

J.C. Engineers Pty. Ltd.  
ABN 32 616 356 908

25 September 2020

J & J Broady  
40 Essilia Street  
COLLARROY PLATEAU  
NSW 2097  
c-/ [michael@schmicktimbers.com](mailto:michael@schmicktimbers.com)

**Re: Structural Certification – reconstruction of existing house, new garden shed and carport – Design and General Advice.**

**Dear Mr./Mrs. Broady,**

**Project:**

J.C. Engineers Pty. Ltd, as consulting engineers, have carried out design and structural assessment of the proposed reconstruction of existing house, new garden shed and carport located at 40 Essilia Street Collaroy Plateau NSW 2097

**Reference Documentation and Information:**

- The house is required to be extended as shown on drawings provided by the client.
- Carport is required to be designed in front of the house.
- Carden shed is required to be designed on the backyard of the building.

**Structural Analysis:**

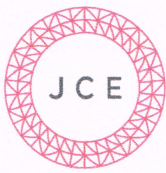
J.C. Engineers has completed the analysis and issued the Letter of Advice, assuming that the existing structures are assessed by the building engineer and deemed to be currently in safe and sound condition, the existing structures will remain intact for the duration of construction or properly propped to ensure its performance is not affected by construction activity and base built bearing structures are not compromised.

**Certification:**

I certify, based on supplied information, and structural analysis conducted by J.C. Engineers, that the proposed structures as designed on the drawings

A01 TITLE SHEET	dated 24/09/2020 rev. A	
S01 GENERAL NOTES 01/02	dated 24/09/2020 rev. A	
S02 GENERAL NOTES 02/02	dated 24/09/2020 rev. A	
S03 FOUNDATION AND DECK FRAMING PLANS		dated 24/09/2020 rev. A
S04 DWELLING LOWER AND UPPER FLOOR LEVEL		dated 24/09/2020 rev. A
S05 CARPORT FOUNDATION AND ROOF FRAMING PLANS, ELEVATION		dated 24/09/2020 rev. A
S06 GARDEN SHED GROUND AND ROOF FRAMING PLANS		dated 24/09/2020 rev. A
S07 GARDEN SHED WIND BRACING PLAN		dated 24/09/2020 rev. A
S08 TYPICAL DETAILS 01/02	dated 24/09/2020 rev. A	
S09 TYPICAL DETAILS 02/02	dated 24/09/2020 rev. A	
S10 STUDS AND LINTEL SCHEDULES	dated 24/09/2020 rev. A	





J.C. Engineers Pty. Ltd.  
ABN 32 616 356 908

for the Private Residence located at located at 40 Essilia Street Collaroy Plateau NSW 2097 is compliant with Australian Standards as follows:

AS 1170.0:2002 – PART 0: GENERAL PRINCIPLES  
AS 1170.1:2002 – PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS  
AS 1684.2:2010 – RESIDENTIAL TIMBER-FRAMED CONSTRUCTION PART 2: NON-CYCLONIC AREAS  
AS 2159:2009 – PILING - DESIGN AND INSTALLATION  
AS 2870:2011 – RESIDENTIAL SLABS AND FOOTINGS  
AS 3600:2018 – CONCRETE STRUCTURES  
AS 4100:1998 – STEEL STRUCTURES  
AS 4055:2012 – WIND ACTIONS FOR HOUSING

**Further advice:**

We recommend contractor(s) to confirm all dimensions in field and manufacture bearing elements according to shop drawings developed based on measurements. The dimensions provided on J.C. Engineers drawings are not for manufacturing.

Engage registered engineer to ensure the shop drawings follow the design intent and are in compliance with the engineered drawings. Engage registered engineer to perform inspection of the erected structures and connections.

We thank you for your business and please do not hesitate to contact us to discuss, if needed.

Kind regards,

**Konstantin Popov**

Senior Engineer

(07) 5635 4367

CPEng, RPEQ (Structural & Management) LEED® AP<sup>BD+C</sup>  
On behalf of J.C. Engineers Pty. Ltd.

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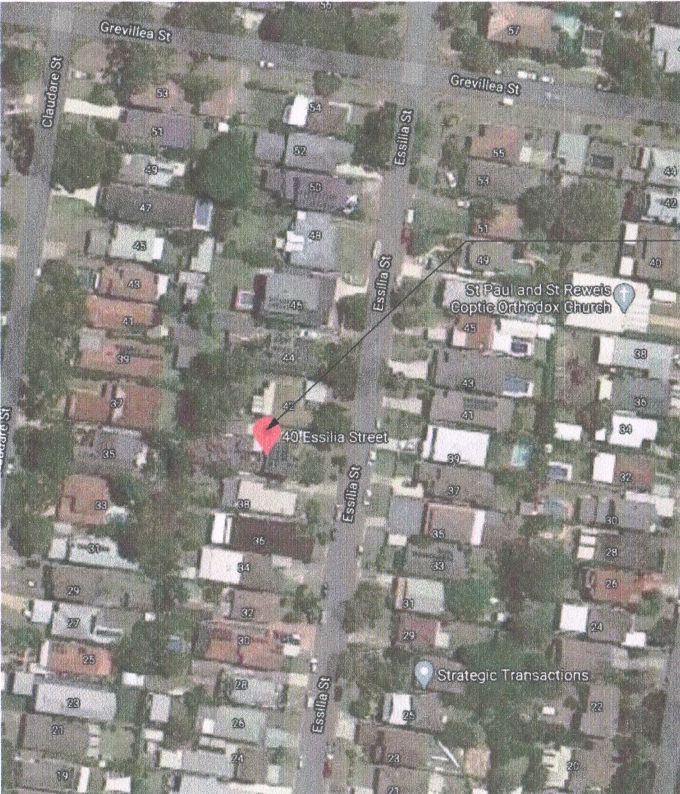
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# STRUCTURAL DESIGN ON RESIDENTIAL ALTERATIONS

J & J BROADY




Site Locality

N.T.S.

DRAWING LIST			
Sheet	Name	Issue Date	Rev
A01	TITLE SHEET	24/09/2020	A
S01	GENERAL NOTES 01/02	24/09/2020	A
S02	GENERAL NOTES 02/02	24/09/2020	A
S03	FOUNDATION AND DECK FRAMING PLANS	24/09/2020	A
S04	DWELLING LOWER AND UPPER FLOOR LEVEL	24/09/2020	A
S05	CARPORT FOUNDATION AND ROOF FRAMING PLANS, ELEVATION	24/09/2020	A
S06	GARDEN SHED GROUND AND ROOF FRAMING PLANS	24/09/2020	A
S07	GARDEN SHED WIND BRACING PLAN	24/09/2020	A
S08	TYPICAL DETAILS 01/02	24/09/2020	A
S09	TYPICAL DETAILS 02/02	24/09/2020	A
S10	STUDS AND LINTEL SCHEDULES	24/09/2020	A

Client:  
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NSW 2097  
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												Sheet <b>TITLE SHEET</b>											
												Drawing No. <b>JCEA-655-A01</b>				Rev <b>A</b>							
A FOR INFORMATION				24/09/20				TL KP BN															
REV DESCRIPTION				DATE DRAWN CHECKED APPROVED																			



GENERAL NOTES:

- 1. CONSTRUCTION OF ALL STRUCTURAL AND CIVIL WORK SHALL COMPLY WITH CURRENT EDITIONS OF RELEVANT SAA CODES.
- 2. DIMENSIONS SHALL BE VERIFIED BEFORE COMMENCING CONSTRUCTION. DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONS.
- 3. THROUGHOUT CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVER STRESSED.
- 4. CONSTRUCTION SYSTEMS, PROCEDURES AND METHODOLOGY OF STRUCTURAL AND CIVIL WORK SHALL ENSURE COMPLIANCE WITH THE LOCAL AUTHORITY WORKPLACE HEALTH AND SAFETY LEGISLATION.

DESIGN CRITERIA:

J. C. ENGINEERS PTY LTD CERTIFIES THE DESIGN OF THE SHED STRUCTURE UNDER THE CRITERIA AS LISTED BELOW:

APPLICABLE CODES:

- AS 1170.0:2002 – PART 0: GENERAL PRINCIPLES
- AS 1170.1:2002 – PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS
- AS 1684.2:2010 – RESIDENTIAL TIMBER-FRAMED CONSTRUCTION
- AS 2159:2009 – PART 2: NON-CYCLONIC AREAS
- AS 2870:2011 – PILING - DESIGN AND INSTALLATION
- AS 3600:2018 – RESIDENTIAL SLABS AND FOOTINGS
- AS 4100:1998 – CONCRETE STRUCTURES
- AS 4055:2012 – STEEL STRUCTURES
- WIND ACTIONS FOR HOUSING

DESIGN PARAMETERS:

BUILDING LIFETIME	50 YEARS
BUILDING IMPORTANCE LEVEL	2
ULS WIND VELOCITY, VU	45m/s
WIND CLASSIFICATION	N2
TERRAIN CATEGORY	2.5
ROOF DEAD LOAD (G)	0.5 kPa
ROOF LIVE LOAD (Q)	0.25 kPa
LIVE LOAD ON FLOOR	1.5 kPa
TENSION BOLTS GRADE	8.8/TB
BOLTS GRADE	4.6/S

SHOULD ANY OF THE PROJECT PARAMETERS DIFFER FROM THE PARAMETERS ABOVE, THE DESIGN "AS IS" CANNOT BE USED AND SHOULD BE REVISED BY CHARTERED ENGINEER.

SAFETY IN DESIGN AND CONSTRUCTION:

- 1. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY WORKPLACE HEALTH AND SAFETY LEGISLATION.
- 2. CONSTRUCTION ACTIVITY CAN BE HAZARDOUS AND POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY IS IDENTIFIED WITH APPROPRIATE NOTES IN THE DOCUMENTATION.
- 3. IT IS ESSENTIAL THAT PRIOR TO COMMENCEMENT OF CONSTRUCTION AN ADEQUATE SAFETY PLAN IS PREPARED BY THE BUILDER / CONTRACTOR FOR THE WORKS IN COMPLIANCE WITH STATUTORY REQUIREMENTS. THE SAFETY PLAN SHALL INCLUDE APPROPRIATE WORK METHOD STATEMENTS FOR ALL RISK ACTIVITIES. THE STRUCTURAL ENGINEER IS AVAILABLE TO BE CONSULTED IN REGARDS TO THE SAFETY PLANS.
- 4. PRIOR TO ANY ERECTION OF STRUCTURAL ELEMENTS, THE CONTRACTOR SHALL HAVE COMPLETED A RISK ASSESSMENT OF ALL CONSTRUCTION PROCEDURES AND ENSURED THAT WHERE POSSIBLE. ALL RISKS HAVE BEEN ELIMINATED AND WHERE NOT POSSIBLE THEIR SAFETY PLAN HAS ADDRESSED THOSE ISSUES AND IT HAS BEEN FORMULATED AND DOCUMENTED FOR STRICT ADHERENCE DURING THE CONSTRUCTION WORKS.
- 5. PRIOR TO FABRICATION OF STEELWORK THE CONTRACTOR SHALL AGREE WITH THE ENGINEER ON AREAS OF RISK WHICH HAVE BEEN ADDRESSED BY THE DESIGN WHERE POSSIBLE AND AGREE ON SUITABLE CONSTRUCTION PROCEDURES WHERE AREAS OF RISK STILL EXIST.
- 6. PRIOR TO THE USE OF THE PROJECT AS DESIGNED, THE OWNER SHALL HAVE COMPLETED A RISK ASSESSMENT OF ALL WORK PRACTICES AND ENSURED THAT WHERE POSSIBLE ALL RISKS HAVE BEEN ELIMINATED AND WHERE NOT POSSIBLE THEIR SAFETY PLAN HAS ADDRESSED THOSE ISSUES AND IT HAS BEEN FORMULATED AND DOCUMENTED FOR STRICT ADHERENCE AFTER COMMISSIONING.

FOUNDATION NOTES:

- 1. THE BUILDER SHALL ALLOW TO PAY ALL ASSOCIATED COSTS TO ENGAGE AN APPROVED GEOTECHNICAL ENGINEER TO CARRY OUT ALL INSPECTIONS AND TESTING AS NECESSARY TO CERTIFY THAT THE FOUNDING MATERIAL FOR HIGH LEVEL FOOTINGS AND OR THE CAPACITY OF BORED PIERS COMPLIES WITH THAT NOMINATED IN THE DOCUMENTATION. THE CERTIFICATION IS TO BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND.
- 2. FOOTING EXCAVATION SHALL BE CARRIED OUT DOWN TO UNDISTURBED, UNIFORM, FOUNDATION MATERIAL HAVING A MINIMUM BEARING CAPACITY OF 200 kPa.
- 3. THE CONTRACTOR SHALL ENGAGE A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE FOUNDING MATERIAL MEETS THE REQUIRED NOMINATED FOUNDATION CONDITIONS. APPROVAL OF THE FOUNDATION SHALL BE OBTAINED FROM THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.
- 4. ANY OVER EXCAVATION SHALL BE BACK FILLED WITH A MASS CONCRETE BLINDING LAYER TO THE ASSUMED FOUNIDNG LEVEL.
- 5. WHERE EXCAVATION WORK IS TO BE CARRIED OUT ADJACENT TO EXISTING FOOTINGS THE EXACT LEVEL OF THE UNDERSIDE OF THE FOOTINGS SHALL BE DETERMINED BY TEST PITS PRIOR TO EXCAVATION. UNDERPINNING SHALL BE CARRIED OUT AS DETAILED OR REQUIRED BY THE STRUCTURAL ENGINEER.
- 6. ALL FOOTING EXCAVATIONS SHALL BE FORMED AS NECESSARY WHEN EXCAVATED FACE IS NOT STABLE, DEWATERED AND CLEANED OF LOOSE AND SOFT MATERIAL PRIOR TO PLACING CONCRETE.
- 7. ALL WALLS AND COLUMNS SHALL BE CONCENTRIC WITH SUPPORTING FOOTINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

- 8. ADJACENT TO EXISTING FOOTINGS, THE EXACT LEVEL OF THE UNDERSIDE OF THE FOOTINGS SHALL BE OBTAINED BY TEST PITS PRIOR TO EXCAVATION. UNDER PINNING AND SHORING SHALL BE CARRIED OUT AS DETAILED OR AS REQUIRED BY STRUCTURAL ENGINEER. THE EXISTING STRUCTURE SHALL BE MAINTAINED IN A STABLE AND UNDAMAGED CONDITION.
- 9. ALL FOOTING EXCAVATIONS TO BE CLEANED OF LOOSE MATERIAL AND WATER.

CONCRETE NOTES:

- 1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH CURRENT EDITIONS OF AS 1379, AS 3600 AND AS 3610 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS. REFER ALSO TO IN-SITU CONCRETE, FORMWORK AND REINFORCEMENT SECTION OF THE SPECIFICATIONS.
- 2. CONCRETE STRENGTH GRADE FOR PARTICULAR ELEMENTS SHALL BE 25kPa.
- 3. PROJECT ASSESSMENT OF STRENGTH IN ACCORDANCE WITH AS 1379 SHALL BE ADOPTED FOR SAMPLING AND TESTING. REFER TO SPECIFICATION FOR FREQUENCY OF TESTS.
- 4. SIZE OF ELEMENTS IS EXCLUSIVE OF APPLIED FINISHES. BEAMS DEPTHS INCLUDE SLAB THICKNESS AND ARE THE FIRST DIMENSION SPECIFIED, FOLLOWED BY WIDTH. UNLESS NOTED OTHERWISE ALL FORMED EDGES AND CORNERS OF CONCRETE MEMBERS SHALL HAVE 20MM CHAMFERS.
- 5. THE FACE OF ALL CONCRETE AGAINST WHICH NEW CONCRETE IS TO BE CAST IS TO BE THOROUGHLY MECHANICALLY SCABBED, FULLY EXPOSING THE AGGREGATE MATRIX, UNLESS OTHERWISE NOTED.
- 6. CONSTRUCTION JOINTS SHALL BE MADE ONLY AT APPROVED LOCATIONS, AND, IN BEAMS AND SLABS SHALL BE CONSTRUCTED WITH A SHEAR KEY TO ENGINEER'S DETAIL U.N.O. SURFACES OF CONCRETE AT ALL JOINTS SHALL BE THOROUGHLY MECHANICALLY SCABBED, FULLY EXPOSING THE AGGREGATE MIX, UNLESS OTHERWISE NOTED.
- 7. ALL REINFORCEMENT SHALL BE TO AS/NZS 4671 AND REINFORCEMENT GRADE IS DESIGNATED AS FOLLOWS:  
R: PLAIN ROUND BAR, GRADE 250  
N: DEFORMED BAR, GRADE 500  
SL/RL: WIRE REINFORCING FABRIC, GRADE 500
- 8. ALL WELDED MESH REINFORCEMENT SHALL BE FABRICATED FROM DEFORMED RIBBED 500MPA BAR (D500) U.N.O.
- 9. REINFORCEMENT SHALL BE BENT COLD IN ACCORDANCE WITH AS3600 EXCEPT WHERE APPROVED BY THE STRUCTURAL ENGINEER. NO REBENDING SHALL BE PERMITTED.
- 10. DO NOT CUT REINFORCEMENT ON SITE TO CLEAR PENETRATIONS. DISPLACE REINFORCEMENT SLIGHTLY AS NECESSARY TO CLEAR BLOCKOUTS.
- 11. CONCRETE COVER AND LAPS TO REINFORCEMENT SHALL BE AS NOTED ON THE DRAWINGS.
- 12. SLABS SHALL BEAR ONLY ON LOAD BEARING ELEMENTS SHOWN ON THE PLANS. ALL OTHER NON LOAD BEARING ELEMENTS INCLUDING WINDOW MULLIONS, NON LOAD BEARING WALLS ETC. SHALL BE KEPT 20MM CLEAR FROM SOFFIT OF STRUCTURE.
- 13. ALL CONCRETE IS TO BE MECHANICALLY VIBRATED DURING PLACING. CONSTRUCTION JOINTS SHALL BE FORMED AND USED ONLY WHERE SHOWN ON THE DRAWINGS OR SPECIFICALLY APPROVED BY THE ENGINEER.

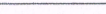



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				A third party receiving a copy of this document should not place any reliance upon it and J.C. Engineers Pty. Ltd. disclaims all responsibility and liability to such party.				Drawn TL				Collaroy Plateau				GENERAL NOTES 01/02			
				This document may not be altered, modified or reproduced without written approval from J.C. Engineers Pty. Ltd.				Eng. Areas				NSW 2097				Drawing No. JCEA-655-S01			
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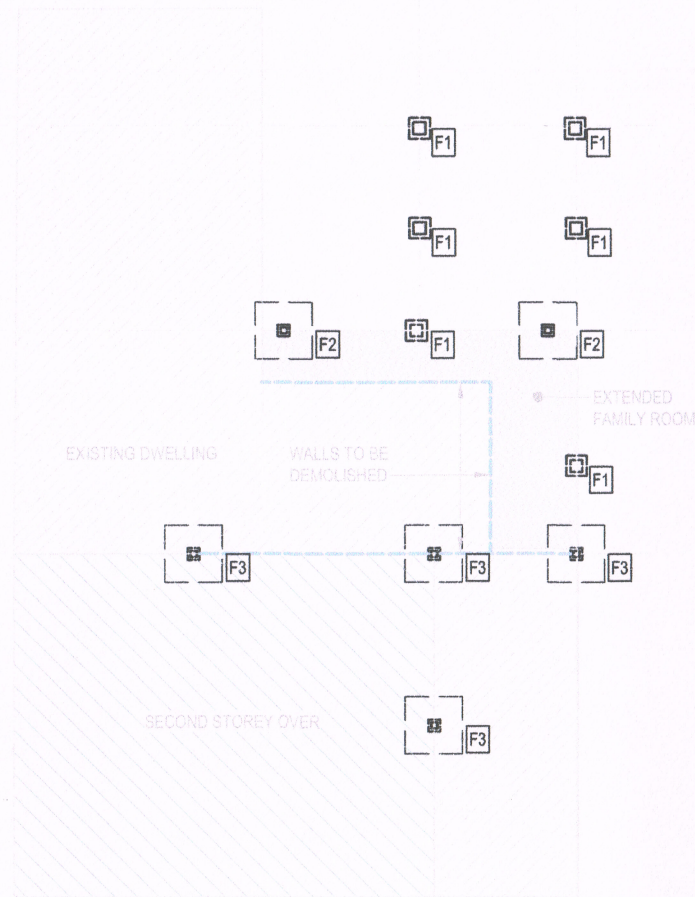
15. APPLY EVAPORATION RETARDER AND CURE ALL CONCRETE IN ACCORDANCE WITH THE CONCRETE SPECIFICATIONS AND IN ACCORDANCE WITH REQUIREMENTS OF AS3799.
16. FORMWORK IS TO BE IN ACCORDANCE WITH AS 3610 "FORMWORK FOR CONCRETE" UNLESS SPECIFIED
17. OTHERWISE, CONCRETE IS TO BE A CLASS 3 FINISH WHERE EXPOSED TO VIEW IN THE FINAL PROJECT AND CLASS 4 ELSEWHERE.
18. ADEQUATE MEASURES SHALL BE TAKEN TO CONTROL DRYING SHRINKAGE OF CONCRETE DURING PLACEMENT, COMPACTION AND FINISHING.
19. ACCEPTABLE CURING METHODS ARE PONDING, ABSORPTIVE COVER, LOW PRESSURE STEAM, IMPERMEABLE SHEET MEMBRANE AND CURING COMPOUNDS AS PER AS3799 (PVA COMPOUNDS ARE NOT PERMITTED).
20. CONCRETE PLACEMENT AND COMPACTION IS TO BE COMPLETED WITHIN AN APPROPRIATE TIME.
21. NO WATER IS TO BE ADDED TO CONCRETE MIX ON SITE UNLESS APPROVED AND SPECIFIED BY ENGINEER.
22. USE ALIPHATIC ALCOHOL AS SOON AS SCREEDING IS FINISHED AS NECESSARY.
23. CURING SHALL COMMENCE ONTO SLABS IMMEDIATELY AFTER INITIAL SET OF THE CONCRETE OR IMMEDIATELY AFTER REMOVAL OF FORMWORK. HOT AND COLD WEATHER CURING PROCEDURES SHALL BE USED IF NECESSARY. REFER J.C. ENGINEERS SPECIFICATION FOR TEMPERATURE CONTROL LIMITS ETC.
24. IN WINDY CONDITIONS, WIND BREAKS SHALL BE ERECTED TO SHIELD THE CONCRETE SURFACES DURING AND AFTER PLACEMENT.
25. CONCRETE PLACEMENT AND CURING PROCEDURES ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
26. STRIPPING OF FORMS AND REMOVAL OF FORMWORK SHALL BE IN ACCORDANCE WITH AS 3600 "CONCRETE STRUCTURES" CLAUSE 17.6 UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.
27. WHERE SAW CUTTING OF CONCRETE IS SPECIFIED IN THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL ALLOW TO SCAN THE CONCRETE WITH GROUND PENETRATING RADAR (GPR) AND ALLOW FOR THE REQUIREMENTS NOTED BELOW UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS.
28. GROUT SHALL BE 1:3 TYPE "A" PORTLAND CEMENT AND CLEAN MEDIUM SAND, WITH MINIMUM WATER, APPLIED TO DAMPENED CONCRETE, UNLESS SPECIFIED OTHERWISE. DOOR FRAMES AND THE LIKE AND ITEMS BUILT INTO FORMED OPENINGS AND RECESSES SHALL BE FULLY GROUTED. GROUT UNDER STEEL BASEPLATES, ETC.
29. SAWN JOINTS AND DOWEL JOINTS TO BE PROVIDED WHERE SHOWN & AS DETAILED ON ARCHITECT'S DRAWINGS. SAWN JOINTS SHALL BE CUT WITH A SOFT-CUT SAW ON THE SAME DAY AS THE POUR.
30. WHERE SLABS ON GROUND ABOUT RETAINING WALLS, COLUMNS, MASONRY WALLS, AND OTHER VERTICAL STRUCTURAL ELEMENTS OR AS SHOWN ON DRAWINGS, PROVIDE BUTT JOINT COMPRISING JOINT FILLER AND SEALANT AS SPECIFIED.
31. KEY JOINTS ARE TO BE PROVIDED WHERE SHOWN AND AS DETAILED ON THE DRAWINGS WITH GROOVES FOR SEALANT AS SPECIFIED. METAL KEY JOINT FORMERS WHICH ARE RETAINED IN THE CONCRETE POUR SHALL NOT BE USED.

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH CURRENT EDITIONS OF AS4100, AS/NZS 1554 - 1 & 2 & AS4600 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. ALL STEEL SHALL COMPLY WITH THE FOLLOWING U.N.O. :-
  - WELDED SECTION - GRADE 300 TO AS/NZS 3678.2
  - ROLLED SECTION - GRADE 300 TO AS/NZS 3679.2
  - SHS & RHS - GRADE 350/GRADE 450 TO AS 1163
  - CHS - GRADE 250/GRADE 350 TO AS 1163
  - FLAT PLATE - GRADE 300 TO AS/NZS 3679.2
  - STANDARD PLATE - GRADE 250 TO AS/NZS 3678
3. REFER TO ARCHITECT FOR FIRE RATING REQUIREMENTS.
4. THE CONTRACTOR SHALL UNLESS SPECIFIED ELSEWHERE:
  - A. PROVIDE AND EMPLOY ANY ADDITIONAL TEMPORARY BRACING ETC. NECESSARY TO ADEQUATELY HOLD STEELWORK IN POSITION DURING CONSTRUCTION.
  - B. PROVIDE ALL PACKS, CLEATS, BOLTS (INCL. H.D. BOLTS) ETC. REQUIRED FOR TEMPORARY AND PERMANENT ERECTION OF STEELWORK AND FOR ATTACHMENT OF TIMBER AND MISCELLANEOUS FRAMING.
  - C. SUBMIT WORKSHOP DRAWINGS TO THE ENGINEER FOR PERUSAL. FABRICATION SHALL NOT COMMENCE WITHOUT A WRITTEN RESPONSE.  
FOR THE SURFACE TREATMENT REQUIREMENTS OF ALL STRUCTURAL STEELWORK REFER TO THE STRUCTURAL STEEL SPECIFICATION. MINIMUM TREATMENT SHALL BE AS FOLLOWS U.N.O. :
    - A. INTERNAL STEELWORK (I.E. PROTECTED FROM CLIMATE) ABRASIVE BLAST CLEAN TO GRADE SA2.5 TO AS1627.9 APPLY ONE COAT OF GOOD QUALITY ALKYD PRIMER (ZINC PHOSPHATE) MINIMUM DRY FILM THICKNESS OF 50 MICRONS;
    - B. EXTERNAL STEELWORK (I.E. EXPOSED TO CLIMATE) HOT DIP GALVANIZE TO AS/NZS 4680
5. ALL STRUCTURAL STEELWORK BELOW GROUND LEVEL TO BE PAINTED WITH 2 COATS OF HIGH-QUALITY APPROVED BITUMEN PAINT AND ENCASED BY N25 CONCRETE 75MM ALL ROUND U.N.O.
6. MINIMUM WELDING REQUIREMENTS IF NOT OTHERWISE SPECIFIED SHALL BE AS FOLLOWS: ALL WELDS CATEGORY S.P 6MM CONTINUOUS FILLET WELDS, OR WHERE NOTED, COMPLETE PENETRATION BUTT WELDS (C.P.B.W.) USING E48XX ELECTRODES WITH CATEGORY S.P. INSPECTION WITH ALL WELDS 100% VISUALLY SCANNED, ALL TO AS/NZS 1554.1 U.N.O. ALL WELDING SHALL BE PERFORMED BY A QUALIFIED WELDER IN ACCORDANCE WITH AS/NZS 1554.1.
7. SITE WELDS WHERE NOTED IN THE DOCUMENTATION SHALL BE THOROUGHLY WIRE BRUSHED CLEANED AND PAINTED IN ACCORDANCE WITH THE SPECIFICATION.
8. ENGINEER MAY ORDER NON-DESTRUCTIVE TESTING OF SELECTED WELDS. WELDS PROVED TO BE BELOW THE SPECIFIED QUALITY SHALL BE CUT OUT, REWELDED AND RETESTED AT CONTRACTOR'S EXPENSE.
9. ALL BOLTS, NUTS AND WASHERS, INCLUDING HOLD DOWN BOLTS, CAST-IN FERRULES, CAST-IN PLATES AND MASONRY ANCHORS ARE TO BE HOT DIP GALVANISED U.N.O. ALL GALVANISED COMPONENTS TO BE CAST INTO CONCRETE MUST BE PASSIVATED.
10. ALL STRUCTURAL STEEL FIXING DETAILS ARE TO BE BASED ON AISC STANDARDIZED STRUCTURAL CONNECTIONS U.N.O.
11. ALL PLATES TO BE FROM STANDARD SQUARE EDGE FLATS U.N.O.

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS1684, AS1684.1 AND AS1720 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. ALL TIMBER CONNECTIONS TO BE IN ACCORDANCE WITH AS1684 UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. ALL PROPRIETARY CONNECTORS AND FIXINGS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
4. TIMBER MEMBERS SHALL HAVE A MINIMUM STRESS GRADE OF F17 OR EQUIVALENT.
5. ALL NAILS, BOLTS AND SCREWS SHALL BE GALVANISED UNLESS APPROVED OTHERWISE BY THE SUPERINTENDENT.

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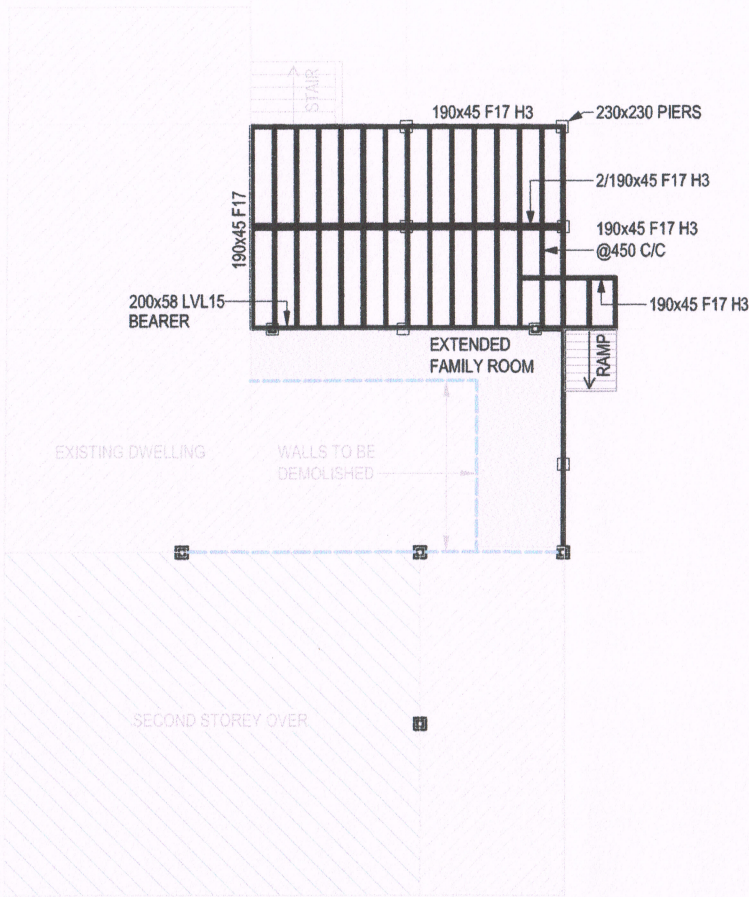




PAD FOOTING		
TYPE MARK	SIZE (mm)	REINFORCEMENT
F1	400L x 400W x 450D	N12-150 BOTTOM BARS BOTH WAYS
F2	1100L x 1100W x 600D	N12-150 TOP & BOTTOM BARS BOTH WAYS
F3	1200L x 1200W x 600D	N12-150 TOP & BOTTOM BARS BOTH WAYS

# DWELLING FOUNDATION PLAN



SCALE 1 : 100



NOTE:  
COLUMNS ARE CONTINUOUS FROM FOUNDATIONS  
TO TERMINATION AT MAXIMUM HEIGHT U.N.O.

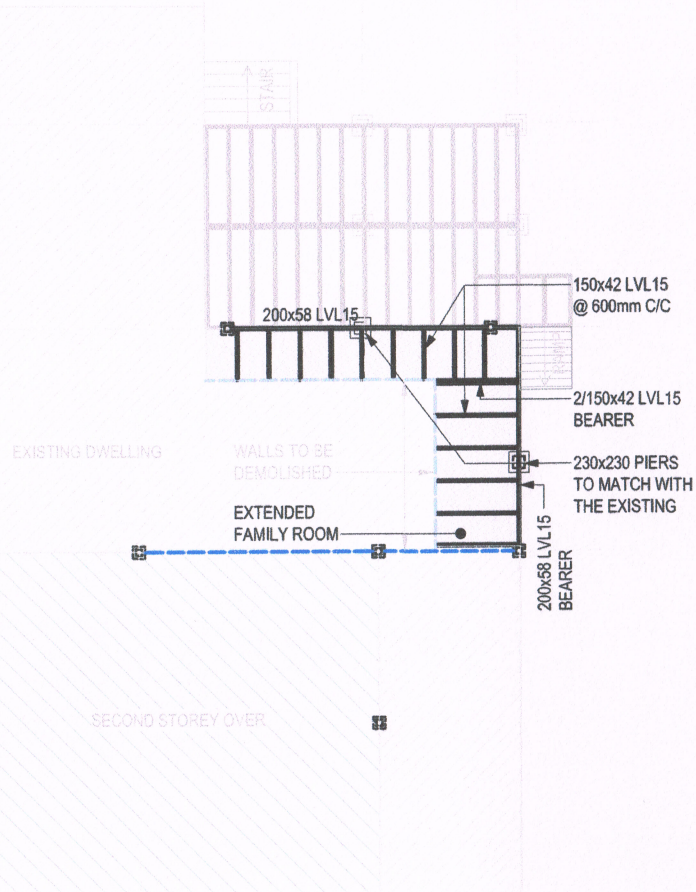
# DECK LEVEL FRAMING PLAN

SCALE 1 : 100

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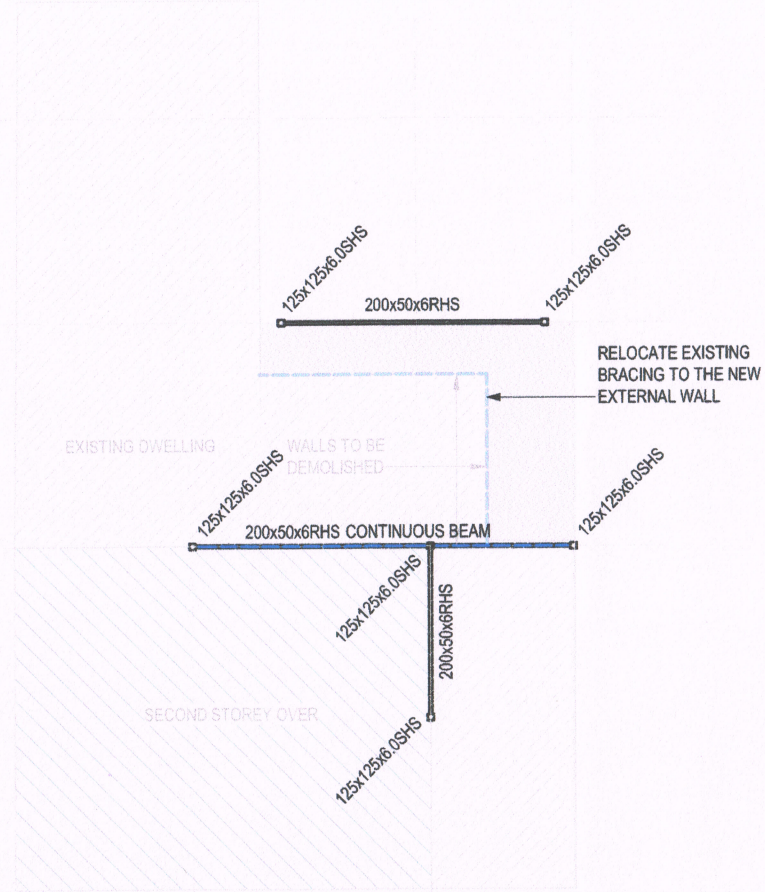
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
## LOWER FLOOR LEVEL

SCALE 1 : 100

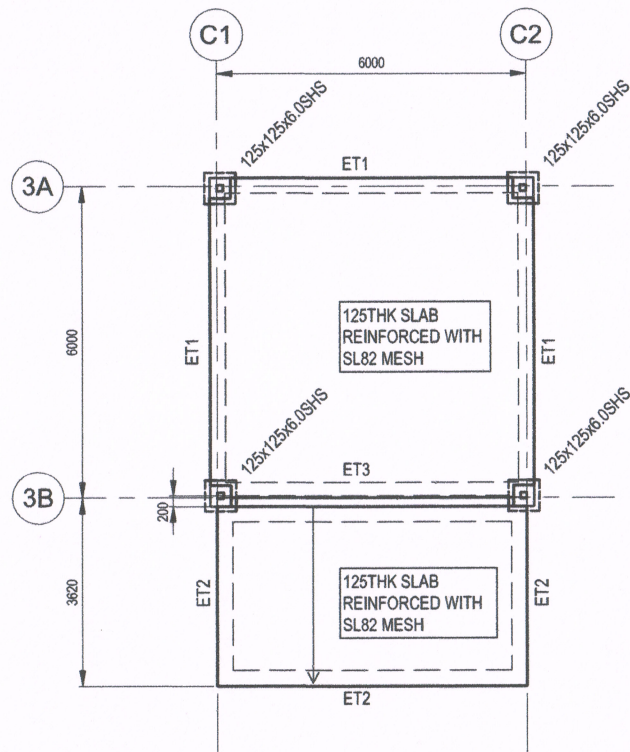


## UPPER FLOOR LEVEL

SCALE 1 : 100

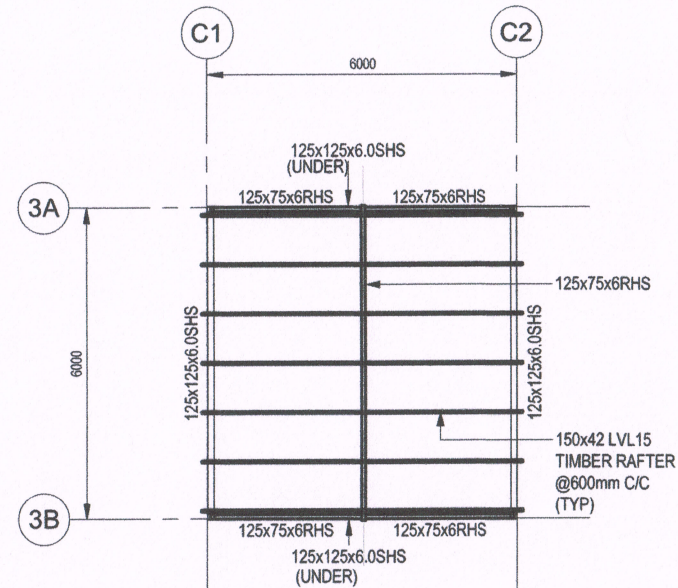
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FOR INFORMATION		24/09/20		TL		KP		BN		Drawn TL		Eng. Area STRUCTURAL		Name KONSTANTIN POPOV		Signature 		No. 24/09/2020		Date 24/09/2020														
REVISION		DATE		DRAWN		CHECKED		APPROVED		Designed EL																								





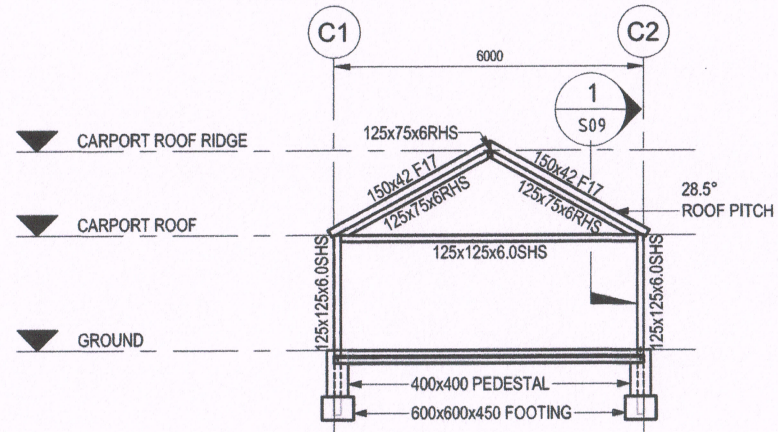
**GROUND LEVEL PLAN\_CARPORT**

SCALE 1 : 100



**ROOF FRAMING PLAN\_CARPORT**

SCALE 1 : 100



**FRAMING ELEVATION @ GRID 3B**

SCALE 1 : 100

REV	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
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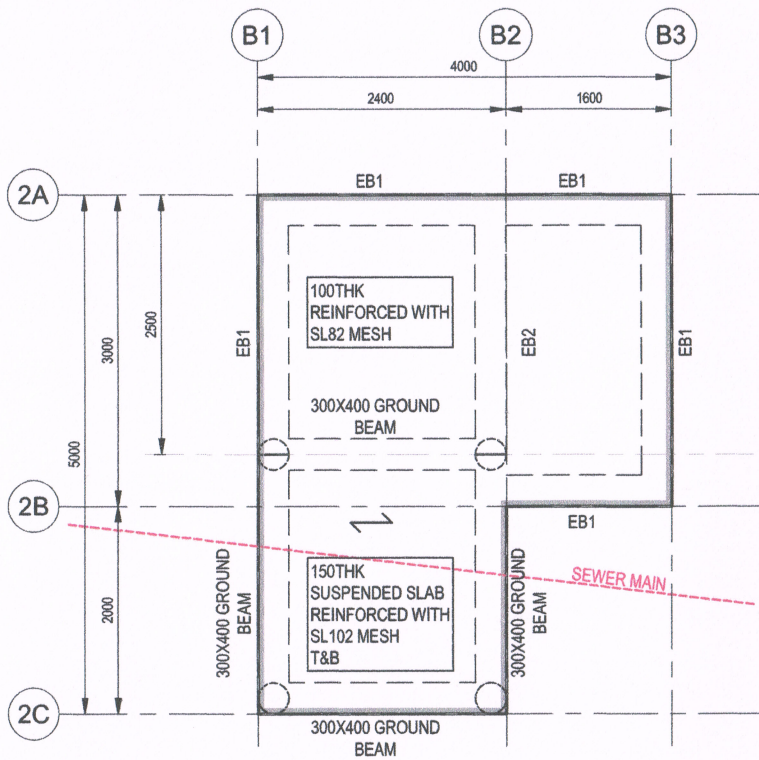
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Drawn	Eng. Area	Name	Signature	No.	Date
TL	STRUCTURAL	KONSTANTIN POPOV			24/09/2020
Designed	EL				

Project Address  
J & J Broady  
40 Essilia Street  
COLLAROY PLATEAU  
NSW 2097

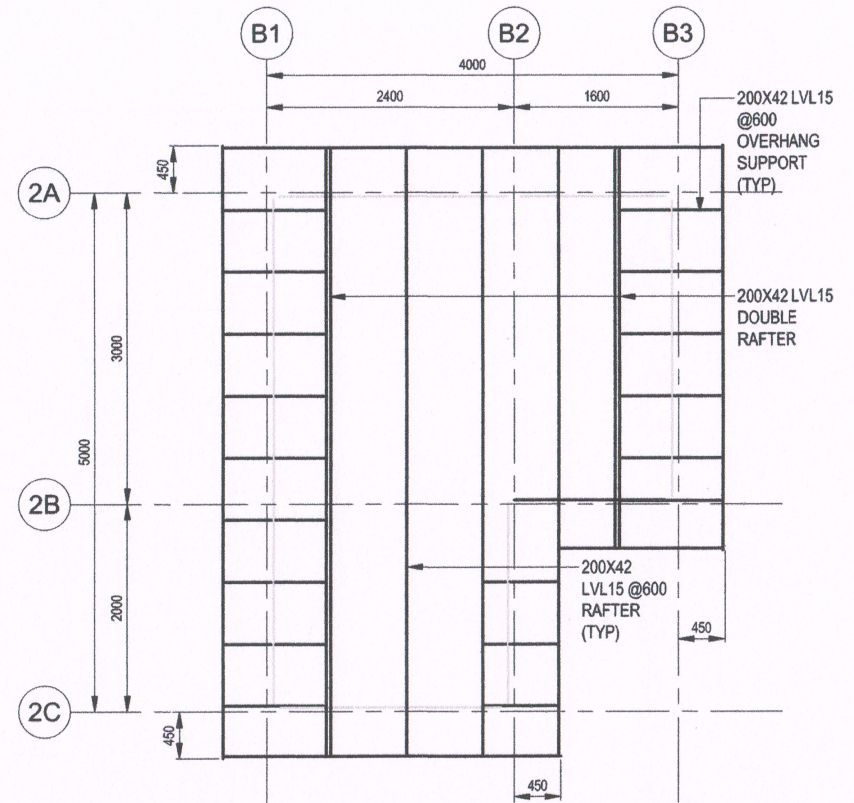
Client	J&J No.
J & J Broady	JCEA-655
Sheet	
CARPORT FOUNDATION AND ROOF FRAMING PLANS, ELEVATION	
Drawing No.	REV
JCEA-655-S05	A





## GROUND LEVEL PLAN\_SHED

SCALE 1 : 50

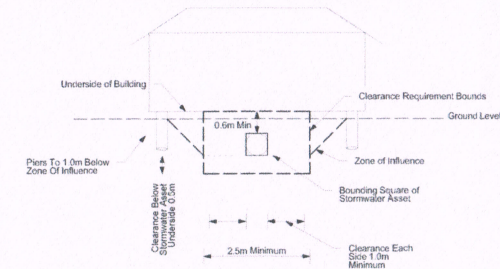


## ROOF FRAMING PLAN\_SHED

SCALE 1 : 50

### NOTES:

- EXISTING SEWER LOCATION AND DEPTH TO BE IDENTIFIED AND CONFIRMED ON SITE.
- FOOTINGS ADJACENT TO SERVICES SHALL BE EXTENDED SUCH THAT THE INFLUENCE LINE OF THE FOOTING IS CLEAR OF THE ADJACENT SERVICES.
- EXCAVATION SHALL COMPLY WITH THE SYDNEY WATER'S CLEARANCE REQUIREMENTS. THE SYDNEY WATER'S CLEARANCE REQUIREMENTS FOR BUILDING OVER STORMWATER ASSETS ARE:
  - 1M FROM THE OUTSIDE EDGE OF THE ASSET TO THE ADJACENT STRUCTURE
  - 0.6M FROM THE OUTSIDE EDGE OF THE ASSET TO THE OVERLYING STRUCTURE
- COMPACTION IS NOT ALLOWED WITHIN THE INFLUENCE AREA OF THE BUILDING SERVICES.
- LOCATION OF THE SEWERAGE PIPE HAS BEEN DETERMINED BASED ON INFORMATION PROVIDED BY THE SYDNEY WATER. CONTRACTOR IS RESPONSIBLE FOR IDENTIFICATION OF GENUINE LOCATION OF UTILITIES IN PROXIMITY TO EXCAVATION. J.C. ENGINEERS WILL NOT TAKE RESPONSIBILITY FOR ANY DISCREPANCIES ASSOCIATED WITH SEWERAGE PIPE LOCATION AS WELL AS OTHER UTILITIES IDENTIFIED AND NOT IDENTIFIED. IT IS STRONGLY RECOMMENDED TO CALL OUT UTILITY LOCATOR BEFORE PROCEEDING WITH EXCAVATION.



## CLEARANCE REQUIREMENTS FOR BUILDING OVER SYDNEY WATER STORMWATER ASSET

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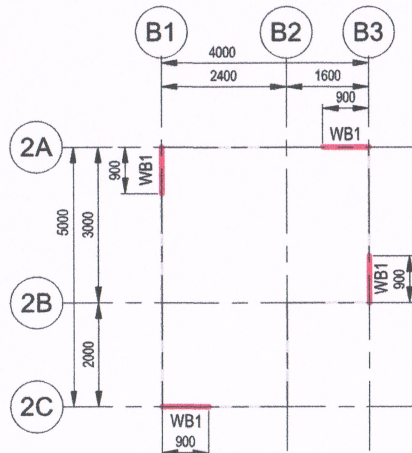
### STRUCTURAL DESIGN ON RESIDENTIAL ALTERATIONS

Eng. Area	Name	Signature	No.	Date
STRUCTURAL	KONSTANTIN POPOV			24/09/2020

Project Address  
J & J Broady  
40 Essilia Street  
COLLAROY PLATEAU  
NSW 2097

Client  
J & J Broady  
Job No.  
JCEA-655  
Project  
GARDEN SHED GROUND AND ROOF FRAMING PLANS  
Drawing No.  
JCEA-655-S06





DIRECTION



BRACING CALCULATIONS - DIRECTION X				
QUANTITY	BRACE TYPE	BRACE MATERIAL	CAPACITY (kN/m)	RESISTANCE (kN/m)
2	WB1	0.9m F11 6mm PLYWOOD - METHOD A	6.0	10.8

TOTAL RESISTANCE DIRECTION X	10.8
REQUIRED RESISTANCE DIRECTION X	6.6

BRACING CALCULATIONS - DIRECTION Y				
QUANTITY	BRACE TYPE	BRACE MATERIAL	CAPACITY (kN/m)	RESISTANCE (kN/m)
2	WB1	0.9m F11 6mm PLYWOOD - METHOD A	6.0	10.8

TOTAL RESISTANCE DIRECTION Y	10.8
REQUIRED RESISTANCE DIRECTION Y	7.1

## GARDEN SHED WIND BRACING PLAN

SCALE 1 : 100

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### STRUCTURAL DESIGN ON RESIDENTIAL ALTERATIONS

ENGINEERING CERTIFICATION				
Eng. Area	Name	Signature	No.	Date
STRUCTURAL	KONSTANTIN POPOV			24/09/2020

Project Address  
J & J Broady  
40 Essilia Street  
COLLAROY PLATEAU  
NSW 2097

Client  
J & J Broady

Job No.  
JCEA-655

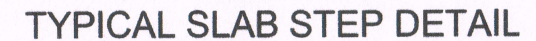
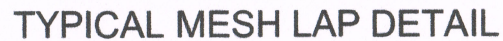
### GARDEN SHED WIND BRACING PLAN

Drawing No.  
JCEA-655-S07

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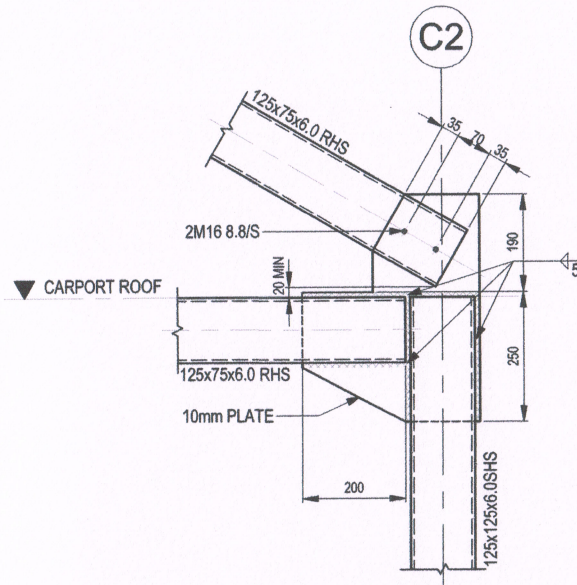
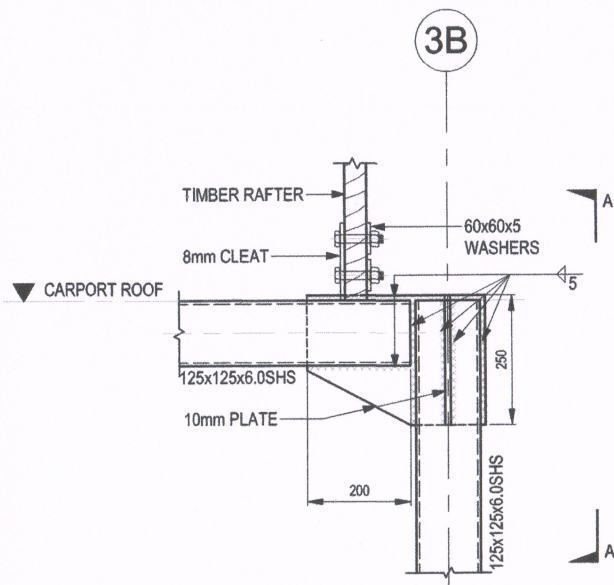




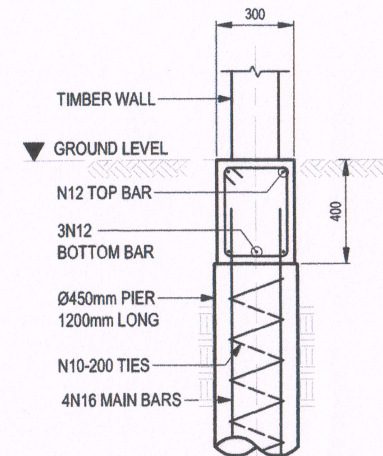
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<p><b>FOR INFORMATION</b></p>																											
<p>DATE: 24/09/20 DRAWN: TL CHECKED: CP APPROVED: BN</p>																											



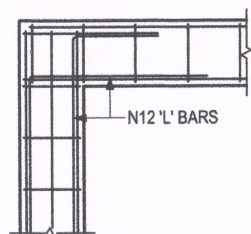


SECTION A-A

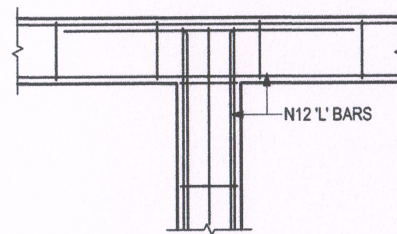


300X400 GRADE BEAM DETAIL  
(SHED STRUCTURE)

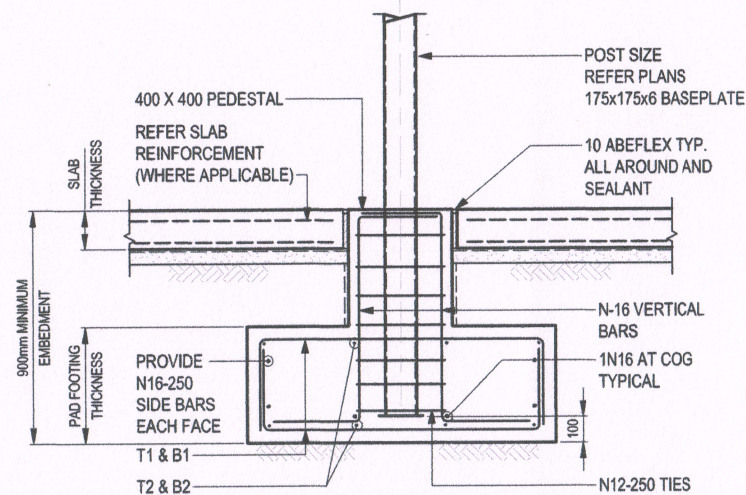
1 RAFTER CONNECTION DETAIL  
S05 SCALE 1 : 10



TYPICAL FOOTING BEAM  
CORNER DETAIL



TYPICAL FOOTING BEAM  
JUNCTION DETAIL



TYPICAL PAD FOOTING DETAIL

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RESIDENTIAL ALTERATIONS

Drawn	Eng. Area	Name	Signature	No.	Date
TL	STRUCTURAL	KONSTANTIN POPOV			24/09/2020
Designed					
EL					

Project Address  
J & J Broady  
40 Essilia Street  
COLLAROY PLATEAU  
NSW 2097

Client  
J & J Broady  
Job No.  
JCEA-655  
Drawing No.  
JCEA-655-S09

Job No.  
JCEA-655

Sheet  
TYPICAL DETAILS 02/02

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STUD WALL FRAMING				
WALL TYPE	MEMBER	MAXIMUM HEIGHT (mm)	SIZE / SPACING	REMARKS
LOAD BEARING	STUD	2700	90x35-MPG12 KD AT 450 MAX CRS	FOR ALL POINT LOADS USE MIN OF 2 MGP12 KD STUDS TO CARRY 10sqm. OF ROOF MAX WHERE STEEL POSTS ARE EMBEDDED WITHIN WALLS FIX STUDS TO EITHER SIDE OF POST WITH SELF DRILLING SCREWS (NO.14) AT 300 MAXIMUM CENTERS.
	TOP PLATE	2700	2/90x35 MPG 12	
	BTM PLATE	2700	1/90x35 MPG12	
	NOGGING	2700	90x35-MPG12 KD AT 1350 MAX CRS	
NON LOAD BEARING	STUD	3200	90x35-MPG12 KD AT 450 MAX CRS	
	TOP PLATE	3200	2/90x35 MPG 12	
	BTM PLATE	3200	1/90x35 MPG12	
	NOGGING	3200	90x35-MPG12 KD AT 1350 MAX CRS	

LINTEL SCHEDULE (TILED OR STEEL)				
SPAN (mm)	SIZE	JAMB STUDS	UPLIFT	TIE DOWN TYPE
900	140 x 45 MPG 12	2	11 kN	M12 ROD
1200	140 x 45 MPG 12	2	11 kN	M12 ROD
1500	190 x 45 MPG 12	2	14 kN	M12 ROD
1800	190 x 45 MPG 12	3	17 kN	M12 ROD
2100	200 x 42 SMART LVL 15	3	19.5 kN	M12 ROD
2400	240 x 42 SMART LVL 15	4	22 kN	M16 ROD
2700	2/200 x 42 SMART LVL 15	4	25 kN	M16 ROD
3000	2/240 x 42 SMART LVL 15	4	27.5 kN	M16 ROD

STUD AT SIDES OF OPENINGS	
RESISTANCE IN HORIZONTAL DIRECTION	
OPENING SIZE	QUANTITY OF STUDS
0 - 900	1/90 x 45 MPG 12
901 - 1500	2/90 x 45 MPG 12
1501 - 2100	3/90 x 45 MPG 12
2101 - 3000	4/90 x 45 MPG 12
3001 - 3600	5/90 x 45 MPG 12

NOTE:

- IF ANY LINTEL IS SUPPORTING A GIRDER TRUSS, THIS OFFICE IS TO BE NOTIFIED IMMEDIATELY (BEFORE ROOF INSTALLATION).
- LINTELS ARE NOT DESIGNED TO CARRY GIRDER TRUSSES - TRUSS MANUFACTURER TO DETAIL LOCATION OF GIRDER TRUSSES AND SIZES OF LINTELS AND CONNECTIONS/TIE DOWN.

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												Sheet <b>STUDS AND LINTEL SCHEDULES</b>															
												Drawing No. <b>JCEA-655-S10</b>															
A FOR INFORMATION REV DESCRIPTION				24/09/20 TL KP BN DATE DRAWN CHECKED APPROVED				Drawn TL Designed EL				Eng. Area STRUCTURAL Name KONSTANTIN POPOV Signature  No. Date 24/09/2020															