MEMBER SCHEDULE	
MEMBER	DESCRIPTION
WP1	WALL PLATE: 90X45MGP10 H3; BOLTED TO BRICK WALL BY M10@900
R1	RAFTER: 240X45@900 HYSPAN
R2	RAFTER; 140X45@900 MGP10
R3	RAFTER; 140X45@900 MGP10
RB1	ROOF BEAM: 240x36 HYSPAN
RB2	RIDGE BEAM; 180UB18.1
RB3 (PORTAL FRAME)	RHS 200X100X8
RB4	STRUTTING BEAM; 300X63 LVL15
RB5	STRUTTING BEAM; 240X63 LVL15
RB6	230PFC

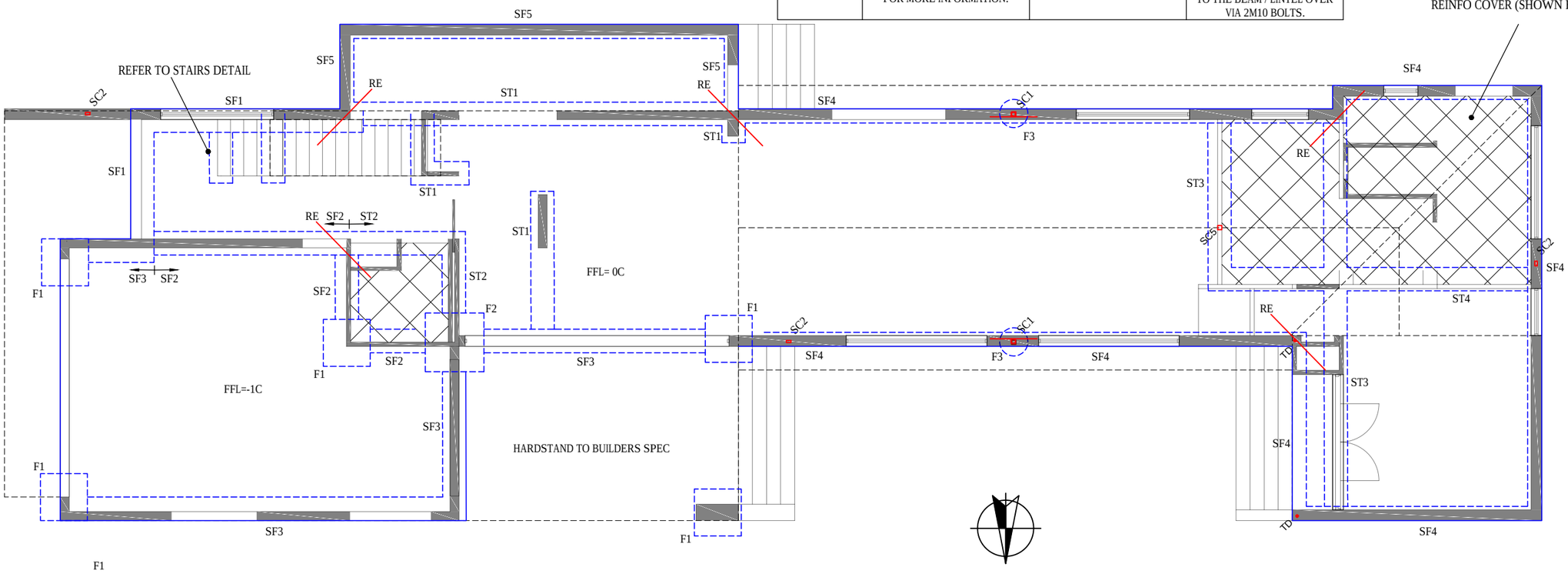
COLUMN SCHEDULE			
MEMBER	MEMBER SIZE	BOTTOM FIX	TOP FIX
SC1	100 X 9 SHS	REFER FOOTING DETAIL F3	FULLY WELD TO PORTAL FRAME BEAM ABOVE
SC2	150 X 50 X 4 RHS	FULLY WELDED TO 250 X 150 X 10 PL BOLTED TO CONCRETE SLAB VIA 4 M10	6 SEAL PLATE + 8 CLEAT PLATE; 2M12 TO ROOF MEMBER
SC3	150 X 50 X 4 RHS	FULLY WELDED TO 250 X 150 X 10 PL BOLTED TO CONCRETE SLAB VIA 4 M10	6 SEAL PLATE + 8 CLEAT PLATE; 2M12 TO ROOF MEMBER
SC4	89 X 3.5 SHS	FULLY WELDED TO 200 SQ X 10 PL BOLTED TO CONCRETE SLAB VIA 4M10	6 SEAL PLATE + 8 CLEAT PLATE; 2M12 TO ROOF MEMBER
SC5	89 X 3.5 SHS	FULLY WELDED TO 200 SQ X 10 PL BOLTED TO CONCRETE SLAB VIA 4M10	REFER DETAIL 1
SC6	89 X 3.5 SHS	FULLY WELDED TO 200 SQ X 10 PL BOLTED TO CONCRETE SLAB VIA 4M10	REFER DETAIL 1
TD	R10 GALVANIZED TIE DOWN ROD; REFER TIE DOWN DETAILS/NOTES FOR MORE INFORMATION.	EMBED BOTTOM 100mm INTO SLAB, 50mm COG.	SITE WELD TO STEAL BEAM / LINTEL OVER. FOR TIMBER BEAMS / LINTELS; FULLY WELD TO 8PL AND FIX TO THE BEAM / LINTEL OVER VIA 2M10 BOLTS.

FOOTING SCHEDULE		
	DIMENSIONS	REINFORCEMENT
F1	1000 X 1300 X 400 DEEP	N12 @ 200 EACH WAY,BTM
F2	1300 X 1300 X 400 DEEP	N12 @ 200 EACH WAY,BTM
F3	600DIA X 900 DEEP	REFER FOOTING DETAIL
SL	--	SQUARE MESH; D500L TO AS/NZS 4671
TM	--	TRENCH MESH; D500L TO AS/NZS 4671

GROUND SLAB NOTES:

REFER TO ROOF PLANS AND TIE DOWN DETAILS FOR COLUMNS ABOVE AND ANCHORED RODS LOCATIONS (TD).

RE: 3-L11TM;TIED TO SLAB REINFORCEMENT; L=2m @ ALL RE-ENTRANT/INTERNAL CORNERS AND AS SHOWN.



FOOTING AND GROUND SLAB PLAN

SCALE - 1 : 100

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SHEET- 1 OF 12

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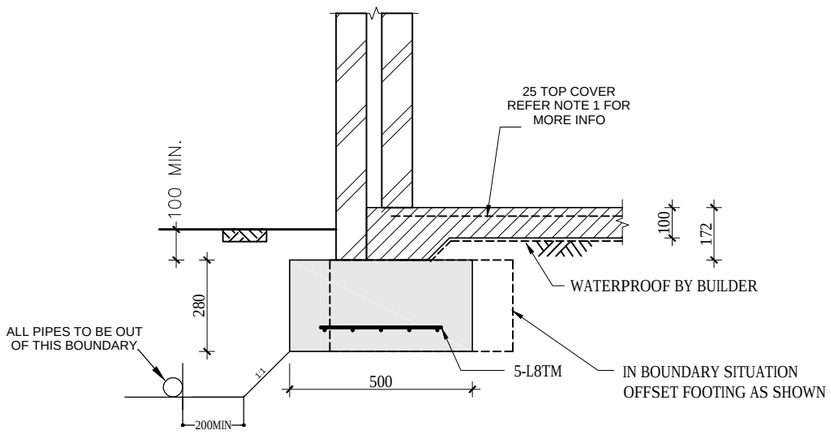
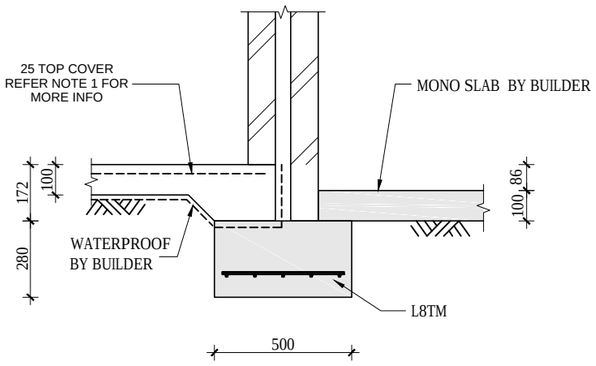


SF1 - FOOTING UNDER EXTERNAL WALLS

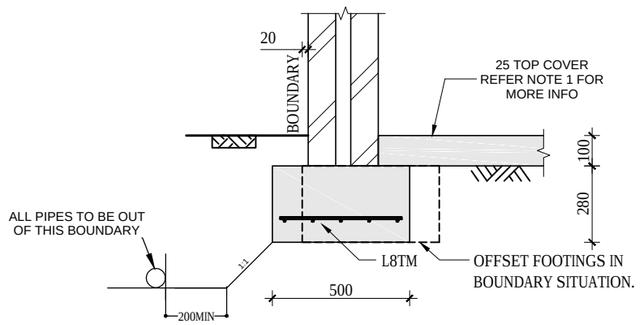
SCALE - 1 : 20

- CONFIRM EXACT LOCATION AND EXTENT WITH ARCHs DRGs.



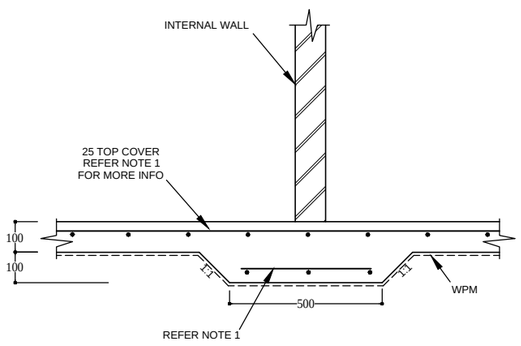
SF2 - INDOOR/GARAGE FOOTING DETAIL

SCALE - 1 : 20

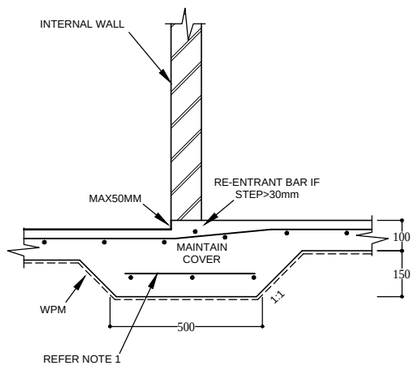


SF3 - EXTERNAL GARAGE FOOTING DETAIL

SCALE - 1 : 20



(ST1) FOOTING SLAB
UNDER INTERNAL WALL



(ST2) WET AREA STEP
DOWN

NOTES

1. SLAB REINFORCEMENT: SL82
2. FOR SLABS WITH BRITTLE OR EXPOSED CONCRETE FINISHES REFER TO THE ENGINEER.

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SHEET- 2 OF 12

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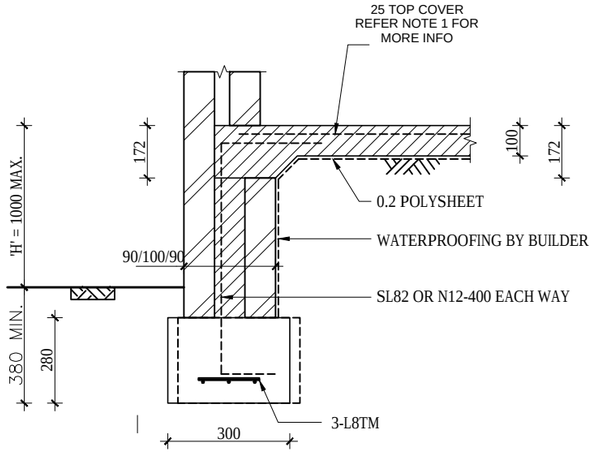
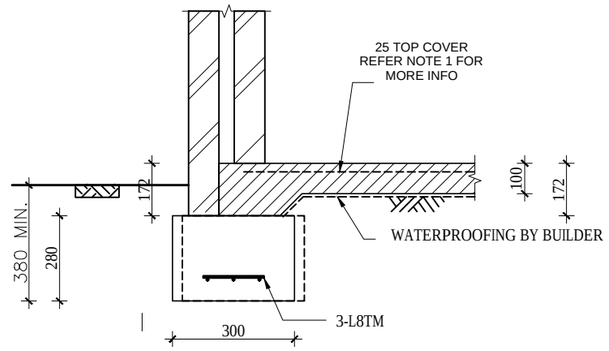


SF4 - FOOTING AND BRICK BILT-UP UNDER EXTERNAL WALLS

SCALE - 1 : 20

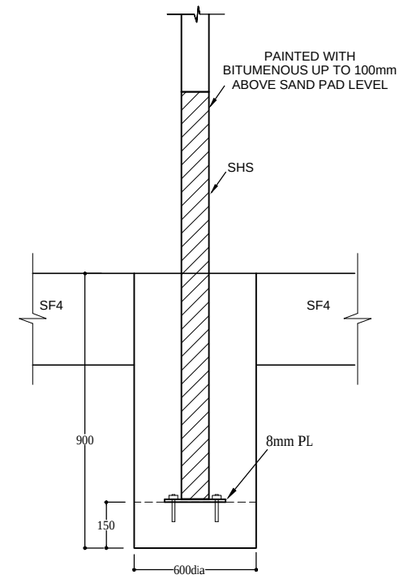
- CONFIRM EXACT LOCATION AND EXTENT WITH ARCHs DRGs.



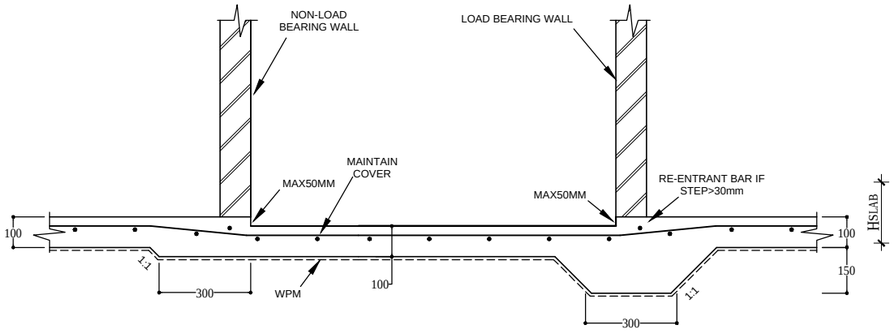
SF5 - FOOTING UNDER EXTERNAL WALLS

SCALE - 1 : 20

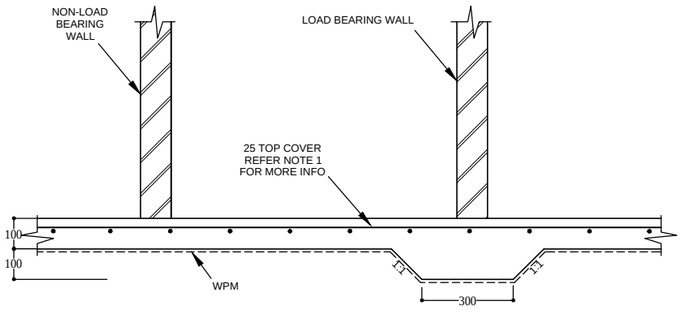
- CONFIRM EXACT LOCATION AND EXTENT WITH ARCHs DRGs.



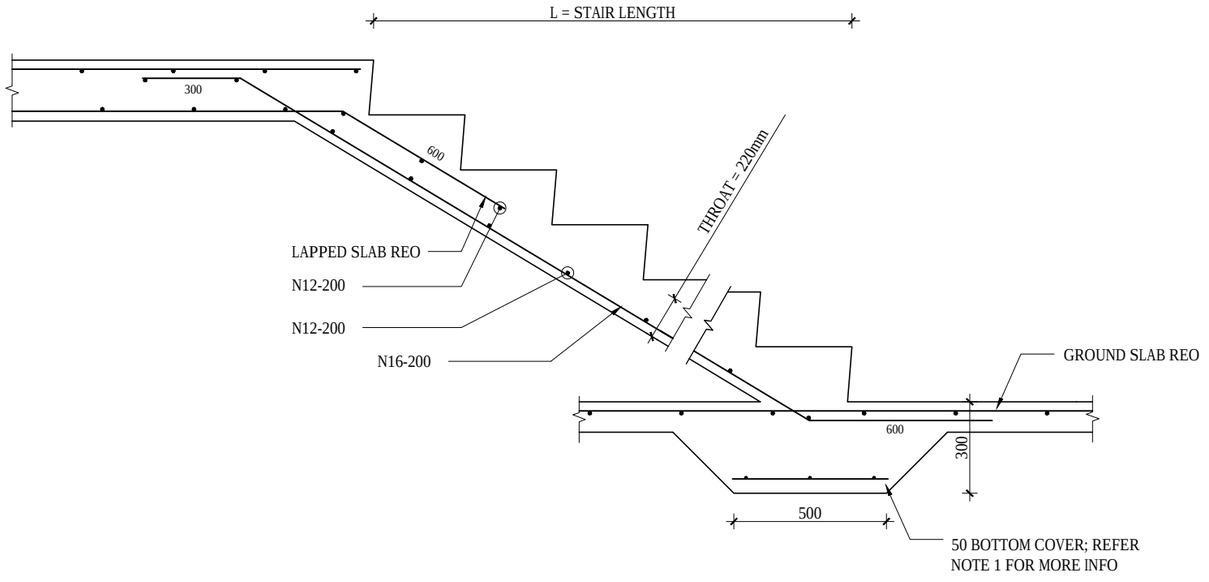
F3-FOOTING DETAILS



(ST4) WET AREA STEP DOWN



(ST3) FOOTING SLAB UNDER INTERNAL WALL



FIRST FLOOR SUSPENDED STAIRS

SCALE - 1 : 20

- REFER TO ARCH'L DRG'S FOR EXACT NUMBER OF TREADS AND RISER AND FOR EXACT DIMENSIONS TO STEPS.

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MEMBER SCHEDULE	
MEMBER	DESCRIPTION
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R2	RAFTER; 140X45@900 MGP10
R3	RAFTER; 140X45@900 MGP10
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RB3 (PORTAL FRAME)	RHS 200X100X8
RB4	STRUTTING BEAM; 300X63 LVL15
RB5	STRUTTING BEAM; 240X63 LVL15
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MEMBER	MEMBER SIZE	BOTTOM FIX	TOP FIX
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SC6	89 X 3.5 SHS	FULLY WELDED TO 200 SQ X 10 PL BOLTED TO CONCRETE SLAB VIA 4M10	REFER DETAIL 1
TD	R10 GALVANIZED TIE DOWN ROD; REFER TIE DOWN DETAILS/NOTES FOR MORE INFORMATION.	EMBED BOTTOM 100mm INTO SLAB, 50mm COG.	SITE WELD TO STEAL BEAM / LINTEL OVER. FOR TIMBER BEAMS / LINTELS; FULLY WELD TO 8PL AND FIX TO THE BEAM / LINTEL OVER VIA 2M10 BOLTS.

LEGEND

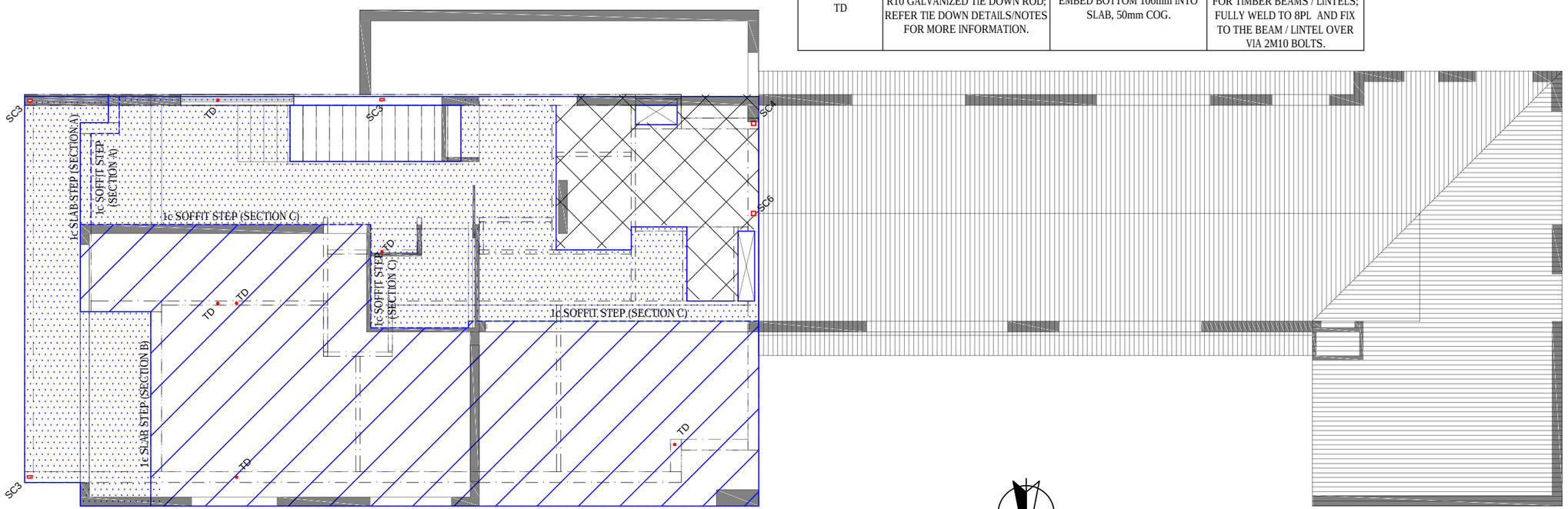
GROUND FLOOR LOAD BEARING WALLS

FIRST FLOOR LOAD BEARING WALLS

3C THICK SLAB AREA

2C THICK SLAB AREA

20mm WET AREA SET DOWN; 152mm REDUCED SLAB THICKNESS



N

FIRST FLOOR SLAB PLAN

SCALE - 1 : 100

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SHEET- 4 OF 12

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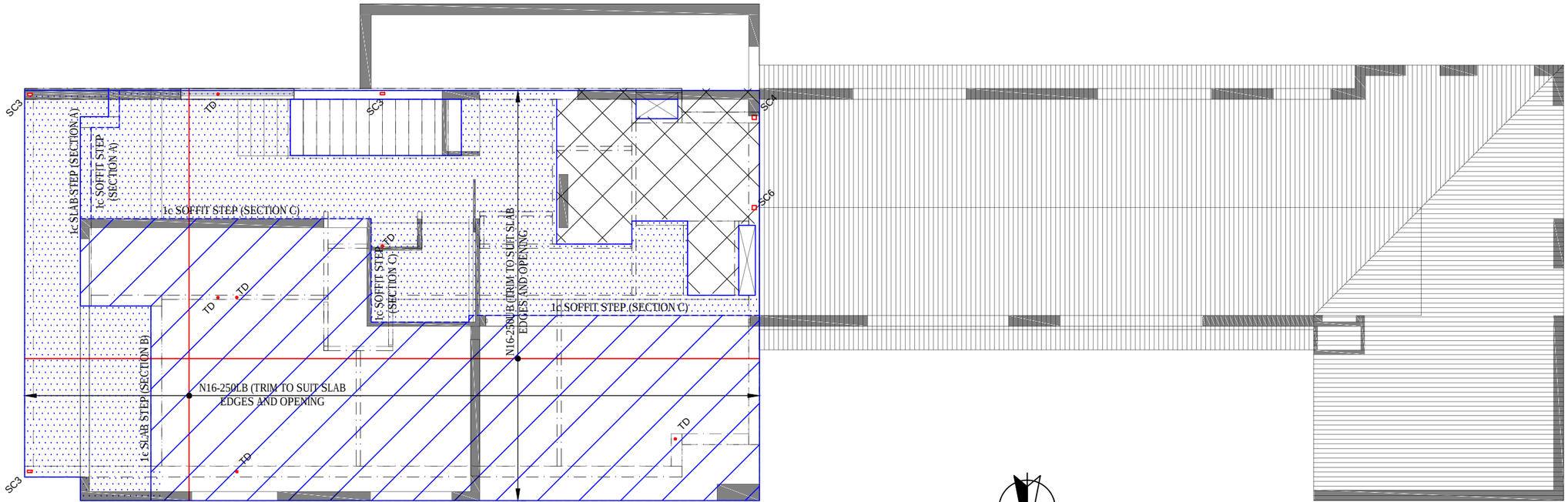

FIRST FLOOR SLAB BOTTOM REINFORCEMENT PLAN

SCALE - 1 : 100

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SHEET- 5 OF 12

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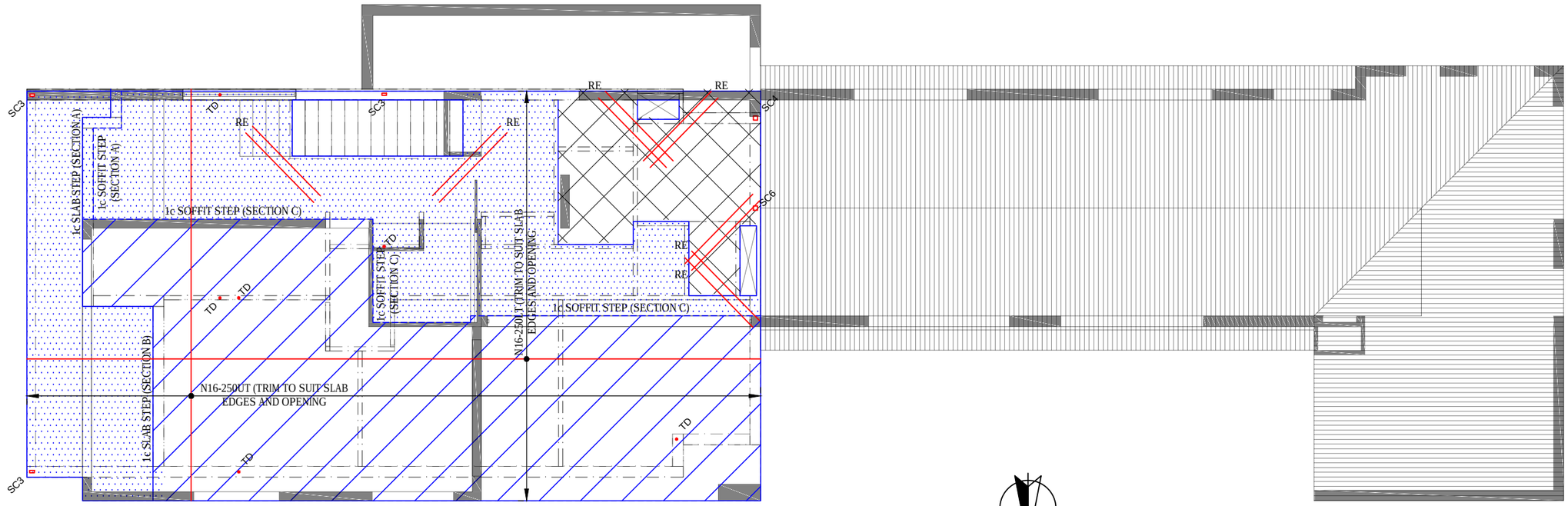

FIRST FLOOR SLAB TOP REINFORCEMENT PLAN

SCALE - 1 : 100

RE: 2N16-200X 2000LONG; RE-ENTRANT BAR; CENTRAL TO SLAB

REFER TO ROOF PLANS AND TIE DOWN DETAILS FOR UPPER COLUMNS (SC) AND ANCHORED RODS (TD) LOCATIONS .

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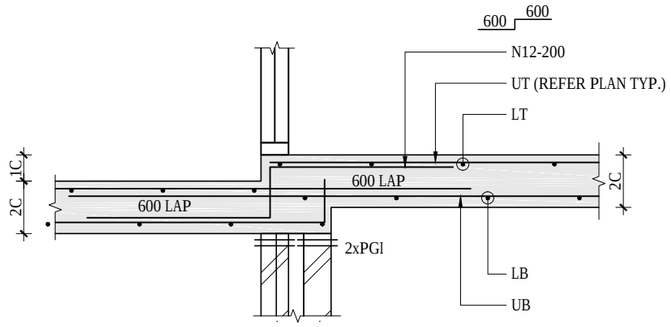
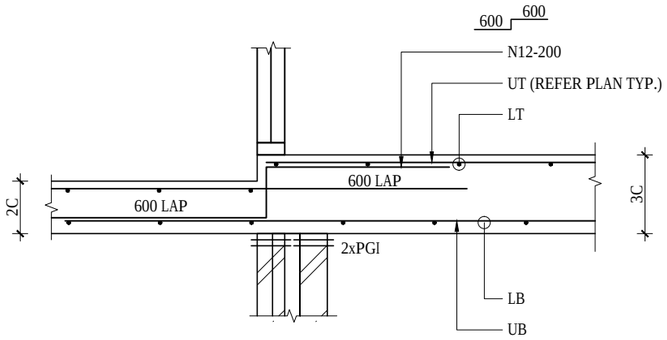
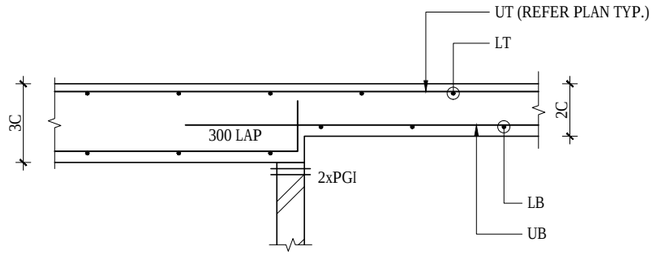


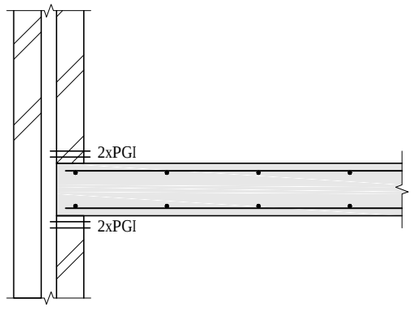
SECTION A
SCALE 1:20
S4-6



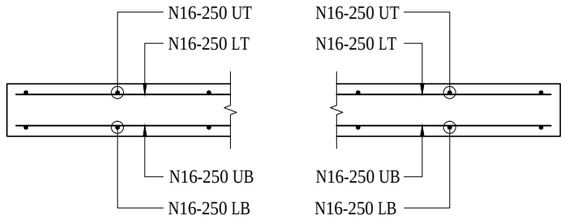
SECTION B
SCALE 1:20
S4-6



SECTION C
SCALE 1:20
S4-6



TYPICAL BRICK TO SLAB DETAIL
SCALE - 1 : 20



TYPICAL SLAB DETAIL
SCALE - 1 : 20

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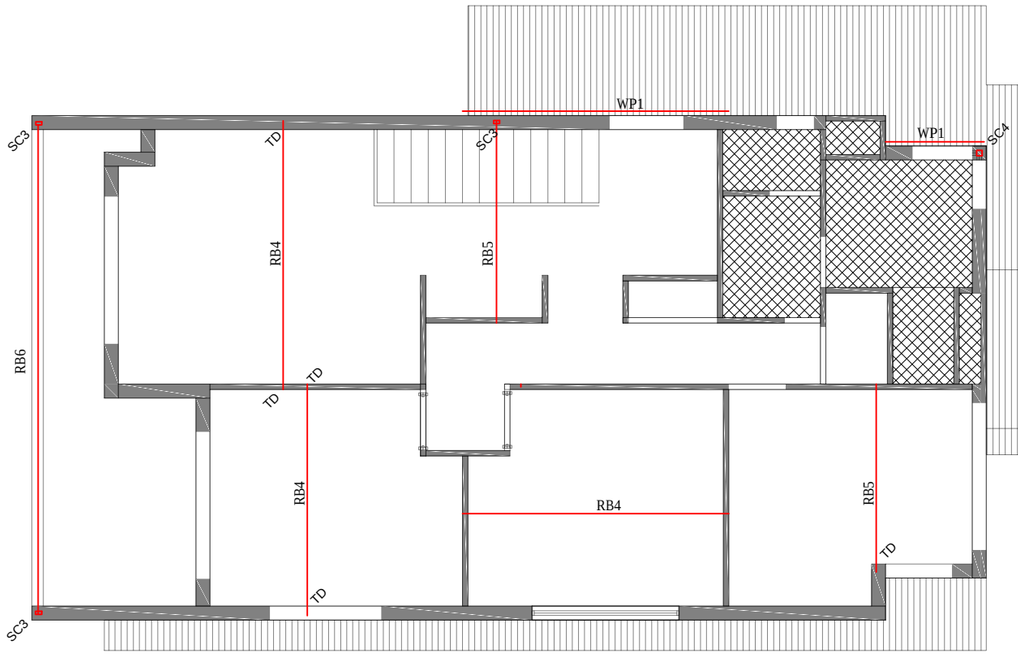

UPPER ROOF FRAMING PLAN
SCALE - 1 : 100

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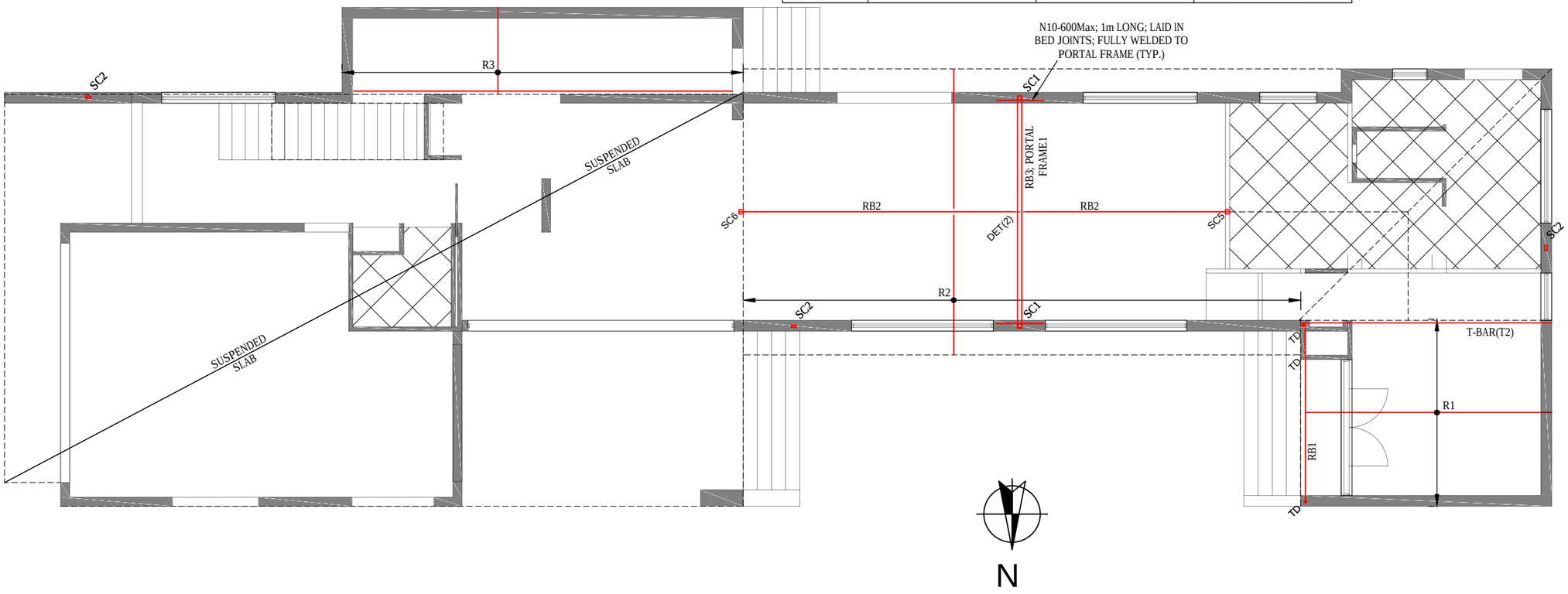

LOWER ROOF FRAMING PLAN

SCALE - 1 : 100

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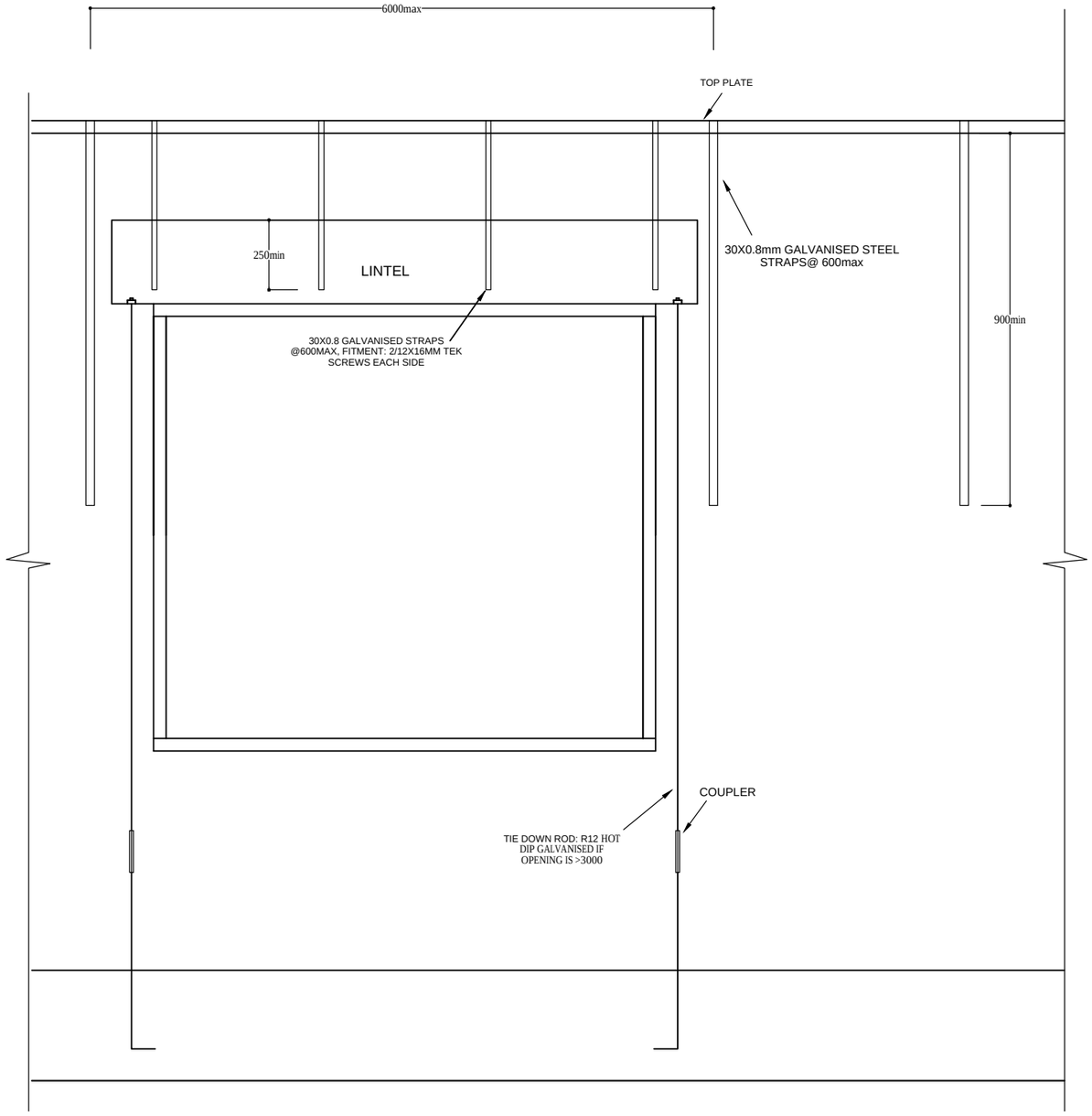
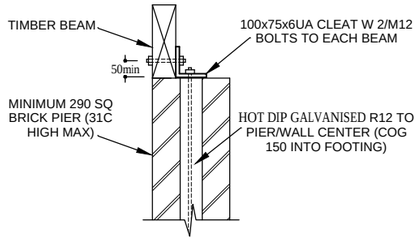
1. ROOF FRAMING TO BE RAFTERS@900 C/C MAX.
2. RAFTERS/ PURLINS TO BE TIED DOWN BY PRYDA MULTI- GRIPS @ ALL INTERSECTIONS UNO.
3. WALL PLATES (EXTERNAL/ INTERNAL) TO BE TIED DOWN AS SHOWN BELOW.
2. LINTELS, TO BE TIED DOWN AS SHOWN BELOW.
3. BEAMS SITTING ON OTHER BEAMS/ TOP PLATES TO BE TIED DOWN BY 1/30X1.0 TENSIONED STRAP RAPPED ROUND; FITMENT: 6X3.15x35 GALV. NAILS OR 4/12X16MM TEK SCREWS AT EACH END OF STRAP. (MAX SPAN=7M).
4. UNDERPURLINS/RIDGE BEAMS/HIP RAFTERS TO BE TIED DOWN TO STRUTS@3.5MAX, AND STRUTS TO WALL PLATES/STRUTTING BEAMS BY 1/30X1.0 TENSIONED STRAPS @EACH STRUT END; FITTED BY 2/12x16mm TEK SCREWS AT EACH STRAP ENDS.
7. TO TIE DOWN BEAMS ON INTERNAL WALLS USE 3.2mm , GRADE1570, WIRE ROPES AND CONNECTORS. THE ROPE TO BE LOOPED THROUGH A HOLE DRILLED 26C BELOW AND FITTED TO EITHER SIDES OF THE BEAM.
8. ALL STRAPS/ ROPES TO BE TIGHT AND TENSIONED.



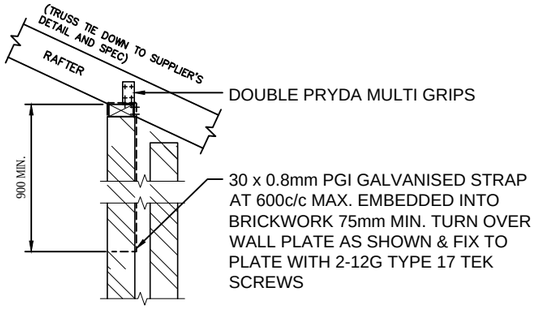
TYPICAL ROOF TIE DOWN THROUGH MASONRY WALL

SCALE 1:20



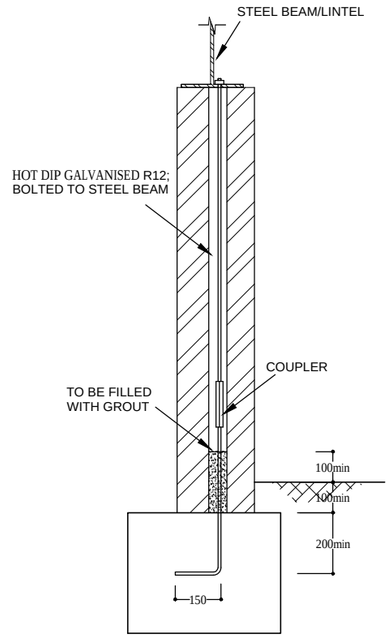
TIMBER BEAM TIE DOWN

SCALE 1:20



ROOF TIE DOWN TO CAVITY MASONRY WALLS

SCALE 1:20



STEEL BEAM / LINTEL TIE DOWN

SCALE 1:20

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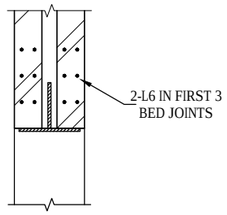
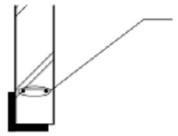


TYPICAL REINFO ABOVE T-LINTELS

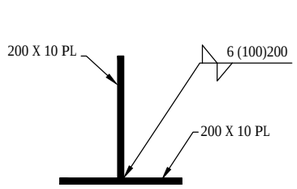
SCALE 1:20



NOTE:
PLACE 1 LAYER OF MRBL 50 MASONRY REINFORCING MESH IN THE BED JOINT IMMEDIATELY OVER DOOR AND WINDOW HEAD LEVEL, CONTINUOUS THROUGHOUT THE BUILDING IN BOTH INTERNAL AND EXTERNAL WALLS. 250 LAPS AND 250 COGS INTO INTERSECTING WALLS.

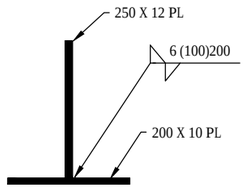
TYPICAL REINFO ABOVE ANGEL LINTELS

SCALE 1:20



T-LINTEL "T1"

SCALE - 1 : 10



T-LINTEL "T2"

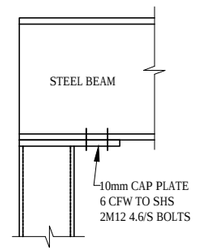
SCALE - 1 : 10

T-LINTEL NOTES:
- 230 mm MIN BEARING EACH END OR FULLY WELDED TO SHS BELOW.
- WELD 100, MISS 200 AT EACH END THEN ALTERNATE SIDES.
- FLANGE WIDTH=180mm WHEN SUPPORTED ON 190 WALL
- T-BARS AT CORNERS TO BE MITER CUT AND FULLY WELDED TO ADJOINING T-BAR.

LINTEL TABLE NOTE:
1. TO SUPPORT ROOF ABOVE WALL OPENING USE TABLE BELOW UNLESS NOTED OTHERWISE (UNO) ON LAYOUTS.
2. LINTELS TO BE PROPPED AT LEAST 7 DAYS.
3. AVOID LOADING LINTELS BY CONCENTRATED LOADS SUCH AS STRUTS, PROPS, BEAMS OR GIRDER TRUSSES OTHERWISE REFER TO THE ENGINEER.
4. AVOID LOADING LINTELS BY BRICK WALLS HIGHER THAN 600mm. OTHERWISE, REFER TO THE ENGINEER.

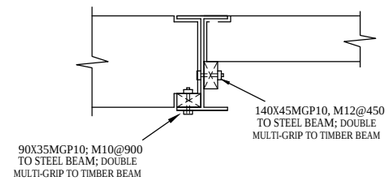
LINTEL TABLE

BRICK WALL BEARING ROOF LOAD		BRICK WALL NOT BEARING ROOF LOAD	
MAX. SPAN (mm)	LINTEL	MAX. SPAN (mm)	LINTEL
2200	90X90X6EA	3000	90X90X6EA
2400	100X100X6EA	3350	100X100X6EA
2550	100X100X8EA	3600	100X100X8EA
3450	150X90X8UA	4200	150X90X8UA
4000	150UB18.0		
4200	180UB22.2		
4600	T-BAR(T1); 200X10WEB 200X10 FLANGE		
5500	T-BAR (T2); 250X12WEB 200X10 FLANGE		



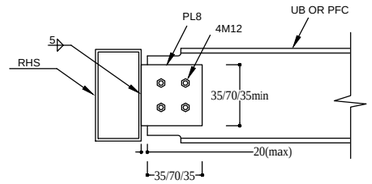
DET (1): SHS TO UB CONNECTION

SCALE 1:20



RAFTER TO STEEL BEAM CONNECTION

SCALE 1:20



DET(2): UB TO RHS CONNECTION

SCALE 1:20

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SITE PREPARATION

1. REMOVE TOPSOIL (ANY ORGANIC, LOOSE OR SOFT MATERIAL) AND ROOTS.
2. REFER TO THE REGARDING SITE CLASSIFICATION/PREPARATION REPORT FOR REQUIRED SAND PAD THICKNESS, SPECIFICATION AND CRITERIA.
3. THE SOIL AT BOTTOM LEVEL OF THE GROUND SLAB AND ALL FOOTINGS DOWN TO THE THICKNESS OF 750Min SHALL BE COMPACTED AND CERTIFIED BY THE ENGINEER.
4. FOOTINGS SHALL BE LOCATED CENTRALLY BENEATH WALLS AND COLUMNS UNLESS NOTED OTHERWISE.
5. REFER TO SITE CLASSIFICATION/PREPARATION REPORT FOR MORE INFORMATION.

DESIGN CRITERIA

1. BUILDING STRUCTURAL IMPORTANCE LEVEL 2.
2. WIND CLASSIFICATION: N2, WIND REGION A, TERRAIN CATEGORY 1.5, V_{hu}=40 m/s
3. ENVIRONMENT: MARINE, HIGH CORROSIVE
4. EARTHQUAKE:
   PROBABILITY FACTOR kp=1.0
   HAZARD FACTOR Z<0.11
5. SITE CLASS 'A' TO AS2870. ASSUMED BEARING PRESSURE MAX. 150 kPa, SUBJECT TO AVAILABILITY OF SOIL INVESTIGATION.
6. BUILDING IS DESIGNED FOR SHEET ROOF.

CONCRETE/REINFORCEMENT

1. FOOTING CONCRETE TO BE OF 32MPA GRADE; REINFO. COVER OF 70 (BOTTOM).
2. IN-DOOR GROUND SLAB CONCRETE COULD BE OF 25MPA GRADE WITH REINFORCEMENT COVER OF 25 (TOP) SHOULD DAMP PROOF MEMBRANE COMPLETELY PROTECT IT.
3. BEAMS CONCRETE TO BE OF 40MPA GRADE; REINFO. COVER OF 30 (INTERNAL) AND 45(EXTERNAL).
4. SUSP SLAB AND STAIRS CONCRETE TO BE OF 40MPA GRADE; REINFO. COVER OF 20 (INTERNAL) AND 45(EXTERNAL).
5. CAVITY FILL CONCRETE TO BE OF 32MPA GRADE; REINFO. COVER OF 20 .
6. IN DOOR COLUMNS CONCRETE TO BE OF 40MPA GRADE; REINFO. COVER OF 30 (UNO).
7. CONCRETE TO CONFORM WITH AS3600.
8. ALL PROPS AND FORMWORK FOR BEAMS AND SLABS TO BE REMOVED BEFORE CONSTRUCTION OF ANY WALLS OR OTHER PERMANENT LOADING ON THE SLAB.
9. LAP ALL MESH AT LEAST ONE TRANSVERSE WIRE PLUS 25MM OR TO MANUFACTURER'S SPECIFICATION UNLESS OTHERWISE NOTED.
10. 0.2MM THICK WATERPROOF MEMBRANE TO BE PLACED UNDER ALL REINFORCED SLABS AND FOUNDATIONS. THE MEMBRANE TO BE LAPPED AND SEALED TO ENSURE MOISTURE BARRIER.
11. WHERE GROUT IS REQUIRED TO PROVIDE PROTECTION TO REINFORCEMENT, IT SHALL HAVE A GB OR GP CEMENT CONTENT OF NOT LESS THAN 300 Kg/m3
12. BLENDED CEMENT TO CONFORM WITH AS3972.
13. ALL CONCRETE IS OF 20 MAX AGG AND 80 SLUMP.
14. CONCRETE IS TO BE COMPACTED USING MECHANICAL VIBRATORS.
15. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
16. NO HOLES, CHASES OR EMBEDDED PIPES, OTHER THAN THOSE SHOWN ON THE STRUCTURAL ENGINEER'S DRAWINGS, SHALL BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.
17. CONCRETE SHALL BE CONTINUOUSLY WATER CURED FOR 3 DAYS AFTER POURING AND KEPT DAMP FOR NOT LESS THAN A FURTHER 4 DAYS THEREAFTER.
18. FORMWORK AND ITS REMOVAL TO BE IN ACCORDANCE WITH AS.3610.
19. DO NOT USE ADMIXTURES TO CONCRETE UNLESS SPECIFIED OR PRIOR APPROVED BY THE ENGINEER.
20. CONSTRUCTION TOLERANCES TO BE IN ACCORDANCE WITH AS 3600 CL. 17.5.
21. SURFACE FINISHES TO BE IN ACCORDANCE WITH AS.3610.
22. CURING OF CONCRETE SHALL BE COMMENCED AS SOON AS POSSIBLE AFTER PLACING OR STRIPPING. REFER TO CLAUSE 19.1.5 AS.3600.
23. REINFORCEMENT SHALL COMPLY TO AS1302, A1303, AS1304 AS APPROPRIATE. LAPS SHALL BE IN ACCORDANCE WITH AS3600.
24. REINFORCEMENT SYMBOLS:-
    N; NORMAL DUCTILITY GRADE 500N DEFORMED BARS TO AS 4671
    R; GRADE 230R HOT ROLLED PLAIN BARS TO AS 4671
    SL; HARD DRAWN REINFORCING FABRIC TO AS 4671
    W; HARD DRAWN PLAIN WIRE TO AS 4671
25. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY BAR CHAIRS, SUPPORT AND SPACER BARS TO LOCATE REINFORCING STEEL IN ITS CORRECT LOCATION DURING CONCRETE PLACEMENT.
26. ALL CAST IN FITTINGS SHALL BE STAINLESS STEEL OR HOT DIP GALVANISED AFTER FABRICATION (HDG900, 125MICOMILIMETER).
27. PROVIDE ALL EXPOSED EDGES AND CORNERS WITH 20 CHAMFERS OR FILLETS.
28. REINFORCEMENT SHALL BE SPLICED WHERE SHOWN ON THE DRAWINGS. WHERE NOT DETAILED, SPLICES TO ALL REINFORCEMENT INCLUDING DISTRIBUTION BARS SHALL BE STAGGERED WITH MINIMUM OVERLAP OF 40 BAR DIAMETERS.
29. THE CORNERS OF ALL OPENINGS AND RE-ENTRANT CORNERS SHALL BE REINFORCED WITH 3-L11TM@TOP, 2000 LONG.
30. TEMPLATES SHALL BE USED TO CORRECTLY LOCATE AND HOLD IN POSITION HOLDING DOWN BOLTS DURING PLACEMENT OF CONCRETE.

FORMWORK

1. FORMWORK TO COMPLY WITH AS 3610.
2. BUILD ALL FORMWORK FROM ARCHITECTS DRAWINGS.
3. MIN. STRIPPING TIMES
   WALLS/COLUMNS - 3 DAYS UNO
   BEAMS/SLABS/STAIRS - 14 DAYS UNO
4. BACK PROP SLABS AND BEAMS UNTIL CONCRETE STRENGTH IS F'c.
5. IF BRICKWORK IS TO BE BUILT ON SLAB, ALLOW CONCRETE TO REACH F'c, REMOVE ALL PROPS AND LOAD BRICKS ON SLAB TO ALLOW DEFLECTION TO OCCUR BEFORE BRICKWORK IS COMMENCED.

STEEL WORK

1. WORKS TO BE IN ACCORDANCE WITH AS4100 AND AS1554
2. ALL STEEL SHALL BE IN ACCORDANCE WITH AS 3678, AS 3679 OR AS 1163. MINIMUM GRADE TO BE G300 FOR ROLLED SECTIONS AND PLATES, G350 FOR HOLLOW SECTIONS.
3. PROVIDE ALL CLEATS AND DRILL HOLES FOR FIXINGS WHETHER OR NOT DETAILED ON THE DRAWINGS TO THE APPROVAL OF THE STRUCTURAL ENGINEER. THIS INCLUDES ALL ARCHITECTURAL FIXINGS WHICH ARE NOT NECESSARILY SHOWN ON THE STRUCTURAL DRAWINGS.
4. STEEL BEAMS TO HAVE FULLY WELDED STIFFENERS AT BEARING POSITIONS. STIFFENERS THICKNESS TO BE THE SAME AS THE WEB THICKNESS.
5. STEEL BEAM FLANGES TO BE CONTINUOUSLY SUPPORTED BY JOISTS, RAFTERS, TRUSSES OR STIFFENERS. OTHERWISE REFER TO THE ENGINEER.
6. ALL WELDS TO BE IN ACCORDANCE WITH AS 1554 AND AS 4100 UNLESS NOTED OTHERWISE. ALL WELDS TO BE CATEGORY SP. ALL BUTT WELDS TO BE FULL PENETRATION CONTINUOUS. ELECTRODES TO BE CLASSIFICATION E48XX.
7. REFER TO AISC 'STANDARDISED STRUCTURAL CONNECTIONS' FOR DESIGNATION AND DETAILS OF CONNECTIONS. BOLT TYPE AND TIGHTENING PROCEDURE ARE DESIGNATED:
8. ALL BOLTS TO BE GRADE 8.8/S UNO. ALL BOLTS, SCREWS, NUTS AND WASHERS TO BE HOT DIP GALVANISED HDG900 TO AS4680 (125MICRO MILLIMETER OF THICKNESS).
9. MINIMUM CONNECTION TO BE A 10mm CLEAT AND 2-M16 UNO.
10. ALL NATURAL CAMBERS IN STEELWORK SHALL BE UPWARDS.
11. AREAS OF DAMAGED CORROSION PROTECTION THAT REQUIRE REPAIR ON SITE SHALL BE MECHANICALLY CLEANED WITH A POWER WIRE BRUSH TO AS 1627.2. THEN, REINSTATE THE PROTECTIVE COATING, DUREBILD STE OR EQUIVALENT, PER AS3750.1 AND MANUFACTURER'S SPEC .
12. PENETRATION IN FLANGE OR WEB OF STEEL MEMBERS IS NOT ALLOWED UNLESS APPROVED BY ENGINEER
13. ALL STEEL WORK TO BE TREATED AS BELOW.
    - INTERNAL; CLASS 2.5 GRIT BLASTED & COATED WITH TWO LAYERS OF INORGANIC ZINC SILICATE PRIMER, NOT LESS THAN 65 MICRON EACH
    - EXTERNAL; HOT DIP GALVANISED AFTER FABRICATION (HDG900, 125MICOMILIMETER TO AS4680).
    - BELOW FFL; 400 MICRON COAT OF COAL TAR EPOXY IN ADDITION TO ABOVE
12. COMPONENTS TO BE CAST IN CONCRETE SHALL BE HOT DIP GALVANISED AFTER FABRICATION (HDG900, 125MICOMILIMETER TO AS4680).
13. WHETHER OR NOT DETAILED ON DRAWINGS, PROVIDE CLEATS, BRACKETS AND DRILL HOLES TO COMPLETE THE STRUCTURE TO THE APPROVAL OF THE ENGINEER.THIS INCLUDES ARCHITECTURAL FIXINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
14. STEEL BEAM FLANGES ARE ASSUMED TO BE CONTINUOUSLY SUPPORTED BY FLOOR JOISTS.
15. ENDS OF TUBULAR MEMBERS SHALL BE SEALED WITH A 6MM THICK PLATE AND CONTINUOUS FILLET WELD.
16. ALL WORKMANSHIP AND MATERIALS OF COLD FORMED SECTIONS SHALL BE IN ACCORDANCE WITH AS 4600
17. HOLES SHALL NOT BE MADE THROUGH THE BOTTOM FLANGE OF PURLINS FOR THE SUPPORT OF HOOK BOLTS OR BOLTS OR CEILING SUSPENSION SYSTEMS. ALL NECESSARY HOLES SHALL BE MADE THROUGH THE CENTRAL THIRD OF THE WEB.

TIMBER FRAMING

1. ALL FRAMING TO CONFORM WITH AS1684-2010
2. U.O.N. ALL TIMBER SHALL HAVE A MINIMUM STRESS GRADE OF F8 OR MGP10.
   ALL FIXING COMPONENTS SUCH AS CLEATS, SCREWS, BOLTS, NUTS, WASHERS, ETC SHALL BE HOT DIPPED GALVANISED (HDG900, 125MICOMILIMETER TO AS4680).
3. BOTH ENDS OF M10 BOLTS SHALL HAVE 50X50X3 (min) WASHERS AND BOTH ENDS OF M12 BOLTS SHALL HAVE 65X65X5(min) WASHERS UNO.
4. ALL WALLS TO BE LATERALLY RESTRAINED AT TOP AND BOTTOM.
5. FOR CONTINUOUSLY RUNNING MEMBERS, MINIMUM BEARING SUPPORTS ARE 50mm AND 100mm AT END AND INTERNAL SUPPORTS RESPECTIVELY.
6. BRACING AS PER SECTIONS 8 AND 9 OF AS1684-2010
7. MEMBERS WITH D/B>4 SHOULD BE BLOCKED AT SUPPORTS AND MIDSPAN.
8. DOUBLE/TRIPLE PROFILES TO BE FULLY CONNECTED IN CONSISTENT WITH AS1684 & SUPPLIER SPECIFICATION.
9. FOR BOLTED CONNECTIONS GENERALLY THE FOLLOWING DIMENSIONS SHALL APPLY U.O.N.
   END DISTANCE AND SPACING PARALLEL WITH GRAIN = 4 x D
   EDGE DISTANCE AND SPACING PERPENDICULAR TO GRAIN = 5 x D
   WHERE 'D' IS DIAMETER OF THE BOLT USED.

FITMENTS OF TIMBER MEMBERS ARE AS BELOW UNO

1. RAFTERS/PURLINS AT ALL INTERSECTIONS AND JOISTS ON WALL PLATES/BEAMS VIA DOUBLE PRYDA MULTIGRIP.
2. JOISTS, BLOCKING BETWEEN JOISTS AND ROOF BEAMS IN-PLANE CONNECTIONS VIA SCREWS AND PRYDA FRAMING BRACKETS (FB45180 OR FB45 220) TO MANUFACTURER'S SPECIFICATIONS.
3. BEAMS/DOUBLE JOISTS ON TIMBER WALLS TO SIT ON DS/TS AND FIT VIA TWO PRYDA STRAPS RAPPED ROUND; FITMENT: 6X3.15x35 GALV. NAILS EACH END OF EACH STRAP.
4. ALL WALLS ON TIMBER STRUCTURES SHALL SIT ON BEARERS/DOUBLE JOISTS (DJ). FITMENT; AS SHOWN ON TIE DOWN DETAILS.
5. ALL TIMBER COLUMNS ON TIMBER STRUCTURES SHALL SIT ON BEARERS/DOUBLE JOISTS (DJ), FITMENT; TWO PRYDA STRAPS RAPPED ROUND; AND 6X3.15x35 GALV. NAILS EACH END OF EACH STRAP.
6. TO SUIT WET AREA SET DOWN, INSTALL BEARERS AT LOWER HEIGHT
7. BEARERS/DOUBLE JOISTS IN-PLANE CONNECTIONS VIA PRYDA SPLIT HANGER AND SCREWS TO MANUFACTURER SPECIFICATION.
8. TRUSS ENGINEERING AND TIE DOWN, AND TRUSS ROOF BRACING TO THE TRUSS SUPPLIER'S SPEC AND DETAILS.

TIMBER TREATMENT

6. PINE BASED PRODUCTS (PINE, LVL, I-JOIST) :
   H2; IN ENCLOSED AND ABOVE GROUND LOCATIONS .
   H3; IN EXPOSED LOCATIONS, BUT NOT IN CONTACT WITH THE GROUND.
   H5; IN CONTACT WITH GROUND. BITUMINOUS COATING BELOW GROUND IS NEEDED.
7. HARDWOOD
   CLASS 4; IN ENCLOSED AND ABOVE GROUND LOCATIONS .
   CLASS 2; IN EXPOSED LOCATIONS, BUT NOT IN CONTACT WITH THE GROUND.
   CLASS 1; IN CONTACT WITH GROUND. BITUMINOUS COATING BELOW GROUND LEVEL IS NEEDED.

ROOF FRAMING (NOT TRUSS ROOF)

1. ROOF FRAME AS PER AS1684.2010 AND ENGINEERS DETAILS.
2. TIE DOWNS AS PER AS1684.2010 AND ENGINEERS DETAILS.
3. STICK ROOF BEAMS SUCH AS RIDGE BEAMS, UNDERPURLINS AND HIP RAFTERS TO BE SUPPORTED @3.5MAX.
4. ROOF BATTENS MUST BE MINIMUM 70hX45w MPG10 PINE.
   - BATTENS MUST BE ADEQUATELY SUPPORTED BY TIMBER BLOCKS OR STEEL ANGLE TO PREVENT ROLL OVER.
5. ENSURE BRACING IS FIXED AS PER AS1684.2010 AND ENGINEERS DETAILS.

BRICK WORK

1. BRICK WORK AND BRICK TIES TO CONFORM WITH AS4773.1, NCC P2.1, AND AS3700
2. ALL NON-LOAD BEARING WALLS TO BE KEPT CLEAR OF THE UNDERSIDE OF SLABS AND BEAMS BY 20mm.
3. WHERE CONCRETE BEARS ON LOAD BEARING MASONRY OR BRICKWORK, TROWEL SMOOTH AND FLAT A 5 MINIMUM LAYER OF MORTAR AND SEPARATE THE CONCRETE THEREFROM WITH TWO LAYERS OF 'SUPER ALCOR'.
4. BEDDING UNDER A BEARING OF A STEEL BEAM ON MASONRY AND CONCRETE SHALL BE PROVIDED BY MIN. 20mm GROUT OR MORTAR. BEARING TO BE MIN. 250mm LONG.
5. LOAD BEARING BRICKS SHALL HAVE A MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF 12 MPa UNO AND BE FULLY BEDDED ON 1:0.5:4.5 MORTAR('M4' AS PER AS-3700).
6. MORTAR CLASS SHALL BE M4 PER AS AS3700.
7. AT LEAST TWO BED JOINTS OF WALLS, JUST ABOVE AND JUST BELOW OPENINGS, SHALL BE REINFORCED WITH 2-L6 STAINLESS STEEL, EXTENDED 600mm PAST THE OPENING.
8. LINTELS TO BE IN ACCORDANCE WITH AS 3700 UNO.
9. LINTELS TO HAVE MIN. 150mm END BEARING UNO. OR BE FIXED TO STEEL COLUMNS WITH 8PL WELDED SIDE CLEAT AND 2-M16 BOLTS MIN.
10. MASONRY SHALL NOT OVERHANG THE LINTEL WIDTH BY MORE THAN 25mm.
11. LONGER LEG OF LINTELS TO BE VERTICAL.
12. LINTELS TO BE SUITABLY PROPPED DURING BRICK LAYING TO MAINTAIN LEVEL.
13. T-LINTELS TO BE CENTRAL TO WALL WITH MIN. 20mm MORTAR TO TOE OF LINTEL.
15. ALL CROSS WALLS SHALL BE FULLY BONDED FOR THEIR FULL HEIGHT.
16. ALL BUILT-IN COMPONENTS OF MASONRY CONSTRUCTION INCLUDING WALL TIES, MASONRY ANCHORS, CONNECTORS, BRICK STRAPS, ETC SHALL BE STAINLESS STEEL GRADE AS1449/316 OR AS1449/316L (UNS S31600 OR S31603 RESPECTIVELY).
17. AFTER FABRICATION, ALL LINTEL, T-LINTELS AND SHELF ANGLES SHALL HAVE DUPLEX COATING CONSISTING OF GALVANIZED COATING OF 600g/m2 TO AS4680 AND NON-INHIBITIVE EPOXY PRIMER OF 50 MICRO MILLIMETER MIN (TWO-PACK) TO AS3750.13, PLUS 200 MICRO MILLIMETER MIN OF HIGH-BUILD EPOXY MICACEOUS IRON OXIDE (TWO-PACK) TO AS3750.14.
18. ALL CORES IN MASONRY HOLLOW BLOCK WORK BELOW GROUND LEVEL MUST BE FILLED WITH CONCRETE GROUT.

RETAINING WALLS

1. DO NOT BUILD OVER OR ADJACENT TO ANY WATER AUTHORITY SEWERS WITHOUT WATER CORPORATION APPROVAL.
2. MINIMUM FOUNDATION COMPACTION TO BE 7 BLOWS/ 300mm FOR A DEPTH OF 750mm.
3. BACKFILL TO BE PLACED AND COMPACTED AFTER AT LEAST ONE WEEK OF THE RETAINING WALL CONSTRUCTION IN LAYERS OF 300MM TO 7 BLOWS OF PSP TEST.
4. NO SURCHARGE CLOSER THAN RETAINING WALL HEIGHT IS ALLOWED ON THE BACKFILL UNLESS LIGHT VEHICLE SURCHARGING. HAND COMPACTORS ARE TO BE USED IN THIS AREA.
5. LIMESTONE BLOCKS TO BE NON- FRIABLE AND OF HIGH-DENSITY TYPE.
6. BLOCKS TO BE FULLY JOINTED WITH M4 AND 1:1:6 (CEMENT : LIME : SAND) MORTAR, 20mm THICK MIN.

(CAVITY) BRICKWORK RETAINING WALLS

1. 12 MPa MINIMUM CRUSHING STRENGTH BRICKWORK IN M4 MORTAR WITH FULL BED JOINTS AND PERPENDS, BUILD IN CAVITY TIES AT 4c-400 CRS AND STAGGER.
2. MESH TO BE PLACED WITH MAIN WIRES VERTICAL.
3. DISTRIBUTION REINFORCEMENT TO HAVE 500 LAP SPLICES AS REQUIRED.
4. CAVITY CONCRETE SHALL BE POURED IN 1m MAX. LIFTS A MINIMUM OF 3 DAYS APART.
4. CONCRETE SHALL BE VIBRATED TO INDUSTRY STANDARDS.
5. PROP RETAINING WALLS DURING BACKFILLING AND COMPACTING. LEAVE PROPS IN UNTIL ADJACENT CONCRETE WORK IS COMPLETE.
6. USE STANDARD Ø3.15 MASONRY TIES BETWEEN EACH LEAF AT 500C/C HORIZONTALLY IN EACH BED JOINT.

ROOF/WALL CLADDING

1. CLADDING TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS DETAILS FOR THE SPECIFIED WIND REGION.
2. METAL CLADDING TO BE STAINLESS STEEL.

DISCLAIMER

1. ALL STRUCTURAL MATERIAL AND ELEMENTS OF THIS CONSTRUCTION SHALL COMPLY IN ALL RESPECTS TO NCC AND APPROPRIATE AUSTRALIAN STANDARD.
2. IT IS BUILDER'S RESPONSIBILITY TO READ AND UNDERSTAND PROJECT DOCUMENTS SPECIALLY THESE DRAWINGS AND SPECIFICATIONS AND REPORT DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION COMMENCEMENT.
3. WE DO NOT ACCEPT ANY RESPONSIBILITY FOR PERFORMANCE OF STRUCTURAL ELEMENTS OR CONNECTIONS NOT NOTED IN THESE ENGINEERING DRAWINGS. CLIENT/ BUILDER SHALL ASK FOR COMPLEMENTARY DRAWINGS IF IT IS NEEDED.
4. DO NOT OBTAIN DIMENSIONS BY SCALING FROM THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS IN METRES UNO.
5. ROOF IS NOT TO CARRY ANY ADDITIONAL LOAD SUCH AS HOT WATER SYSTEM. CONSULT ENGINEER IF REQUIRED.
6. FLOOR ADDITIONAL LOADING (IMPOSED LOAD) IS TO BE LESS THAN 1.5KN/M2. CONSULT ENGINEER IF REQUIRED.
7. IT ASSUMED THIS SPECIFICATION IS BEING UTILIZED BY PERSONS WITH A SOUND KNOWLEDGE OF GENERAL CONSTRUCTION AND TIE DOWN PRINCIPLES. OTHERWISE, CONSULT WITH THE ENGINEER FOR ASSISTANCE.
8. BUILDER TO INFORM CLIENT TO PROVIDE PROTECTION COATING TO ANY EXPOSED TIMBER WITH PAINT OR OTHER PROTECTIVE COATING TO PREVENT DETERIORATION.
9. THESE DRAWING AND SPECIFICATIONS ARE SOLELY FOR THE INTENDED RECIPIENT AND FOR THE PURPOSES STATED. THE DRAWING AND SPECIFICATIONS SHOULD NOT BE REPRODUCED IN WHOLE OR PART WITHOUT AGREEMENT OF THIS ENGINEER.
10. SELECTION OF COMPACTION METHODS SHALL BE BUILDERS RESPONSIBILITY. DO NOT USE COMPACTION METHODS THAT WILL CAUSE DAMAGE TO ADJACENT STRUCTURES.
11. BUILDER TO ADVISE CLIENT NOT TO PLANT TREES OR SHRUBS WITHIN 2.5M OR A DISTANCE EQUAL TO THE ANTICIPATED MAXIMUM HEIGHT OF THE TREES TO THE BUILDING. (WHICHEVER IS MORE).
12. BUILDER TO INFORM THE CLIENT OF NECESSITY TO MAINTAIN DRAINS IN GOOD WORKING ORDER.
13. BUILDER TO DRAIN ROOF AND SURFACE WATER 1200mm (Min.) AWAY FROM FOUNDATION AREA DURING AND AFTER CONSTRUCTION UNO.
14. ALL NOTES IN THIS SHEET SHALL BE APPLIED IN MATERIAL PURCHASING AND CONSTRUCTION PHASES, UNLESS, IN DRAWINGS, NOTED OTHERWISE (UNO).
15. CLIENT/BUILDER SHALL ENQUIRE ABOUT FIRE RATING (BAL) OF THIS DEVELOPMENT AND INFORM ENGINEER IF FIRE RATING IS EQUAL OR BIGGER THAN 29.

Rev.	DATE	DESCRIPTION
0	31.10.16	ISSUED FOR CONSTRUCTION
B	31.10.16	ISSUED FOR REVIEW NOT CONSTRUCTION
A	27.10.16	ISSUED FOR REVIEW NOT CONSTRUCTION

CLIENT:

DRAWING TITLE: STRUCTURAL ENGINEERING
JOB NUMBER: GR218

SHEET- 0 OF 12

DRAWN:RS CHECKED:R.S. SCALE:Shown

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