PENRITH CITY COUNCIL This plan / document relates to Construction Certificate: CC16/0164 Subject to the conditions outlined in the consent NOTE: Entire site to be managed by builder & owners WELL PRECINCT as a IPA (inner pretection area) in accordance LIGHT INDUSTRIAL with Section 4.2.7 of the 'Environmental Planning and Assessment Act 1979'. SITE BOUNDARY EX STORMWATER PIT 100 year ARI **FUTURE** ENCLOSURE OF EXISTING COLA RESIDENTIAL ZONE VACANT FOR INDOOR COURT - nev LAND NEW SW CONNECTION EX STORMWATER LINE SUBSTATION GIPPS ST FLOOD EVACUATION **FUTURE** RESIDENTIAL ZONE WAREHOUSE BUSHLAND 100 year ARI RANCE ST SITE BOUNDABY RANCE ST KINGSWAY PLAYING FIELDS

SITE PLAN & PARTIAL STORMWATER CONCEPT PLAN INCLUDING APPROVED FLOOD & BUSH FIRE EVACUATION ROUTE 1:3000 @ A3

WOLLEMI COLLEGE ENCLOSURE OF EXISTING COLA FOR INDOOR COURT

- 01 COVER SHEET
- 02 SITE PLAN
- 03 PLAN & LANDSCAPE & PARTIAL STORMWATER CONCEPT PLAN
- 04 ELEVATIONS AND COLOUR SCHEDULE
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- 12 WINDOW AND DOOR SCHEDULE
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CC SET - COVER

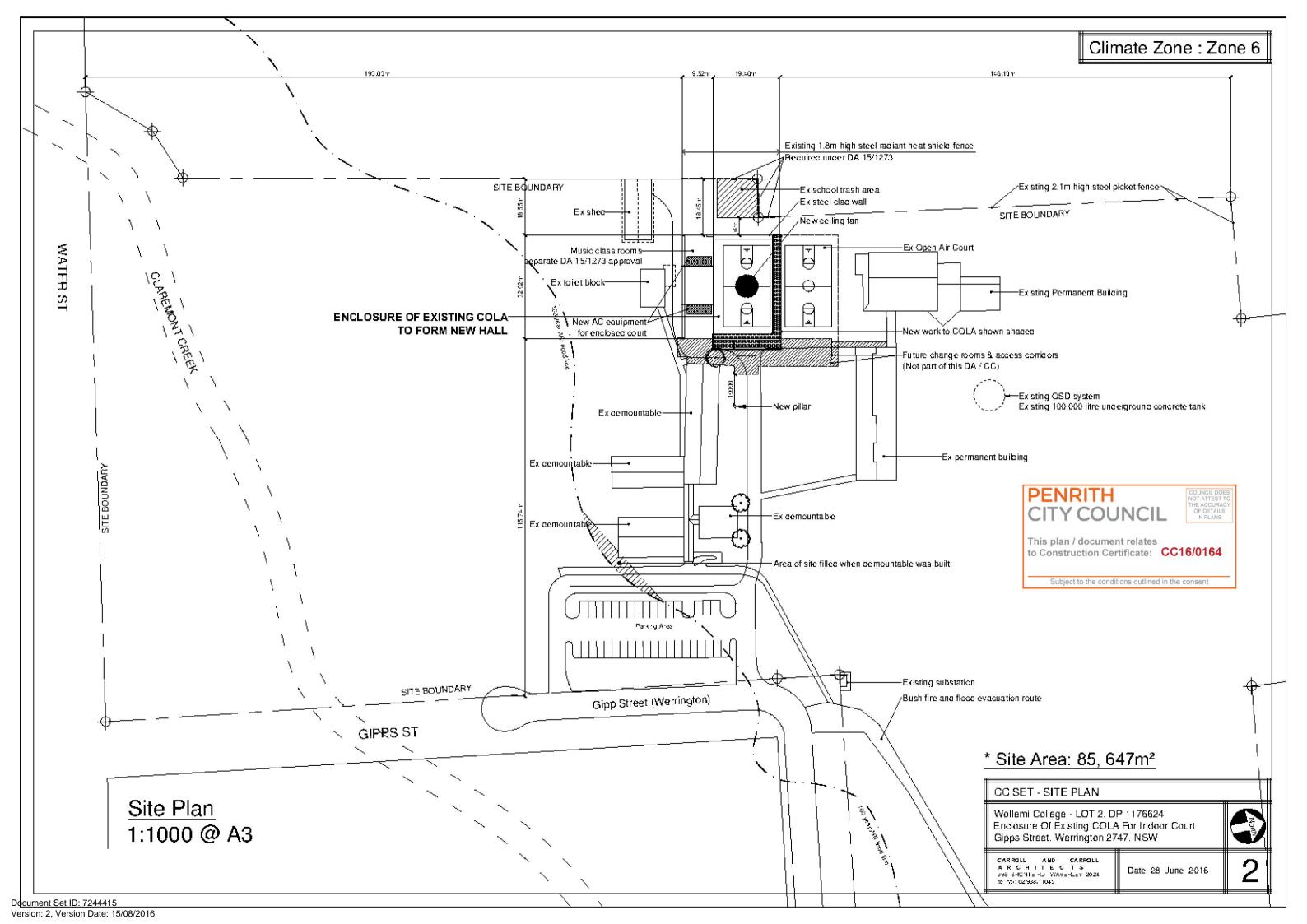
Wollemi College - LOT 2, DP 1176624 Enclosure Of Existing COLA For Indoor Court Gipps Street, Werrington 2747, NSW

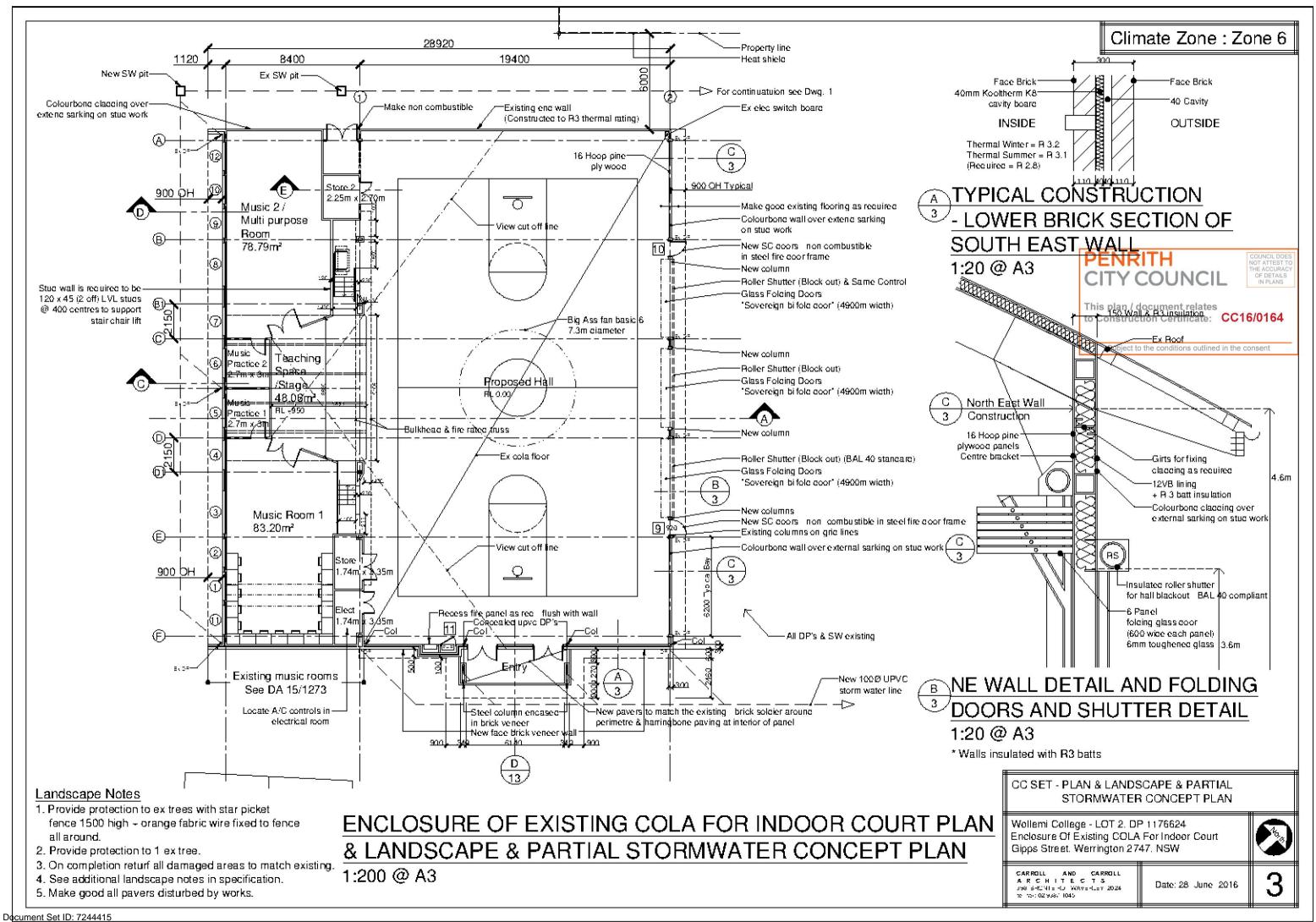


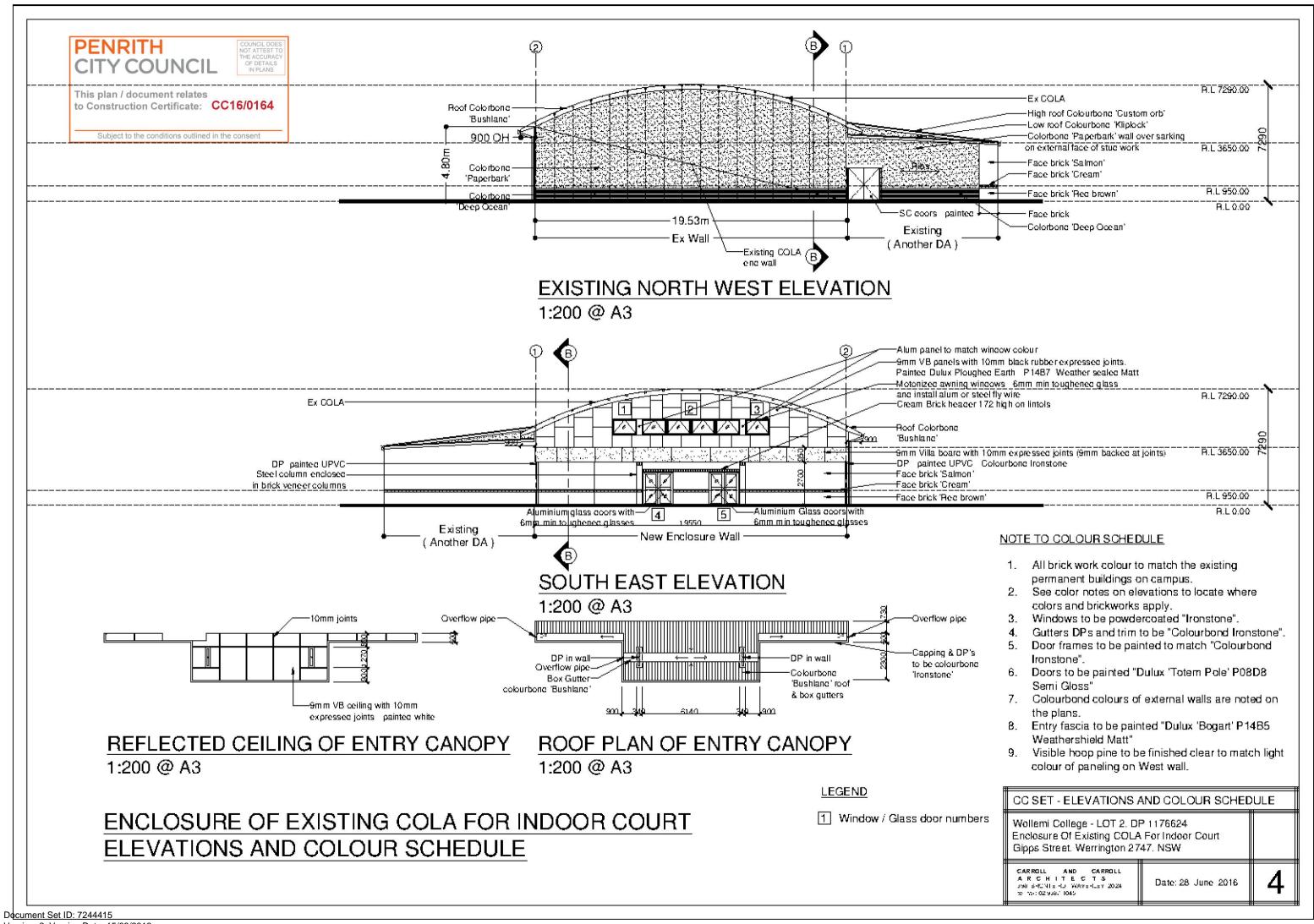
CARROLL AND CARROLL
A R C H I T E C T S
398, BRONTE RD , WAVERLEY, 2024
tel/ fax: 02 9387 1045

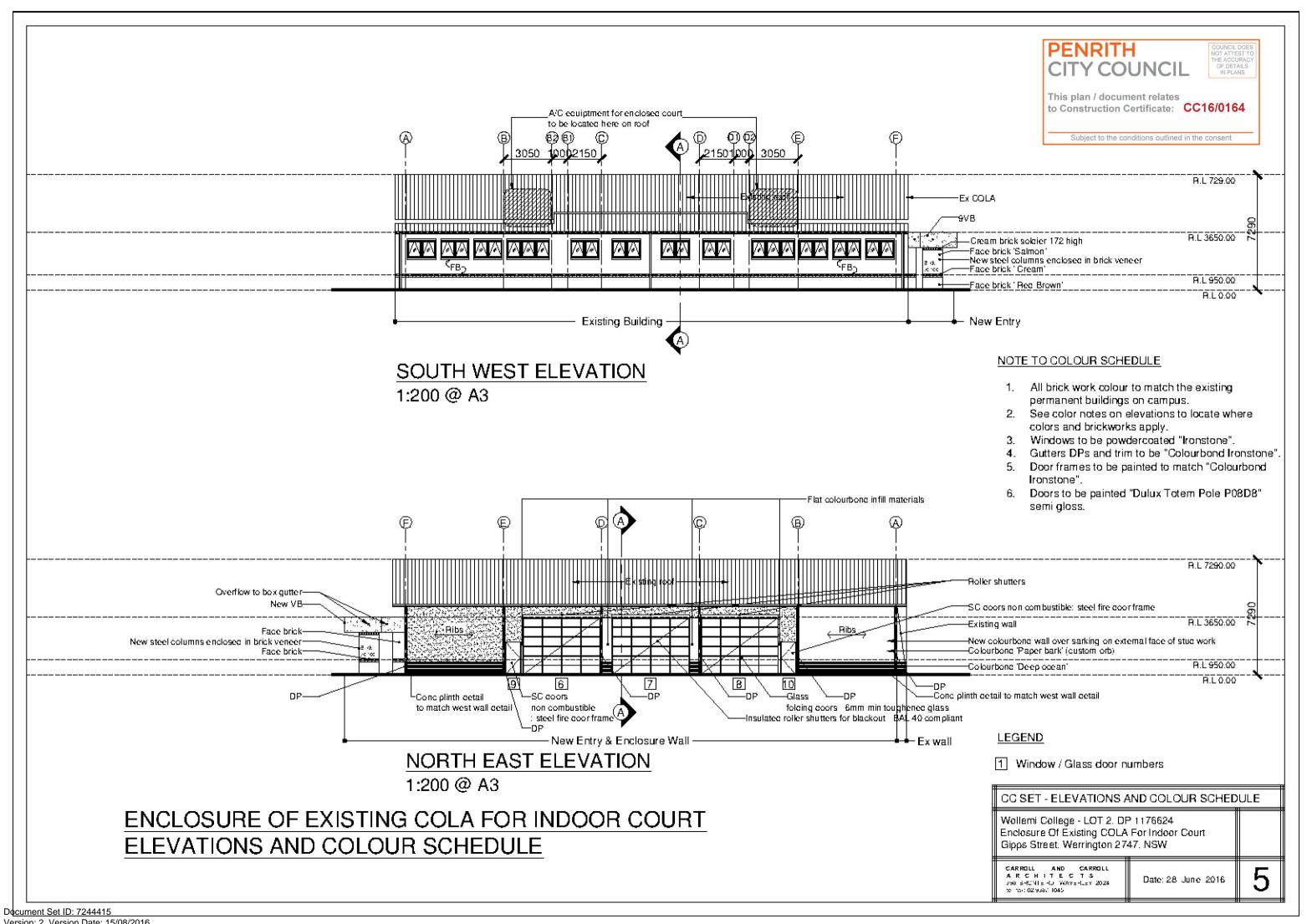
Date: 28 June 2016

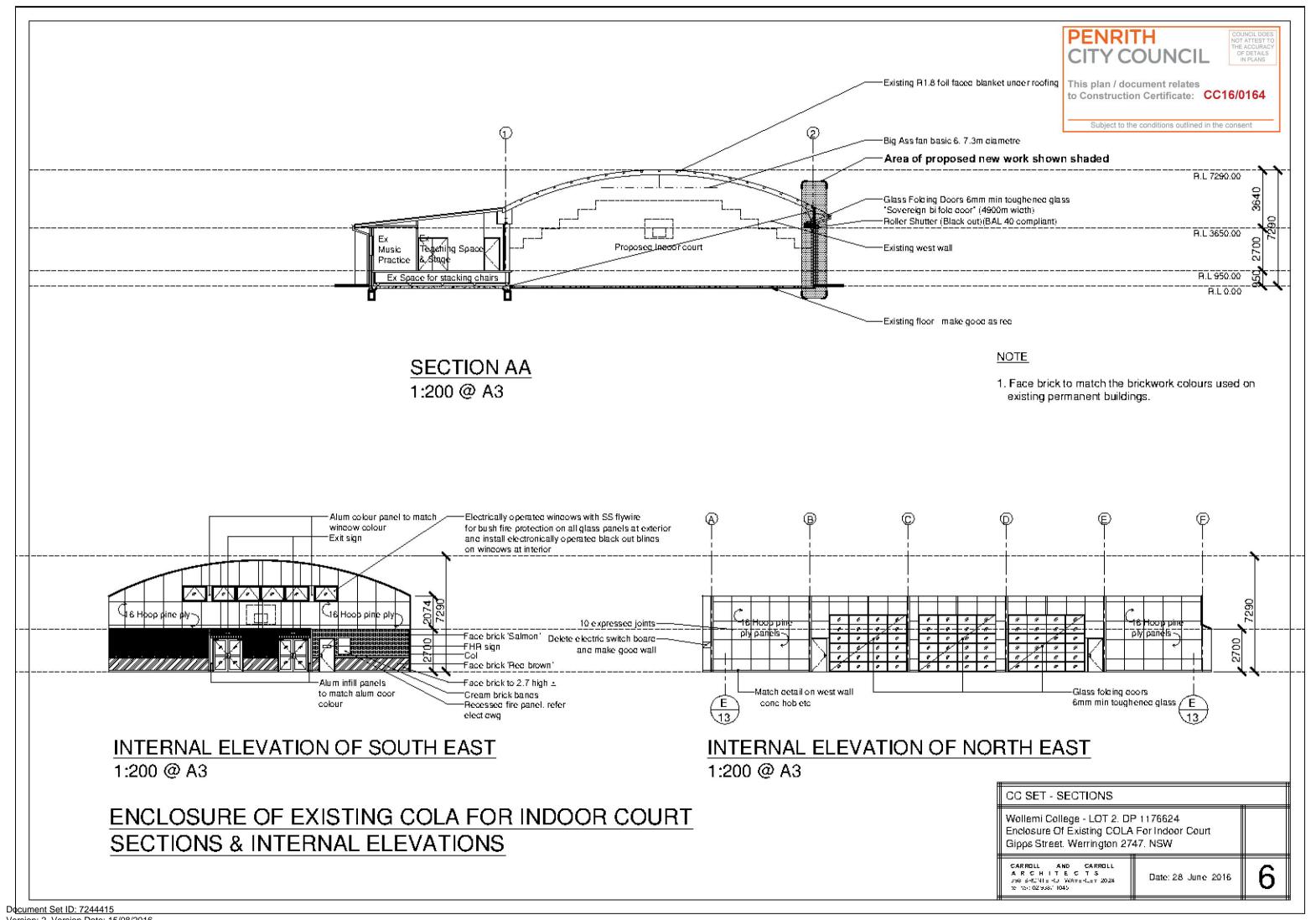
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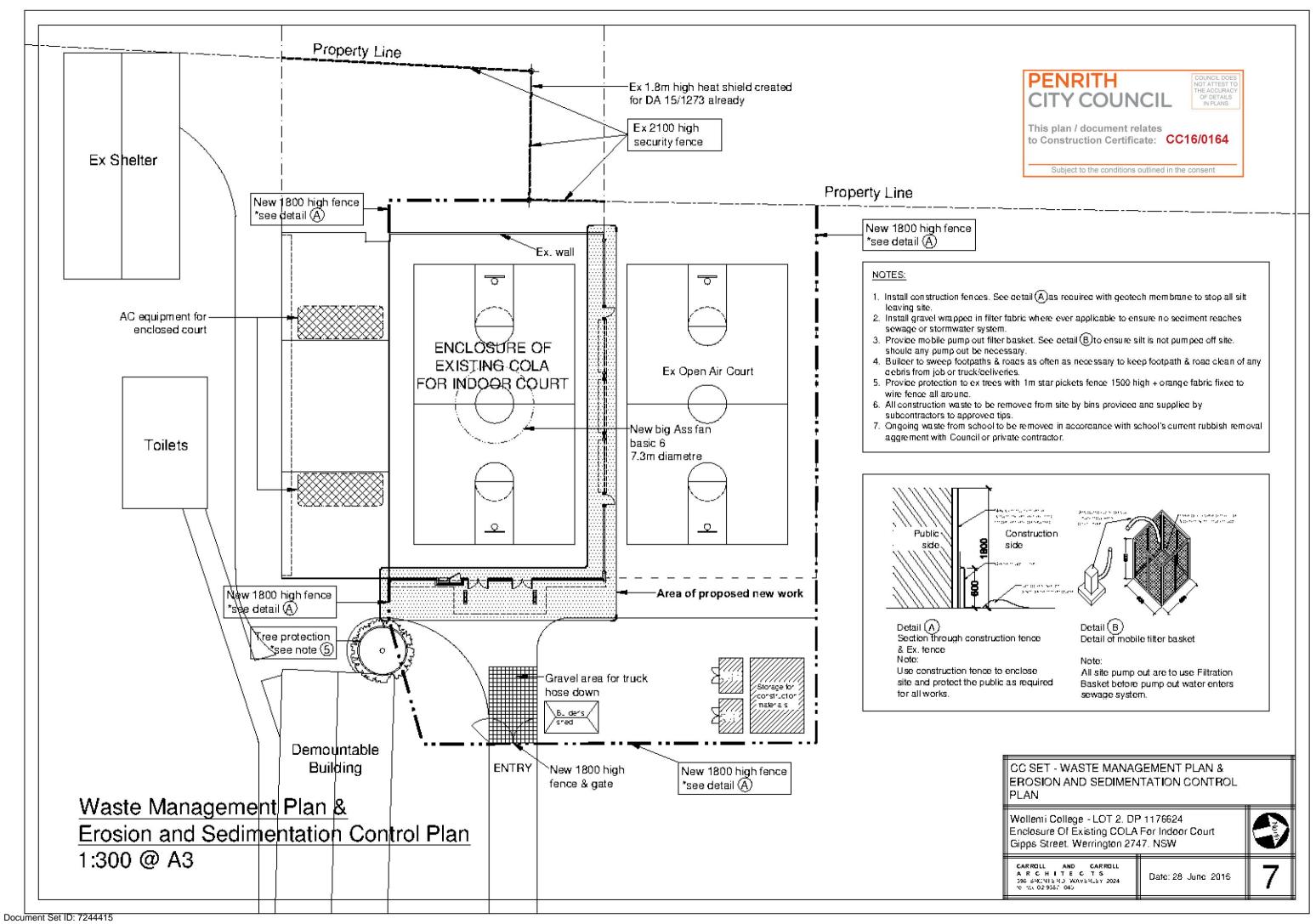












PRELIMINARIES & GENERAL

- 1. Builder shall check & verify on site, all dimensions before proceeding or ordering any materials.
- 2. Builder to provide & pay for all necessary tools, equipment and temporary services unless agreed otherwise with owner.
- 3. Builder to co-ordinate all of the work and sub-trades and specialist sub-contractors required to complete the job.
- 4. Builder to clean the site regularly and on completion thoroughly clean new works inside & out (windows included) and remove all rubbish from site.
- 5. Builder to be responsible for a structurally sound & watertight job.
- Builder to contact architect should unforeseen circumstances occur & for any required clarifications.
- Building to comply with all condition of DA 16/0148 and Construction Certificate & to comply with the Building Code of Australia (BCA) and all relevant Australian standards.
- Builder to make good at his own expense any damage resulting, from demolition & /or construction, to the
 existing structure or new work.
- 9. Builder is generally to make good to all new and existing finishes and materials and junctions thereof to match existing.
- Refer to structural and other architect's drawings for additional specification notes.
- 11. Fire precaution during construction to comply with BCA E1.9.
- 12. Builder to comply with all condition of letter dated 21 April 2016 from the NSW Rural fire service. REF No. D16/ 0578
- Builder to comply with DA condition 7 & 12 in relation to dust suppression and noise level allowed.
- 14. Builder to comply with soil & water management plan & waste disposal conditions outlined in the DA.
- 15. Builder to maintain copies of the stamped council approval plans on site & all DA approval documents.
- Builder to erect two site signs on site as outlined in DA condition 17.

STEELWORK & METALWORK

- 1. Refer to structural drawings and structural specifications.
- 2. Builder to supply & install steel structural members: dimensions and construction details as specified by structural engineer.
- 3. Builder to supply & fit all metalwork and fittings required to complete works ie. column shoes, ties, brackets, angles, hinges, locks, straps, screws, bolts, nails etc. All external items to be hot dip galvanised.
- 4. Builder shall install all flashings necessary to ensure a watertight job.

Flashing not seen to be Alcore.

Exposed flashings to be 0.7mm zinc minimum or colorbond bent to required shape.

(Match colour of adj materials or as noted)

- 5. Interlock, lap & silicon seal joints on all flashings.
- 6. Aluminium window joinery to be Dulux Powdercoated 'Ironstone".
- 7. "Black out" roller shutters will be supplied and installed by the builder where shown on the drawing colourbond finish.
- 10.All windows & doors to comply with 'Section J' : Glazing calculation and comply with AS 2047 requirements for resistance to water penetration and comply with BCA F1.13 glazed assemblies.
- 11. Folding glass doors to be "Sovereign bi fold doors" powder coated charcoal.



EXCAVATION AND BACKFILLING

- Builder to carry out all necessary excavation and backfilling, as required to complete the works.
- 2. Backfilling to be carried out as per engineer's instructions.
- 3. All retaining walls and drainage behind them to be to engineer's details.
- 4. All new work to be termite protected to AS 3660 via "KORDON" membrane or approved equal under all new conc. slabs Use ant caps under flooring where exposed.
- Make good all finishes walls, floors & ceilings where walls, floors or ceilings are demolished, all generally to match the existing details.
- 6. Waterproof the near face of all retaining walls with bitumen based waterproofing.
- 7. Install agriculture lines, etc. as detailed by the civil engineers.

BRICKWORK & MASONRY

- Refer to structural drawings & specifications.
- 2. Lintels. All lintels to be hot dip galvanised and painted before installation All major lintels beams to engineers req..

Maximum Span	Lintei Size
1200	75 x 8 flat
1500	75 x 75 x 8 angle
1880	102 x 76 x 8 angle
2440	127 x 76 x 8 angle
2770	152 x 89 x 8 angle
3050	152 x 102 x 10 angle

- 3. Bricks. Construct new brickwork as shown on architectural drawings All brickworks to be rendered except garage interior.
- 4. Build in brick joints and control joints as necessary.
- 5. Mortar to be 1:1:6 cement, lime, sand above DPC and 1:1:4 below DPC.
- 6. Install DPC, ties, fixings, lugs, straps, brackets, flashings etc as required to complete the job. Flashings to be 1 mm zinc & all fillings to be hot dip galvanised.
- 7. Rake out joints as required to take cement render.
- 8. All non exposed brickwork or brickwork to be rendered over is to be selected common.
- 9. All brick cavity walls make 300 wide wall with 40mm kooltherm cavity board insulation and 40mm min cavity, to comply with thermal insulation requirements.

CC SET - SPECIFICATI	ON	
Wollemi College - LOT 2 Enclosure Of Existing CO Gipps Street, Werrington	, DP 1176624 DLA For Indoor Court	
CARROLL AND CARROLL A R C H I T E C T S S48 5-YL'VIE-RJ WAYERLEY 2024 TO TO: 102 948/1045	DATE: 28 June 2016	8

SITEWORKS & LANDSCAPING

- 1. Builder to protect all existing plants & to save topsoil from all excavated areas for reuse as required.
- 2. All waste materials are to be removed from site upon completion of the job and the job site is to be suitably cleaned.
- 3. Remove & properly dispose of all construction debris from site.
- 4. Repair paving as required to watch the existing.
- 6. Paver at entry to be reworked as required by the new work.
- 7. No trees are to be removed as a result of this project.
- 8. Builder to replace all damaged lawns with new turf as required and water in. All new landscaping shall comply with the principles of appendix 5 of "Planning for Bushfire Protection 2006"
- 9. Re: NSW Rural Fire Service's report all areas around the site shall be maintained as mowed lawns to keep them compliant with the principle of an IPA (Inner Protection Area) and no combustible material shall be stored to west of the proposed building.
- 10. The existing site evacuation route which currently complies with section 4.2.7 of 'Planning for Bush Fire Protection 2006' is shown dwg no 1.

FORMWORK & CONCRETE

- 1. Builder to carry out all work shown on architectural & structural drawings. Refer to structural drawings for additional specification items.
- 2. All formwork shall be straight & true to required sizes
- 3. Concrete to be 1:2:4 or as shown on engineer's drawings.
- 4. All concrete exposed to view shall have bevel edges and shall be filled and worked smooth and prepared for painting.
- 5. All slab dimensions and reinforcing to engineer's details.
- 6. Concrete beams, strip & pad footings to engineer's details.
- 7. Builder to tank all walls below grade before pouring slabs and backfilling behind retaining walls.

CARPENTRY & JOINERY

 All timber wall framing shall be in accordance with the light timber framing code / AS 1684 use termite treated timber throughout.

Provide blocking, etc as required to complete works.

- All internal timberwork to be WRC or pressure treated pine, for paint finished or as directed. Timber beams & cols to be hardwood.
- 3. Doors / Gates:

exit doors on north wall to be solid core doors(external grade) for paint finish - provide latches to BCA D2.21. All doors to have latches/ handles to comply with BCA D 2.21. - Doors to be non combustible. (clad external face with 1mm galv steel & paint, if necessary.)

4. Windows & External class doors:

New doors & windows to be 6mm toughen glass, (minimum) Colorbond Aluminium windows & frames and comply with Section J. - All windows to have steel or aluminium flywire to comply with rural fire service requirements.

5. Hardware:

Hinges for new doors to be 100mm aluminium - stainless satin steel (SSS) finish.

All doors to have ss & black rubber door stops and/ or cabin hooks as required.

All external glass & timber doors to have lever hardware and locks of the type required to suite the situation SCP plated. Doors to be dead locked at exterior and lever hardware at interior, which will always be open.

6. Other Internal Joinery

Architraves are generally to match existing. Skirting to be satin aluminium 100 high.

7. Signage: Braile and tactile signage must identify each door required to have an exit sign & state "Exit" in accordance with BCA 2013. D3.6.



CC SET - SPECIFICATION

Wollemi College - LOT 2, DP 1176624
Enclosure Of Existing COLA For Indoor Court
Gipps Street, Werrington 2747, NSW

CARROLL AND CARROLL
A R C H I T E C T S
SS SHUTICAD WAVER-LEY 2024
TO 102 988 1045

ROOFER, ROOF PLUMBING & SKYLIGHTS FLOOR FINISHES 1. Entry roof to be Colourbond Custom Orb "Bushland". 1. All materials shall be installed to the highest standards, best of workmanship & with the proper preparation. 2. Gutters and Box Gutters & capping to entry canopy upstand to be Colorbond "Ironstone". 2. Install pavers where shown on the drawings to match existing pavers on site. Rework existing pavers as required. 3. Insulate roof to entry canopy using 1.8 foil faced blanket. 3. Make good to concrete slabs & other flooring finishes disturbed by the works to as new condition. PENRITH **CITY COUNCIL** This plan / document relates to Construction Certificate: CC16/0164 Subject to the conditions outlined in the conser **GLAZIER & BUILDING SEALING HYDRAULICS & MECHANICAL WORK** All glazing shall be in accordance with the appropriate A.S.A. codes, AS 1288, BCA, SAA & Glass Insulation Code. All new plumbing pipes, vents etc. to be enclosed in a satisfactory manner. No pipe work to be run down external wall. 2. All hydraulic work shall be in accordance with the requirements of the MWs & DB. Water supply to be in copper pipe, 2. All windows to be 6mm clear toughened glass "minimum" and as required to comply with section J & drainage & sewerage to be in approved UPVC pipe - all to code requirements. all code requirements. (All glass must be safety glass in schools.) 3. Windows and doors to be sealed to comply with BCA J3.1 and AS 2047 seals to be fitted to the edge of external doors. 3. All new & reworked pipe work is to be concealed. 4. Allow to take out existing plumbing and drainage fittings no longer required by the new walls and floor. Door closers to be fitted to all external doors. 4. Roof, ceiling, walls and floors need to be sealed to minimise air leakage to comply with J3.6. 5. Install drainage as required to drain the works. Connect all drains to ex SW system. 6. All hydraulics work to be in accordance with the consultant engineers drawings and specifications. 5. All windows, fixed or operable to have alum or steel flyscreens. 7. All water & electricity shall comply with section 4.1.3 and 4.2.7 of "planning for bushfire protection 2006". GAS CC SET - SPECIFICATION Wollemi College - LOT 2, DP 1176624 1. No gas required for this project. Not Used Enclosure Of Existing COLA For Indoor Court Gipps Street, Werrington 2747, NSW A R C H I T E C T S 388 SHONIERU WAVERLEY 2024 DATE: 28 June 2016 to 1757:02 9387 104.5

ELECTRICAL PAINTER

- 1. All electrical work shall be in strict and complete compliance with the all authorities requirements. Builder to provide all labour & materials to complete the works.
- 2. All wiring to comply with relevant SAA standards and codes.
- 3. All wiring to be concealed.
- 4. Mark all locations of lights, switches and general power outlets for owner's approval of location before proceeding.
- 5. All switches, lighting etc shall be by builder & in accordance with the electrical plan.
- 6. Builder to install new safety switches to all circuits to code/council's requirements.
- 7. Connect power and provide switches / handsets to electric blinds, roller shutters and awning windows.
- 8. Builder to protect all existing security system. Owner shall arrange & pay for any relocation necessary or expansion of the system if they so choose builder to co-operate & support this sub-trade as required to complete the system.
- 9. Provide & install all necessary exit signs, emergency lighting, smoke alarm etc. as required by the codes.
- 10.Refer to electrical consultant's drawing & specification.

- All painting to be carried out in accordance with manufacturer's directions for the type of paint being used.
 Allow for good preparation.
- 2. Use drop sheets, masking tape etc. to protect furnishings and finishes. Upon completion clean off all paint splatter.
- 3. Allow four (4) weeks for architect or owner to provide a colour schedule.
- 4. Clean all paint off floor and where spilled and remove all empty containers from site.
- 5. All timber work to be painted with undercoat and two finishing coats in low sheen, wash wear acrylic paint.
- 6. All exterior walls to be prepared and waterproofed & sealed with one coat and 2 coats of acrylic paint finish.
- 7. All new work to be painted up to a logical cut-off point to produce a first class job internally & externally.
- 8. Match existing colour on the block walls.



WALL & CEILING FINISHES

- 1. All materials shall be installed in accordance with the best of workmanship, preparation and materials to the architect's approval.
- 2. North East external wall: The lower section to be Colorbond "Deep Ocean" and the upper wall to be Colorbond "Paperbark"
- 3. South East external wall: The lower section to be face brick." Red Brown, the upper section to be "face brick." Salmon" and the band between the lower section and upper section to be face brick." Cream".
- 4. Make good to brick walls as required to match existing.
- 5. In all areas where making good, match existing surfaces & finishes.
- 6. Make good existing wall finishes where damaged by construction. Match existing finishes.
- 7. All wall and ceiling linings and floor material and floor coverings to have fire rating and properties that comply with C 1.10.
- 9. All walls, ceilings to be insulated to section 'J' requirements.

All perimetre walls - R - 2.8 of new work.

All ceilings - R - 3.2 upwards.

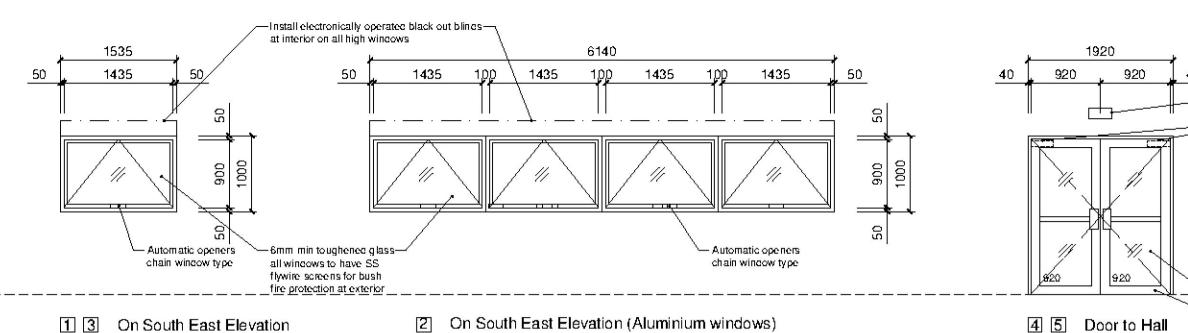
External entry ceiling to be insulated with R 1.8 foil faced blanket only.

- 10. Hang new ceiling framing from purlins to hide roof bracing & clad with (pinhole) colourbond (white)cladding over R 2.5 blanket insulation (for thermal & acoustic reasons).
- 11. Soffit to entry canopy to be 9mm villaboard with 10mm expressed joints. 10mm wide & black rubber backing to joints.

MISCELLANEOUS, SPECIAL & P.C ITEMS

- Refer to drawings for additional specification notes.
- 2. Builder to allow for all items to complete job.
- Builder to retain certificates of completion, council, etc; all guarantees for work, appliances & equipment; and maintenance instructions and is to handover to owners upon completion.
- Builder to provide 2 frames A4 with robust acrylic covers on existing door of electrical cupboard and display a copy of both the current annual fire safety schedule certificate, and fire safety certificate.

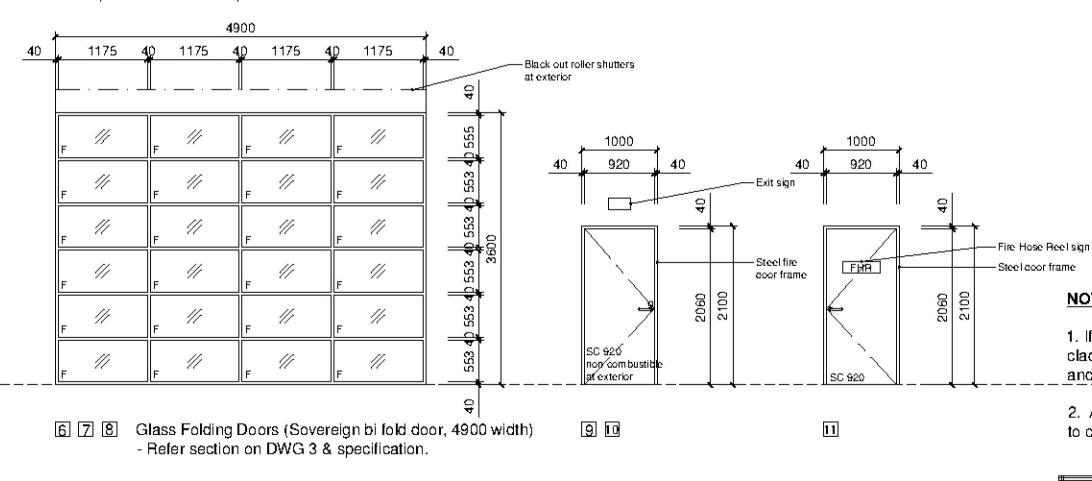
CC SET - SPECIFICATION	ON	
Wollemi College - LOT 2, Enclosure Of Existing CC Gipps Street, Werrington	LA For Indoor Court	
CARROLL AND CARROLL A R C H I T E C T S DRS SHONTER J WAVERLEY 2024 TO TO 102 988/ 1045	DATE: 28 June 2016	11



On South East Elevation (Aluminium windows)

On South East Elevation (Aluminium windows)

NOTE: Windows 11, 2 & 3 to have flyscreens of alum or steel at exterior on all opening and fixed panel's for bushfire protection.



ENCLOSURE OF EXISTING COLA FOR INDOOR COURT WINDOW & DOOR SCHEDULE

1:50 @ A3



2100

Exit sign

-Doordloser

—6mm min toughened glass - Aluminium frame

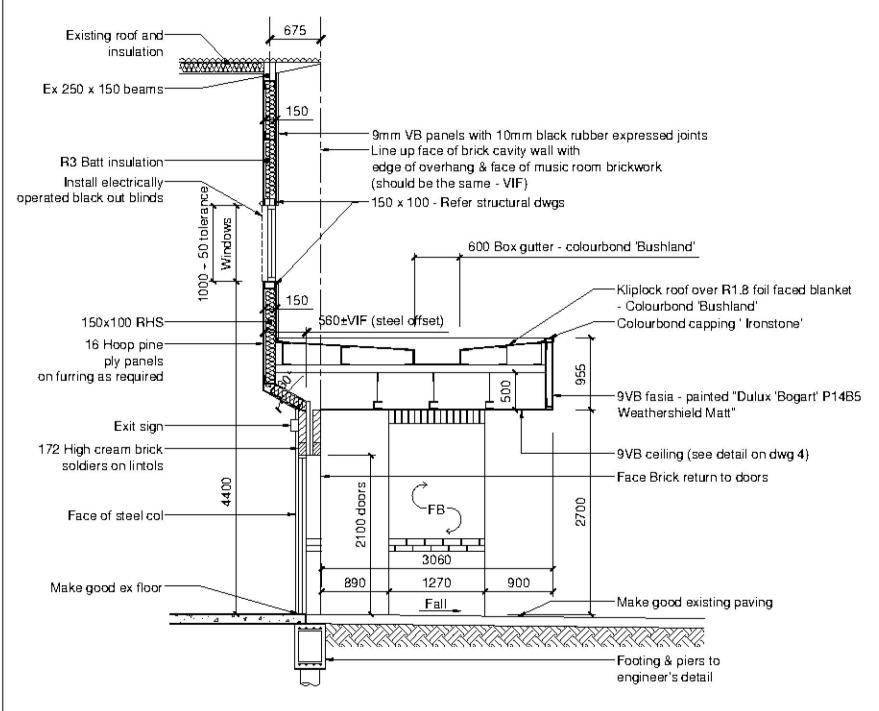
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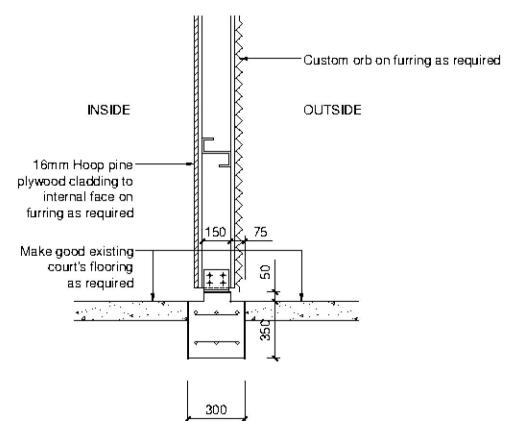
- 1. If non combustible SC door is not available, clad in 1mm galvanised steel at exterior and paint.
- 2. All glazing to be safety glass and as rquired to comply with section 'J' of the BCA.

CC SET - WINDOW AND	DOOR SCHEDULE		
Wollemi College - LOT 2. DI Enclosure Of Existing COLA Gipps Street. Werrington 27	For Indoor Court		
CARROLL AND CARROLL A R C H I T E C T S 398 5-WHIERD WAYERLEY 2024 20 TO: 02/938/ 1045	Date: 28 June 2016	1	2

Document Set ID: 7244415







CONSTRUCTION OF SOUTH EAST WALL
3 1:50 @ A3

CONSTRUCTION OF NORTH EAST WALL

1:20 @ A3

ENCLOSURE OF EXISTING COLA FOR INDOOR COURT DETAILS

CARROLL AND CARROLL A R C H I T E C T S 388 64741E-40 WAVE-LEY 2024 to to: 02988/ 1045	Date: 28 June 2016	13
Wollemi College - LOT 2. D Enclosure Of Existing COL/ Gipps Street. Werrington 27	A For Indoor Court	
CC SET - WINDOW AND	DOOR SCHEDULE	

GENERAL

- G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- G2. ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED. THE ENGINEERS' DRAWINGS SHALL NOT BE SCALED.
- G3. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVER STRESSED UNDER CONSTRUCTION ACTIVITIES. TEMPORARY BRACING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
- G4. WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE RELEVANT CURRENT SAA CODES INCLUDING ALL AMENDMENTS, AND THE LOCAL STATUTORY AUTHORITIES, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- G5. THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE ENGINEER.
- G6. ALL DIMENSIONS ARE IN MILLIMETRES UNO. ALL LEVELS ARE EXPRESSED IN
- G7. U.N.O. THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING:

LIVE LOADS & ADDITIONAL DEAD LOADS: (TO AS/NZS 1170.1)

AREA SUBJECT TO	LIVE LC	ADD. DEAD LOAD	
LOADING	UNIFORM	POINT	
RESIDENTIAL AREAS	2.0 kPa	1.8 kN	0.50 kPa
OFFICE / CLASSROOM AREAS	3.0 kPa	2.7 kN	0.50 kPa
BALCONIES / STAIRS	4.0 kPa	1.8 kN	1.00 kPa
STORAGE AREAS	2.4 kPa/m	7.0 kN	0.50 kPa
ROOF AREAS	0.25 kPa	1.4 kN	0.15 kPa
PLANTER AREAS	0.5 kPa	1.4 kN	6.00 kPa
GYMNASIA / RETAIL	5.0 kPa	3.6 kN	0.50 kPa
LIGHT TRAFFIC (GVM<2.5t)	2.5 kPa	13.0 kN	0.25 kPa

WIND LOADS: (TO AS/NZS 1170.2) WIND VELOCITY

- REGION: A2, TERRAIN CATEGORY: 3 Vs=37 & Vu=45 m/s

EARTHQUAKE LOADS: (TO AS 1170.4)

EARTHQUAKE ZONE = a = 0.08, S=1.0, I = 1.0

FOR EARTHWORKS AND FOUNDING CONDITIONS REFER TO SITE SPECIFIC GEOTECHNICAL REPORT. ANY DISCREPANCIES BETWEEN THE GEOTECHNICAL REPORT AND THE FOLLOWING NOTES SHALL BE REFERRED TO THE ENGINEER FOR A DECISION BEFORE PROCEEDING WITH THE WORK.

BULK EARTHWORKS

- BE1. THE SITE SHALL BE STRIPPED A MINIMUM DEPTH OF 50 mm UNDER PAVEMENTS AND BUILDINGS. ALL EXISTING FILL, ORGANIC MATERIAL, REFUSE AND ROOTS SHALL BE REMOVED.
- BE2. AFTER APPROVAL, THE EXCAVATED SUB GRADE LEVEL SHALL BE PROOF ROLLED FOR A MINIMUM OF SIX (6) PASSES USING A VIBRATING ROLLER, MINIMUM DEADWEIGHT TEN TONNES. SOFT, WET AND UNSUITABLE SPOTS SHALL BE REMOVED AND REPLACED BY APPROVED SITE MATERIAL AS DIRECTED BY THE SUPERINTENDENT. THE SUB GRADE SHALL BE COMPACTED TO NOT LESS THAN 100% STANDARD DRY DENSITY RATIO WITHIN ±2% OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS1289 5.1.1 AND 5.4.1.
- BE3. WHERE FILL IS REQUIRED TO ACHIEVE ROAD PAVEMENT SUB GRADE LEVEL, IT SHALL BE APPROVED RIPPED SANDSTONE, HAVING A MAXIMUM PARTICLE SIZE OF 75 mm UNLESS DIRECTED OTHERWISE. IT SHALL BE PLACED IN 150 mm LOOSE LAYERS AND COMPACTED TO NOT LESS THAN 100% STANDARD DRY DENSITY RATIO WITHIN ±2% OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS1289 5.1.1 AND 5.4.1.
- BE4. ALL BATTERS SHALL BE 1 IN 4 MAXIMUM UNO.

SUB GRADE PREPARATION

- FOR SLABS ON GROUND AND RAFT SLABS.

- E1. THE SITE SHALL BE EXCAVATED TO LEVELS SHOWN ON RELEVANT DRAWINGS.
- E2. THE SITE SHALL BE STRIPPED TO A MINIMUM DEPTH OF 50 mm TO EXPOSE RESIDUAL MATERAIL PRIOR TO THE FILL OPERATION, ALL EXISTING FILL, ORGANIC MATTER, REFUSE AND ROOTS SHALL BE REMOVED, EXCEPT IF APPROVED ENGINEERED FILL IS PRESENT.
- E3. PROOF ROLL THE EXCAVATED AREA BEFORE FILLING. AREAS OF LOCAL SOFTENING REVEALED DURING EXCAVATION OR STRIPPING SHALL BE COMPACTED TO 100% STANDARD DRY DENSITY RATIO TO AS1289 5.1.1.
- E4. CLAY MATERIAL FREE OF ORGANIC MATERIAL FROM CUT AREAS MAY BE USED AS ENGINEERING FILL PROVIDED THAT IT HAS BEEN TESTED. ALL IMPORTED SELECTED FILL SHALL BE TESTED AND APPROVED BY THE ENGINEER.
- E5. ALL FILL SHALL BE COMPACTED TO NOT LESS THAN 98% STANDARD DRY DENSITY RATIO WITHIN ±2% OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS1289 5.1.1 AND 5.4.1.
- E6. ALL SELECT ROAD BASE AND HARD-CORE FILLING SHOWN UNDER SLABS ON DRAWINGS SHALL BE COMPACTED TO NOT LESS THAN 98% MODIFIED DRY DENSITY RATIO WITHIN ±2% OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS1289 5.1.1 AND 5.4.1.
- E7. ALL FILLING SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE PROJECT GEOTECHNICAL ENGINEER, WHO SHALL SUPPLY CERTIFICATES OF COMPACTION FOR THE

- F1. STRIP AND PAD FOOTINGS HAVE BEEN DESIGNED FOR AN SAFE BEARING VALUE OF 150 kPa U.N.O.. FOR BORED PIER BEARING VALUES REFER TO NOTES ON FOOTING PLAN.
- F2. FOUNDATION MATERIAL SHALL BE INSPECTED AND APPROVED IN WRITING BY A GEOTECHNICAL ENGINEER FOR THE ABOVE SAFE BEARING PRESSURE BEFORE PLACING CONCRETE.
- F3. FOR FOUNDING CONDITIONS REFER TO GEOTECHNICAL INVESTIGATION REPORT AS NOTED ON FOOTING PLAN
- F4. U.N.O. SLABS ON GROUND HAVE BEEN DESIGNED FOR MIN. CBR 5 IN ACCORDANCE WITH CEMENT & CONCRETE ASSOCIATION, CONCRETE INDUSTRIAL FLOOR & PAVEMENT DESIGN.
- F5. SUB GRADE SHALL BE INSPECTED AND APPROVED IN WRITING BY A GEOTECHNICAL ENGINEER FOR THE ABOVE CBR.

REINFORCED CONCRETE

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT
- C2. CONCRETE COMPONENTS AND QUALITY SHALL BE AS FOLLOWS U.N.O:

ELEMENT	SLUMP mm	MAX. SIZE AGG. mm	CEMENT TYPE	fc AT 28 DAYS - MPa	ADMIXTURE
FOOTINGS	80	20	Α	25	
PIERS & CAPS	80	20	Α	32	-
SLABS ON GROUND	80	20	Α	25	100
SUSPENDED SLABS	80	20	Α	32	-
WALLS & COLUMNS	80	20	Α	32	TEN

C3. MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT INCLUDING TIES AND STIRRUPS SHALL BE AS FOLLOWS UNO.

		MIN	IIMUM COVER (mm)	
EXPOSURE CLASSIFICATION	CONCRETE STRENGTH (fc)			80	
	20 MPa	25 MPa	32 MPa	40 MPa	>50 MPa
A1	20	20	20	20	20
A2	(50)	30	25	20	20
B1	2	(60)	40	30	25
B2	5.±3		(65)	45	35
С	142	ů!	휳	(70)	50

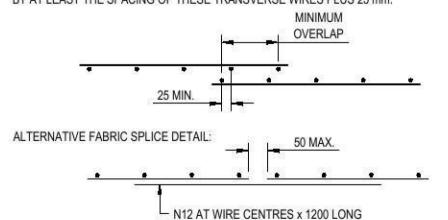
FOR BRACKETED FIGURES REFER TO AS 3600 CURRENT EDITION TABLE 4.10.3.2

C4. MINIMUM COVER FOR FIRE RESISTANCE LEVEL (FRL) SHALL BE AS FOLLOWS;

	MINIMUM ELI	EMENT WIDTH OR THI	CKNESS / MIN COVER ((mm)
FRL	BEAM	SLAB	COLUMN	WALL
60	125 / 30	80 / 20	200 / 20	80 / 20
90	150 / 45	100 / 25	250 / 35	100 / 35
120	200 / 55	120 / 30	300 / 45	120 / 40
180	240 / 70	150 / 45	400 / 60	150 / 45
240	270 / 80	170 / 55	450 / 70	170 / 50

NOTE: 1. REFER TO AS 3600 CURRENT EDTION FOR REDUCED COVERS IF GREATER ELEMENT THICKNESSES ARE ADOPTED FOR BEAMS & COLUMNS. 2. COVER IS MEASURED TO THE MAIN REINFORCEMENT

- C5. COVER TO REINFORCEMENT SHALL BE OBTAINED BY THE USE OF APPROVED BAR CHAIRS, ALL CHAIRS SHALL BE SPACED AT 1000 CTS MAXIMUM.
- C6. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. VIBRATORS SHALL NOT BE USED TO SPREAD CONCRETE.
- C7. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C8. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- C9. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO APPROVAL OF THE ENGINEER, ALL CONSTRUCTION JOINTS SHALL BE SCABBLED OVER THE WHOLE FACE AND ANY UNSOUND MATERIAL REMOVED.
- C10. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY; IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C11. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN OR AS APPROVED BY THE ENGINEER. WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT AS SPECIFIED IN AS3600. COGS AND HOOKS SHALL BE STANDARD UNLESS SHOWN OTHERWISE.
- C12. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.
- C13. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
- C14. REINFORCEMENT SYMBOLS:
 - N DENOTES DEFORMED GRADE 500 NORMAL DUCTILITY REINFORCING BARS TO AS/NZS 4671.
 - R DENOTES PLAIN ROUND GRADE 250 NORMAL DUCTILITY REINFORCING BARS TO AS/NZS 4671.
 - SL DENOTES DEFORMED GRADE 500 LOW DUCTILITY REINFORCING MESH TO AS/NZS 4671.
 - RL DENOTES DEFORMED GRADE 500 LOW DUCTILITY REINFORCING MESH TO AS/NZS 4671. L--TM - DENOTES DEFORMED GRADE 500 LOW DUCTILITY TRENCH MESH TO AS/NZS 4671.
- C15. ALL REINFORCING FABRIC SHALL COMPLY WITH AS1303 AND AS1304 AND SHALL BE SUPPLIED IN FLAT SHEETS.
- C16. SPLICES IN FABRIC: THE OUTERMOST TRANSVERSE WIRES SHALL BE OVERLAPPED BY AT LEAST THE SPACING OF THESE TRANSVERSE WIRES PLUS 25 mm.



- C17. EXPOSED CORNERS SHALL BE 20 mm CHAMFERED UNO.
- C18. ALL REINFORCEMENT SHALL BE INSPECTED BY THE SUPERINTENDENT OR ENGINEER PRIOR TO PLACING CONCRETE.
- C19. ALL SLAB CONCRETE TO BE CURED IN AN APPROVED MANNER FOR A MINIMUM OF 7 DAYS.
- C20. ALL FORMWORK AND PROPS FOR SLABS AND BEAMS SHALL BE REMOVED BEFORE CONSTRUCTION OF ANY MASONRY WALLS OR PARTITIONS ON THE FLOOR.
- C21. ALL ABBREVIATIONS ARE IN ACCORDANCE WITH AS1100.
- C22. EACH FLOOR SHALL BE FULLY PROPPED TO THE FLOOR BELOW IN ACCORDANCE WITH AS3610 (FORMWORK CODE).
- C23. THE FLOOR BELOW SHALL BE BACKPROPPED PROPPED THROUGH A MINIMUM OF TWO STOREYS BELOW. THIS RESULTS IN A MINIMUM OF THREE STOREYS PROPPED AT ALL TIMES.
- C24. PROPS MAY BE REMOVED AFTER 28 DAYS OF CURING OR AFTER 14 DAYS IF THE CONCRETE HAS REACHED ITS CHARACTERISTIC STRENGTH (AS PROVED BY CYLINDER TEST RESULTS).

STRUCTURAL STEELWORK

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100.
- S2. QUALIFICATION OF WELDING PROCEDURES AND PERSONNEL SHALL CONFORM TO SECTION 4 OF AS1554.1. NON DESTRUCTIVE TESTING OF WELDS SHALL INCLUDE 100% VISUAL INSPECTIONS IN ACCORDANCE WITH AS1554.1.
- S3. ALL WELDS SHALL BE 6 mm CONTINUOUS FILLET TYPE SP UNO. BUTT WELDS WHERE INDICATED ON THE DRAWINGS SHALL BE COMPLETE PENETRATION WELDS AS DEFINED IN AS1554.1.
- S4. BOLT DESIGNATION:
- 4.6/S COMMERCIAL BOLTS OF GRADE 4.6 TO AS1111 TIGHTENED TO A SNUG TIGHT FIT.
- HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 TIGHTENED TO A SNUG TIGHT FIT.
- HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS1511 AS A BEARING JOINT.
- HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS1511 AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED.

UNLESS NOTED OTHERWISE ALL BOLTS SHALL BE M20 GRADE 8.8/S AND NO STEEL TO STEEL CONNECTIONS SHALL HAVE LESS THAN 2 COMMERCIAL BOLTS 4.6/S.

- HIGH STRENGTH TB AND TF BOLTS SHALL BE INSTALLED USING APPROVED LOAD INDICATING WASHERS.
- GUSSET PLATES SHALL BE 10 mm THICK, UNO.
- S7. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AS IS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.
- S8. THE CONTRACTOR SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED IN THE DRAWINGS.
- CONCRETE ENCASED STEELWORK SHALL BE WRAPPED WITH SL41 FABRIC AND SHALL HAVE 50 mm COVER UNO ON THE DRAWINGS.
- S10. STEELWORK NOT CONCRETE ENCASED, SHALL HAVE THE FOLLOWING SURFACE TREATMENT IN ACCORDANCE WITH THE SPECIFICATION UNO:

ELEMENT	SURFACE CLEANING	PRIMING
ALL STEELWORK BUILT-IN TO BRICKWORK AND EXTERNAL STEELWORK	TO AS1650	HOT-DIPPED GALVANISED
ALL INTERNAL STEELWORK	HAND/POWER TOOL TO CLASS 1 OF AS1627	ALKYD PRIMER ZINC PHOSPHATE

- S11. WHERE SEALED TUBE MEMBERS ARE TO BE HOT DIPPED GALVANISED, THE FABRICATOR SHALL PROVIDE ALL DRILL HOLES AS NECESSARY.
- S12. PURLIN & GIRT DESIGN HAS BEEN BASED ON MBPMA NOMINAL SIZE CEE AND ZED LIPPED PURLINS/GIRTS. ALL PURLIN/GIRT PROFILES SHALL BE IN ACCORDANCE WITH THE MBPMA SPECIFICATIONS. CLEAT CONNECTIONS SHALL BE IN ACCORDANCE WITH AISC STANDARDISED CONNECTIONS U.N.O. BOLTING AND BRIDGING TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- S13. THE CONTRACTOR SHALL PREPARE AND SUBMIT TWO (2) COPIES OF ALL WORKSHOP DRAWINGS FOR APPROVAL. FABRICATION SHALL NOT COMMENCE UNTIL APPROVAL HAS BEEN OBTAINED.
- S14. ALL TRANSPORT AND ERECTION DAMAGE, SITE WELDS ETC. SHALL BE REINSTATED TO AN EQUIVALENT FINISH TO ADJACENT STEELWORK.

MASONRY

- M1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.
- M2. THE CHARACTERISTIC COMPRESSIVE STRENGTH OF MASONRY (fuc) = 24 MPa
- M3. THE DURABILITY REQUIREMENTS OF MASONRY SHALL BE AS FOLLOWS;

DURA	BILITY REQUIREMENTS		W.
MORTAR	SALT ATTACK RESISTANCE GRADE	BUILT IN COMPONENT	MIN. COVER TO REINFORCEMENT & TENDONS IN GROUTED CAVITIES
M2	Protected	R1 (Galv'd 300 g/m² each side)	5
МЗ	General Purpose	R3 (Galv'd 470 g/m² each side)	15
M4	Exposure	R4 (Stainless)	30

- M4 ALL MASONRY WALLS SUPPORTING SLABS AND BEAMS SHALL HAVE A PRE-GREASED TWO LAYER GALVANISED STEEL SLIP JOINT BETWEEN CONCRETE AND MASONRY.
- M5 ALL MASONRY WALLS SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.
- NON LOAD BEARING WALLS SHALL BE SEPARATED FROM CONCRETE ABOVE BY 20 mm THICK CLOSED CELL POLYETHYLENE STRIP.
- MASONRY SHALL BE ARTICULATED IN ACCORDANCE WITH TECHNICAL NOTE 61 FROM THE CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA. VERTICAL CONTROL JOINTS SHALL NOT EXCEED 5 METRES MAXIMUM CENTRES, AND 4 METRES MAXIMUM FROM CORNERS IN MASONRY WALLS, AND BETWEEN NEW & EXISTING BRICKWORK.
- M8 MASONRY RETAINING WALLS ARE TO BE BACKFILLED WITH EITHER OF THE FOLLOWING MATERIAL:
 - COARSE GRAINED SOIL WITH LOW SILT CONTENT - RESIDUAL SOIL CONTAINING STONES
 - FINE SILTY SAND
 - GRANULAR MATERIALS WITH LOW CLAY CONTENT
- UNLESS OTHER SUPPORT IS SPECIFIED, BUILD IN DURABILITY GRADE R4 LINTELS TO SUPPORT BRICKWORK OVER OPENINGS, ONE TO EACH LEAF OF WALL, AND CONFORMING TO THE FOLLOWING TABLE;

75 x 6.0 EA	100
	100
100 x 100 x 6 (EA)	150
150 x 100 x 10 (UA)	150

FOUNDATION MAINTENANCE

FOUNDATION SOILS: ALL SOILS ARE AFFECTED BY WATER. SILTS ARE WEAKENED BY WATER AND SOME SANDS CAN SETTLE IF HEAVILY WATERED. BUT MOST PROBLEMS ARISE ON CLAY FOUNDATIONS, CLAYS SWELL AND SHRINK DUE TO CHANGES IN MOISTURE CONTENT AND THE POTENTIAL AMOUNT OF THE MOVEMENT IS IMPLIED IN THE SITE CLASSIFICATION IN AUSTRALIAN STANDARD AS2870, WHICH IS SPECIFIED AS FOLLOWS:

- A STABLE (NON-REACTIVE).
- S SLIGHTLY REACTIVE.
- M MODERATELY REACTIVE. H HIGHLY REACTIVE.
- E EXTREMELY REACTIVE

CLASS A & S SITES: SANDS, SILTS AND CLAYS SHALL BE PROTECTED FROM BECOMING EXTREMELY WET BY ADEQUATE ATTENTION TO SITE DRAINAGE AND PROMPT REPAIR OF PLUMBING LEAKS.

CLASS M, H & E SITES : SITES CLASSIFIED AS M, H, OR E SHALL BE MAINTAINED AT ESSENTIALLY STABLE MOISTURE CONDITIONS AND EXTREMES OF WETTING AND DRYING PREVENTED. THIS WILL REQUIRE ATTENTION TO THE FOLLOWING:

DRAINAGE OF THE SITE: THE SITE SHALL BE GRADED OR DRAINED SO THAT WATER CANNOT POND AGAINST OR NEAR THE HOUSE. THE GROUND IMMEDIATELY ADJACENT TO THE HOUSE SHALL BE GRADED TO A UNIFORM FALL OF 50 MM MINIMUM AWAY FROM THE HOUSE OVER THE FIRST METRE. THE SUB FLOOR SPACE FOR HOUSES WITH SUSPENDED FLOORS SHALL BE GRADED OR DRAINED TO PREVENT PONDING WHERE THIS MAY AFFECT THE PERFORMANCE OF THE FOOTING SYSTEM. THE SITE DRAINAGE REQUIREMENTS SHALL BE MAINTAINED FOR THE ECONOMIC LIFE OF THE BUILDING.

LIMITATIONS ON GARDENS: THE DEVELOPMENT OF THE GARDENS SHALL NOT INTERFERE WITH THE DRAINAGE REQUIREMENTS OR THE SUB FLOOR VENTILATION AND WEEP HOLE DRAINAGE SYSTEMS. GARDEN BEDS ADJACENT TO THE HOUSE SHOULD BE AVOIDED. CARE SHOULD BE TAKEN TO AVOID OVER WATERING OF GARDENS CLOSE TO THE HOUSE FOOTINGS.

RESTRICTIONS ON TREES AND SHRUBS : PLANTING OF TREES SHOULD BE AVOIDED NEAR THE FOUNDATION OF A HOUSE OR NEIGHBOURING HOUSE ON REACTIVE SITES AS THEY CAN CAUSE DAMAGE DUE TO DRYING OF THE CLAY AT SUBSTANTIAL DISTANCES. TO REDUCE, BUT NOT ELIMINATE, THE POSSIBILITY OF DAMAGE, TREE PLANTING SHOULD BE RESTRICTED TO A DISTANCE FROM THE HOUSE OF:

- 1.50 x MATURE HEIGHT FOR CLASS E SITES
- 1.00 x MATURE HEIGHT FOR CLASS H SITES 0.75 x MATURE HEIGHT FOR CLASS M SITES

WHERE ROWS OR GROUPS OF TREES ARE INVOLVED, THE DISTANCE FROM THE BUILDING SHOULD BE INCREASED. REMOVAL OF TREES FROM THE SITE CAN ALSO CAUSE SIMILAR

REPAIR OF LEAKS: LEAKS IN PLUMBING, INCLUDING STORM WATER AND SEWERAGE DRAINAGE SHOULD BE REPAIRED PROMPTLY.

THE LEVEL TO WHICH THESE MEASURES ARE IMPLEMENTED DEPENDS ON THE REACTIVITY OF THE SITE. THE MEASURES APPLY MAINLY TO MASONRY HOUSES AND MASONRY VENEER HOUSES. FOR FRAME HOUSES CLAD WITH TIMBER OR SHEETING, LESSER PRECAUTIONS MAY BE APPROPRIATE.

BLOCKWORK

- B1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700.
- B2. REINFORCED CONCRETE BLOCKWORK SHALL COMPLY WITH THE FOLLOWING, UNO:
 - BLOCKS: GRADE 15 CONFORMING TO AS1500.
 - MORTAR: 1 CEMENT / 0.25 LIME / 3 SAND. - PROVIDE CLEANOUT HOLES AT BASE OF WALL & ROD CORE HOLES TO
 - REMOVE PROTRUDING MORTAR FINS. CORE FILLING: fc = 20 MPa, 10 AGG, 230 SLUMP +/- 30 mm.
- BACKFILL TO RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL, UNO.

COVER: 55 mm MIN. FROM OUTSIDE OF BLOCKWORK.

B4. VERTICAL CONTROL JOINTS SHALL BE PROVIDED AT 8 m MAX. CENTRES.

PROVIDE SUBSOIL DRAIN BEHIND WALL AND AT WEEP HOLES.

B5. NO ADMIXTURES SHALL BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

STRUCTURAL TIMBER

- T1. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH AS1720.1 TIMBER ENGINEERING CODE AS1684 LIGHT TIMBER FRAMING CODE.
- T2. ALL TIMBER USED SHALL HAVE BEEN STRESS GRADED BY VISUAL OR MECHANICAL MEANS IN ACCORDANCE WITH THE APPROPRIATE AUSTRALIAN STANDARDS.
- T3. HOLES FOR BOLTS, UNLESS OTHERWISE DETAILED, SHALL BE MADE OVERSIZE AS FOLLOWS: BOLT DIAMETER 15 MM OR LESS - 2 MM OVERSIZE
- T4. SHANK AND THREAD OF BOLTS SHALL BE THOROUGHLY COATED WITH A HEAVY WATERPROOF GREASE BEFORE INSERTING INTO THE TIMBER.

BOLT DIAMETER 16 MM AND GREATER - 3 MM OVERSIZE

WITH THE PROCEDURE SPECIFIED IN AS1684.

- T5. SPECIALISED METAL FASTENERS SUCH AS 'GANG-NAIL PLATES, TRIP-L-GRIP ETC. SHALL BE OF PROVEN TYPE AND SHALL HAVE HAD WORKING LOADS DETERMINED IN ACCORDANCE
- T6. AT THE PRACTICAL COMPLETION OF THE CONTRACT, AND AGAIN AT THE END OF THE MAINTENANCE PERIOD AND IF NECESSARY DURING THAT PERIOD, THE CONTRACTOR SHALL RE-TIGHTEN ALL BOLTS TO APPROVAL BOLTS THAT WILL BE INACCESSIBLE AFTER COMPLETION OF THE PROJECT, SHALL BE RE-TIGHTENED IMMEDIATELY PRIOR M BEING
- PREFABRICATED ROOF TRUSSES USING TOOTHED METAL PLATE CONNECTORS SHALL BE PROVIDED AS AND WHERE SHOWN. ONLY A FABRICATOR APPROVED BY THE SUPERINTENDENT SHALL CONSTRUCT TRUSSES. DESIGN SHALL BE IN ACCORDANCE WITH AS1720.1 AND TO THE LOADINGS, PROFILES AND OTHER REQUIREMENTS SPECIFIED ON THE DRAWINGS. DESIGN OF TRUSSES SHALL BE BY A QUALIFIED STRUCTURAL ENGINEER EXPERIENCED IN TIMBER DESIGN. SHOP DRAWINGS OF TRUSSES, TOGETHER WITH ALL NECESSARY INFORMATION FOR CHECKING THE STRENGTH OF TRUSS MEMBERS AND CONNECTORS, SHALL BE SUBMITTED NOT LESS THAN FOURTEEN DAYS PRIOR TO COMMENCEMENT OF FABRICATION. FABRICATION SHALL NOT COMMENCE UNLESS
- EDGE DISTANCES FOR FASTENERS IN TIMBER (FROM ENDS AND SIDES) SHALL BE IN ACCORDANCE WITH AS1720.1 UNLESS NOTED OTHERWISE.

WATERPROOFING REQUIREMENTS

W1 TO ACHIEVE WATERPROOF PROPERTIES XYPEX CONCENTRATE SHALL BE MIXED WITH CONCRETE IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. XYPEX IS TO BE USED IN THE FOLLOWING AREAS;

> (a) CONCRETE ROOF (b) CONCRETE BALCONIES (c) EXPOSED COLUMNS

PERMISSION TO DO 50 HAS BEEN GIVEN.

(d) LIFT PIT AND LIFT WALL TO GROUND LEVEL GENERALLY WATERPROOFING TO BE IN ACCORDING TO ARCHITECT'S AND CLIENT'S REQUIREMENTS. SEEK SPECIALIST ADVICE.



05.07.16 ISSUED FOR APPROVAL REVISION AMENDMENT DESCRIPTION DATE

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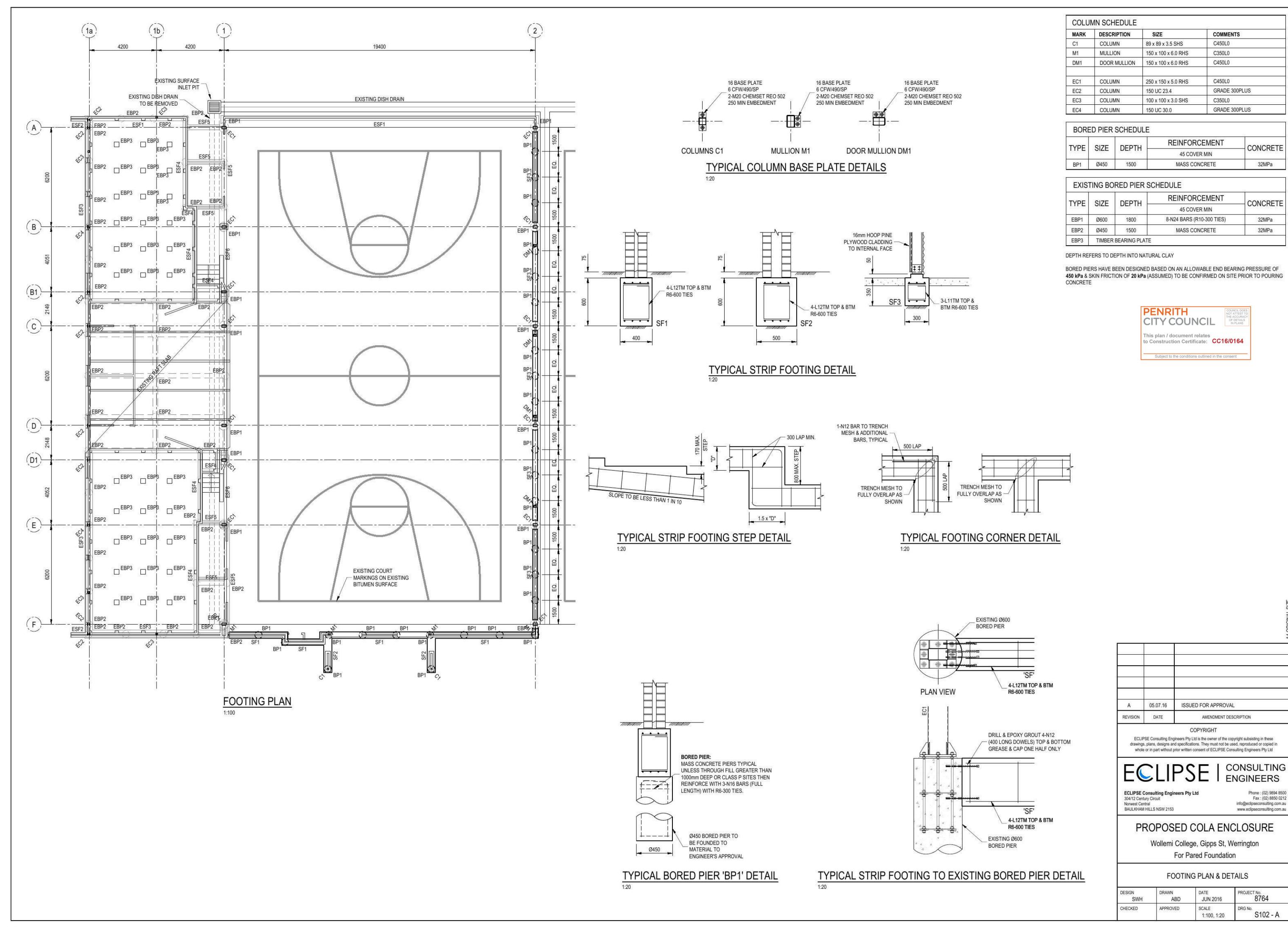
ENGINEERS

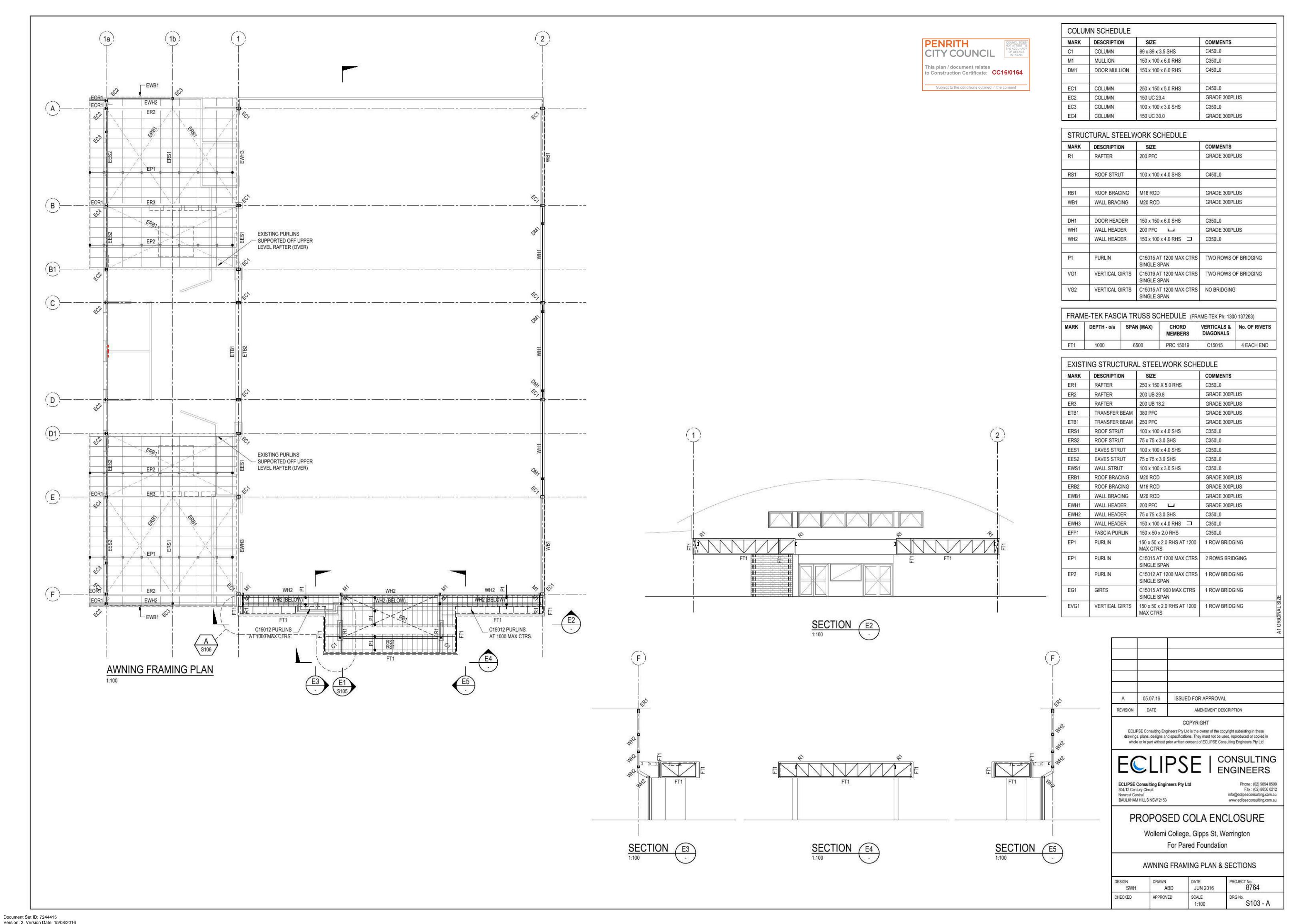
PROPOSED COLA ENCLOSURE

Wollemi College, Gipps St, Werrington For Pared Foundation

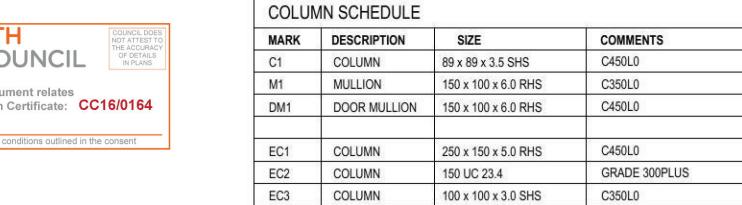
GENERAL NOTES

PROJECT No. DESIGN DRAWN 8764 SWH ABD JUN 2016 CHECKED APPROVED SCALE S101 - A









EC4 COLUMN

MARK	DESCRIPTION	SIZE	COMMENTS
R1	RAFTER	200 PFC	GRADE 300PLUS
RS1	ROOF STRUT	100 x 100 x 4.0 SHS	C450L0
RB1	ROOF BRACING	M16 ROD	GRADE 300PLUS
WB1	WALL BRACING	M20 ROD	GRADE 300PLUS
DH1	DOOR HEADER	150 x 150 x 6.0 SHS	C350L0
WH1	WALL HEADER	200 PFC 🔲	GRADE 300PLUS
WH2	WALL HEADER	150 x 100 x 4.0 RHS	C350L0
P1	PURLIN	C15015 AT 1200 MAX CTRS SINGLE SPAN	TWO ROWS OF BRIDGING
VG1	VERTICAL GIRTS	C15019 AT 1200 MAX CTRS SINGLE SPAN	TWO ROWS OF BRIDGING
VG2	VERTICAL GIRTS	C15015 AT 1200 MAX CTRS SINGLE SPAN	NO BRIDGING

150 UC 30.0

GRADE 300PLUS

I I V/AIVI	LILKIAGO	/// TINOOO OC	TILDOLL (F	RAME-TEK Ph: 130	0 101200)
MARK	DEPTH - o/a	SPAN (MAX)	CHORD MEMBERS	VERTICALS & DIAGONALS	No. OF RIVETS
FT1	1000	6500	PRC 15019	C15015	4 EACH END

MARK	DESCRIPTION	SIZE	COMMENTS
ER1	RAFTER	250 x 150 X 5.0 RHS	C350L0
ER2	RAFTER	200 UB 29.8	GRADE 300PLUS
ER3	RAFTER	200 UB 18.2	GRADE 300PLUS
ETB1	TRANSFER BEAM	380 PFC	GRADE 300PLUS
ETB1	TRANSFER BEAM	250 PFC	GRADE 300PLUS
ERS1	ROOF STRUT	100 x 100 x 4.0 SHS	C350L0
ERS2	ROOF STRUT	75 x 75 x 3.0 SHS	C350L0
EES1	EAVES STRUT	100 x 100 x 4.0 SHS	C350L0
EES2	EAVES STRUT	75 x 75 x 3.0 SHS	C350L0
EWS1	WALL STRUT	100 x 100 x 3.0 SHS	C350L0
ERB1	ROOF BRACING	M20 ROD	GRADE 300PLUS
ERB2	ROOF BRACING	M16 ROD	GRADE 300PLUS
EWB1	WALL BRACING	M20 ROD	GRADE 300PLUS
EWH1	WALL HEADER	200 PFC 🚨	GRADE 300PLUS
EWH2	WALL HEADER	75 x 75 x 3.0 SHS	C350L0
EWH3	WALL HEADER	150 x 100 x 4.0 RHS	C350L0
EFP1	FASCIA PURLIN	150 x 50 x 2.0 RHS	C350L0
EP1	PURLIN	150 x 50 x 2.0 RHS AT 1200 MAX CTRS	1 ROW BRIDGING
EP1	PURLIN	C15015 AT 1200 MAX CTRS SINGLE SPAN	2 ROWS BRIDGING
EP2	PURLIN	C15012 AT 1200 MAX CTRS SINGLE SPAN	1 ROW BRIDGING
EG1	GIRTS	C15015 AT 900 MAX CTRS SINGLE SPAN	1 ROW BRIDGING
EVG1	VERTICAL GIRTS	150 x 50 x 2.0 RHS AT 1200 MAX CTRS	1 ROW BRIDGING

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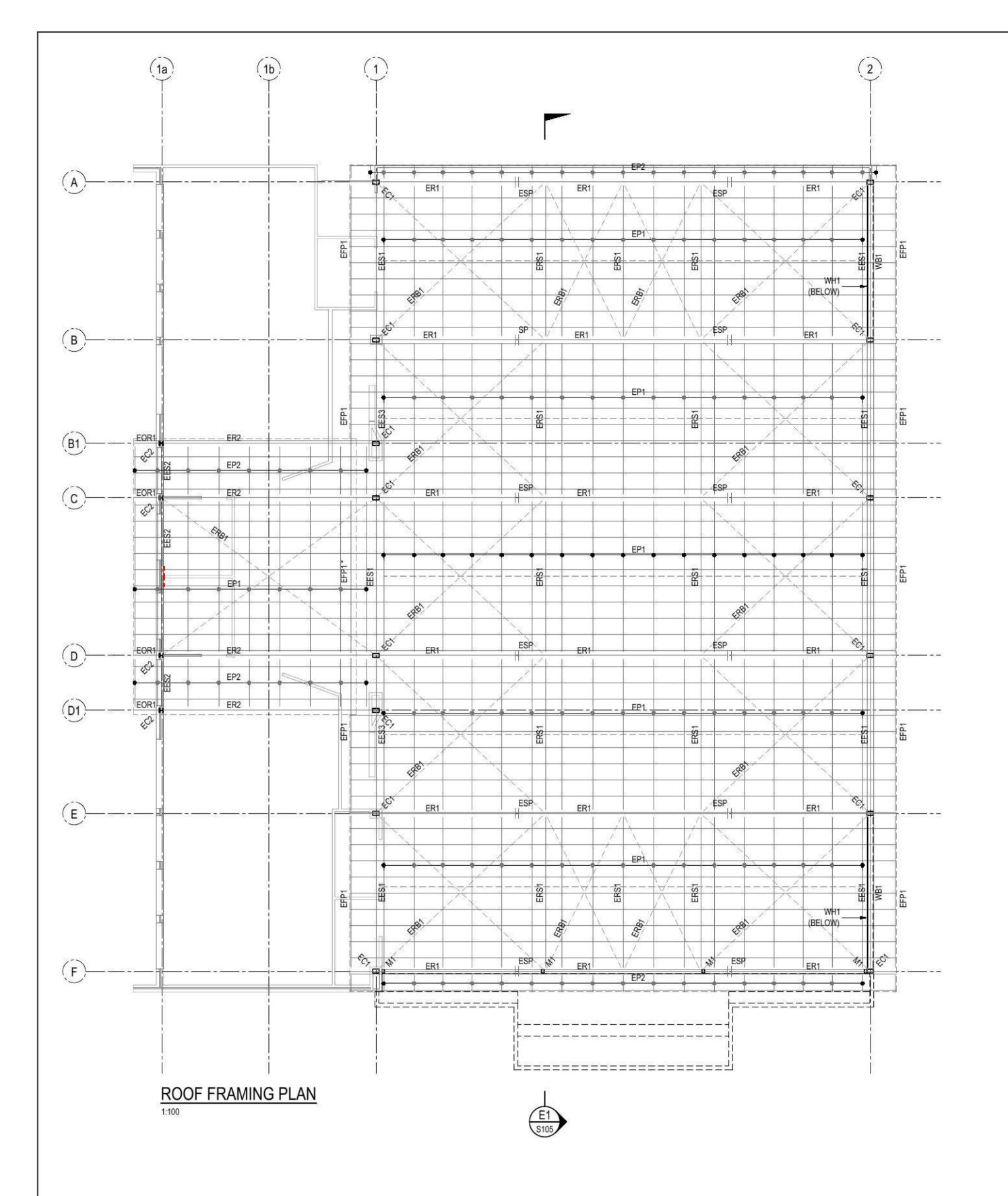
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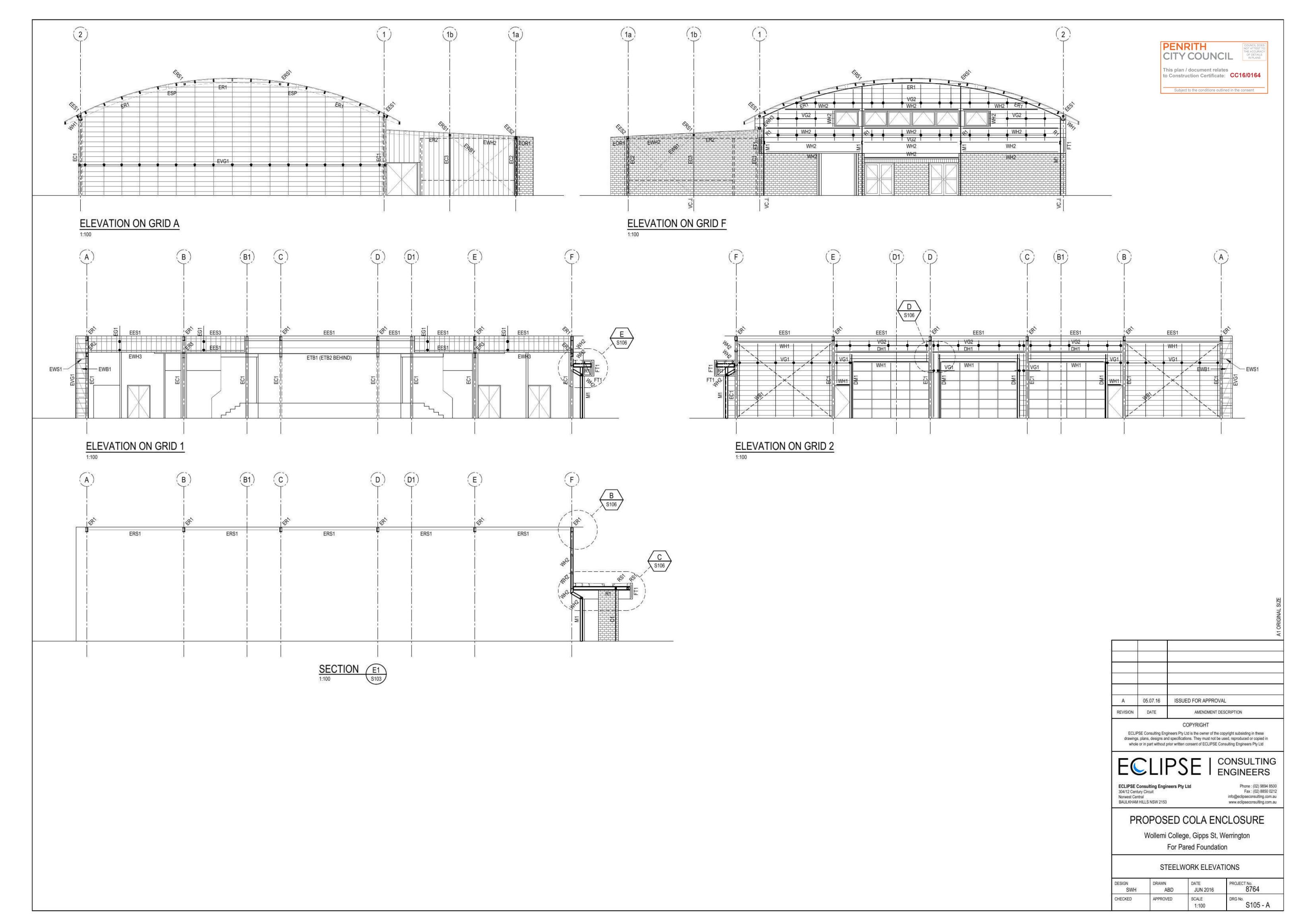
PROPOSED COLA ENCLOSURE

Wollemi College, Gipps St, Werrington For Pared Foundation

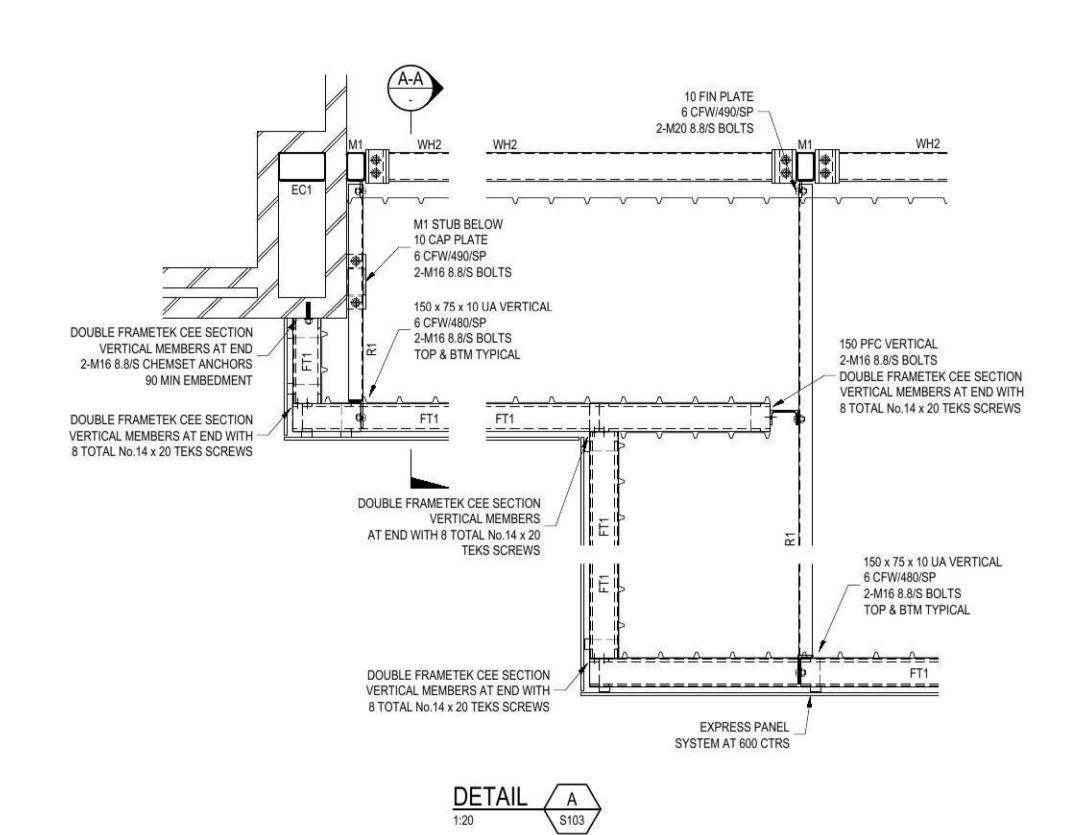
ROOF FRAMING PLAN

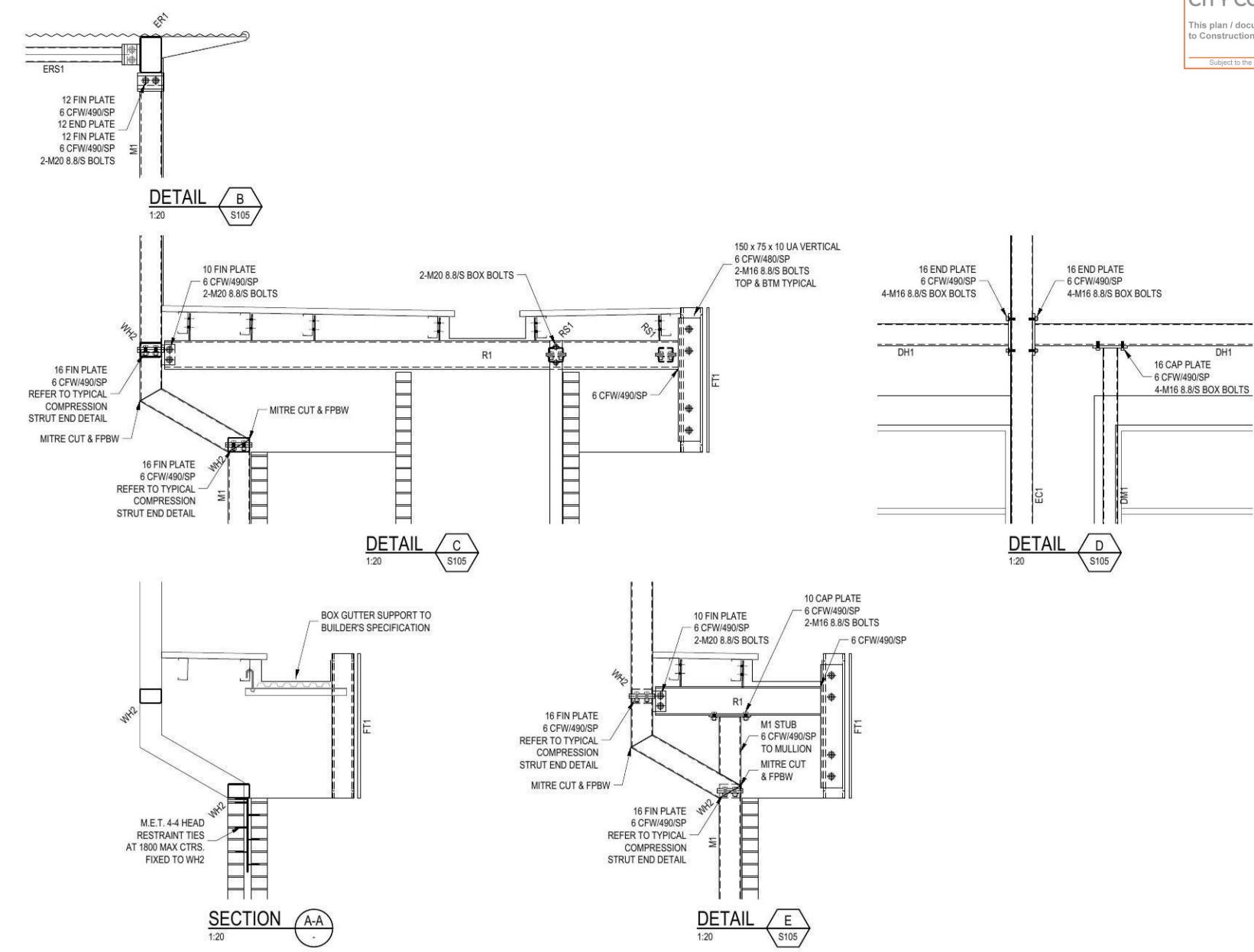
IGN SWH	DRAWN ABD	DATE JUN 2016	PROJECT No. 8764	50
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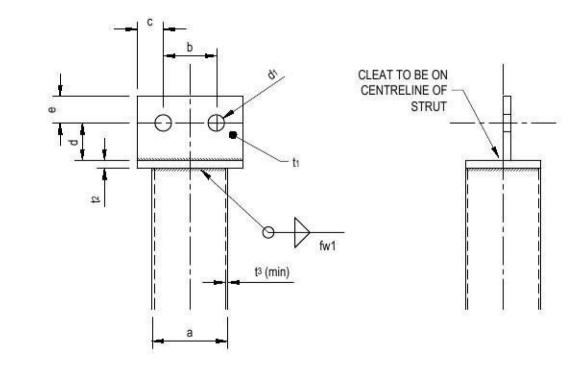












STA	TANDARD COMPRESSION STRUT END DETAIL						CAPACITY				
а	b	С	d	е	t ₁	t2	t3(min)	fw1	d1	Ø bolt	ØNc (kN)
75	70	35	55	35	12	12	3	6	22	M20	90
90	70	35	55	35	12	12	3	6	22	M20	105
100	70	35	55	35	12	12	3	8	22	M20	120
125	70	35	55	35	16	16	4	8	22	M20	150
150	70	55	55	35	16	16	5	8	22	M20	180
200	70	75	55	35	16	16	5	8	26	M24	200

- ALL PLATES TO BE GRADE 300PLUS ALL BOLTS TO BE GRADE 8.8/S - ALL WELDS TO BE 480/SP

TYPICAL COMPRESSION STRUT END DETAIL

-		
-15		
Α	05.07.16	ISSUED FOR APPROVAL
REVISION	DATE	AMENDMENT DESCRIPTION

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PROPOSED COLA ENCLOSURE

Wollemi College, Gipps St, Werrington For Pared Foundation

STEELWORK SECTIONS & DETAILS

DESIGN SWH	DRAWN ABD	JUN 2016	PROJECT No. 8764
CHECKED	APPROVED	SCALE 1:20, 1:5	DRG No. S106 - A

HYDRAULIC SERVICES



FOR

ENCLOSE EXISTING COLA WOLLEMI COLLEGE GIPPS ST, WERRINGTON NSW 2747

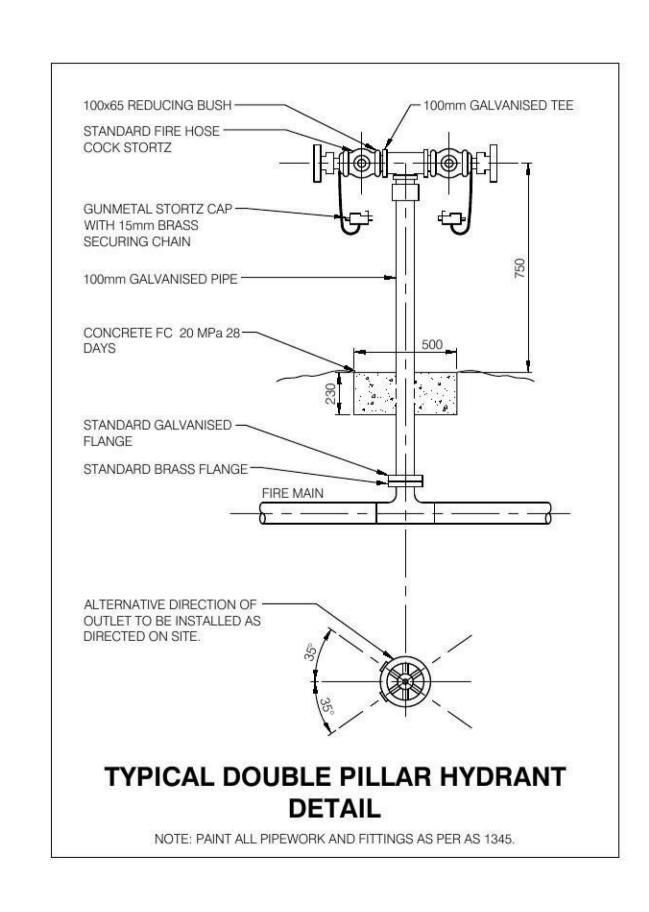
DRAWING SCHEDULE:
H-01 LEGEND, NOTES & DETAILS
H-02 SITE SERVICES AND FIRE HYDRANT/HOSE REEL LAYOUTS

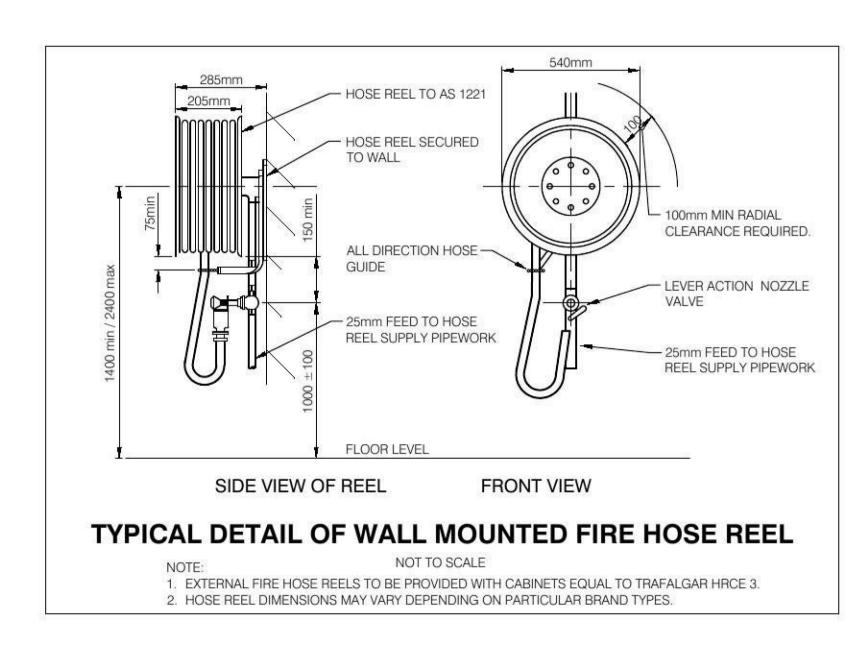
N.T.S
AS NOTED

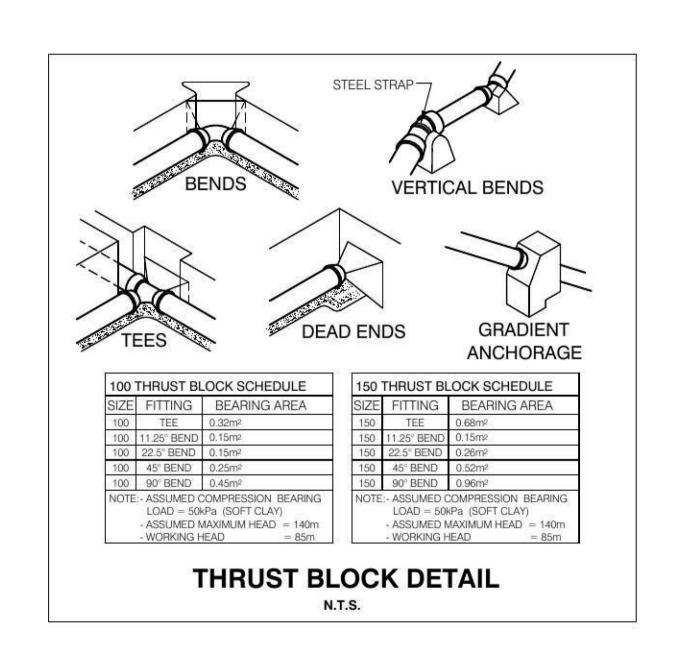
LEG	END)	NOTE SOME ITEMS NOT USED
PIPEWORK	8	SYMBOLS	3
COLD WATER - EXISTING COLD WATER - NEW EX-FH — FIRE HYDRANT - EXISTING FIRE HYDRANT - NEW	ØDPH ≟ FHR	DOUBLE PILLAR H	YDRANT

NOTES:
IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN A 'DIAL BEFORE YOU DIG' TO ASCERTAIN THE FULL EXTENT OF EXISTING SERVICES SURROUNDING THE SUBJECT PROPERTY. PRIOR TO ANY EXCAVATION THE RELEVANT AUTHORITIES eg TELSTRA OPTUS, AGILITY etc. ARE TO BE NOTIFIED OF ALL WORKS.

- . IT IS THE HYDRAULIC CONTRACTORS RESPONSIBILITY TO ENGAGE A SUITABLE QUALIFIED CONTRACTOR TO CARRY OUT A THOROUGH GROUND SEARCH FOR EXISTING SERVICES AROUND AND IN THE PROPOSED BUILDING FOOTPRINT. NOTIFY THE SUPERINTENDENT IMMEDIATELY IF ADDITIONAL SERVICES TO THAT DOCUMENTED ARE LOCATED. THIS IS TO BE CARRIED OUT PRIOR TO ANY WORKS BEING COMMENCED.
- ALLOW TO PREPARE & SUPPLY DETAILED "AS INSTALLED" DRAWINGS & MAINTENANCE MANUALS FOR ALL ASSOCIATED WORKS AS DETAILED IN THE SPECIFICATION.
- . ALL DISRUPTIONS TO EXISTING SERVICES FOR NEW CONNECTIONS ARE TO BE COORDINATED ON SITE WITH THE PROJECT SUPERINTENDENT.
- ALL HYDRANT PIPEWORK TO BE BLUE BRUTE CLASS 20 INGROUND OR GALVANIZED STEEL ABOVE GROUND TO COMPLY WITH AUSTRALIAN STANDARDS. ALL BLUE BRUTE PIPEWORK TO BE SUPPORTED BY THRUST BLOCKS.

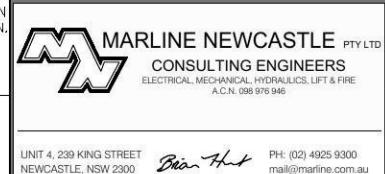




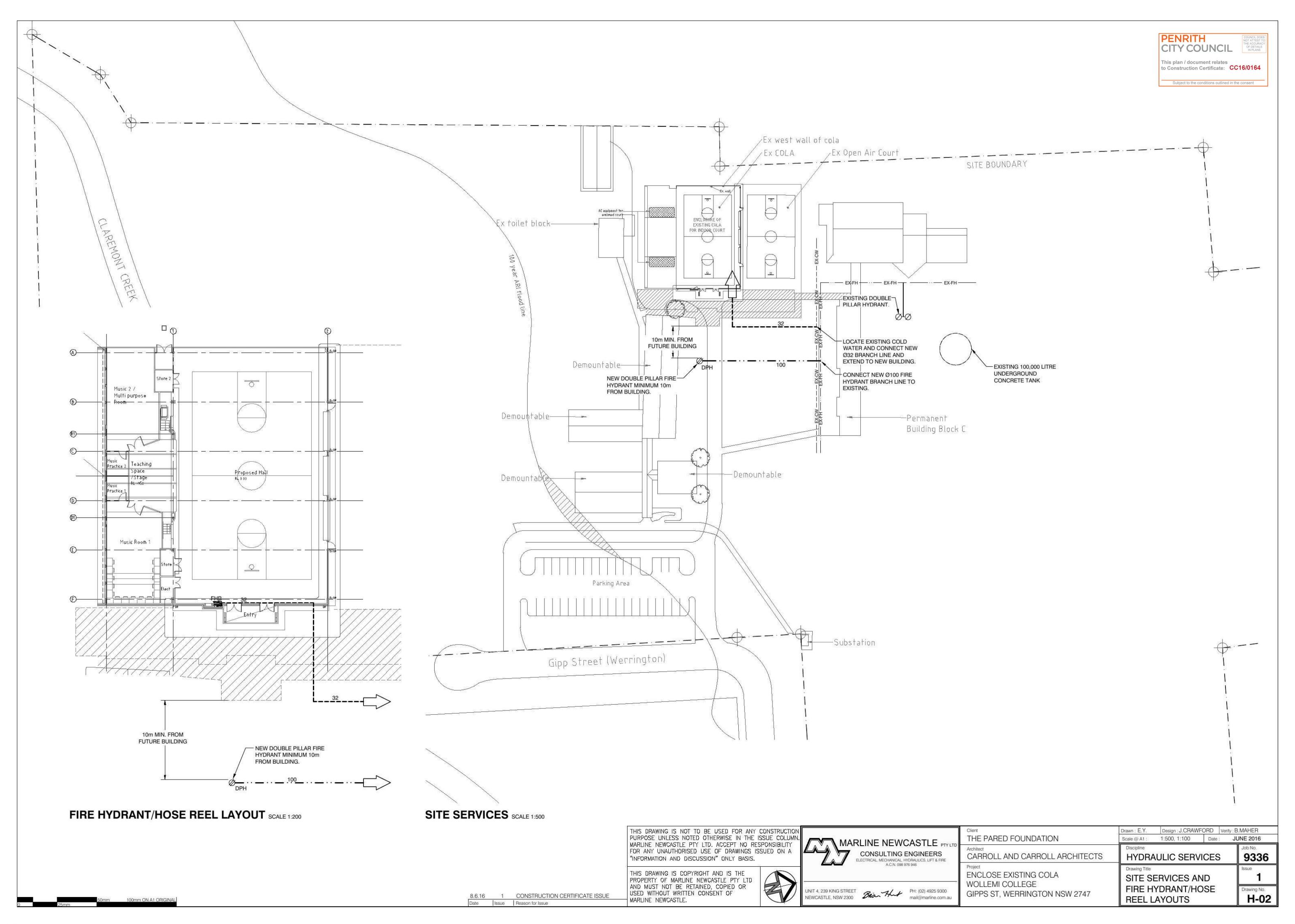


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	Client	Drawn : E.Y.	Design : J.CRAV	Printer (y:B.MAHER	
CASTLE PTY LTD E ENGINEERS HYDRAULICS, LIFT & FIRE B 976 946	THE PARED FOUNDATION	Scale @ A1 :	N.T.S.	Date :	JUNE 2016 Job No.	
	CARROLL AND CARROLL ARCHITECTS	HYDRAULIC SERVICES			9336	
	ENCLOSE EXISTING COLA WOLLEMI COLLEGE	Drawing Title LEGEN	D, NOTES		Issue 1	
, PH: (02) 4925 9300 mail@marline.com.au	GIPPS ST, WERRINGTON NSW 2747	AND DI	ETAILS		Drawing No. H-01	



MECHANICAL SERVICES



FOR

WOLLEMI COLLEGE ENCLOSE EXISTING COLA GIPPS STREET, WERRINGTON, NSW, 2747

DRAWING SCHEDULE: N.T.S 1:100

			LEC	GEND			NOTE: SOME ITEMS MAY NOT BE USED
DUCTWORK	DAMPERS	GRILLES	ELECTRICAL & CONTROL	AC & VENTILATION EQUIPMENT	SYMBOLS	DUCT INSULATION	PIPEWORK INSULATION
DUCT (GENERAL SYMBOL) SUPPLY DUCT - VISIBLE SECTION SUPPLY DUCT - HIDDEN SECTION EXHAUST DUCT - VISIBLE SECTION EXHAUST DUCT - HIDDEN SECTION FLEXIBLE CONNECTION FLEXIBLE CONNECTION FLEXIBLE DUCT - CONNECTED TO MAIN DUCT WITH SPIGOT CONTAINING VOLUME CONTROL DAMPER. PROVIDE ACCESS PANELS IN CEILING WHERE REQUIRED TO BALANCE DAMPERS. FLEXIBLE DUCT BRANCH FITTING COMPLETE WITH R2.0 INSULATION & V.C.D. IN EACH BRANCH TAKEOFF	BLADE DAMPERS VCD = VOLUME CONTROL DAMPER OBD = OPPOSED BLADE DAMPER NRD = NON-RETURN DAMPER VOLUME CONTROL DAMPER TO ALL BRANCH TAKEOFFS MOTORIZED DAMPER STREAM SPLITTER DAMPER DOUBLE SKIN TURNING VANES	SUPPLY AIR GRILLE SUPPLY AIR GRILLE BLANKED OFF IN DIRECTION SHOWN RETURN OR EXHAUST AIR GRILLE SIDEWALL DUCT OR WALL REGISTER COMPLETE WITH TURNING VANES OR OPPOSED BLADE DAMPER AS INDICATED DOOR GRILLE A - 600 x 200 B - 600 x 300 C - 600 x 450 D - 600 x 600	MSSB ©B CONTROL PANEL MANUAL CONTROL SWITCH CONTROL SWITCHWIRE	INLINE DUCT MOUNTED FAN DUCT RISER TO FAN / COWL ON ROOF CEILING CASSETTE TYPE FAN COIL UNIT WALL MOUNTED INDOOR FAN COIL UNIT SIDE DISCHARGE OUTDOOR CONDENSING UNIT VERTICAL DISCHARGE VRV CONDENSING UNIT WALL MOUNTED EXHAUST FAN	FCU FAN COIL UNIT REFERENCE CU1 CONDENSING UNIT REFERENCE EF1 FAN REFERENCE CEILING ACCESS PANEL UC UNDERCUT DOOR 20mm MW1 MOTORIZED GLASS WINDOW REFERENCE	75mm EXTERNAL INSULATION 50mm INTERNAL & ACOUSTIC INSULATION 75mm INTERNAL & ACOUSTIC INSULATION 100mm INTERNAL & ACOUSTIC INSULATION FLEXIBLE DUCTWORK SERVING AIR CONDITIONING SUPPLY, RETURN AND RELIEF AIR SYSTEMS TO ACHIEVE AN R2.0 INSULATION RATING.	ALL A/C PIPEWORK GAS SUCTION LINES SERVING SYSTEMS EXCEEDING A 6kW RATED COOLING OR HEATING CAPACITY ARE TO BE INSULATED TO ACHIEVE A MINIMUM R1.2 R-VALUE: • 25mm CSR 'ARMAFLEX' IS TO BE PROVIDED FOR PIPES UP TO Ø25mm N.B. • 32mm CSR 'ARMAFLEX' IS TO BE PROVIDED FOR PIPES > Ø25mm N.B. SUCTION LINES FOR SYSTEMS WITH A COOLING OR HEATING CAPACITY > 6kW AND ALL LIQUID LINES SHALL BE INSULATED TO ACHIEVE THE AIR CONDITIONING MANUFACTURERS MINIMUM RECOMMENDATIONS. PIPEWORK

SERVES AIR FLOW L/s DUTSIDE AIR L/s	HALL 2500	HALL
	2500	1
OUTSIDE AIR L/s	300 WC CCCCC 1	2500
	0	0
OTAL COOLING KW	467	467
SENSIBLE COOLING kW	38.8	38.8
HEATING CAPACITY kW	25.0	25.0
ELECTRICAL F.L.A.	32/27/27	32/27/27
CIRCUIT BREAKER	40A-3Ph	40A-3Ph
DIMENSIONS INDOOR OUTDOOR	1635x1950x2225	1635x1950x2225
JNIT SELECTION	TEMPERZONE OPA465RKTBGH	TEMPERZONE OPA465RKTBGH
PTIONS	FILTER, ECONOMY CYCLE & HOOD	FILTER, ECONOMY CYCLE & HOOD

PACKAGE UNITS TO BE CONTROLLED VIA PUSH BUTTON TIMER. PUSH ONCE TO START, PUSH

ACUH1 & ACUH2 TO BE PROVIDED WITH ECONOMY CYCLE WITH RELIEF VIA DOORS.

ACUH1 TO BE REVERSE HANDED.

	TOTES - GENERAL MILOTIANIDAL WOTING
1.	ALL DUCTWORK OTHER THAN EXHAUST DUCTWORK NOT IN THE CONDITIONED SPACE SHALL BE EXTERNALLY INSULATED UNLESS INDICATED OTHERWISE.
2.	DUCTWORK DIMENSIONS SHOWN ARE CLEAR INTERNAL AIRWAYS DIMENSIONS.
3.	ALL RIGHT ANGLE BENDS SHALL BE FITTED WITH DOUBLE SKIN TURNING VANES.
4.	EQUIPMENT IS TO BE MOUNTED ON ANTI-VIBRATION MOUNTS AS SPECIFIED.
5.	REFER TO ARCHITECTURAL DRAWINGS FOR EXACT FLOOR LAYOUTS & REFLECTED CEILING PLAN FOR FINAL LOCATION OF DIFFUSERS, GRILLES & ACCESS PANELS.
6.	THE MECHANICAL CONTRACTOR IS REQUIRED TO UNDERTAKE A FULL CO-ORDINATION OF MECHANICAL SERVICES INSTALLATIONS WITH THE BUILDING STRUCTURE AND OTHER SERVICES PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORKS. TO DETERMINE AND CO-ORDINATE ALL MECHANICAL SPATIAL REQUIREMENTS FOR SYSTEMS.
7.	EQUIPMENT SHALL BE AS SPECIFIED. ALTERNATIVES ARE SUBJECT TO WRITTEN APPROVAL.
8.	THE ELECTRICAL TRADE IS TO PROVIDE A POWER SUPPLY TO EACH PACKAGE ACU. MECHANICAL TRADE IS TO MAKE CONNECTIONS & PROVIDE ALL OTHER POWER & CONTROL WIRING FOR THE SYSTEMS.
9.	THE ELECTRICAL TRADE IS TO PROVIDE A SHUNT TRIP RELAY ON THE

SUPPLY TO THE AIR CONDITIONING TO SHUTDOWN THE AIR

CONDITIONING IN THE EVENT OF A FIRE.

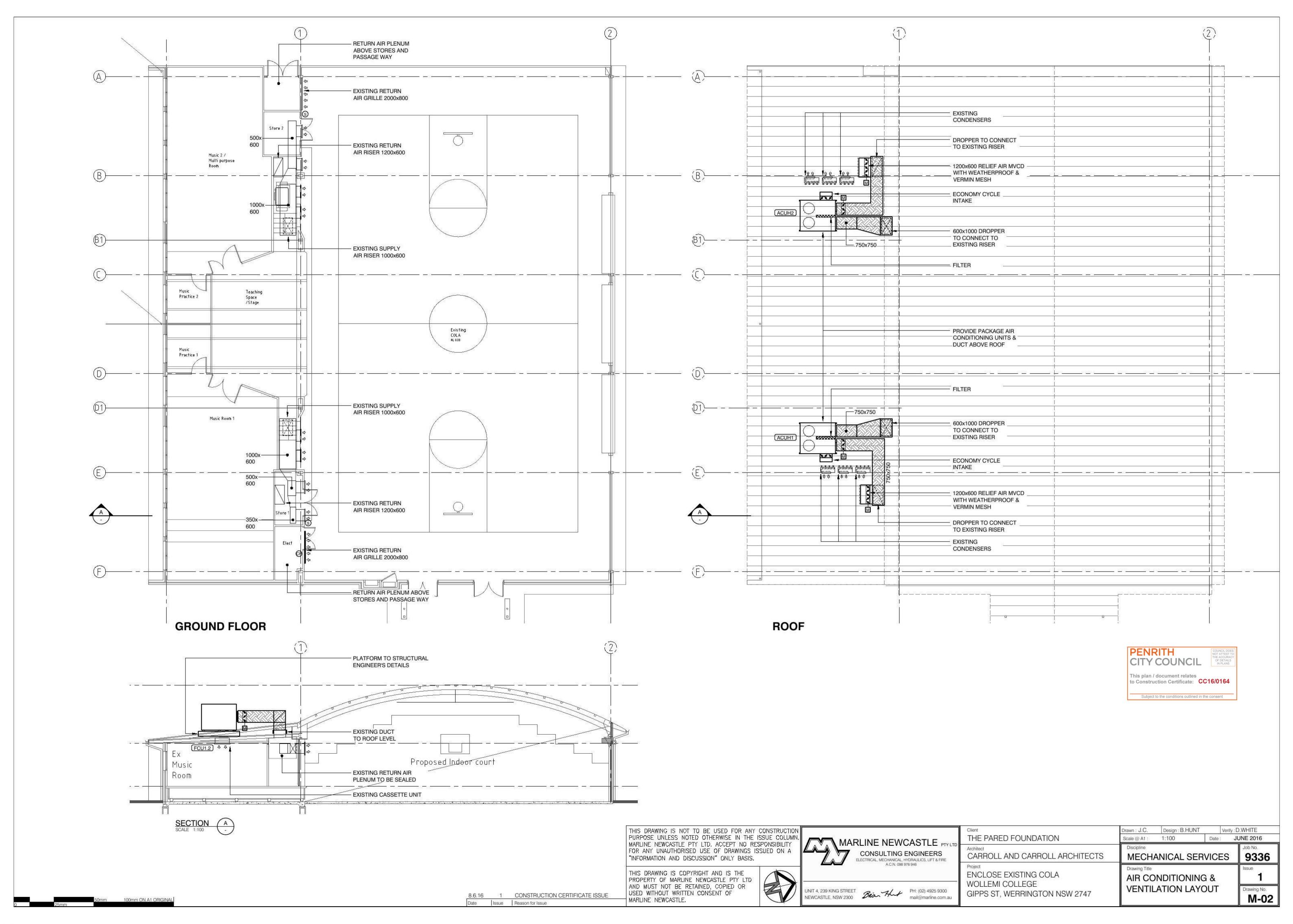
NOTES - GENERAL MECHANICAL WORKS

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MARLINE NEWCASTLE PTY LTD CONSULTING ENGINEERS ELECTRICAL, MECHANICAL, HYDRAULICS, LIFT & FIRE A.C.N. 098 976 946	Client				y:D.WHITE
	THE PARED FOUNDATION	Scale @ A1:	N.T.S.	Date :	JUNE 2016
	Architect CARROLL AND CARROLL ARCHITECTS	MECHANICAL SERVICES			Job No. 9336
	Project ENCLOSE EXISTING COLA	Drawing Title LEGEND, NOTES &			Issue 1
UNIT 4, 239 KING STREET NEWCASTLE, NSW 2300 Bian H: (02) 4925 9300 mail@marline.com.au	WOLLEMI COLLEGE GIPPS ST, WERRINGTON NSW 2747	SCHEDULES		Drawing No. M-01	





Compliance Certificate – Design

Ref : 8764-007-ccds

I certify that the item/s described below, if installed or carried out in accordance with the information contained in this certificate, including any referenced documentation, will comply with the Building Code of Australia.

Client to whom this Certificate has been Issued:

PARED Foundation

Description of Component/s Certified

(Clearly describe the extent of work covered by this certificate)

- Wollemi College Enclosure of Existing COLA
- Footings & Masonry
- Structural Steel Framina



COUNCIL DOES NOT ATTEST TO THE ACCURACY OF DETAILS IN PLANS

This plan / document relates to Construction Certificate: CC16/0164

Subject to the conditions outlined in the consent

Basis of Certification

(Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice or other publications, were relied upon)

AS/NZS 1170.0, 1170.1, AS1163, AS3700, AS4100, Australian Standards:

AS/NZS4600, AS/NZS 1554.1,

Building Code of Australia: BCA/NCC 2016

Referenced Documentation

(Clearly identify any relevant documentation, e.g. numbered structural engineering plans)

8764 sheets \$101-A to \$106-A inclusive Structural Drawings:

Conditions of Development Consent

(Specify DA number & Condition number)

DA Number: Conditions:

Competent Person Details

Name: Stephen Healey

Firm: ECLIPSE Consulting Engineers Pty Ltd

Relevant Qualifications BE(Hons) MIEAust CPEng

Address: 304/12 Century Cct, Norwest Central, BAULKHAM HILLS NSW 2153

Phone: (02) 9894 8500 Edosimilei : (02) 8850 0212

Registration/ Accreditation MIEAust CPEng NPER3 (Structural & Civil) RPEQ RBPVic RBPNT

Details: IEAust 25662, RPEQ 5546

Date: 05 July 2016

Document Set 40 H24444 S NSW 2153 Version: 2, Version Date: 15/08/2016

Signature:

Phone: (02) 9894 8500 Fax: (02) 8850 0212 info@eclipse-consulting.com.au

www.eclipse-consulting.com.au

Phone: (02) 4925 9300 Fax: (02) 4926 3811

MARLINE NEWCASTLE PTY. LIMITED

Managing Director Brian Hunt, BE, MBA, MIEAust Associate Director Keld Hoyer Associate Director Brendan Maher



ABN 92 902 545 497

ACN 098 976 946

Thursday, 9 June 2016 Ref No: MN9336

Penrith City Council PO Box 60 PENRITH NSW 2751

Attention: Manager

Dear Sir/Madam.

RE: Wollemi College - Enclosure of COLA

CERTIFICATE OF DESIGN – ELECTRICAL SERVICES



SUBJECT PREMISES:

Pursuant to the provisions of Clause A2.2 of the Building Code of Australia, I hereby certify that the above design is in accordance with normal engineering practice and meets the requirements of the Building Code of Australia, Part 7 of the Environmental Planning and Assessment Regulations, relevant Australian Standards and relevant conditions of Development Consent. In particular the design is in accordance with the following:

Emergency Lighting BCA 2015 Clause E4.4 & AS/NZS 2293.1 – 2005

Exit Signs BCA 2015 Clauses E4.5, E4.6 and E4.8 and

AS/NZS 2293.1 - 2005

General Lighting AS1680.1, AS1680.2.1, AS1680.2.2 & AS1680.2.3

Wiring Rules AS/NZS 3000 – 2007

Fire Detection BCA 2015 Clause E2.2 and AS 1670

Energy Efficiency:

- Application of part BCA 2015 Clause J6.1
- Artificial lighting BCA 2015 Clause J6.2

- Artificial lighting BCA 2015 Clause J6.2
- Interior artificial lighting and power control BCA 2015 Clause J6.3

OR IF DRAWINGS ARE TO BE LISTED

I am an appropriately qualified and competent person in this area and as such can certify that the design and performance of the design systems comply with the above and which are detailed on the following drawings.

E0-1 LEGEND, NOTES & DRAWING SCHEDULE

E0-2 POWER & COMMS LAYOUT

E0-3 LIGHTING & SECURITY LAYOUT

E0-4 SINGLE LINE DIAGRAM & BLOCK DIAGRAMS

ELECTRICAL SPECIFICATION

Marline Newcastle possesses Indemnity Insurance to the satisfaction of the building owner.



Full Name of Designer:

Fred Pentecost

Qualifications:

BEng (Electrical), MDesSc (Building Services), NPER 4/239 King Street Newcastle NSW 2300

Address of Designer:

Business Telephone No:

02 4925 9300 Fax No: 02 4926 3811

Name of Employer: Marline Newcastle Pty Ltd

Signature:

This plan / document relates to Construction Certificate: CC16/0164

Subject to the conditions outlined in the consent

Phone: (02) 4925 9300 Fax: (02) 4926 3811

MARLINE NEWCASTLE PTY. LIMITED

Managing Director Brian Hunt, BE, MBA, MIEAust Associate Director Keld Hoyer Associate Director Brendan Maher



ABN 92 902 545 497

ACN 098 976 946

9 June 2016 Ref No: MN9336

Penrith City Council PO Box 60 PENRITH NSW 2751

Attention: Manager

Dear Sir/Madam,

RE: Wollemi College - Enclosure of COLA

CERTIFICATE OF DESIGN – HYDRAULIC SERVICES

SUBJECT PREMISES:

Pursuant to the provisions of Clause A2.2 of the Building Code of Australia, I hereby certify that the above design is in accordance with normal engineering practice and meets the requirements of the Building Code of Australia, Part 7 of the Environmental Planning and Assessment Regulations, relevant Australian Standards and relevant conditions of Development Consent. In particular the design is in accordance with the following:

Fire Hose Reels

BCA 2015 Clause E1.4 and AS 2441 - 2005

Fire Hydrant Systems

BCA 2015 Clause E1.3 and AS 2419.1 - 2005

PENRITH

CITY COUNCIL

This plan / document relates

to Construction Certificate: CC16/0164

Subject to the conditions outlined in the consent

I am an appropriately qualified and competent person in this area and as such can certify that the design and performance of the design systems will comply with the above.

OR IF DRAWINGS ARE TO BE LISTED

I am an appropriately qualified and competent person in this area and as such can certify that the design and performance of the design systems comply with the above and which are detailed on the following drawings.

H0-1

LEGEND, NOTES & DETAILS

H0-2

SITE SERVICES AND FIRE HYDRANT HOSE REEL LAYOUTS

HYDRAULIC SPECIFICATION

B Maher

Marline Newcastle possesses Indemnity Insurance to the satisfaction of the building owner.

Full Name of Designer:

Brendan Maher

Qualifications:

Ass.Dip.Eng

Address of Designer:

4/239 King Street Newcastle NSW 2300

Business Telephone No:

02 4925 9300 Fax No: 02 4926 3811

Name of Employer:

Marline Newcastle Pty Ltd

Signature:

Phone: (02) 4925 9300 Fax: (02) 4926 3811

MARLINE NEWCASTLE PTY. LIMITED

Managing Director Brian Hunt, BE, MBA, MIEAust Associate Director Keld Hoyer Associate Director Brendan Maher



ABN 92 902 545 497

ACN 098 976 946

Thursday, 9 June 2016

Ref No: MN9336

Penrith City Council PO Box 60 PENRITH NSW 2751

Attention: Manager

Dear Sir/Madam,

RE: Wollemi College - Enclosure of COLA

CERTIFICATE OF DESIGN - MECHANICAL SERVICES

PENRITH CITY COUNCIL This plan / document relates to Construction Certificate: CC16/0164 Subject to the conditions outlined in the consent

SUBJECT PREMISES:

Pursuant to the provisions of Clause A2.2 of the Building Code of Australia, I hereby certify that the above design is in accordance with normal engineering practice and meets the requirements of the Building Code of Australia, Part 7 of the Environmental Planning and Assessment Regulations, relevant Australian Standards and relevant conditions of Development Consent. In particular the design is in accordance with the following:

Smoke Hazard Management	BCA 2015 Clause E2.2
(automatic shutdown)	AS 1668.1 – 1998

Ventilation:

Ventilation of rooms
 Natural ventilation
 Mechanical ventilation
 BCA 2015 Clause F4.5
 BCA 2015 Clauses F4.6 and F4.7
 AS 1668.2 – 2012

Energy Efficiency:

- Air conditioning systems
- Mechanical ventilation systems
- Miscellaneous exhaust systems
- Facilities for energy monitoring
- Air conditioning systems
- BCA 2015 Clause J5.2
- BCA 2015 Clause J5.4
- BCA 2015 Clause J8.3

I am an appropriately qualified and competent person in this area and as such can certify that the design and performance of the design systems comply with the above and which are detailed on the following drawings.

M0-1 LEGEND, NOTES & SCHEDULES
M0-2 AIR CONDITIONING & VENTILATION LAYOUT

Marline Newcastle possesses Indemnity Insurance to the satisfaction of the building owner.



Full Name of Designer:

Brian Hunt

Qualifications:

Address of Designer:

4/239 King Street Newcastle NSW 2300

Business Telephone No:

02 4925 9300

Fax No: 02 4926 3811

Name of Employer:

Marline Newcastle Pty Ltd

Signature: 4

COUNCIL DOES NOT ATTEST TO THE ACCURACY OF DETAILS IN PLANS

This plan / document relates to Construction Certificate: CC16/0164

Subject to the conditions outlined in the consent