PROPOSED GARAGE & STUDIO
AT 23 FORSTER STREET, IVANHOE

GENERAL NOTES

1 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.

2 ALL WORKMANSHIP AND MATERIAL SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA AS AMENDED AND THE APPROPRIATE AND CURRENT AUSTRALIAN STANDARDS.

3 THE APPROVAL OF A SUBSTITUTION BY THE ENGINEER IS NOT AN AUTHORISATION FOR AN EXTRA. ANY EXTRAS INVOLVED MUST BE TAKEN UP WITH THE ARCHITECT BEFORE WORK COMMENCES.

4 DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE ENGINEERING DRAWINGS.

5 ALL DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION OR FABRICATION.

6 REFER TO THE ARCHITECT'S DRAWINGS FOR FINISHED FLOOR LEVELS AND SIZE AND EXACT LOCATIONS OF STEPS AND SETDOWNS.

7 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.

8 THE FOUNDING MATERIAL IS TO BE APPROVED BEFORE POURING CONCRETE AND TO HAVE A SAFE BEARING CAPACITY AS NOTED IN THE SOIL REPORT.

9 THE STRUCTURAL ELEMENTS HAVE BEEN DESIGNED FOR THE FOLLOWING LOADS;

AREA	LOAD
FLOOR LIVE LOAD GENERAL	1.5KPA
VERANDAH/TERRACE	2KPA
GARAGE	2.5KPA

10 DURING CONSTRUCTION, ALL PARTS OF THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART OF THE STRUCTURE SHALL BE OVERSTRESSED AS A RESULT OF THE CONSTRUCTION PROCEDURES OR THE APPLIED CONSTRUCTION LOADS. THE CONTRACTOR SHALL PROVIDE COMPUTATIONS TO JUSTIFY THE ADEQUACY OF THE STRUCTURE TO SAFELY WITHSTAND ANY IMPOSED LOADS AND/OR CONSTRUCTION PROCEDURES AND ALLOW FOR COSTS ASSOCIATED WITH ANY TEMPORARY WORKS REQUIRED. IN PARTICULAR ALL PANELS SHALL BE CLAMPED AND PROPPED DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER.

11 BUILDER TO ALLOW IN HIS TENDER FOR ALL ADDITIONAL COST ASSOCIATED WITH THE PROPOSED LOCATION OF CRANE(S) AND RELATED SUPPORT STRUCTURES.

CONCRETE NOTES

1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS.3600 AND OTHER RELEVANT AUSTRALIAN STANDARDS.

2 ALL CONCRETE SHALL BE GRADE 25MPa U.N.O.

3 THE BEAMS ARE NOTED 'DEPTH x WIDTH' ON THE DRAWINGS AND INCLUDES SLAB THICKNESS.

4 HOLES, CHASES OR PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE PLACED IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

5 CONCRETE MUST BE SEPARATED FROM SUPPORTING BRICKWORK BY TWO LAYERS OF AN APPROVED DEBONDING MEMBRANE.

6 VERTICAL AND HORIZONTAL FACES OF NON-LOADBEARING WALLS SHALL BE KEPT SEPARATE FROM CONCRETE WITH A 10mm THICK APPROVED COMPRESSIBLE PRODUCT.

7 NO MASONRY WALLS SHALL BE BUILT ON SUSPENDED ELEMENTS UNTIL ALL PROPS HAVE BEEN REMOVED.

REINFORCEMENT NOTES

1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 AND RELEVANT CODES.

2 REINFORCEMENT TYPE AND GRADE (TO AS):

S	STRUCTURAL GRADE DEFORMED BARS
N	500 GRADE DEFORMED BARS
R	STRUCTURAL GRADE PLAIN ROUND BAR
SL,RL	REINFORCING MESH (SQUARE/RECTANGULAR)

3 CLEAR COVER TO ALL REINFORCEMENT SHALL CONFORM TO THE FOLLOWING TABLE U.N.O.

ELEMENT	COVER (MM)			
	SLAB & WALLS	BEAMS	COLUMNS	FOOTINGS
FORMED & SHELTERED	20	30	65	65
FORMED & EXPOSED	25	40	65	65
NO FORMWORK	40	50	75	75

4 REINFORCEMENT SHALL NOT BE BENT, HEATED OR WELDED ON SITE WITHOUT THE ENGINEERS PRIOR APPROVAL.

5 ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED BY PLASTIC BAR CHAIRS OR PLASTIC TIPPED WIRE BAR CHAIRS.

STRUCTURAL STEEL NOTES

1 ALL WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH AS.4100.

2 CLEATS, FIXINGS, ETC NOT SHOWN, TO BE PROVIDED BY THE FABRICATOR.

3 UNLESS SHOWN OTHERWISE, CONNECTIONS SHALL HAVE; 6mm CFW, 2M16 8.8/S BOLTS & 10mm THICK CLEAT PLATES.

4 ALL STRUCTURAL STEELWORK MUST BE PROTECTED AGAINST CORROSION IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA, CLAUSE 3.4.4.4 & TABLE 3.4.4.2.

5 THE ENGINEER'S REVIEW OF SHOP DRAWINGS SHALL BE LIMITED TO THE CHECKING OF MEMBER SIZES, CONNECTION CONFIGURATIONS AND CAMBERS. IT DOES NOT INCLUDE CHECKING DIMENSIONS.

6 STRUCTURAL STEEL ROOF BEAMS, TRUSSES, PORTALS, ETC TO HAVE A PRECAMBER OF 2mm FOR EVERY 1000mm OF SPAN U.N.O.

7 GALVANISED STEELWORK THAT IS SITE WELDED OR SUSTAINS ANY OTHER KIND OF SURFACE DAMAGE IS TO BE PREPARED TO AS1627.2 CLASS 3 AND PRIMED WITH 2 COATS OF GALVINITE (MANUFACTURED BY JOTUN) TO MANUFACTURERS SPECIFICATIONS.

8 WELDING TO BE IN ACCORDANCE WITH AS1554.

9 BOLTS SHALL BE COMMERCIAL GRADE TO AS1111.1 OR HIGH STRENGTH TO AS1252.

10 STEELWORK BELOW GROUND LEVEL SHALL BE ENCASED IN CONCRETE WITH A MINIMUM COVER OF 75mm.

11 ALL STEEL BEAMS AND LINTELS TO HAVE 110mm MIN. END BEARING U.N.O.

12 ALL STEEL LINTELS, INCLUDING GARAGE STEEL LINTEL, TO BE HOT DIPPED GALVANISED, AS PER NCC BCA TABLE 3.3.5.6.

MASONRY NOTES

1 ALL WORKMANSHIP & MATERIALS SHALL COMPLY WITH AS3700. MORTAR MIX SHALL BE 1:1:6

2 BRICKS SHALL HAVE A CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF 40MPa IN ACCORDANCE WITH AS4455 AND AS4456.

3 VERTICAL ARTICULATION JOINTS ARE TO BE IN ACCORDANCE WITH AS3700-2011 CLAUSE 12.6.4.2 'ARTICULATION JOINTS'.

TIMBER NOTES

1 ALL TIMBER FRAMING IS TO BE IN ACCORDANCE WITH AS.1684, RESIDENTIAL TIMBER FRAMED CONSTRUCTION CODE AND AS.1720, TIMBER STRUCTURES CODE.

2 ALL TIMBER STRESS GRADES NOMINATED SHALL BE IN ACCORDANCE WITH THE RELEVANT CODES, AND MEANS THE STRUCTURAL QUALITY OF A TIMBER SECTION. REFER TO AS.1720.

3 TIMBER SHALL BE STORED AND HANDLED SO AS NOT TO BE DETRIMENTAL TO THEIR PERFORMANCE.

4 ALL TIMBER SHALL BE DRY, ie: LESS THAN 15% MOISTURE CONTENT AT THE TIME OF CONSTRUCTION AND SHALL BE PROTECTED AND/OR TREATED AS NOTED.

5 ALL TIMBER BEAMS AND LINTELS ARE TO BEAR ON 2 No. 90x45 MGP10 PINE STUDS, UNLESS NOTED OTHERWISE.

6 BEAMS/STUDS HAVING MORE THAN 1 MEMBER ARE TO BE NAIL LAMINATED TOGETHER IN ACCORDANCE WITH AS.1684.

7 ALL PROPRIETARY CONNECTORS AND FIXINGS TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

INSPECTIONS

1 ALL STRUCTURAL WORK MUST BE INSPECTED & APPROVED IN WRITING PRIOR TO ANY WORK PROCEEDING. 48 HOURS (MIN.) NOTICE IS REQUIRED FOR ALL INSPECTIONS.

SLAB ON GROUND NOTES

1 ALL PREPARATION OF SUB-BASE FOR SLABS ON GROUND SHALL BE IN ACCORDANCE WITH AS2870.

2 STRIP ALL ORGANIC MATERIAL AND TOP SOIL AND OTHER RUBBISH AND PROOF ROLL SUB GRADE.

3 LAY FILL MATERIAL AS REQUIRED TO OBTAIN FLOOR LEVEL. FILL TO BE AN APPROVED GRANULAR MATERIAL LAID DOWN 150mm MAXIMUM THICK LAYERS & COMPACTED TO 95% OF THE MODIFIED MAX. DRY DENSITY (M.M.D.D) WHEN TESTED IN ACCORDANCE WITH AS1289.

4 THE UPPER LAYER OF THE CUT SURFACE SHALL BE WITHIN 85% TO 115% OF OPTIMUM MOISTURE CONTENT AND TO BE PROPERLY COMPACTED TO 95% M.M.D.D.

5 A 50mm MIN. BASE COURSE OF PACKING SAND SHALL BE SPREAD OVER THE SUB-BASE & TO BE THOROUGHLY ROLLED AND COMPACTED TO A SMOOTH LEVEL SURFACE. THE SAND SHALL BE MOISTENED PRIOR TO PLACEMENT OF A 0.2mm POLYTHENE MEMBRANE, LAPPED 200mm, & TAPED AT JOINTS, SERVICE PENETRATIONS & PUNCTURES.

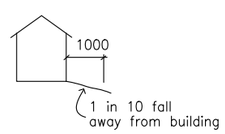
6 THE FILL BENEATH THE SLAB PANELS (i.e THE SUM OF EXISTING FILL PLUS ANY NEW FILLING PLACED TOGETHER) MUST NOT EXCEED 400mm MAX.

7 WHERE THE HOMEOWNER HAS SELECTED BRITTLE FLOOR COVERINGS EXTRA MEASURES SHALL BE TAKEN TO CONTROL THE EFFECT OF SHRINKAGE CRACKING. SPECIFIC RECOMMENDATIONS ARE MADE IN SECTION 5.3.7 OF AS2870 FOR THE TREATMENT OF SLABS TO ACCEPT BRITTLE FLOOR COVERINGS. SHOULD SUCH BRITTLE FLOOR COVERINGS BE PROPOSED THEN BK CONSULTANT MUST BE ADVISED ACCORDINGLY.

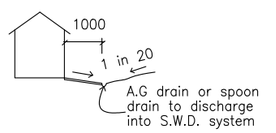
SITE DRAINAGE

1 THIS FOOTING DESIGN RELIES ON SPECIFIC SITE DRAINAGE PERFORMANCE. WHERE THE CLIENT HAS NOT ENGAGED GREEN CONSULTING ENGINEERS TO PREPARE A SITE DRAINAGE PLAN IT SHALL BE THE CLIENT'S RESPONSIBILITY TO ENSURE THAT THE SITE IS EFFECTIVELY DRAINED IN ACCORDANCE WITH THE REQUIREMENTS OF AS 2870, AS 3500 AND ALL OTHER APPLICABLE STANDARDS AND REGULATIONS BEFORE COMPLETION OF THE BUILDING WORKS.

2 SITES SHOULD BE DRAINED SO THAT WATER CANNOT POND AGAINST OR NEAR THE HOUSE. THE GROUND IMMEDIATELY ADJACENT TO THE HOUSE SHOULD BE GRADED TO FALL 50MM OVER THE FIRST METRE. WHERE THIS IS IMPRACTIABLE (IE: ON SEVERAL SLOPING SITES) USE A.G. DRAINS ADJACENT TO FOOTINGS WHERE THE GROUND FALLS TOWARDS THE BUILDING.(REFER TO DETAILS BELOW).



SOIL SLOPING AWAY BUILDING



SOIL SLOPING TOWARD BUILDING

External Lintel Table

For Timber Lintels Refer Member Schedule
Builder To Check Member Schedule Prior To Using This Table External Lintels To Be Hot Dipped Galvanised

Up to 1000mm brickwork over lintel		
Span	Lintel	
900	90x90x6 EA	110 End Bearing
1200	90x90x6 EA	110 End Bearing
1500	90x90x6 EA	110 End Bearing
1800	100x100x6 EA	110 End Bearing
2100	100x100x6 EA	110 End Bearing
2400	150x90x8 UA	150 End Bearing
2700	150x90x8 UA	150 End Bearing
Up to 2000mm brickwork over lintel		
Span	Lintel	
900	90x90x6 EA	110 End Bearing
1200	90x90x6 EA	110 End Bearing
1500	90x90x6 EA	110 End Bearing
1800	100x100x6 EA	110 End Bearing
2100	150x90x8 UA	150 End Bearing
2400	150x90x8 UA	150 End Bearing
2700	150x90x8 UA	150 End Bearing
Up to 3000mm brickwork over lintel		
Span	Lintel	
900	90x90x6 EA	110 End Bearing
1200	90x90x6 EA	110 End Bearing
1500	100x100x6 EA	110 End Bearing
1800	150x90x8 UA	150 End Bearing
2100	150x90x8 UA	150 End Bearing
2400	150x90x8 UA	150 End Bearing
2700	150x100x10 UA	150 End Bearing

SLAB PROTECTION FROM TREES

1 IF SITE CLASSIFIED AS M, H1, H2 or P ALL TREES (PROPOSED & EXISTING) WITHIN 10m OF THEIR ASSUMED MATURE TREE DRIP-LINE ARE TO BE SEPARATED FROM THE FOOTING BY THE MEANS OF THE ROOT BARRIER AS PER AS2870.

2 U.N.O. FOR ALL PROPOSED & RECENTLY PLANTED TREES REGARDLESS IF ON SITE or NATURE STRIP or ADJOINING PROPERTY, PROVIDE APPROPRIATE ROOT BARRIER DETAIL AWAY FROM SLAB (WITHIN SITE). USE ANGLE OF REPOSE DETAIL IF SLAB AFFECTED BY WORKS. MIN DEPTH OF BARRIER 2.5m or TO ROCK. DO NOT CUT ROOTS WITHOUT APPROVAL BY OTHERS

3 ALL EXISTING TREES - REFER TO NOTES ON THESE PLANS. REPORT ANY DISCREPANCY PRIOR TO WORK COMMENCE

THE ENGINEERING DESIGN IS BASED ON THE GEOTECHNICAL REPORT No. 012641 FROM SOIL TEST MELBOURNE GEOTECHNICAL ENGINEERING, DATE: 7-12-2023. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION & ADVICE CONTAINED IN THE REPORT, WITH SPECIFIC CONSIDERATION OF THE ADVICE REGARDING EXISTING TREES, PLANTING OF TREES AND TREE/BUILDING REMOVAL.

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
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DRAWING: GENERAL NOTES

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

CLIENT: -

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale: @A3 N.T.S.
Job No.: 24014
Drawing No.: S1
Rev.: P1

GENERAL DRAINAGE NOTES

1 THE CONTRACTOR SHALL ADEQUATELY DRAIN THE SITE DURING ALL STAGES OF CONSTRUCTION.
2 CONTRACTOR SHALL VERIFY ALL LEVELS DIMENSIONS AND SERVICES PRIOR TO COMMENCEMENT OF WORK.
3 ALL APPROPRIATE PERMITS SHALL BE OBTAINED AND FEES PAID FOR BY THE CONTRACTOR.
4 ANY PAVEMENT OR FEATURES DAMAGED DURING THE COURSE OF THIS CONTRACT SHALL BE REINSTATED TO THEIR FORMER CONDITION.
5 THE CONTRACTOR SHALL ARRANGE A SITE INSPECTION WITH THE CIVIL ENGINEERING SUPERVISING OFFICER PRIOR TO THE COMMENCEMENT OF WORK TO RECORD ANY DAMAGE TO EXISTING FEATURES.
6 ALL EXISTING PIT COVERS, DOWNPIPE CONNECTIONS AND SIMILAR FEATURES IN CONSTRUCTION AREAS ARE TO BE ADJUSTED TO SUIT AS PART OF THIS CONTRACT.
7 ALL CONCRETE PAVEMENT SHALL BE FINISHED WITH A NON SKID FLOAT, (NO BROOMED FINISH).
8 BEFORE COMMENCEMENT OF WORK, A TEMPORARY BENCH MARK IS TO BE ESTABLISHED BY THE CONTRACTOR IN A POSITION ON SITE SAFE FROM DISTURBANCE.
9 ALL FILLING SHALL BE UNIFORMITY PLACED IN LAYERS NOT EXCEEDING 200mm LOOSE MEASUREMENT. EACH LAYER SHALL BE WITHIN 85% TO 115% OF OPTIMUM MOISTURE CONTENT AND BE PROPERLY COMPACTED, AS SPECIFIED, BASED ON THE STANDARD COMPACTION TEST AS OUTLINED IN AS 1289–1977.
10 CRUSHED ROCK PAVEMENT COMPACTIONS SHALL BE TO 100% STANDARD MAXIMUM DRY DENSITY FOR BASE COARSE, AND 98% FOR SUB BASE COARSE.
11 ANY SHORTFALL IN INDIGENOUS TOPSOIL REQUIRED TO BRING THE GARDEN AND GRASSED AREAS TO THE DESIGN LEVELS SHALL BE MADE UP WITH APPROVED IMPORTED TOPSOIL. NO ADDITIONAL PAYMENT WILL BE MADE FOR IMPORTED TOPSOIL.
12 EXCAVATED MATERIAL SHALL BE STOCKPILED ON SITE AS DIRECTED BY THE SUPERINTENDENT. EXCESS TO BE REMOVED FROM SITE AT CONTRACTORS EXPENSE.
13 TOPSOIL TO BE STRIPPED TO A DEPTH OF 150mm UNDER FILL AREAS AND ALL OTHER AREAS. THIS TOPSOIL SHALL BE STOCKPILLED ON SITE AS DIRECTED BY SUPERINTENDENT. EXCESS SOIL TO BE STOCKPILED ON SITE AS DIRECTED BY THE SUPERINTENDENT, OR REMOVED FROM THE SITE AT THE CONTRACTORS EXPENSE, IF SO DIRECTED.
14 ALL STORMWATER DRAINS SHALL BE BEDDED ON A MINIMUM OF 80mm COMPACTED THICKNESS 20 N.S. CLASS 3 FINE CRUSHED ROCK, IN SOIL BASED TRENCHES. INCREASE TO 200mm THICKNESS IN ROCK BASED TRENCHES.
15 100mm DIAMETER STORMWATER DRAINS SHALL BE LAID AT A MINIMUM GRADE OF 1:100, UNLESS OTHERWISE SHOWN.
16 150mm DIAMETER STORMWATER DRAINS SHALL BE LAID AT A MINIMUM GRADE OF 1:100, UNLESS OTHERWISE SHOWN.
17 TRENCH EXCAVATIONS; WHERE ONE OR BOTH SIDES OF ANY TRENCH EXCEED 1.5M IN DEPTH, THE CONTRACTOR SHALL ENSURE THAT THE PROVISIONS OF MINES ACT 1958 & THE MINES (TRENCHES) REGULATIONS 1979 ARE COMPLIED WITH.
18 TRENCHES TRAVERSING EXISTING OR PROPOSED PAVEMENTS INCLUDING ASPHALT AND CONCRETE SHALL BE BACKFILLED WITH "FIRST CLASS MATERIAL" AND COMPACTED, PAVEMENT SHALL BE REINSTATED TO THE SATISFACTION OF THE SUPERINTENDENT.
19 ALL SURPLUS EXCAVATED MATERIAL SHALL BE REMOVED FROM SITE.
20 FOOTPATHS, DRIVEWAYS, ROADWAYS, KERBS, R.O.W'S OR EXISTING FEATURES DISTURBED, BROKEN OR AFFECTED BY THE WORKS ARE TO BE REINSTATED TO THE COMPLETE SATISFACTION OF THE CITY ENGINNER OR HIS REPRESENTATIVE.
21 ALL CONCRETE TO BE SAW CUT AND BROKEN OUT TO THE NEAREST JOINT.
22 ALL NATURE STRIPS AND LAWN AREAS OUTSIDE PRIVATE PROPERTY TO BE REINSTATED WITH TOP SOIL AND SEEDED.
23 CONTRACTOR TO CONTACT LOCAL COUNCIL ENGINEERING DEPARTMENT AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF OUTFALL DRAINAGE TO ARRANGE FOR COUNCIL SUPERVISION AND INSPECTION IF REQUIRED BY COUNCIL.
24 THE CONTRACTOR IS TO VERIFY ALL LOCATIONS AND DEPTH OF SERVICES WITH THE RELEVANT AUTHORITIES FOR THE CONSTRUCTION OF DRAINS AND SERVICES OUTSIDE THE PROPERTY BOUNDARY PRIOR TO THE COMMENCEMENT OF WORK, AND SHALL BE FULLY RESPONSIBLE FOR RECTIFICATION OF ANY DAMAGED SERVICE.
25 ALL EXCESS TOPSOIL SHALL BE REMOVED OFF SITE AT THE CONTRACTOR'S EXPENSE.
26 ALL ADDITIONAL FILL MATERIAL REQUIRED DUE TO OVER EXCAVATION OR A SHORTFALL OF SUITABLE EXCAVATED MATERIAL SHALL BE IMPORTED AT THE CONTRACTOR'S EXPENSE.
27 AT THE TIME OF THE PREPARATION OF THE DRAINAGE DESIGN, IF THE LANDSCAPING DESIGN WAS NOT SUPPLIED TO THE OFFICE, THEN THE DRAINAGE SYSTEM MAY BE SUBJECT TO CHANGE. THIS OFFICE OR A QUALIFED PRACTITIONER SHALL REVIEW THE DRAINAGE DESIGN WHEN LANDSCAPING DESIGN IS FINALISED.

DRAINAGE NOTES

1 ALL SURFACE DRAINAGE WORKS SHALL BE INSTALLED IN ACCORDANCE WITH CLAUSE 5.6.3 DRAINAGE REQUIREMENTS OF AS 2870–2011, WHEREIN FOR BUILDINGS ON MODERATELY, HIGHLY AND REACTIVE SITES:
– SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION.
– THE BASE OF TRENCHES SHALL SLOPE AWAY FROM THE BUILDING.
– WHERE PIPES PASS UNDER THE FOOTING SYSTEM, CLAY PLUGS ARE ADOPTED TO PREVENT THE INGRESS OF WATER.
2 FOR BUILDINGS ON HIGHLY AND REACTIVE SITES, DRAINER SHALL PROVIDE DRAINAGE ARTICULATION TO ALL STORMWATER, SANITARY PLUMBING DRAINS AND DISCHARGE PIPES IN ACCORDANCE WITH CLAUSE 5.6.4 PLUMBING REQUIREMENTS, WHEREIN FLEXIBLE JOINTS IMMEDIATELY OUTSIDE BUILDING AND COMMENCING WITHIN 1m OF THE BUILDING PERIMETER ARE REQUIRED TO ACCOMMODATE THE REQUIRED DIFFERENTIAL MOVEMENT BASE ON THE SOIL CLASSIFICATION, REFER TABLE 'MIN. REQUIREMENTS FOR EXPANSION AND ALLOWABLE IN FITTINGS.
3 SURFACE WATER MUST BE DIVERTED AWAY FROM THE DWELLING AND GRADED AWAY FROM ALL FOUNDATIONS TO GIVE A SLOPE OF NOT LESS THAN 50mm OVER THE FIRST 1000mm FROM THE DWELLING.
4 SURFACE DRAINS TO REMOVE GROUND OR TABLE WATER SHALL BE DETAILED BY THE DESIGN ENGINEER. FURTHERMORE, DAMP–PROOF MEMBRANE IN ACCORDANCE WITH 5.3.3 SHALL BE INSTALLED FOR GROUNDWATER OR AGGRESSIVE SOILS.
5 DRAINAGE DESIGN IS IN ACCORDANCE WITH AS 3500.

MATERIALS

1 PROPOSED 100ø & 150ø STORMWATER DRAINS SHALL BE FORMED OF UNPLASTICISED POLYVINYL CHLORIDE PIPES AND FITTINGS CLASS SH (SEWER CLASS) MANUFACTURED TO CONFORM TO AS 1260.
2 PROPOSED 225 DIAMETER AND LARGER STORMWATER DRAINS SHALL BE FORMED OF FIBRE REINFORCED CONCRETE CLASS 2, RUBBER RING JOINTED PIPE MANUFACTURED TO CONFORM TO AS 4058. (CLASS 3 WHERE INDICATED). USE UPVC TO AS 1260 (CLASS SH) WHERE SHOWN ON THE DRAWINGS.

SERVICE

1 PRIOR TO THE COMMENCEMENT OF WORK THE CONTRACTOR SHALL LOCATE EXISTING SERVICES TO BE RETAINED WHERE PROPOSED SERVICES CROSS THEM, AND ASCERTAIN FOR HIMSELF THAT NO CLASHES OF SERVICES WILL OCCUR.
2 WHERE PROPOSED SERVICES TRAVERSE EXISTING ASPHALT AND CONCRETE PAVEMENTS, THE PAVEMENT IS TO BE SAW CUT TO FULL DEPTH OF PAVEMENT PRIOR TO EXCAVATION.
3 TRENCHES TRAVERSING EXISTING OR PROPOSED PAVEMENTS INCLUDING ASPHALT AND CONCRETE SHALL BE BACKFILLED WITH CLASS 2 FINE CRUSHED ROCK AND COMPACTED ALL TO THE SATISFACTION OF THE SUPERINTENDENT.
4 THE CONTRACTOR SHALL CO–ORDINATE THE LAYING OF ALL SERVICES TO AVOID CLASHES.
5 LAY ALL SERVICES TO NOMINATED LEVELS WHERE GIVEN, OTHER SERVICES SHALL BE LAID TO COMPLY WITH MINIMUM COVER REQUIREMENTS.
6 DIFFERENT PARALLEL SERVICES THAT ARE IN CLOSE PROXIMITY TO EACH OTHER MAY BE LAID IN A COMMON TRENCH, SUBJECT TO THE APPROVAL OF THE RELEVANT AUTHORITY AND THE SUPERINTENDENT.

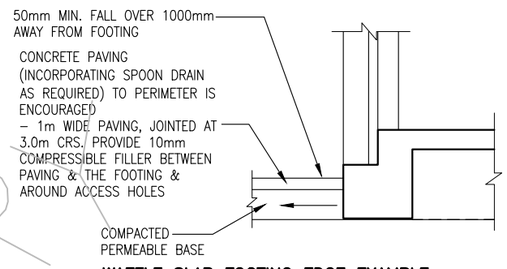
SITE DRAINAGE REQUIREMENT – CONSTRUCTION STAGE

THE GEOTECHNICAL REPORT HAS RECOMMENDED THE USE OF A CERTAIN FOOTING THAT IS APPROPRIATE FOR THIS SITE. WHILE MAKING THIS RECOMMENDATION IT HAS BEEN ASSUMED THAT CERTAIN SITE DRAINAGE REQUIREMENTS AS PER AS 2870–2011 & BCA HAS BEEN MET. DURING THE CONSTRUCTION OF THE FOOTING THE FOLLOWING SITE DRAINAGE REQUIREMENTS ARE LISTED AS BEING PART OF THE FINAL FOOTING DESIGN BY THE DESIGN ENGINEER OR BY OTHERS.

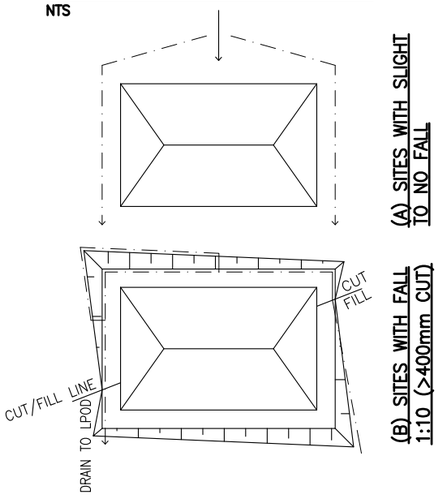
1 MUST PREVENT WATER PONDING AGAINST OR NEAR THE FOOTING.
2 THE GROUND IN THE IMMEDIATE VICINITY OF THE PERIMETER FOOTING SHALL BE GRADED TO A FALL OF 50mm MIN. AWAY FROM THE FOOTING OVER A DISTANCE OF 1000mm (1:20) AND SHAPED TO PREVENT PONDING OF WATER (THIS INCLUDES THE GROUND UPHILL FROM THE FOOTING ON A CUT/FILL SITE) – WHERE FILLING IS PLACED ADJACENT TO THE BUILDING, THE FILLING SHALL BE COMPACTED AND GRADED TO ENSURE DRAINAGE OR WATER AWAY FROM THE BUILDING.
3 ALL COLLECTED STORMWATER MUST BE DISCHARGED TO A LPOD
4 SURFACE DRAINAGE OF THE SITE SHALL BE CONTROLLED FROM THE START OF THE SITE PREPARATION AND CONSTRUCTION; SURFACE DRAINAGE INCLUDES SURFACE WATER RUN–OFF AND BUILDING WATER (ROOF/FLOOR/CONCRETE) RUN–OFF:
– ALL WATER RUN–OFF SHALL BE CONTROLLED AT ALL TIMES
– USE TEMPORARY DOWNPIPES TO COLLECT WATER FROM THE ROOFED BUILDING FRAME;
– WHEN SILT PITS ARE USED TO GATHER SURFACE WATER FROM AREAS ADJACENT TO THE FOOTINGS, THESE SILT PITS ARE TO BE AT LEAST 1000mm AWAY FROM THE FOOTING AND CONNECTED TO THE STORMWATER SYSTEM WITH SOLID PIPE;
– STORMWATER DRAINS SHALL BE AT LEAST 90mm AND HAVE A MINIMUM FALL OF 1:100 AND 100mm COVER UNDER THE SOIL AND/OR PAVED AREAS;
– INSPECTION OPENINGS SHOULD BE PROVIDED AT EACH PIPE CONNECTION POINT AND AT A NOMINAL SPACING OF 25M
– AVOID UNDERMINING THE FOOTING WITH ANY TRENCHES OR PIPE OR PITS UNLESS THE FOOTING HAS BEEN DESIGNED TO ALLOW FOR SUCH SITUATION.
5 SUB–SURFACE DRAINAGE IS REQUIRED TO REMOVE ANY UNWANTED GROUND WATER BY MEANS 90mm SLOTTED PIPE IN A 300mm WIDE TRENCH (MIN. FALL OF 1:100), BASE OF THE TRENCH IS FILLED WITH 10mm CRUSHED ROCK OR SIMILAR COVERING THE SLOTTED PIPE.
– AG DRAINS MUST BE INSTALLED AT THE BASE OF ALL SITE CUTS THAT EXCEED 400mm IN HEIGHT, ALONG THE HEIGHT SIDE OF A SLOPING SITE & POSSIBLY ALONG THE LOW SIDE OF A SLOPING SITE ALONG THE BOUNDARY TO BE CONNECTED TO STORMWATER SYSTEM VIA A SILT PIT.
– AG DRAINS TO BE LAID APPROX. 200mm INTO UNDISTURBED CLAY OR COMPACTED CLAY.
6 AC CONDENSERS, HW OVERFLOW, WATER TANKS AND ADJOINING PROPERTIES ARE ALL POTENTIAL SOURCES OF UNWANTED WATER. THIS WATER MUST BE CONTROLLED AND DIRECTED TO THE LPOD. POSSIBLE WATER IMPACTING THE SITE FROM AN ADJOINING PROPERTY, ESPECIALLY IF THERE IS A FOOTING ON OR NEAR A BOUNDARY MUST BE ADDRESSED. LOCALISED FOOTING STRENGTHENING IS TO BE CONSIDERED DURING CONSTRUCTION ILO DRAINAGE THAT MAY JEOPARDISE THE FOOTINGS.
7 GRATED DRAINS MAY BE UTILISED IN A PAVED AREA (E.G. DRIVERWAY/GARAGE INTERFACE) WHERE THE PAVING NECESSARILY SLOPES TOWARDS THE HOUSE OR GARAGE. SPOON DRAINS MAY ALSO BE USED IN CONJUNCTION WITH A PAVED SURFACE.
8 THE GROUND BENEATH A TIMBER DECK MUST BE GRADED SO THAT THE AREA BENEATH THE DECK IS ABOVE THE ADJACENT FINISHED GROUND LEVEL TO PREVENT PONDING.
9 ALL TRENCHES MUST BE DUG AT A SIMILAR GRADES AS THE PIPES' TRENCHES HOUSE.
– ALL TRENCHES MUST GENERALLY SLOPE AWAY FROM THE FOOTINGS
– TRENCHES MUST BE 'CLAY PLUGGED' OR CONCRETED WHEN PASSING PERPENDICULARY UNDER ANY PART OF THE FOOTING AND ON ANY SLOTTED PIPE SIDE OF A CONNECTION PIT
– ALL TRENCHES WITHIN 1500mm OF ANY FOOTING MUST BE EFFECTIVELY SEALED FROM SURFACE WATER, WITH AT LEAST THE TOP 300mm OF THE TRENCH FILLED WITH LOCAL CLAY COMPACTED TO AN IMPERMEABLE TOP LAYER. APPROVED MOISTURE BARRIER USE WITH TRENCHES IS AN OPTION.
– CONCRETE PAVING IS ADVISED OVER ANY TRENCHES WITHIN 1000mm OF ANY FOOTING.
10 FLEXIBLE PLUMBING JOINTS ARE REQUIRED FOR H1/H2/E/P SITES TO ALLOW FOR EXPECTED VERTICAL GROUND MOVEMENTS (REFER GEOTECHNICAL REPORT). THE JOINTS MUST BE SET AT THE MIDWAY POINT WHEN INSTALLED & MUST ALSO INCORPORATE SWIVEL JOINTS IN THE SYSTEM
– DRAINS EMERGING FROM UNDER THE FOOTING REQUIRE THE FLEXIBLE JOINT TO BE WITHIN 1000mm OF THE OUTSIDE OF THE PERIMETER FOOTING
– INSTALLATION, LOCATION AND NUMBER OF JOINTS TO COMPLY WITH MANUFACTURER'S SPECS
11 PLUMBING PENETRATING THE FOOTING MUST BE AVOIDED WHERE PRACTICABLE. IF UNAVOIDABLE THEN THE PIPE MUST PASS THROUGH THE MIDDLE THIRD OF THE FOOTING DEPTH AND LAGGING TO THE PIPE PROVIDED

MAINTENANCE

1 THE MAINTENANCE OF THE SITE AROUND A NEW HOME IS AN IMPORTANT FACTOR IN THE LONG–TERM PERFORMANCE OF THE FOOTING SYSTEM
2 THE PRIMARY OBJECTIVE OF THIS MAINTENANCE IS TO MINIMISE THE VARIATION IN SOIL MOISTURE LEVELS AROUND THE FOOTING THAT COULD LEAD THE EXCESSIVE SOIL MOVEMENT AND POSSIBLE DISTRESS OF THE SUPERSTURCTURE AND/OR FOOTING. WHEN THE SLAB FORMS PART OF THE TERMITE BARRIER SYSTEM FOR THE HOUSE, THEN IT IS ALSO NECESSARY TO MAINTAIN THE EFFECTIVENESS OF THAT BARRIER WITH APPROPRIATE MAINTENANCE ACTIVITIES.
3 WHEN A CONCRETE SLAB–ON–GROUND IS USED AS PART OF THE TERMITE BARRIER SYSTEM AS OUTLINED IN AS 3660.0, THEN IT CANNOT BE TOO HIGHLY STRESSED THAT REGULAR INSPECTION AND MAINTENANCE OF THE SLAB SURROUNDING BY A COMPETENT PROFESSIONAL IS REQUIRED TO ENSURE THAT ANY TERMITE INFESTATION IS DETECTED AND TREATED PROMPTLY.
4 ONGOING MAINTENANCE AND INSPECTION ON A REGULAR BASIS IS A REQUIREMENT OF AS 3660.1 AND OWNER SHOULD BE CLEARLY ADVISED IF THEIR RESPONSIBILITIES TO ENSURE THAT THEIR INVESTMENT IS PROPERLY PROTECTED.
5 LEAKING TAPS, DOWNPIPES, SEWERS, GUTTERS AND DRAINAGE CAN ALSO AFFECT THE MOISTURE CONTENT OF THE SOIL AND THESE MUST BE INSPECTED REGULARLY TO ENSURE AGAINST DAMAGE TO THE FOOTINGS. SIMILARLY, GUTTERS, DOWNPIPE AND COLLECTION POINTS CAN GET BLOCKED WITH LEAVES AND OTHER DEBRIS, PREVENTING THE EFFECTIVE DRAINAGE OF STORMWATER AWAY FROM THE HOUSE. AGAIN, REGULAR INSPECTIONS AND MAINTENANCE SHOULD BE CARRIED OUT TO PREVENT BLOCKAGES.
6 IT IS IMPORTANT FOR BUILDER TO MAKE THE HOMEOWNER AWARE OF THE MAINTENANCE ISSUES ASSOCIATED WITH ENSURING THE LONG–TERM PERFORMANCE OF THE FOOTING SYSTEM.



WAFFLE SLAB FOOTING EDGE EXAMPLE
NTS



SCHEMATIC SITE PLAN FOR SUB–SURFACE DRAINAGE
NTS

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
STRUCTURAL & CIVIL ENGINEERS
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E: henryhoang1981@gmail.com

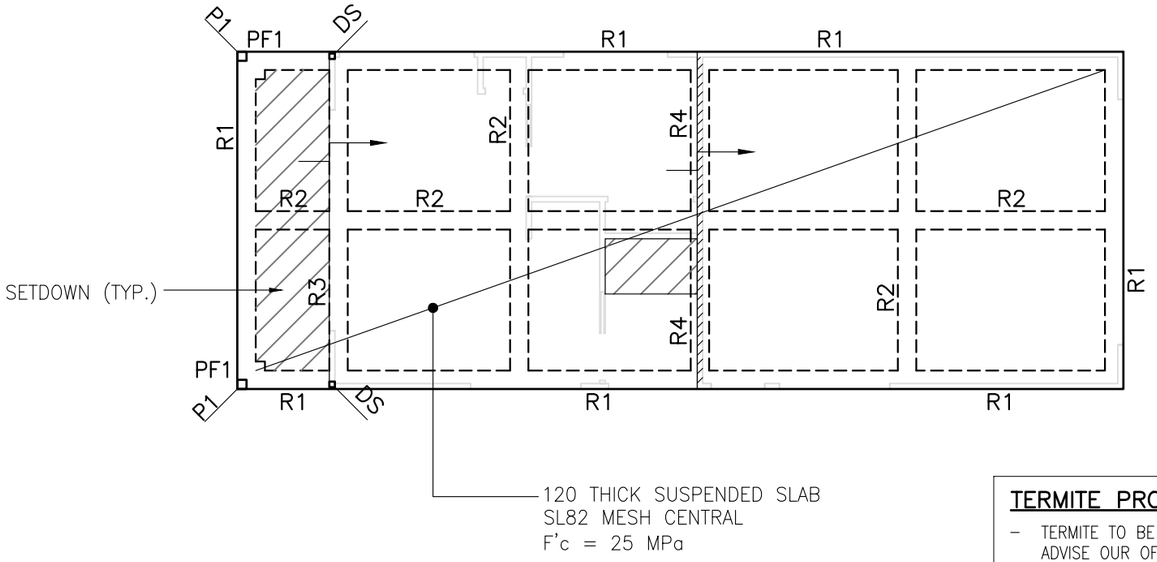
DRAWING: DRAINAGE NOTES

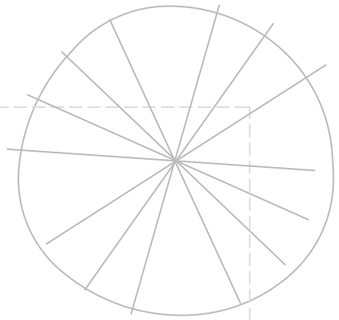
Designed by	CH
Drawn by	CH
Checked by	CH
Date	FEBRUARY 2024

CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale	@A3 N.T.S.
Job No.	24014
Drawing No.	S2
Rev.	P1





FORSTER ST

TERMITE PROTECTION:

- TERMITE TO BE CONFIRMED BY BUILDERS AND ADVISE OUR OFFICE PRIOR TO CONSTRUCTION.

SLAB PLAN

DENOTES 3 L11TM (OR 3–N12 BARS) 2000mm LONG TIED TO UNDERSIDE OF SLAB MESH. BARS MAY BE DELETED WHERE SLAB MESH LAPS AT INTERNAL CORNERS (TYP).

Slab/Pad Table 1	
Mark	Size
MIN FOUNDING DEPTH	500mm
FOUNDING MATERIAL	SANDY CLAY & UNDISTURBED SOIL
MINIMUM DEPTH INTO FOUNDING MATERIAL	100mm

Footing Schedule	
Mark	Footing Size
PF1	450x450x500 DEEP PAD FOOTING

CONTRACTOR MUST DIAL 1100 " DIAL BEFORE YOU DIG" TO CONFIRM LOCATIONS OF EXISTING SERVICES & COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

NOTE:
PIPE DETAILS WERE UNAVAILABLE AT THE TIME OF THIS DESIGN. SIZE, DEPTH & OFFSET OF ANY PIPES IN THE EASEMENT SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION AND AMENDMENTS MADE TO THIS DESIGN IF APPLICABLE.

NOTE:
TREES MAY EFFECT THE FOUNDATION OF THE PROPOSED DEVELOPMENT. TREE ROOTS & MOISTURE CHANGE ARE TO BE ISOLATED FROM THE HOUSE BY MEANS OF APPROPRIATE ROOT/MOISTURE BARRIER U.N.O. OR THE TREES ARE TO BE REMOVED & GROUND RE–MOISTURISED & COMPACTED BEFORE ANY BUILDING WORKS (TYP.)

FOUNDING DEPTH'S NOTE:
ALL SOFT SPOTS UNDER EXTERNAL & INTERNAL BEAMS/RIBS MUST BE REPLACED BY 15MPa BLINDING CONCRETE

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
STRUCTURAL & CIVIL ENGINEERS
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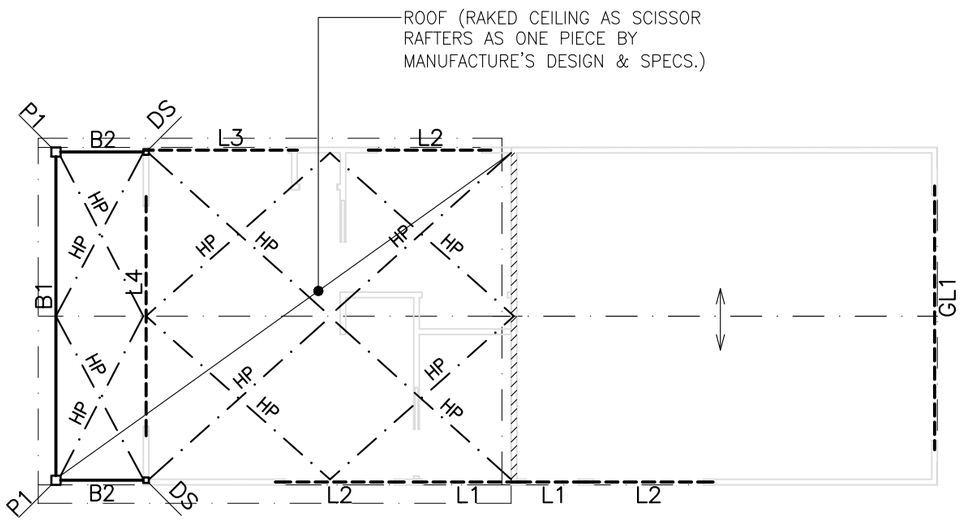
DRAWING: SLAB PLAN

Designed by CH
Drawn by CH
Checked by CH
Date FEBRUARY 2024

CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale @A3 1:100
Job No. 24014
Drawing No. S3
Rev. P1



OUTDOOR TIMBERS:

ALL OUTDOOR TIMBERS TO BE H3 TREATED IN ACCORDANCE WITH AS 1604

ROOF FRAMING PLAN

DENOTES STUD WALLS

DENOTES INTERNAL LOAD BEARING WALLS

PROVIDE DS COLUMNS UNDER ALL TIMBER LINTELS U.N.O.

DIRECTION OF ROOF TRUSSES

_HP_ DENOTES HOOP IRON BRACING TO BE FIXED TO EVERY RAFTER/ FOOR JOIST (EXTRA BRACING IN ADDITION TO ROOF BRACINGS BY MANUFACTURERS)

ROOF BRACING REFER TO MANUFACTURE'S DESIGN & SPEC.

STRUCTURAL DESIGN IS BASED ON LIGHTWEIGHT ROOFING

ROOF TRUSSES TO MANAFACTURER'S DESIGN & SPECIFICATIONS.
TWO COPIES OF SHOP DRAWINGS TO BE PROVIDED TO ENGINEER PRIOR TO FABRICATION FOR VERIFICATION OF DESIGN ASSUMPTIONS.
NO RESPONSIBILITY WILL BE TAKEN IF SHOP DRAWINGS NOT SUPPLIED.

IT IS THE BUILDER & TRUSS MANAFACTURERS RESPONSIBILITY THAT ALL GIRDER & MAIN ROOF TRUSSES ARE SUPPORTED ON ADEQUATE SUPPORTS. IF GIRDER & MAIN TRUSSES FALL ON LINTELS OR BEAMS THIS OFFICE TO BE NOTIFIED IMMEDIATELY. NO RESPONSIBILITY WILL BE TAKEN IF THIS IS NOT DONE.

TRUSS MANUFACTURER TO ALLOW FOR SKYLIGHTS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS.

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

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DRAWING: ROOF FRAMING PLAN

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale: @A3 1:100
Job No.: 24014
Drawing No.: S4
Rev.: P1

Member Schedule

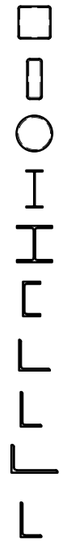
Mark	Member Size	Max Span
L1	140 x 45 MGP10 or 130 x 45 LVL13	1500
L2	190 x 45 MGP10 or 150 x 45 LVL13	1800
L3	240 x 45 MGP10 or 200 x 45 LVL13	2200
L4	2 No 290 x 45 MGP10 or 2 No 240 x 45 LVL13	3700
B1	300 x 63 LVL13 or 360 x 45 LVL13	5300
B2	140 x 45 MGP10 or 150 x 45 LVL13	1500
GL1	2 No 290 x 45 MGP10 or 300 x 63 LVL13	4100

Column Schedule

Mark	Column Size
DS	DOUBLE 90x45 MGP10
TS	TRIPLE 90x45 MGP10
P1	150x150 (F7) CYPRESS PINE
P2	DOUBLE 90x45 (F17) KDHW
P3	TRIPLE 90x45 (F17) KDHW STUDS
C1	89x4.9 SHS – C350
SC1	75x5.0 SHS – C350 STUB COLUMN

Abbreviations

SHS	SQUARE HOLLOW SECTION
RHS	RECTANGULAR HOLLOW SECTION
CHS	CIRCULAR HOLLOW SECTION
UB	UNIVERSAL BEAM
UC	UNIVERSAL COLUMN
PFC	PARALLEL FLANGE CHANNEL
EA	EQUAL ANGLE
UA	UNEQUAL ANGLE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL



NOTE:
ALL DOUBLE MEMBERS TO BE NAILED/BOLTED LAMINATED U.N.O.

ALL TRIPLE MEMBERS & ABOVE TO BE BOLTED LAMINATED (USING M16 BOLTS AT 900mm CTS) U.N.O.

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
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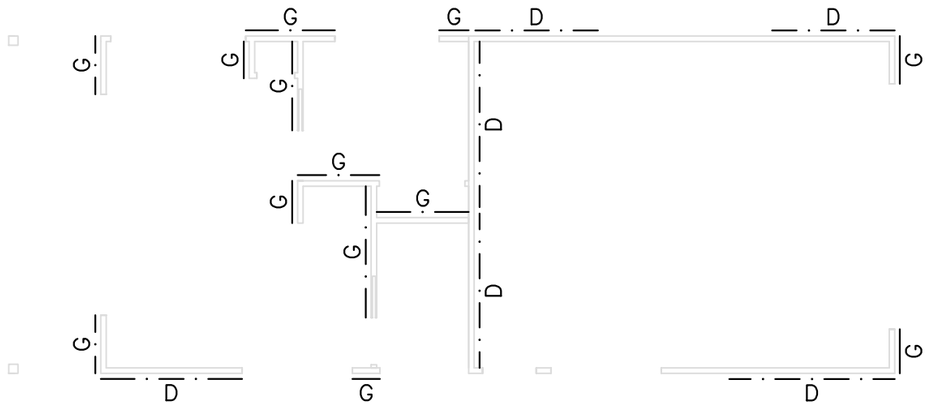
DRAWING: MEMBER SCHEDULE

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale: @A3 N.T.S.
Job No.: 24014
Drawing No.: S5
Rev.: P1



GROUND FLOOR BRACING PLAN

_G_ DENOTES TYPE G PLYWOOD (UNIT TYPE A)

_D_ DENOTES TYPE D METAL STRAP (UNIT TYPE B)
REFER TIMBER FRAMING TO AS1684

BRACING

WALL BRACING TO BE IN ACCORDANCE WITH AS 1684 STANDARDS.

THE MAXIMUM DISTANCE BETWEEN BRACED WALLS AT RIGHT ANGLE TO THE BUILDING LENGTH OR WIDTH SHALL NOT EXCEED 9.0M FOR WIND CLASSIFICATIONS UP TO N2.

BRACING SHALL INITIALLY BE PLACED IN EXTERNAL WALLS AND WHERE POSSIBLE AT THE CORNER OF THE BUILDING. REMAINING BRACING SHALL THEN BE EVENLY DISTRIBUTED THROUHOUT THE INTERNAL WALLS.

MINIMUM LENGTH OF PLYWOOD BRACING TO BE 900 MM.

ALL FRAMING MEMBERS ARE TO BE ANCHORED AGAINST UPLIFT IN ACCORDANCE WITH 1684.

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
STRUCTURAL & CIVIL ENGINEERS
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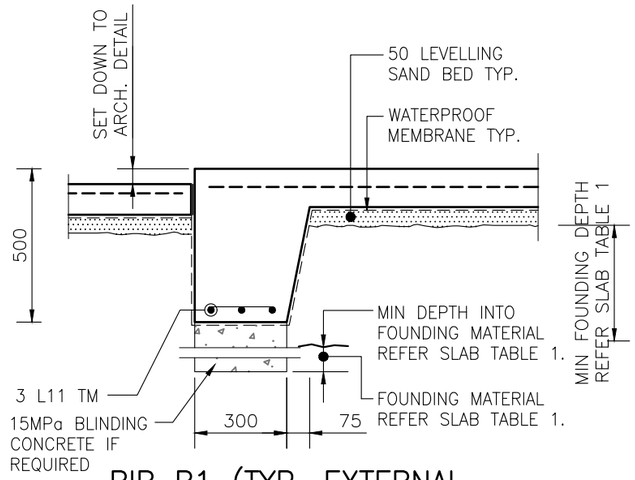
DRAWING: GROUND FLOOR BRACING PLAN

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

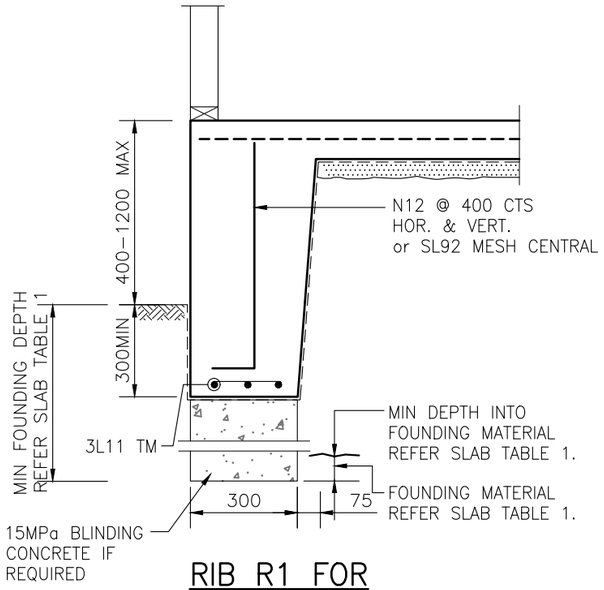
CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

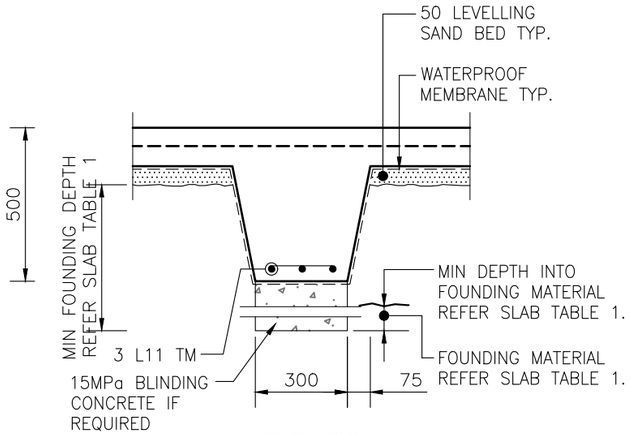
Scale: @A3 1:100
Job No.: 24014
Drawing No.: S6
Rev.: P1



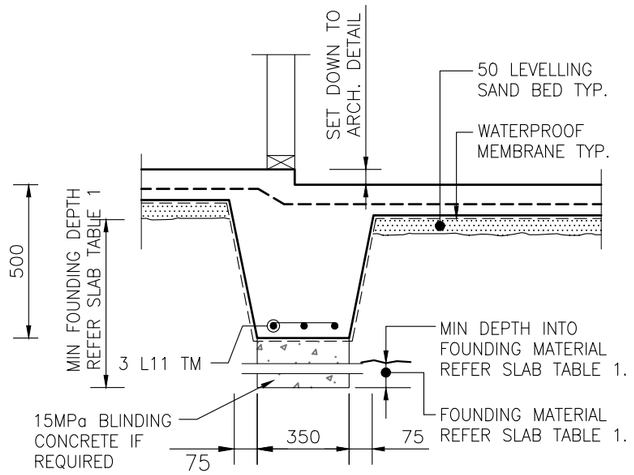
RIB R1 (TYP. EXTERNAL WITHOUT REBATE)



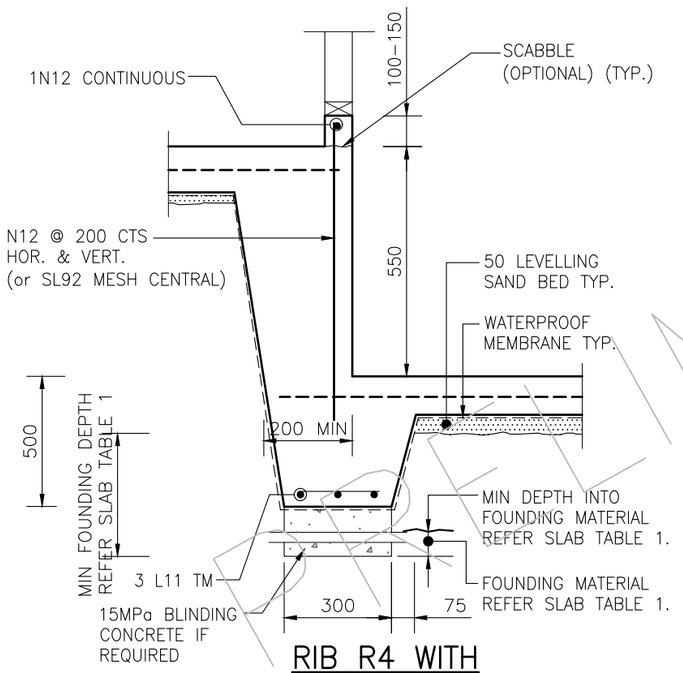
RIB R1 FOR DEEP REBATE



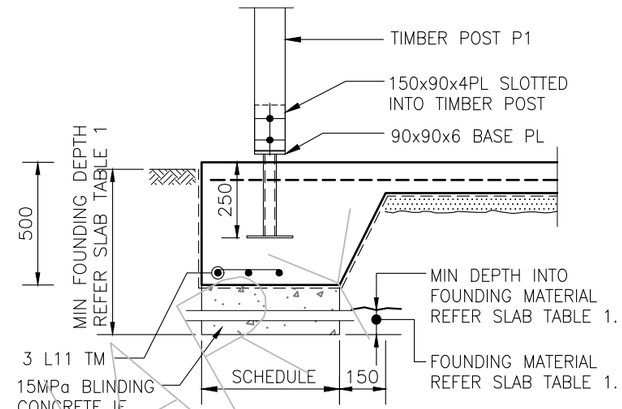
RIB R2 (TYP. INTERNAL)



RIB R3 (TYP. SET DOWN)



RIB R4 WITH CONCRETE HOB



TYPICAL TIMBER POST TO PAD FOOTING DETAIL

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
STRUCTURAL & CIVIL ENGINEERS
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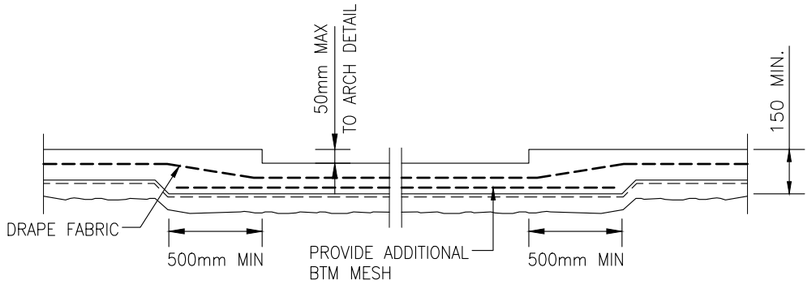
DRAWING: FOOTING DETAILS–1

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

CLIENT: –

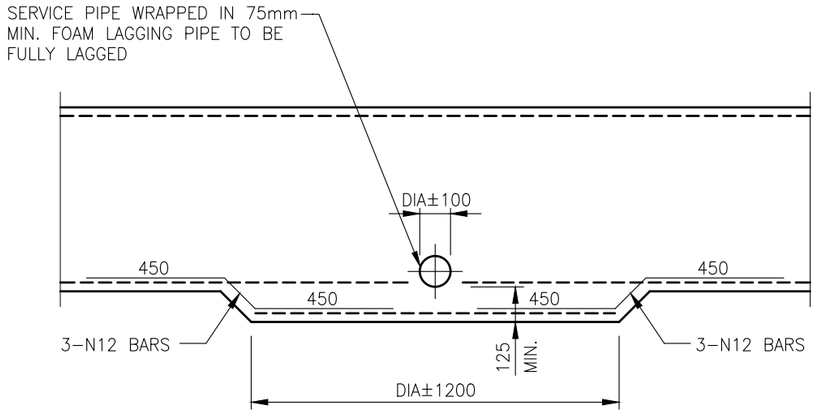
PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale: @A3 1:20
Job No.: 24014
Drawing No.: S7
Rev.: P1

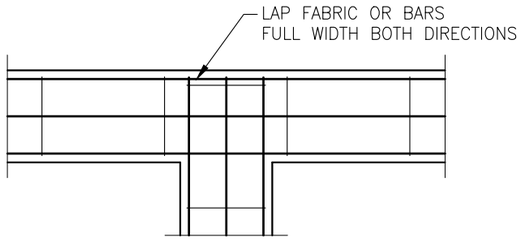


TYPICAL SHOWER RECESS DETAIL

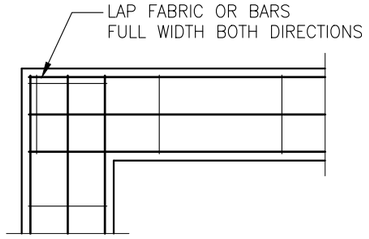
(LOCATION REFER TO ARCHITECTURAL DWG)



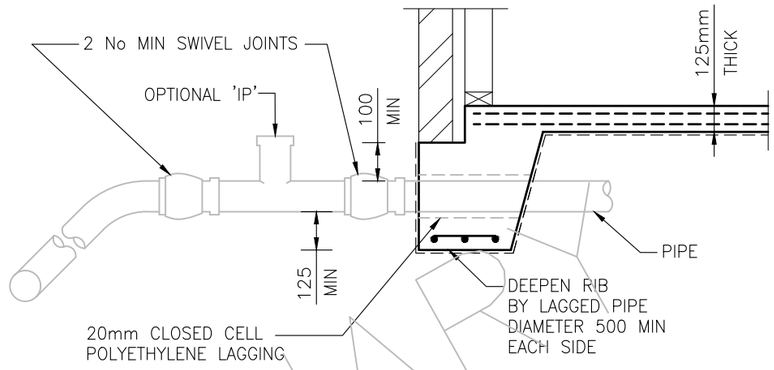
SERVICE PIPE THROUGH FOOTING



TYPICAL FOOTING INTERSECTION DETAIL



TYPICAL FOOTING CORNER DETAIL



TYPICAL FLEXIBLE SERVICE PIPING IN RIB

NOT TO SCALE

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
STRUCTURAL & CIVIL ENGINEERS
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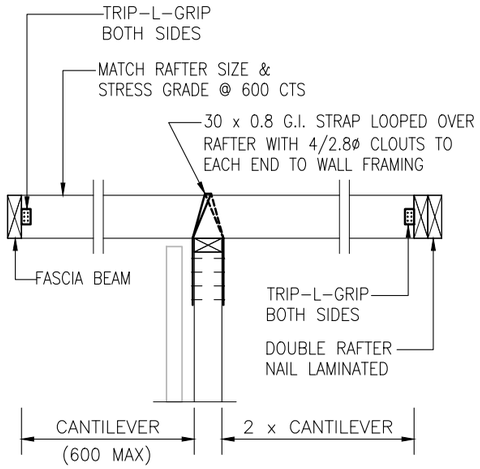
DRAWING: FOOTING DETAILS–2

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

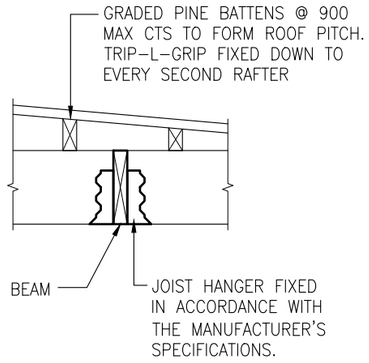
CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

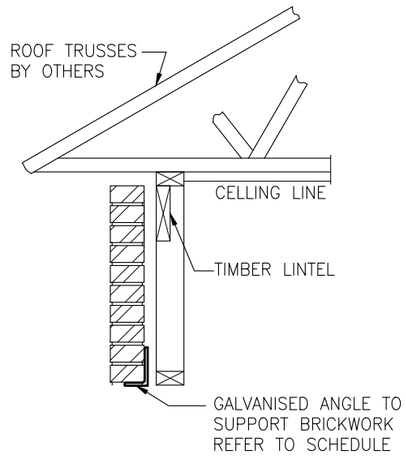
Scale: @A3 1:20
Job No.: 24014
Drawing No.: S8
Rev.: P1



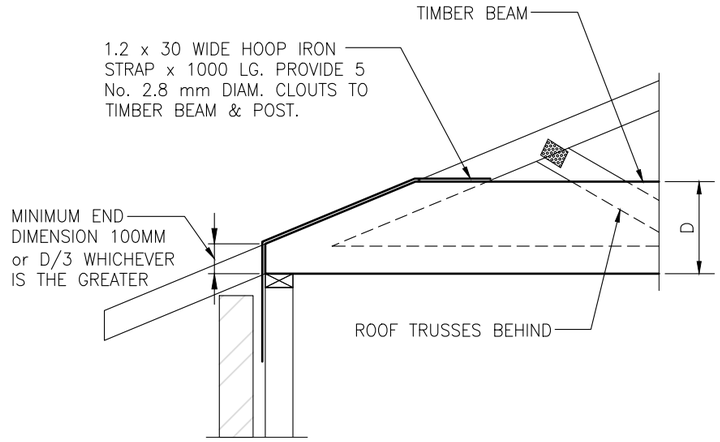
TYPICAL EAVE PERPENDICULAR TO RAFTER/TRUSS DETAIL



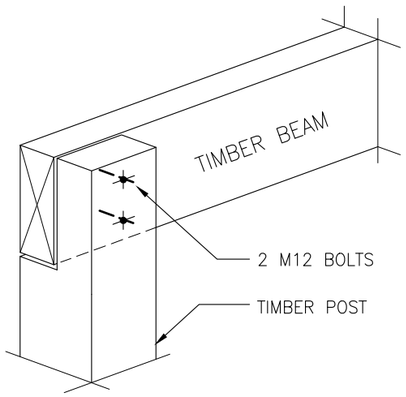
TYPICAL RAFTER TO TIMBER ROOF BEAM DETAIL



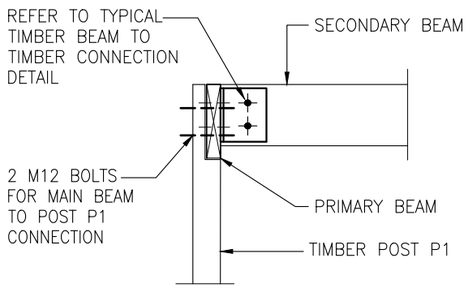
TYPICAL TIMBER LINTEL DETAIL



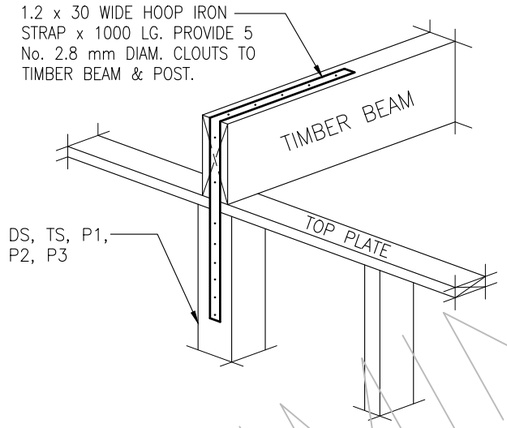
TIMBER BEAM CHAMFER DETAIL



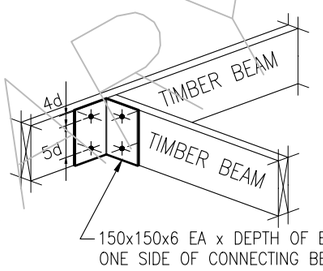
PERSPECTIVE TIMBER BEAM TO TIMBER POST P1 DETAIL



TIMBER BEAM TO TIMBER POST P1 AT CORNER



PERSPECTIVE TIMBER BEAM TO TIMBER POST CONNECTION DETAIL



Timber Beam Bolt Schedule			
Beam Depth	Bolt Size	4d	5d
290	16	64	80
240	16	64	80
190	16	64	80
140	12	48	60

PERSPECTIVE TIMBER BEAM TO TIMBER BEAM CONNECTION DETAIL

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

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DRAWING: FRAMING DETAILS

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale: @A3 1:20
Job No.: 24014
Drawing No.: S9
Rev.: P1

WALL BRACING DETAILS – TYPE D

(Double Metal Strap):

or ALTERNATIVE DOUBLE TYPE C

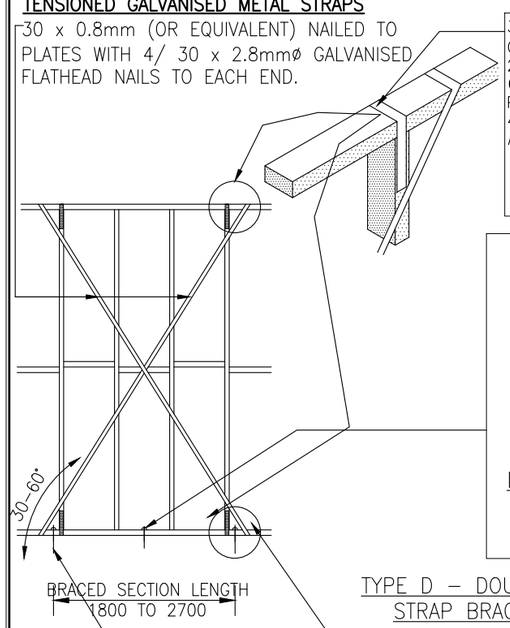
(Cross Metal Angle): Min. 20 x 18 x 1.2 mm

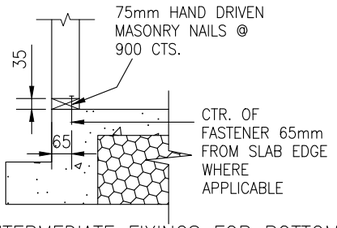
TENSIONED GALVANISED METAL STRAPS

30 x 0.8mm (OR EQUIVALENT) NAILED TO PLATES WITH 4/ 30 x 2.8mmø GALVANISED FLATHEAD NAILS TO EACH END.

30 x 0.8mm METAL STRAP LOOPED OVER PLATE AND FIXED TO STUD WITH 4/ 30 x 2.8mmø FLATHEAD NAILS TO EACH END.
OR
PROVIDE SINGLE STRAPS TO BOTH SIDES, WITH 4 NAILS PER STRAP END, OR EQUIVALENT ANCHORS OR OTHER FASTENERS.

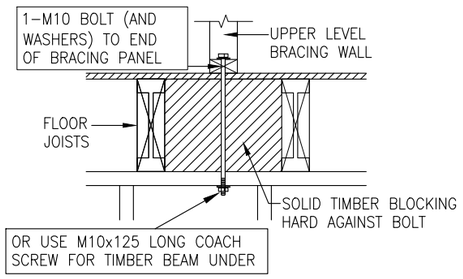
TYPICAL FIXINGS FOR METAL STRAPS TO PLATE





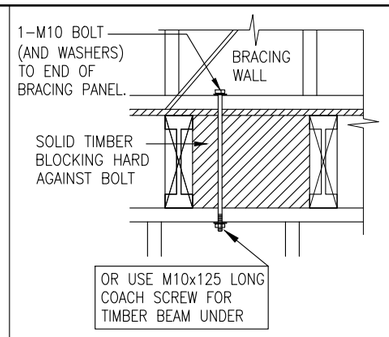
INTERMEDIATE FIXINGS FOR BOTTOM WALL PLATE TO CONCRETE SLAB (NOMINAL FIXING)

TYPE D – DOUBLE DIAGONAL TENSION OR METAL STRAP BRACES (BRACING CAPACITY – 3.0 kN/m)

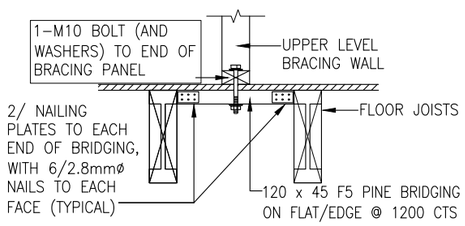


BRACING WALL PARALLEL TO JOISTS
(INTERNAL BRACING WALL SHOWN)

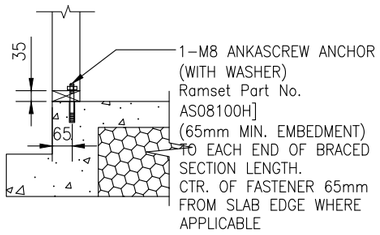
END FIXING OF BOTTOM WALL PLATE TO TIMBER FRAME



BRACING WALL AT RIGHT ANGLES TO JOISTS



BRACING WALL PARALLEL TO JOISTS
(NO STUD WALL UNDER)



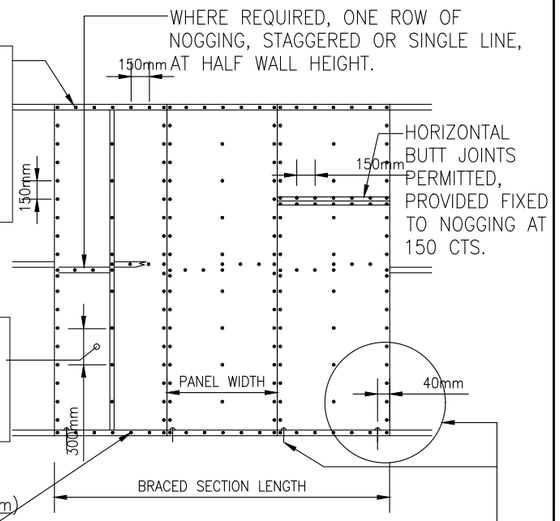
END FIXING OF BOTTOM PLATE TO SLAB

WALL BRACING DETAILS – TYPE G

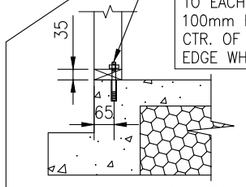
(Plywood):

FIXING TO TIMBER FRAME:
30 x 2.8mmø FLATHEAD NAILS OR EQUIVALENT @ **150 CTS.** TO ALL PLYWOOD VERTICAL AND HORIZONTAL EDGES:
– STUDS, TOP & BTM. PLATES AND NOGGINGS.

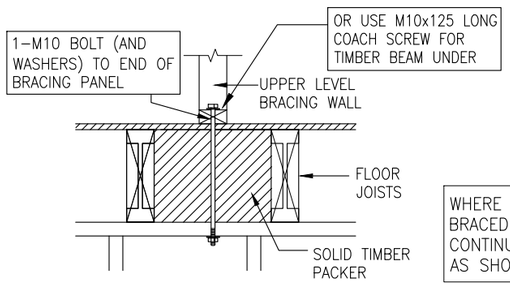
300mm SPACING PERMITTED FOR FASTENERS TO INTERMEDIATE STUDS WHERE APPLICABLE (900 WIDE PANEL WIDTH SHOWN)



PLYWOOD BRACING
(BRACING CAPACITY – 3.4 kN/m)



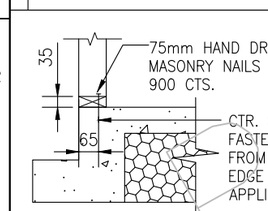
END FIXING OF BOTTOM WALL PLATE TO SLAB



END FIXING OF BOTTOM WALL PLATE TO TIMBER FRAME:

MINIMUM PLYWOOD THICKNESS (mm)		
Stress Grade	Stud Spacing (mm)	
	450	600
No Nogging (except horizontal butt joints)		
F8	7	9
F11	4.5	7
F14	4	6
F27	3	4.5
One Row of Nogging		
F8	7	7
F11	4.5	4.5
F14	4	4
F27	3	3

WHERE TOP AND BOTTOM PLATES IN BRACED SECTIONS ARE NOT CONTINUOUS THEY MUST BE SPLICED AS SHOWN IN DETAIL THIS PAGE.

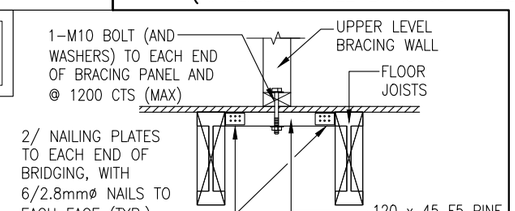


INTERMEDIATE FIXINGS FOR BOTTOM WALL PLATE TO CONCRETE SLAB (NOMINAL FIXING)

WHERE "BRACED SECTION LENGTH" IS 900mm OR LESS AND CONSISTS OF A SINGLE BRACING PANEL INTERMEDIATE FIXING IS NOT REQUIRED.

FOR EXTERNAL BRACING WALLS, WALLS PERPENDICULAR TO JOISTS & INTERNAL WALLS DIRECTLY OVER JOISTS/BEAMS:
– NAIL/FIX TO JOISTS/BEAMS UNDER @ 600 MAX. CTS.

INTERMEDIATE FIXINGS FOR BOTTOM WALL PLATE TO TIMBER FRAME



FOR INTERNAL BRACING WALLS WITH NO JOIST UNDER:
– USE THIS DETAIL

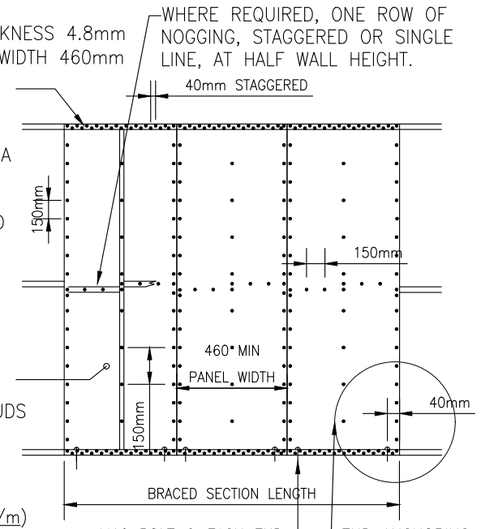
WALL BRACING DETAILS – TYPE M

(Hardboard):

MINIMUM HARDBOARD THICKNESS 4.8mm
MINIMUM BRACING PANEL WIDTH 460mm

FIXING TO TIMBER FRAME:
30 x 2.8mmø FLATHEAD NAILS OR EQUIVALENT.
NAILS SHALL BE LOCATED A MINIMUM OF 10mm FROM THE VERTICAL EDGES AND 15mm FROM THE TOP AND BOTTOM EDGES.

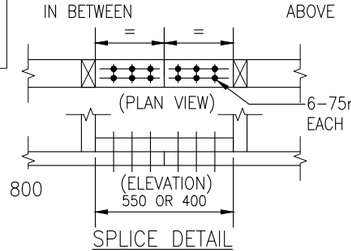
300mm SPACING
PERMITTED FOR FASTENERS TO INTERMEDIATE STUDS



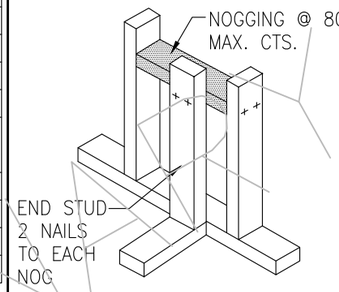
HARDBOARD BRACING
(BRACING CAPACITY – 6.0 kN/m)

WHERE TOP AND BOTTOM PLATES IN BRACED SECTIONS ARE NOT CONTINUOUS THEY MUST BE SPLICED AS SHOWN IN THIS DETAIL

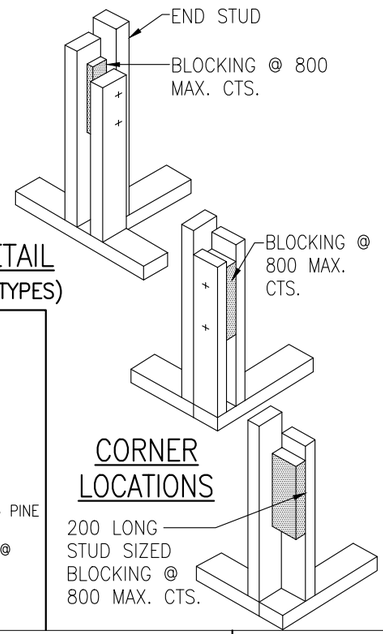
SPLICE PLATE MUST BE OF SAME SIZE AND STRESS GRADE AS TOP AND BOTTOM PLATES.



SPLICE DETAIL
FOR TOP & BOTTOM PLATES



INTERSECTING WALLS



WALL JUNCTION DETAIL
(APPLIES TO ALL BRACING TYPES)

CORNER LOCATIONS

200 LONG STUD SIZED BLOCKING @ 800 MAX. CTS.

No.	Date	Revision	By
P1	FEB 24	PRELIMINARY	CH

GREEN CONSULTING ENGINEERS Pty Ltd
STRUCTURAL & CIVIL ENGINEERS
M: 0422191858
A: 11 Calder Highway, Diggers Rest
E: henryhoang1981@gmail.com

DRAWING: BRACING DETAILS

Designed by: CH
Drawn by: CH
Checked by: CH
Date: FEBRUARY 2024

CLIENT: –

PROJECT: PROPOSED GARAGE & STUDIO AT 23 FORSTER STREET, IVANHOE

Scale: @A3 N.T.S.
Job No.: 24014
Drawing No.: S10
Rev.: P1