

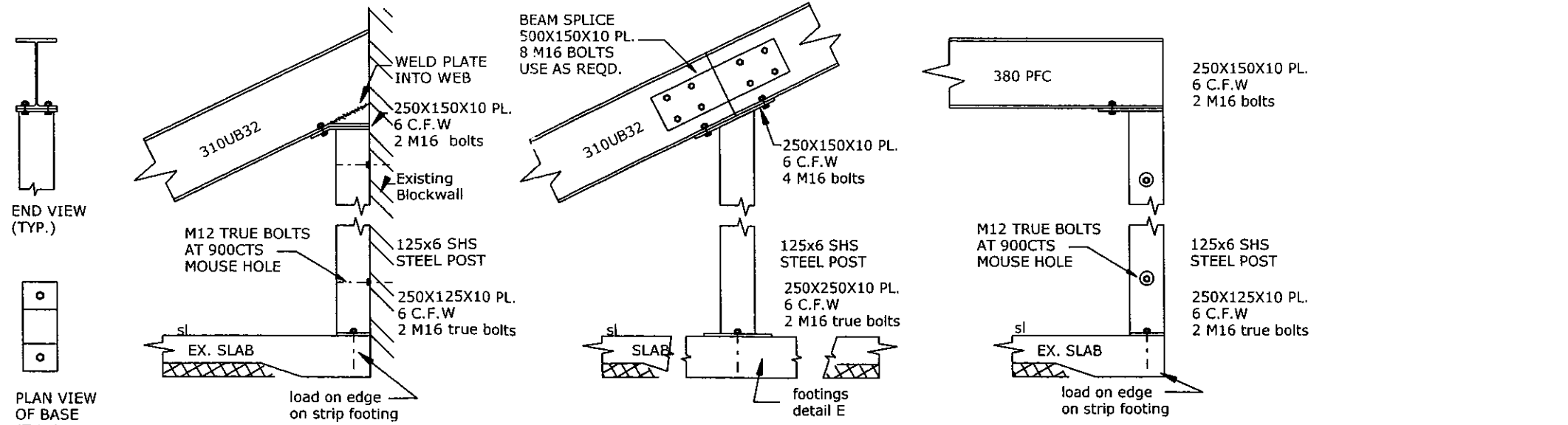
B1	310 UB 32
B2	C20019
B3	200 PFC
B4	380 PFC

STRUCTURAL CONCRETE:

- C1. MATERIALS: Concrete Proportioning and Testing to be in accordance with the S.A.A. Concrete Structure Code AS3600 except where varied by the Contract Documents.
- C2. CONCRETE QUALITY: to be in accordance with the S.A.A. Concrete Structure Code AS3600 except where varied by the Contract Documents and to be 20 mPa unless noted otherwise.
- C3. AGGREGATES for concrete shall be crushed river gravel, dolomite or other approved material.
- C4. GRADING of aggregates and sand shall be within the limit set out below for 20mm


Sieve Size (mm)	Max.(percent) passing	Min.(percent) passing
19.00	100	95
9.50	75	45
4.75	50	30
2.36	40	25
1.18	35	15
0.60	25	10
0.30	15	2
0.15	2	0

- C5. CONCRETE COVER to reinforcement shall be in accordance with the S.A.A. Concrete Structure Code AS3600. Piles and headstock 65mm. Cover to be maintained during pouring of concrete by the use of plastic tipped metal chairs, and/or mortar blocks 1:2 Mix. at maximum 750mm centres in each direction. For work in contact with the ground chairs are to be supported on sheet plates. Brickbats are not to be used.
- C6. REINFORCEMENT to be in accordance with the latest S.A.A. Specifications. Material is indicated by the following symbols:
 OW Deformed wire R Structural grade plain
 N Structural grade deformed 500 grade S Structural grade deformed 250 grade
 The bar size is indicated by a number after the above symbol. This number is the number of millimetres in the bar diameter. Reinforcement is represented diagrammatically and is not necessarily shown in true projection.
- C7. LAP BARS 40 diameters at splices unless otherwise noted.
- C8. FABRIC to comply with Australian Standard Code Requirements and to have minimum lap at splices of the wire spacing plus 25mm.
- C9. WELDING of reinforcement will be permitted provided the Engineer is notified prior to commencement of welding.
- C10. CURING of concrete shall be as per requirements of AS3600.

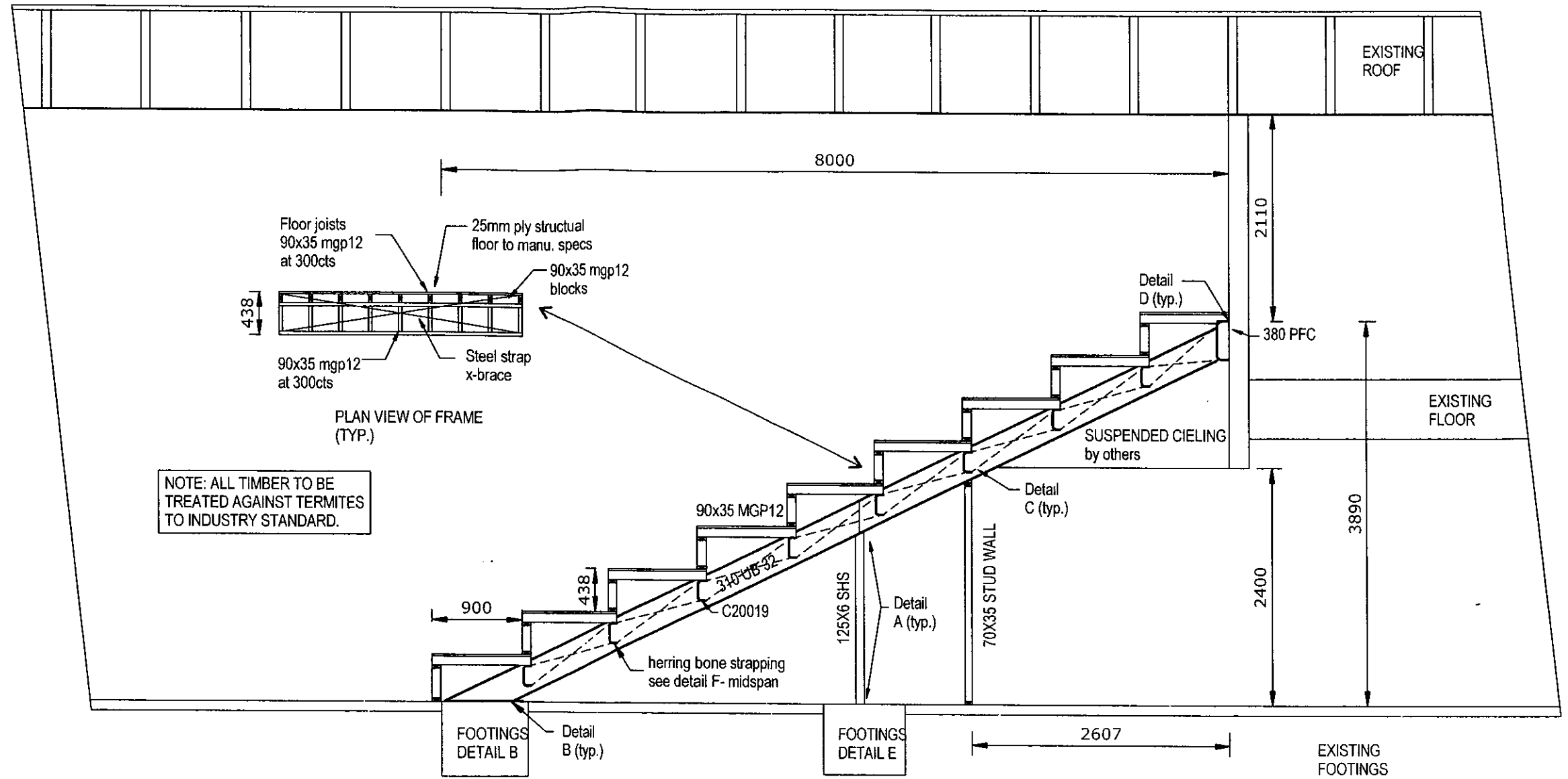


**GROUND FLOOR FRAMING PLAN
BRACING PLAN & DETAIL A**

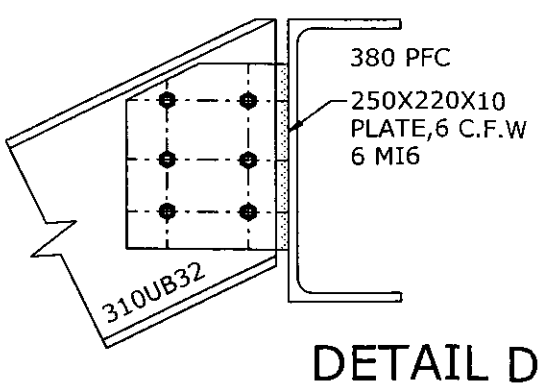
PROPOSED SEATING			
OWNER:	HOPE CHURCH		
ADDRESS:	B4/175 VARSITY PARADE, VARSITY LAKES QLD 4227		
16SEP09	Ref. No.	HOPE90824EJ	SHEET 1 OF 5


 Authorised by James Tayler R.P.E.Q. 1407
 Builder to verify all dimensions and property description prior to construction.

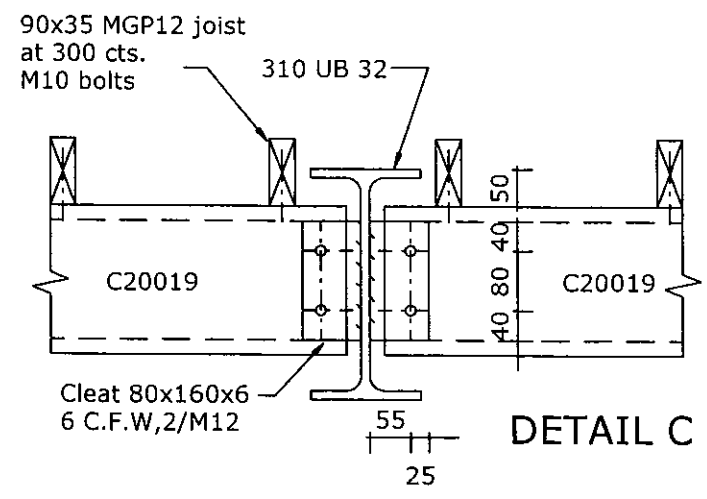
EARTHSOLVE
 STRUCTURAL AND GEOTECHNICAL ENGINEERING
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 WORONGARY Q4213
 TEL:07-55-303948 FAX:07-55-304986
 email: earthsolve@bigpond.com



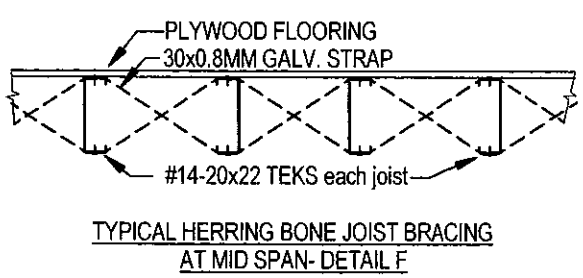
NOTE: ALL TIMBER TO BE TREATED AGAINST TERMITES TO INDUSTRY STANDARD.



DETAIL D



DETAIL C



TYPICAL HERRING BONE JOIST BRACING AT MID SPAN-DETAIL F

<p>PROPOSED SEATING</p> <p>OWNER: HOPE CHURCH</p> <p>ADDRESS: B4/175 VARSITY PARADE, VARISTY LAKES QLD 4227</p>		<p>SECTION Z, DETAIL C & D NOTES</p>	<p><i>[Signature]</i></p> <p>Authorised by James Tayler R.P.E.Q. 1407</p> <p>Builder to verify all dimensions and property description prior to construction.</p>	<p>EARTHSOLVE</p> <p>Trading name of John Discretionary Trust</p> <p>STRUCTURAL AND GEOTECHNICAL ENGINEERING</p> <p>#171 SAN FERNANDO DR.</p> <p>WORONGARY Q4213</p> <p>TEL:07-55-303948 FAX:07-55-304986</p> <p>email: earthsolve@bigpond.com</p>
<p>16SEP09</p>	<p>Ref. No. HOPE90824EJ</p> <p>SHEET 2 OF 5</p>			

GENERAL NOTES:

Drawings are not to be scaled.
 Bush Fire Management: Install screens as required.
 All softwood timbers will require to be treated for termite resistance.
 Stormwater: all stormwater shall be discharged as directed by local authority.
 Guttering: Use slotted trimline, 6244 sq. mm
 One 100mmx75mm downpipe per 25sq.metre of roof. One 90 diam. drain pipe per 25 sq.m. of roof;r=251mm/hr;20ARI.
 Concrete Slabs: 100mm concrete reinforced with F72 mesh, 30 cover top u.n.o.
 Shower floor shall recessed by 75mm. Provide for 100mm cp floor wastes to each 'wet area'. Use 70x45 C.C.A. treated bottom plates around perimeter of wet areas.;U.N.O.
 Garage Floor: 150 min. freeboard.
 Patio Floors: Set-down 150 u.n.o.
 Termite Treatment: Provide termite treatment prior to placing of concrete in full compliance with AS3660.1(USE BIFLEX SPRAY & termi-mesh around penetrations or preserved timber frame U.N.O.)
 All slabs and footings to be designed by engineer based on a geotechnical report.
 Brick: as selected by client-u.n.o. Brick piers and engaged piers to be 350x350 concrete core filled reinforced with 1Y12 central.
 Masonry finish to be as directed.
 All work shall be in strict compliance with current BCA. All relevant SAA codes referred to herein and Local Shire Council ordinances and By-laws, notwithstanding any specifications given in these drawings or omitted.
 Linings: All interior walls and partitions are to be lined, set and finished with 10mm (or 13mm) plasterboard in accordance with the manufacturers 'specifications'.
 Finish all interior ceilings with 75mm plasterboard cornices. Provide for w.r. plasterboard to 'wet areas', and finish as above. Line all patio ceilings with 'villaboard' or hardiflex, plastic moulding joins unless directed otherwise by client.
 Builder shall verify the existence and or position of easements, sewer mains and flood levels with the local authority.

Smoke detectors to be installed adjacent to all bedrooms to comply with part 3.7.2 of BCA.
 Smoke detector must be designed to comply with AS3786.
 A certificate of installation from a licensed electrician is required at final inspection.
 Builder to verify all levels and dimensions on site, and allow for adjustment of discrepancies should any be encountered. If you have queries, please contact us.

The following AS codes shall be observed where applicable.
 AS 2057 Chemical treatment against termites.
 AS1694-74 Physical barriers against termites.
 AS3800 Concrete construction
 AS1684-92 National timber framing code
 AS3700 Masonry Code
 AS1288-89 Glass in buildings code
 AS2050-89 Roof tile fixing code.
 AS1738-75 Roof sarking practice
 AS2047-77 Aluminium window installation
 AS2146-47 & 48

Installation of timber windows
 AS1860-91 Particle board installation.
 AS2183-89 Gypsum board installation
 AS2904-86 Damp proof courses and flashings.
 AS3740-89 Water-proofing of 'wet areas'.
 AS3958-91 Installation of ceramic tiles
 AS1562-80 Installation of metal roofing
 AS3500 U.G. storm water systems.
 AS2180 Above ground storm water systems.
 AS2627 Thermal insulation.
 AS4100 Steel Structures Code.
 AS3786- Smoke alarms
 Should you have any queries, please contact us.

STRUCTURAL STEELWORK:

- S1. WORKMANSHIP AND MATERIALS shall be in accordance with S.A.A. Codes AS 4100 & AS 1554 and ACSE specifications Doc 2 & Doc. 3. Cold formed structures to be in accordance with AS4600-1996. Steel shall be to AS 1204 Grade 300 generally (except for Cold formed structures). AS 1163 Grade 350 for C.H. Sections and 350 for R.H. Sections, except where noted otherwise or varied by Contract Documents.
- S3. ALL BOLTS connecting steel members are to be full bearing and shall be of sufficient length that no threaded portion shall be within the thickness of the parts joined. Washers of suitable thickness shall be used under all nuts.
- S5. SITE WORK including erection and site welding to be carried out by the Contractor. Make good all damaged surfaces. Contractor to carry out all necessary architectural works to maintain stability of structure during erection.
- S6. CLEATS and holes for steel stud fixing as required by the Architect are to be allowed for.
- S7. WELDS are to be 6mm continuous fillets unless otherwise detailed.
- S8. ALL JOINTS are to be fully welded unless otherwise detailed.
- S9. ALL GUSSETS, CLEATS & PLATES: Use 10mm thick plate unless otherwise detailed.
- S10. ALL BOLTS are to be 20 mm diameter galvanised (including H.D. Bolt) unless otherwise detailed.
- S11. CONNECTIONS TO BRACING 20 mm diameter galvanised bolts unless otherwise detailed.
- S12. CLEARANCES for holes to be 1.0 mm for fitted bolts, 2.0mm for galvanised bolts, 3.0 mm for fixing to concrete or timber, 6.0 mm for H.D. bolts 25 mm diameter and above.
- S15. SURFACE TREATMENTS: Seek specialist advise. A guide for coatings shall be a minimum of a coat of zinc chromate primer unless otherwise detailed. All unlined metal surfaces to have heavy galvanised treatment (Z350). Builder should seek specialist advice from Lysagths or corrosion specialist for unlined structures in a marine environment or other where corrosion may be an issue based on distance from sea and industry.
- S16. All galvanising to be in accordance with S.A.A. Code AS 1627.
- S17. This office takes no responsibility and offers no warranty for surface treatments, and longevity of surface treatmentsof metal structural members unless specifically engaged to do so. The owner is responsible for maintenance against corrosion.

STRUCTURAL TIMBER

- T1. MATERIALS and Workmanship for structural timber to be in accordance with latest S.A.A Timber AS 1720.1 & S.A.A. AS 1684. All unseasoned timber shall be joint group J2 and all seasoned timber shall be joint group JD4 unless noted otherwise.
- T2. All external fasteners including nuts, bolts, washer and nails shall be hot dip galvanised.
- T3. Nominal fix timber members in accordance with AS1684.2-1999 appropriate to N3 wind classification, unless noted otherwise. Fixings shown on drawings are additional to nominal fixing.
- T4. Bolts shall be hexagonal head 4.6/S bolts, unless noted otherwise. Cup head bolts shall not be used unless specifically noted.
- T5. Pre-drill timber to 80% of nail diameter where necessary to avoid splitting.
- T6. Nails shall be of sufficient length such that the penetration into the receiving member is at least 10 nail diameters into side grain and 15 nail diameters into end grain.
- T7. Studs, top & bottom plates shall not be notched or trenched.
- T8. Connect all steelwork to timber framing with M12 at all corners and then at 0.9m crs. u.n.o.
- T9. All bolts in contact with timber to have appropriate washers. eg. M12-50x50x3mm & M16- 65x65x5mm. Contact this office should you have queries.
- T10- WEATHER EXPOSED BEAMS: Where softwood laminated beams are specified, such as Hymebeam 17, Edgebeam LGL or Hyme Bearer beam, Entire beam is to be LOSP H3 treated (Full Penetration). Once dry one coat of premium quality (oil based preferred) to be applied to all surfaces prior to erection of beam and to any cuts or holes drilled (or two coats of pigmented oil based stain). Follow with two coats of light coloured premium paint as finishing coats. Oil based enamel or acrylic or oil based stain) Ensure a maintenance program is stipulated. See manufacturers recommendations for further details.

GENERAL:


NOTE: Unless noted otherwise, engineer may not have visited this site. It is recommended that the builder request that the engineer visit the site, prior to commencement of construction. The reason is to discern any site features that may affect the design or that the design is relevant to this site.

- G1. SCOPE: Only the items specially detailed on these drawings are included in the structural and civil engineering design responsibility.
- G2. DRAWINGS shall be read in conjunction with all architectural and other consultants' drawings and specifications, and with such other written instructions as may be issued during the course of the contract. All discrepancies shall be referred to the Architect and Engineer for decision before proceeding with the work.
- Only drawings signed by the Engineer and passed by the local authorities are to be used by the contractor on the construction site. The Contractor is responsible for obtaining the current amended drawings and removing all superseded drawings from the construction site.
- G3. DIMENSIONS shall not be scaled from the drawings. Layout and setting-out dimensions, levels and grades shall be as shown on Architectural or Dimensional Engineers Drawings, and be verified on the site by the contractor who shall be responsible for their correctness.
- G4. NO HOLES or chases other than those indicated on structural drawings shall be made without the approval of the Engineer.
- G5. STABILITY and safety of the structure is to be maintained and temporary bracing and propping provided by the Contractor. No parts of the structure are to be overstressed during construction.
- G6. LIVE LOADS for the design of the structural work shown on these drawings are as follows:- N2(U.N.O.), Roof 0.25 kPa, Floor 1.5 kPa, Verandah 2.0kPa, Seating area 5.0kPa
- G7. SIZES are net structural with depths given first.
- G8. INSPECTIONS. The Contractor shall obtain written confirmation of any site instructions made by the Engineer.
- G9. PROGRESS. The Engineer is to be kept informed of the progress of the works and the works must be available for inspection by the Engineer.
- G10. Following trades shall allow for structural deflections.
- G11. All work should be conducted in accordance with the relevant codes of practice. In particular footings and slabs should be conducted in accordance with AS2870.

FOUNDATIONS:

- F1. FOOTINGS have been designed for an allowable bearing intensity as spec. in soils report.
- F2. Footings and Grouting shall be in accordance with the S.A.A. Concrete Structure Code AS3600 ,AS2870-1996, AS2159-1978 & AS1379.
- F3. Foundation material shall be as recorded in the geotechnical report related to this site for the allowable bearing intensity, before placing any concrete. See soils report by Soil Surveys July 2003. This office takes no responsibility for information contained in any soil test unless noted otherwise.
- F4. FOOTING trenches/holes are to be cleaned of loose-soft material and water. Placa 200mm no slump concrete and ram solid where the holes make water or cleaning is not complete. The remainder of concrete is to be placed immediately.
- T1. TREES: The footing system recommendations contained in this drawings may not accommodate the possible foundation movements induced by trees and shrubs, and should the owners wish to incorporate trees and shrubs in the landscaping they must accept the risk of some distress to the foundations and building or increase the strength and stiffness of the footings in an attempt to limit future distress. See CSIRO sheet BTF 18 "Foundation Maintenance & Footing Performance: A Homeowner's Guide" for details on trees and drainage details.
- B1. Brickwork should be articulated. See report by Cement and Concrete Assoc. of Australia Ref. No. TN61. In brief, for M & H sites, masonry veneer- articulate at 7.0m crs; full masonry, articulate at 5.5m centres.
- S1. SITE INSPECTIONS. We recommend that all work be inspected by an engineer from this office prior to pouring any concrete. All inspections will be charged at current rates.
- NOTE: A footing system includes the footings and slab as a structural combination and thus both footings and slab should be inspected by this office.
- SHRINKAGE CONTROL: Where brittle floor coverings are to be used, extra measures shall be taken to control the effect of shrinkage cracking. Such measures include one of the following:
 - (i) The amount of shrinkage reinforcement shall be increased to F92 or equivalent throughout the slab panels.
 - (ii) The bedding system of brittle coverings shall be selected on a basis of the expected slab movement and the characteristics of the floor covering.
 - (iii) The placement of floor coverings shall be delayed.

PROPOSED SEATING		NOTES	EARTHSOLVE
OWNER:	HOPE CHURCH		Trading name of John Discretionary Trust
ADDRESS:	B4/175 VARSITY PARADE, VARISTY LAKES QLD 4227		STRUCTURAL AND GEOTECHNICAL ENGINEERING
16SEP09	Ref. No. HOPE90824EJ	SHEET 3 OF 5	# 171 SAN FERNANDO DR. WORONGARY Q4213 TEL:07-55-303948 FAX:07-55-304986 email: earthsolve@bigpond.com


 Authorised by James Tayler R.P.E.Q. 1407
 Builder to verify all dimensions and property description prior to construction.

NOTES:

- 1) This drawing shall be read in conjunction with architectural drawings and specifications and other written instructions.
- 2) Dimensions shall not be obtained by scaling from drawings, refer to architects final drawings.
- 3) Builder to check all relevant dimensions on site.
- 4) Refer any discrepancy to the engineer or architect as applicable.
- 5) If in doubt - ask.
- 6) Materials and workmanship shall comply with the appropriate SAA specifications or code and with requirements of the relevant authority.
- 7) During construction the structure shall be maintained in a stable condition and no part shall be overstressed. The builder shall be responsible for any damage to the works during construction.
- 8) All dimensions are in mm unless otherwise noted.
- 9) Concrete mix and quality shall be: Curing of concrete to be to A3600

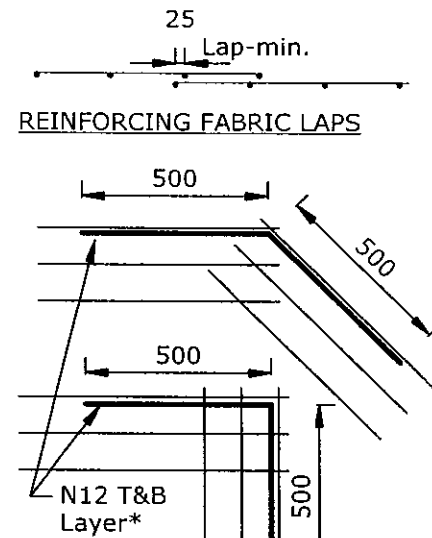
	Slabs on grd.	Piers	Masonry Infill
F'c(u.n.o.)	20Mpa	20Mpa	20Mpa
Slump	100mm	80mm	120
Max. Agg. Size	20mm	20mm	10

Polypropylene-if specified	
Fibre	'Fibreforce'
Fibre content:	0.9kg per cu.m.
Cement type:	Type 'A' (u.n.o.)

- 10) Reinforcement: Mesh: 2 crosswires + 25mm Laps Bars: N12-450mm & N16-550mm(u.n.o.)

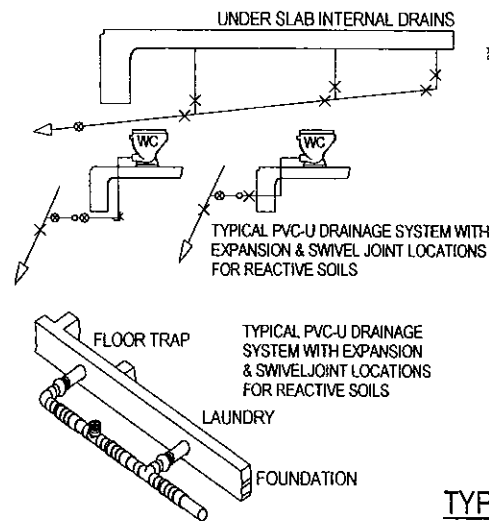
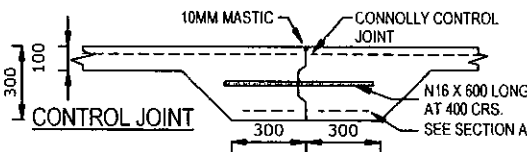
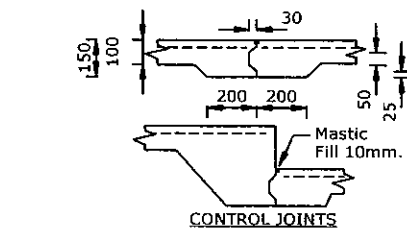
11) Cover to reinf. steel (u.n.o.)	
Slabs- Top:	20mm(inside) & 30mm(outside)
Bottom:	30mm(polythene under)
Internal beams:	30mm(polythene under)
Strip footings:	40mm (on ground)

- 12) All reinforcement to be adequately supported in its required position. Slab mesh supported 0.8m grid minimum.
- 13) Construction joints where not shown shall be located to the approval of the engineer.
- 14) No holes or chases other than those shown on the structural drawings to be made in concrete members without prior approval of the engineer.
- 15) Internal and edge beams are designated to rest on natural ground or controlled fill with a safe bearing capacity of 50KPa.(u.n.o.)
- 16) Prior to construction of the slab or formation of a controlled cut & fill building platform:
 - (i) An area extending at least 1.0m beyond the edge of the slab and to the toe of any fill batters shall be stripped of all organic matter and associated topsoil.
 - (ii) The subgrade shall be thoroughly trimmed and consolidated.
- 17) For a non-piered footing system all site filling shall be controlled and shall be placed in accordance with clause 6.4.2,3&4 AS2870-1996 and as outlined below:
 - (i) Sand fill- (less than 5% fines)
 - less than 800mm deep need not be tested but shall be well compacted in 200mm layers by a vibrating roller.
 - greater than 800mm deep shall be tested by a registered NATA laboratory and shall be compacted in 200mm layers to more than 65% density index (AS1289.E6.11 or to more than 7 blows per 300mm with a standard penetrometer - (as1289.F3.3)
 - (ii) Silts and sands (more than 5% fines) and clays.
 - less than 300mm deep need not be tested but shall be well compacted in 150mm layers by a mechanical roller with at least 4 passes. Clay fill shall be moist during compaction
 - greater than 300mm deep shall be tested by a registered NATA laboratory and shall be compacted to a standard dry density ratio (AS1289.E4.1) of >98% for silts and sands (more than 5% fines) or 95% for clays at a moisture content of +/- 2% of optimum. Compaction tests should be in accordance with AS1289.E1.1 (standard).
- 18) For piered footing systems fill placed in the building platform may need not be controlled (if in doubt please contact us).
- 19) Waffle slabs to be laid on maximum 50mm thickness of consolidated levelling with a 0.2mm thick polythene vapour barrier with all joints properly lapped and taped. Vapor barrier to be branded continuously 'Concrete underlay 0.2mm IR3.
- 20) The owners attention is drawn to appendix A of AS2870-1996 "PERFORMANCE REQUIREMENTS AND FOUNDATION MAINTAINENCE".
- 21) Slab and footing design has been based on principles as set out in AS2870-1996 " Residential Slabs and Footings".
- 22) All concrete to be mechanically vibrated and shall be carefully worked around the reinforcement and into corner of formwork.
- 23) DW10 means deformed wire bar, 10mm diameter (500MPa).
- 24) Use 2N12 x 2000 long across all re-entrant corners.



FOOTING TRENCH MESH CORNER LAPS- N12X900

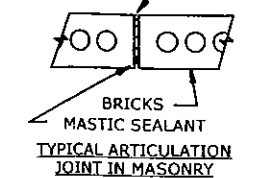
*-Pier & Beam footing details 2N12 top & bot. unless instructed otherwise



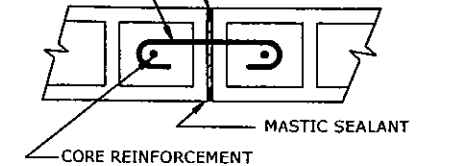
NOTES:-

1. STRIP ALL VEGETATION PRIOR TO BUILDING
2. USE 0.2mm POLYTHENE UNDER SLABS
3. TERMITE CONTROL TO AS3660.
4. CONCRETE TO BE N20, U.N.O.
5. CONCRETE IN-FILL IN BLOCKS OR BRICKS TO BE 20MPa, 250mm SLUMP, 5MM AGG., U.N.O.
6. ALL FILL TO BE COMPACTED TO AN ENGINEERING STANDARD SEE CONCRETE NOTES AND AS2870-1996 SECTION 6.4

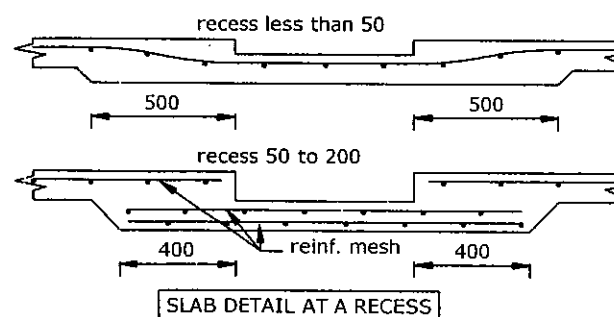
COMPRESSIBLE FOAM JOINT FILLER AND MASTIC-BACKING BUILT IN BY BRICKLAYER



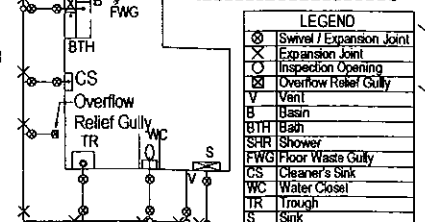
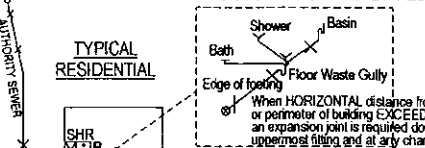
R10 GALV. AT 400 CRS. VERTICAL. COMPRESSIBLE FOAM JOINT FILLER AND MASTIC-BACKING BUILT IN BY BRICKLAYER



CONSTRUCTION JOINT (C.J.) AT 6M CENTRES U.N.O.



EXPANSION JOINTS ON WASTE PIPES



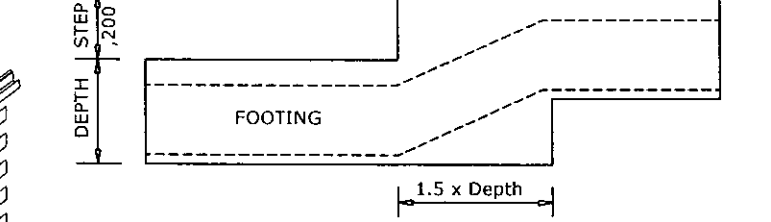
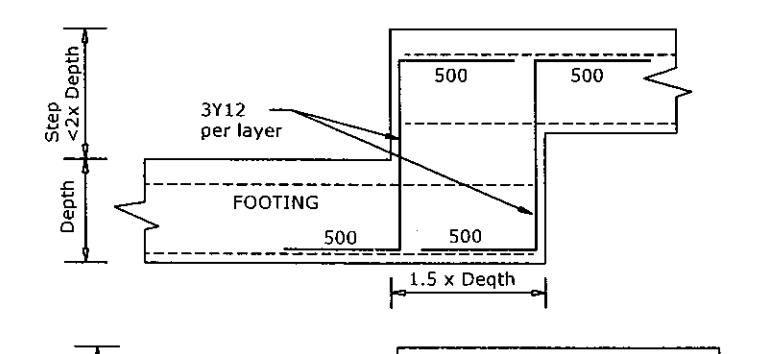
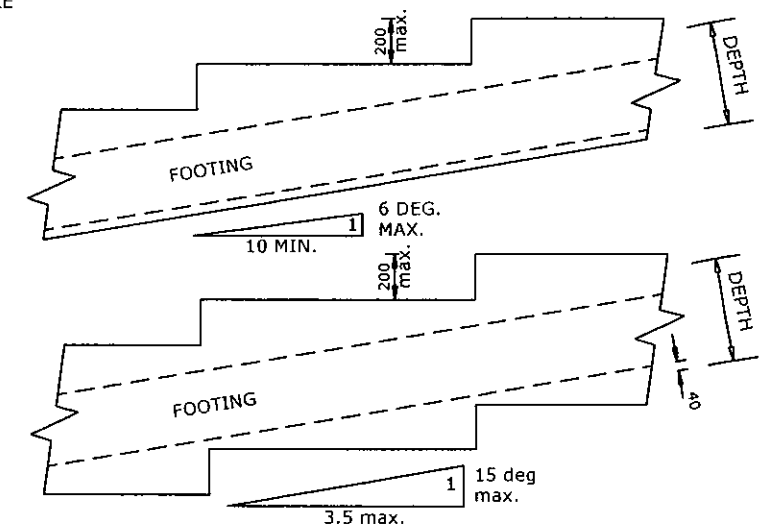
As per Australian Standards

TYPICAL PVC-U DRAINAGE SYSTEM WITH EXPANSION & SWIVEL FOR CLASS 'M', 'H' & 'E' SITES

COVER:-

- a) CONCRETE TO AIR FACE = 20mm INTERNAL, 40 EXTERNAL
- b) CONCRETE TO GROUND FACE = 40mm
- c) CONCRETE, 0.2mm POLYTHENE, GROUND = 30mm
- d) USE BAR CHAIRS AT 0.8M max. GRID
- e) ALL WORK TO BE IN ACCORDANCE WITH AS2870-1996 & AS3600
- f) DW = DEFORMED WIRE

CONCRETE SHRINKAGE NOTES:-
 1) Concrete shall not be placed when ambient temperature exceeds 32.0 Cel. For ambient temperatures above 25.0 cel. reinforcement shall be cooled in water.
 2) Concrete must be cured for 14 days. For first 7 days, all concrete shall be kept continuously wet and thoroughly protected from frosts and direct rays of sun and from drying winds. Membrane curing may be used 8-14 days to protect concrete from direct sun rays, drying winds. Concrete surfaces must be kept wet.
 3) Concrete must be compacted.
 4) Addition of polypropylene fibres to the concrete mix. Type: Polypropylene, Fibre: 'Fibreforce' Fibre content: 0.9kg per cu.m.; Cement type: Type 'A' (u.n.o.)



I, J.G. Tayler R.P.E.Q. 1407 hereby certify that the structure as shown on these drawings has been designed with observation to relevant standard codes of practice, engineering principles and proven performance and provided the structure is installed in accordance with good workmanship practices, should perform structurally satisfactorily, as per AS2870. This design is active for 18 months from the authorised date. See authorisation on this sheet. 16SEP09 James Tayler R.P.E.Q. 1407; MIEAust CpEng., NPER3.....

As per Australian Standards

TYPICAL PVC-U STORMWATER SYSTEM WITH EXPANSION JOINT LOCATIONS FOR REACTIVE SOILS

STEEL MESH FABRIC 'F' SERIES = 'RF', 'SL' & 'L' SERIES 'Y' BARS MAY BE REPLACED BY EQUIVALENT SIZE 'N' BARS

PROPOSED SEATING	
OWNER:	HOPE CHURCH
ADDRESS:	B4/175 VARSITY PARADE, VARISTY LAKES QLD 4227
16SEP09	Ref. No. HOPE90824EJ SHEET 5 OF 5

ISSUE & DATE	
FOR COUNCIL SUBMISSION & COSTING	
AMEND A	16SEP09

FOOTING SYSTEM DETAILS & BRACING PLAN	
Site visited & authorized by	ISSUE DATE:
<i>[Signature]</i>	16SEP09
James Tayler R.P.E.Q. 1407	

Construction Type:	CLAD FRAME
Site Classification:	~M Site Slope: ~2°
Selected Footing System:	M
Design by:	J.J.F. Drafted by: J.J.F. Chk'd by: J.G.T
Special Site Work:	See drainage notes
	Termite treat to AS3660.1 See articulation notes

EARTHSOLVE
 Trading name of John Discretionary Trust
 STRUCTURAL AND GEOTECHNICAL ENGINEERING
 #171 SAN FERNANDO DR.
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