silver Streak'	0.4m	34	150
DE	Doryanthes excelsa	2m	5	300
EM	Eriostemon (syn. Philotheca) myoporoides	0.9m	16	200
EF	Eucalyptus ficifolia 'Baby Scarlet'	3m	15	400
GRG	Grevillea 'Roybn Gordon'	1.0m	3	200
GR	Grevillea rosmarinifolia 'H16' "Crimson Villea"	0.8m	16	200
GRJ	Grevillea rhyolitica x juniperina ' TWD01' "Cherry C	0.4m	4	200
HV	Hardenbergia violacea 'HB1"Meema"	0.4m	6	200
HS	Hibbertia scandens	0.4m	2	200
LT	Lomandra longifolia 'Tanika'	0.5m	24	150
RS	Rhagodia spinescens 'SAB01 "Aussie Flat Bush"	0.5m	5	200
SA	Syzygium australe 'Resilience'	6m	28	400
SC	Syzygium 'Cascade'	2.0m	18	400
SP	Syzygium paniculatum 'Backyard Bliss'	6m	19	400
TL	Tristaniopsis laurina	8m	3	400
WAB	Westringia fruticosa 'WES08 "Aussie Box"	0.8m	44	200
WBG	Westringia hybrid 'WES03' "Blue Gem"	1.0m	9	200

Revision	Date	Amendement
C	17/10/19	For DA submission
B	11/10/19	Design development
A	1/10/19	Design development

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Drawn: CM

Date: 15/08/2019

Checked:

Printed Date:

File Name: 541

Project

New Learning Centre

6A Watsford Road, Campbelltown

For

Warakirri College

Sheet Name

Planting plan

Scales: 1:100

Sheet: A1

Drawing Number: 541-L2

Revision Number: C