

GENERAL NOTES

THIS DRAWING IS SIGNED SUBJECT TO CERTIFICATE OF INSPECTION ISSUED BY ENGINEER.

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS.
- ANY DISCREPANCIES SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- ANY SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE BUILDER.
- DURING CONSTRUCTION THE BUILDER SHALL MAINTAIN THE STRUCTURE IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
- ALL WORK SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA AND RELEVANT AUSTRALIAN STANDARD CODES.
- SLAB & FOOTING DESIGN HAS BEEN BASED ON PRINCIPLES AS SET OUT IN AS2870 'RESIDENTIAL SLABS & FOOTINGS' - CURRENT EDITION AT TIME OF DESIGN ISSUE.
- PROVIDED THE SLAB IS CONSTRUCTED IN ACCORDANCE WITH THESE DETAILS, THE SLAB CAN BE CONSIDERED AS A MONOLITHIC TERMITE BARRIER IN ACCORDANCE WITH AS 3660. WHERE THE REQUIREMENTS OF AS 3660 CANNOT BE ACHIEVED, ADVICE FROM A LICENSED PEST CONTROL EXPERT SHALL BE OBTAINED & THE SUPERINTENDENT SHALL BE ADVISED OF ANY NECESSARY CHANGES RESULTING FROM SUCH ADVICE, PRIOR TO PROCEEDING WITH CONSTRUCTION. ADDITIONAL TERMITE TREATMENT IN ACCORDANCE WITH AS 3660 SHALL BE PROVIDED TO ALL CAVITIES, PENETRATIONS, JOINTS & CHASES AS REQUIRED.
- THE DESIGN AND DETAILS SHOWN ON THESE DRAWINGS ARE APPLICABLE TO THIS PROJECT ONLY AND MAY NOT BE REPRODUCED IN WHOLE OR PART, OR BE USED FOR ANY OTHER PROJECT OR PURPOSE, WITHOUT THE WRITTEN PERMISSION OF "SECTA CONSULTING ENGINEERS Pty Ltd" WITH WHOM THE COPYRIGHT RESIDES. WRITTEN CONSENT FROM "SECTA" FOR THE USE OF THESE PLANS MUST BE OBTAINED PRIOR TO ANY CHANGE OF PARTIES INCLUDING BUT NOT LIMITED TO OWNER, BUILDER & SUPERINTENDANT.

ENGINEERS DRAWINGS ARE SIGNED & ISSUED ON THE UNDERSTANDING THAT THE BUILDER MAINTAINS IN FORCE, PROPER AND ADEQUATE CONTRACT WORKS INSURANCE AND PUBLIC LIABILITY INSURANCE DURING THE FULL COURSE OF THE CONSTRUCTION, AND/OR ANY MAINTENANCE PERIOD. CLAIMS OF DAMAGE TO ANY ADJACENT PROPERTY OR BUILDING IS NOT THE RESPONSIBILITY OF THE ENGINEER.

SITE PREPARATION & MAINTENANCE NOTES

- THE BUILDER SHALL ENSURE THAT THE OWNER'S ATTENTION IS DRAWN TO THE CSIRO'S "GUIDE TO HOME OWNERS ON FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE".
- STRIP TOP SOIL AND VEGETATION, BENCH SITE BY CUT & FILL TO REQUIRED LEVEL. FILL TO BE PLACED AS PER AS2870(6.4.2) AND IN LAYERS NOT EXCEEDING 150mm USING MULTIPLE PASSES OF EXCAVATOR. THE ACTUAL PREPARATION OF THE BUILDING PLATFORM IS NOT THE RESPONSIBILITY OF THE ENGINEER.
- THE SITE SHALL BE GRADED AND DRAINED SO THAT STORMWATER WILL BE DIRECTED AWAY FROM THE BUILDING PLATFORM.
- THE MINIMUM HEIGHT OF THE SLAB ABOVE FINISHED CONSTRUCTION LEVEL SHALL BE 300mm OR GREATER AS MAY BE REQUIRED BY COUNCIL.
- ALL EARTH DRAINS SHALL BE GRADED AT 1% (1 IN 100) MINIMUM. THE GROUND SHALL FALL AWAY FROM THE EARTH DRAIN AT 5% (1 IN 20) FOR THE FIRST METRE THEN AT 2.5% (1 IN 40). ANY VERTICAL OR NEAR VERTICAL PERMANENT EXCAVATION (OUT) DEEPER THAN 0.6 METRES.
- IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED AT A MINIMUM OF 3:1.
- WHERE CUT OR FILL BATTERS CANNOT BE PROVIDED THEY SHALL BE ADEQUATELY RETAINED.
- ALL SERVICE TRENCHES ARE TO BE LOCATED IN ACCORDANCE WITH THE DETAILS SHOWN ON HYDRAULIC CONSULTANTS DRAWINGS.
- STORMWATER MUST NOT BE CONCENTRATED ON TO ADJACENT PROPERTY.
- STORMWATER MUST BE CONNECTED TO THE NEAREST DISPOSAL POINT APPROVED BY COUNCIL. TYPICALLY THIS MAY BE DIRECTLY TO THE KERB OR TO AN INTER-ALLOTMENT DRAINAGE PIPELINE.
- THE PROVISION OF SURFACE OR SUBSOIL DRAINAGE OR PAVING WILL ALL IMPROVE SITE DRAINAGE.
- GOOD DRAINAGE MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AS WELL AS AFTER COMPLETION.
- ALL EXPOSED GROUND SHOULD BE REVEGETATED AS SOON AS PRACTICAL AFTER COMPLETION.
- SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE PROVIDED IN ACCORDANCE WITH COUNCIL REQUIREMENTS.

PIERING NOTES

F1 PIERS TO EXTERNAL WALLS SHALL BE SPACED AT NO GREATER THAN:
 1.5m c/c FOR DOUBLE STOREY AREAS (940mm DIA TO CLAY BRG 350kPa) - LND ON SLAB FLAN
 1.8m c/c FOR SINGLE STOREY AREAS (940mm DIA TO CLAY BRG 350kPa) - LND ON SLAB FLAN
 1.8m c/c FOR SINGLE AND DOUBLE STOREY AREA (930mm DIA TO ROCK/SHALE BRG 600kPa).
 IF PIERS EXCEED 2.5m Deep THEN 945mm (Must Be) Adopted. PIERS GREATER THAN 2.0m Deep (Must Be) REINFORCED WITH A MINIMUM OF 4-N12 Bars + R6 Ties @ 400c/c.

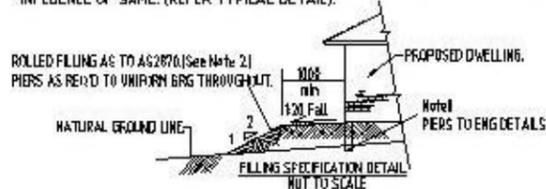


NOTE: SHOULD PIERS COLLAPSE DURING CONSTRUCTION, THEN "SCREW-IN" PIER MAY NEED TO BE USED (61e SWL).

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE FEE TOPS ARE CLEAN AND FREE OF FOREIGN MATTER PRIOR TO THE LAYING OF THE MEMBRANE AND CONCRETE SLAB. ENGINEER'S REINFORCEMENT CHECK DOES NOT RELEASE THE CONTRACTOR FROM THIS RESPONSIBILITY.

FOUNDATION NOTES

- ALL FOOTING BEAMS AND PADS ARE DESIGNED TO BEAR ON UNIFORM NATURAL GROUND WITH AN ALLOWABLE BEARING CAPACITY OF 100 kPa.
- PRIOR TO CONSTRUCTION OF THE BUILDING PLATFORM FOR THE SLAB:
 (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 & NATURAL FILL AS NOTED ON BOREHOLE.
 (ii) FILL PLACED IN THE BUILDING PLATFORM SHALL BE PLACED IN ACCORDANCE WITH CL.4.2 AS2870-2011.
 FOUNDATION MATERIAL SHALL BE APPROVED BY A SUITABLY QUALIFIED ENGINEER BEFORE COMMENCING FOOTING CONSTRUCTION.
- WHERE SOFT SPOTS (BEARING CAPACITY OF LESS THAN 100 kPa) ARE ENCOUNTERED IN NATURAL FOUNDATION MATERIAL OR BUILDING PLATFORM, OR WHERE FILL EXCEEDS 300mm THEN ADDITIONAL PIERS TO SUITABLE FOUNDING MATERIAL MAY BE REQUIRED AS DIRECTED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
- WHERE ROCK IS ENCOUNTERED THE REMAINDER OF THE FOOTING SYSTEM SHALL BE FOUNDED ON ROCK AS DIRECTED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
- WHERE THE INTEGRITY OF FOUNDATION MATERIAL IS LIKELY TO BE DISTURBED BY SERVICE TRENCHES ADJACENT, PIERS SHALL BE FOUNDED BELOW THE ZONE OF INFLUENCE OF SAME. (REFER TYPICAL DETAIL).



CONCRETE NOTES

- ALL WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS. CONCRETE QUALITY - AS NOTED ON THE DRAWINGS.
- CONCRETE 20 MPa AT 28 DAYS. 80mm SLUMP, & TO BE CURED IMMEDIATELY
 - FOLLOWING THE CONCRETE POUR, NO ADDITIONAL WATER TO BE ADDED TO CONCRETE ON SITE.
 - KEEP CONCRETE CONTINUALLY WET FOR 7 DAYS MINIMUM AFTER PLACEMENT, PLASTIC OR WAX LIQUID SPRAYS MAY BE USED. EXTRA PRECAUTION SUCH AS THE USE OF EVAPORATIVE RETARDERS (ALIPHATIC ALCOHOLS) ARE RECOMMENDED DURING HOT WEATHER CONCRETE PIERS TO HELP AVOID THERMAL RELATED SLAB CRACKING. CLEAR COVER OF REINFORCEMENT SHALL BE AS NOTED ON THE DRAWINGS.
 - REINFORCEMENT SHALL BE RIGIDLY SUPPORTED TO MAINTAIN SPECIFIED COVER DURING CONSTRUCTION
 - CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT.
 - BEAM DEPTHS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.
 - SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN. OBTAIN APPROVAL FROM THE SUPERINTENDENT FOR ANY OTHER SPLICES.
 - WHERE SLABS OR BEAMS BEAR UPON MASONRY, THE TOP COURSE SHALL BE LEVEL, SMOOTH & COVERED BY TWO LAYERS OF GALVANISED FLAT STEEL WITH GRAPHITE GREASE BETWEEN LAYERS.
 - METHOD OF CURING CONCRETE SHALL BE SUBMITTED TO THE SUPERINTENDENT FOR APPROVAL.
 - NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDENT.
 - CONDUITS, PIPES, ETC. SHALL ONLY BE LOCATED IN THE MIDDLE ONE THIRD OF SLAB DEPTH, U.N.D.
 - REINFORCEMENT SYMBOLS:
 R - GRADE 250N PLAIN BAR IN ACCORDANCE WITH AS/NZS 4671.
 N - GRADE 500 DEFORMED BAR IN ACCORDANCE WITH AS/NZS 4671.
 L - GRADE 500 DEFORMED WELDED WIRE MESH IN ACCORDANCE WITH AS/NZS 4671. I REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY & IT IS NOT NECESSARILY IN TRUE PROJECTION.
 - WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
 - MESH SHALL BE LAPPED 1MESH + 50mm.
 - BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETERS CENTRES WITH 3 WRAPS OF THE WIRE.
 - MASONRY WALLS SHALL NOT BE CONSTRUCTED ON SUSPENDED CONCRETE UNTIL ALL TEMPORARY SUPPORTS ARE REMOVED.
 - STRUCTURAL STEELWORK WHERE CONCRETE ENCASED SHALL HAVE 50mm CONCRETE COVER, REINFORCED WITH GALVANISED SL41 MESH WITH 25mm COVER, LAPPED 150mm AT SPLICES.
 - BRITTLE FLOOR COVERINGS TO BE LAID ON A SUITABLE FLEXIBLE TYPE BEDDING SYSTEM & SUPPLIED WITH CONTROL JOINTS @ 4000 CENTERS MAX. ALTERNATIVELY FABRIC SL-92 TO BE USED, AS IF ADVISED BY BUILDER.

CONCRETE QUALITY

| ELEMENT | Strength Grade | Slump mm | Max. Agg. mm | Cement Type |
|--|----------------|----------|--------------|-------------|
| SLAB | 20 | 80 | 20 | SL |
| PIERS | 20 | 80 | 20 | SL |
| SALINE ENVIRONMENT Pier & Slab (High Impact Membrane) FRANGE PREMIUM | N32 | 80 | 20 | SL |

MINIMUM COVER IN SALINE SOILS - 55mm
 KEEP SLAB CONTINUALLY WET FOR 7 DAYS MIN.
 THE BUILDER TO COMPLY & ADHERE TO RELEVANT CONDITIONS OF CONSENT IN RELATION TO CONSTRUCTION INCLUSIONS ON SITES LOCATED OR LIKELY TO BE IMPACTED BY SAUNTY LEVELS

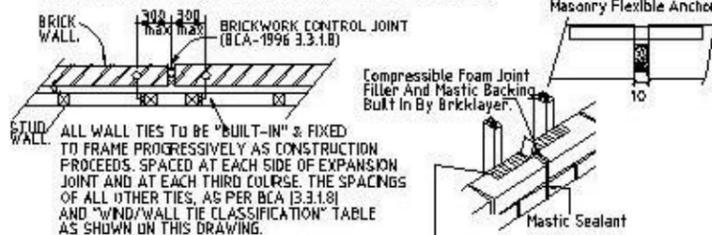


TIMBER FRAMING NOTES

- ALL DESIGN, WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH NATIONAL TIMBER FRAMING CODE AS1684 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- TIMBER SIZES, CONNECTIONS AND BRACING WALL SHALL BE TO FRAME MANUFACTURER'S DETAILS & SPECIFICATIONS & SHALL BE IN ACCORDANCE WITH AS1684. TIMBER FRAMING OUTSIDE THE SCOPE OF AS1684 SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING.
- ROOF BRACING & ANCHOR DETAILS WHERE NOT SHOWN ON DRAWINGS SHALL BE IN ACCORDANCE WITH AS1684.

BRICKWORK NOTES

- BRICKWORK TO BE IN ACCORDANCE WITH AS3700
- ALL BRICKS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20MPa.
- BRICKWORK MORTAR TO BE A MIX OF 1 CEMENT : 1 LIME : 4.5 SAND (REFER TO DURABILITY CLASS).
- BRICK WALLS TO BE PROVIDED WITH VERTICAL CONTROL JOINTS AT 6 METRE MAX CTS.
- TWO BED JOINTS ABOVE AND BELOW ALL OPENINGS TO HAVE BRICK REINFORCEMENT AND TO EXTEND 600 EACH SIDE OF OPENING.
- ALL CLAY BRICKS SHALL BE EXPOSED TO AMBIENT CONDITIONS FOR A MINIMUM OF 3 MONTHS BEFORE USE.
- MAXIMUM 5 YEAR UNRESTRAINED EXPANSION OF CLAY BRICKS SHALL BE 0.8MM PER METRE.
- CLAY BRICKS SHALL NOT BE LAID OVER FLOOR SLAB FOR A MINIMUM OF 10 DAYS AFTER CONCRETING THE SLAB.
- BRICKWORK ARTICULATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TN61 ARTICULATED WALLING (CEMENT & CONCRETE ASSOCIATION AUST)



EXPANSION JOINT DETAIL

DURABILITY CLASSIFICATION. EXTERIOR

| CATEGORY (durability) | WALL TIES AS 3700 | GRADE OF BRICKS AS/NZS 4458.10 | MORTAR AS 3700 | STRUCTURAL STEEL (Surface finish) |
|-----------------------|-------------------------|--------------------------------|----------------|-----------------------------------|
| severe marine | R4 Stainless or Polymer | EXPOSURE | M4 (1:4) | GALVANISED (GZLP) (800g per sq.m) |
| marine | R3 | GENERAL PURPOSE | M3 (1:5) | AS/ANZ 2312/1994. |
| exterior | R2 | GENERAL PURPOSE | M2 (1:2:8) | AS/ANZ 2312/1994. |

WIND/WALL TIE CLASSIFICATION N2 "W33"

| WIND Class | WALL TIE (Vp) | HORIZONTAL SPACING | VERTICAL SPACING |
|------------|---------------|--------------------|------------------|
| N1 | W28N1 | LIGHT DUTY 600 | 600 |
| N2 | W33N2 | MEDIUM DUTY 600 | 600 |
| N3 | W41N3 | MEDIUM DUTY 600 | 430 (5 COURSES) |

WALL TIE SPACINGS AROUND OPENINGS 300c/c EACH WAY.
 POLYMER WALL TIES RATED "LIGHT DUTY ONLY" (W28N1).
 (Vp = PERMISSABLE STRESS METHOD)

SLAB DESIGN AS PER "AS2870:1996 CODE FOR RESIDENTIAL SLABS AND FOOTINGS" AND IN ACCORDANCE WITH ENGINEERING PRINCIPLES, AND SECTION 3 & 4 OF AS2870:1996.

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 CHECKED: S.A.A
 APPROVED: [Signature]
 S.Abdelfattah ME (Arch) (PEng) NPER (Civil/Struct) BRG. Act (Licence 873)
 DATE: 11/02/2016

FOR: K.K SONG & J.K LEE
 LOT 2227 cnr WOODROW & WILLIAM HART ct
 PENRITH-THORNTON NSW
 SC_16741
 E-00
 Secta Ref Number
 DRG Number
 A
 DO NOT SCALE

NOTES REGARDING SUBTERRANEAN TERMITE PROTECTION.

- ALL CONCRETE TO BE 25MFA. CONCRETE TO BE MECHANICALLY VIBRATED DURING POUR. KEEP SLAB CONTINUALLY WET FOR 7 DAYS MIN. PLASTIC OR WAX SPRAYS MAY BE USED.
- ALL WORKS TO BE IN ACCORDANCE WITH AS 3660.1 (CE)
- INSPECTIONS OF THE RESIDENCE AND IMMEDIATE SURROUNDINGS TO BE CARRIED OUT BY A QUALIFIED PEST EXPERT ON AN ANNUAL BASIS, BY THE HOMEOWNER.
- ANY FUTURE CRACKING OCCURRING IN THE SLAB IS TO BE ASSESSED BY A QUALIFIED PEST EXPERT AND WHERE DIRECTED BE SEALED BY EPOXY INJECTION.
- SITE MAINTENANCE IS THE RESPONSIBILITY OF THE HOME OWNER. ALL RECOMMENDATIONS OUTLINED BY THE C.S.I.R.O. IN SHEET 18-91 TO BE CARRIED OUT.

STRUCTURAL STEELWORK NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
 - STEELWORK DESIGN AS PER "AS4100 STEEL STRUCTURES CODE CURRENT EDITION AND AS1170 DEAD AND LIVE LOADS.
 - STEEL QUALITY: ALL STEELWORK SHALL BE GRADE 250 UNLESS NOTED OTHERWISE. ROLLED SECTIONS (UB, UC, PFC, EA, ETC.) SHALL BE GRADE BHF-300 PLUS. RECTANGULAR HOLLOW SECTIONS SHALL BE IN ACCORDANCE WITH AS1397 AND AS1538, AND BE EQUIVALENT TO BHP GALVASPAN, COATING CLASS 2350.
 - WELDING: ALL WELDING SHALL BE IN ACCORDANCE WITH AS1554. UNLESS NOTED OTHERWISE ALL CONNECTIONS BETWEEN MEMBERS SHALL BE 6mm CONTINUOUS FILLET WELD TYPE G.P. BUTT WELDS SHALL BE COMPLETE PENETRATION TYPE SF. WELDING SYMBOLS ON DRAWINGS ARE IN ACCORDANCE WITH AS1101 PART 3.
 - HOLES IN MEMBERS FOR FIXINGS OF OTHER TRADES SHALL NOT EXCEED 14mm DIAMETER.
 - BOLTING: BOLTS SHALL BE M20 4.6/S UNLESS NOTED OTHERWISE. MEMBERS SHALL BE CONNECTED WITH 2 BOLTS UNLESS NOTED OTHERWISE. APPROVED LOAD-INDICATING WASHERS SHALL BE USED UNDER THE BOLT HEAD OF 8.8/TF AND 8.8/TB JOINTS.
 - NO PRIMING COAT SHALL BE APPLIED TO CONTACTING SURFACES UTILISING 8.8/TF BOLTS NOR TO MEMBERS TO BE SUBSEQUENTLY CONCRETE ENCASED OR FIRE RATED.
- MEMBERS NOTED Z SHALL BE GIVEN A CLASS 2.5 PREPARATION IN ACCORDANCE WITH AS1627.A AND COATED WITH A MINIMUM OF 75 MICRONS OF AN APPROVED INORGANIC ZINC SILICATE.
 MEMBERS NOTED G SHALL BE HOT DIP GALVANISED.
 ALL BOLTS, NUTS AND WASHERS USED IN CONNECTION OF MEMBERS NOTED Z OR G SHALL BE HOT DIP GALVANISED.
 MAKE GOOD PROTECTIVE COATINGS AT SITE WELDS AND UNCOATED STEELWORK AT T.F. BOLTED JOINTS.

| BOLTING PROCEDURE | BOLT NAME | AUSTRALIAN STANDARD | INSTALLATION AS6100 |
|-------------------|---------------|---------------------|---------------------|
| 4.6/S | COMMONAL | AS1911 | SNUG TIGHTENED |
| 8.8/S | HIGH STRENGTH | AS1252 | SNUG TIGHTENED |
| 8.8/TF | HIGH STRENGTH | AS1252 | TENSIONED FRICTION |
| 8.8/TB | HIGH STRENGTH | AS1252 | TENSIONED BEARING |

DRAWING SCHEDULE

- E-00 GENERAL NOTES
- E-01 REINFORCED SLAB PLAN
- E-02 SLAB DETAIL SHEET
- E-03 DEEPENED EDGE BEAM SHEET
- E-04 CONC DETAIL SHEET
- E-05 STEEL MARKING PLAN
- E-06 STEEL DETAILS
- E-07 BRICK ARTICULATION PLAN
- E-08 RET WALL DETAILS
- E-09 SEWER DETAILS
- E-10

FIRSTYLE HOMES

| Rev | DATE | AMENDMENT |
|-----|----------|-------------------------|
| A | 11/02/16 | Issued for construction |

Arch Ref: 799-14 (Rev QA1) - SANDFIELD 19 MILLER

SITE CLASSIFICATION :
THE FOOTING SYSTEM HAS BEEN DESIGNED FOR A CLASS P SITE IN ACCORDANCE WITH AS 2870 - 2011.

CONSTRUCTION: TWO STOREY
TYPE : ARTICULATED MASONARY VENEER
DURABILITY CLASS : EXTERIOR
WIND CLASS : N2 "W33"

| CONCRETE QUALITY | | | | |
|---|----------------|----------|--------------|-------------|
| ELEMENT | Strength Grade | Slump mm | Max. Agg. mm | Cement Type |
| SLAB | 20 | 80 | 20 | SL |
| PIERS | 20 | 80 | 20 | SL |
| SALINE ENVIRONMENT (Pier & Slab (High Impact Membrane) ORANGE PREMIUM) | N32 | 80 | 20 | SL |

MINIMUM COVER IN SALINE SOILS - 55mm
KEEP SLAB CONTINUALLY WET FOR 7 DAYS min.
THE BUILDER TO CONFIRM & ADHERE TO RELEVANT CONDITIONS OF CONSENT IN RELATION TO CONSTRUCTION INCLUSIONS ON SITES LOCATED OR LIKELY TO BE IMPACTED BY SALINITY LEVELS

SLAB PLAN

Do Not Scale

ALL STEPDOWNS, DEEP BEAMS, F.F.L, R.L, AND REBATES TO BE CONFIRMED WITH ARCHITECTURAL DOCUMENTATION. HWS & AIRCON PADS TO BE CONFIRMED WITH CONTRACT. IT IS NOT THE RESPONSIBILITY OF THE ENGINEER TO VERIFY THE ABOVE.

SUPERVISOR NOTE

Extend Edge Beam To Suit.
Supervisor To Ensure All Feature Nibs etc Are Incorporated As Shown On Arch Plans. REFER TO SLAB DETAILS FOR SERVICE PAD EXTENTIONS.

NOTES

- FOR COMPREHENSIVE GENERAL NOTES REFER TO TITLE SHEET E-00.
- USE 0.2mm POLYTHENE NOMINAL THICKNESS (1) VAPOUR BARRIER, (2) DAMP PROOF MEMBRANE AND OF HIGH IMPACT RESISTANCE.
 - LAP TOP & BTM BARS IN EDGE BEAMS 500 AT ; RETURNS LESS THAN 1200 (SINGLE STOREY)
ALL RETURNS (DOUBLE STOREY)
 - PLACE 3-N12 TRIMMERS 2000 LONG TO ALL INTERNAL CORNERS TYPICAL.
 - REINFORCEMENT LAPS: MESH 2 CROSSWIRES + 25mm
 - COVER TO REINFORCEMENT:
SLABS - TOP 20mm (INSIDE)
30mm (OUTSIDE)
- BTM 30mm
STIFFENING BEAMS - 30mm
STRIP FOOTINGS - 50mm
 - MINIMUM COVER IN SALINE SDILS A2-45mm, B1-50mm, B2-55mm.
30/45 MESHLOCK BAR CHAIRS ARE TO BE USED ON WAFFLE PODS. ALL POD SPACERS SHOULD BE APPROVED BY ENGINEER BEFORE PLACING PODS. BAR CHAIRS TO BE AT 800 CTRS BOTH WAYS.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE PIER TOPS ARE CLEAN AND FREE OF FOREIGN MATTER PRIOR TO THE LAYING OF THE MEMBRANE AND CONCRETE SLAB. ENGINEER'S REINFORCEMENT SPOT CHECK DOES NOT RELEASE THE CONTRACTOR FROM THIS RESPONSIBILITY.
 - IT IS THE RESPONSIBILITY OF THE BUILDER TO ENSURE ALL SETOUTS, DRAINAGE, CRITICAL SERVICES INCLUDING GENERAL ARRANGEMENT ARE VERIFIED PRIOR TO INITIATING CONCRETE WORKS. ENGINEER'S SPOT CHECK DOES NOT RELEASE THE CONTRACTOR FROM THIS RESPONSIBILITY.
 - THE BUILDER TO CONFIRM & ADHERE TO RELEVANT CONDITIONS OF CONSENT IN RELATION TO CONSTRUCTION INCLUSIONS ON SITES LOCATED OR LIKELY TO BE IMPACTED BY SALINITY LEVELS.
 - BRITTLE FLOOR COVERINGS TO BE LAID ON A SUITABLE FLEXIBLE TYPE BEDDING SYSTEM & SUPPLIED WITH CONTROL JOINTS @ 4000 CENTERS MAX ALTERNATIVELY FABRIC SL-92 TO BE USED, AS IF ADVISED BY BUILDER.
 - IT IS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO ENSURE THE HOUSEHOLD DRAINAGE SYSTEM INCLUDES FLEXIBLE JOINTING AS PER RELEVANT AUSTRALIAN STANDARDS. IT IS OUTSIDE THE ENGINEER'S SCOPE/EXPERTISE TO ENSURE THIS.
 - SLAB AND FOUNDATIONS HAVE BEEN DESIGNED TAKEN INTO CONSIDERATION FINDINGS AND RECOMMENDATIONS AS NOTED IN REFERENCED DOCUMENT.

PIER NOTES

- REFER ALSO TO FOUNDATION NOTES ON SHEET No. E-00.
- ALL PIERS POURED SEPARATE TO NOMINATED SLAB.
- CONCRETE PIERS TO BE CORRECTLY LOCATED BY CONTRACTOR AND ARE ADOPTED TO ACHIEVE AN EVEN BEARING AS REQUIRED BY ENGINEER AND SITE CONDITIONS.
- ⊙ DENOTES CONCRETE BEARING PIERS FOUNDED 200min BELOW ZONE OF INFLUENCE OF SEWER AND OR PROPOSED ADJACENT SERVICE TRENCHES REFER TO DETAIL ON SHEET E-00.
- WHERE PIERS ARE PROVIDED PLACE ADDITIONAL STEEL TO INTERNAL BEAMS AS PER DETAILS ON PIERS TO EXTERNAL WALLS SHALL BE SPACED AT NO GREATER THAN:

PIERING NOTES

PI. PIERS TO EXTERNAL WALLS SHALL BE SPACED AT NO GREATER THAN:
1.5m c/c FOR DOUBLE STOREY AREAS (ø400MIN DIA TO CLAY BRG 350kPa) - UND ON SLAB PLAN
1.8m c/c FOR SINGLE STOREY AREAS (ø400MIN DIA TO CLAY BRG 350kPa) - UND ON SLAB PLAN
1.8m c/c FOR SINGLE AND DOUBLE STOREY AREA (ø300min DIA TO ROCK/SHALE BRG 600kPa).
IF PIERS EXCEED 2.5m Deep THEN ø450min (Must Be) Adopted. PIERS GREATER THAN 2.8m Deep (Must Be) REINFORCED WITH A MINIMUM OF 4-N12 Bars + R6 Ties @400c/c.

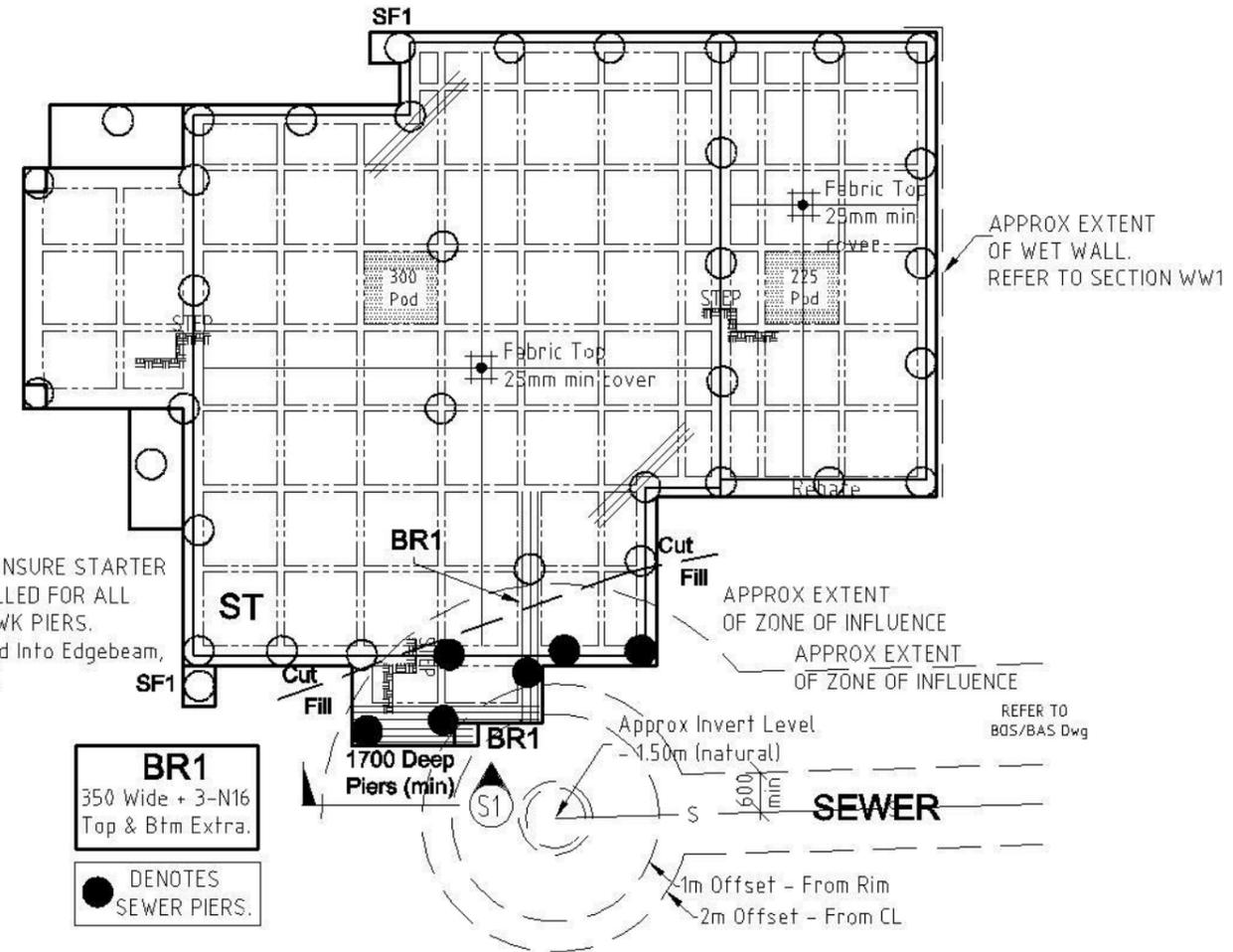
 SLAB THICKNESS DENOTED ON PLAN BY

 PODS LAYED IN SEQUENCE AND STARTED WHERE SHOWN THUS ON PLAN.

SLAB REINFORCEMENT - SL82

COVER TO REINFORCEMENT:

SLABS - TOP 20mm (INSIDE)
30mm (OUTSIDE)
- BTM 30mm
STIFFENING BEAMS - 30mm



SUPERVISOR TO ENSURE STARTER BARS ARE INSTALLED FOR ALL FREESTANDING BWK PIERS. Footing To Be Tied Into Edgebeam, Refer To Det VF1.

BR1
350 Wide + 3-N16
Top & Btm Extra.

● DENOTES
SEWER PIERS.

* CARE TO BE TAKEN DURING EXCAVATION, *

ENGINEER TO BE ADVISED IF ABNORMAL SUB CONDITIONS ARE ENCOUNTERED INCLUDING EXTENT OF ANY TREE ROOTS, PIPES, DEBRIS & "SOFT SPOTS".

IF IN DOUBT "STOP WORK AND ASK"



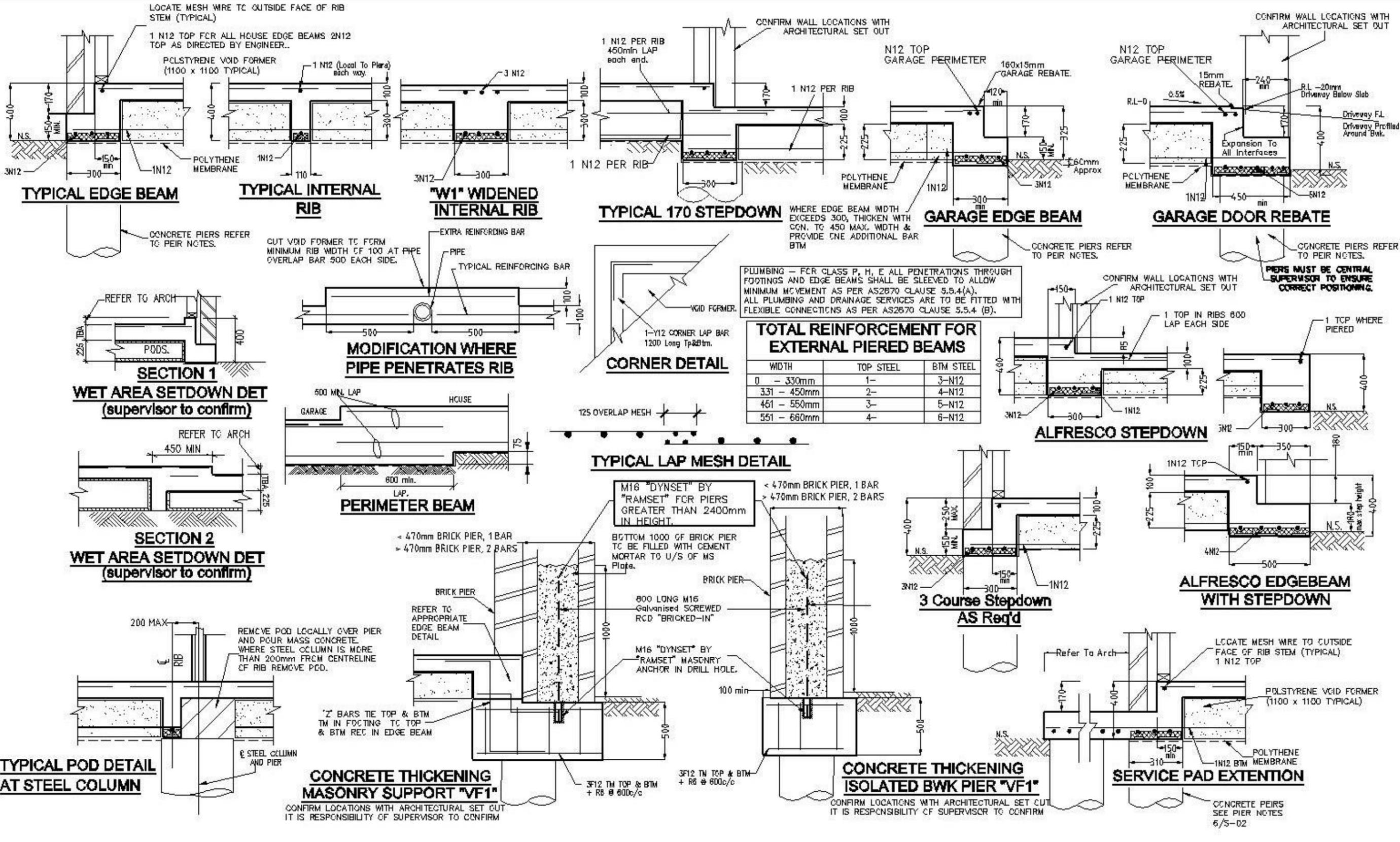
It is the responsibility of the Contractor/Supervisor, that any "on site" deviation/alteration to the Engineer's Drawings/Design must be formally brought to the attention of the Engineer/Inspector, prior to any work proceeding.

| Rev | DATE | AMENDMENT |
|--|----------|-------------------------|
| A | 11/02/15 | Issued for construction |
| Arch Ref: 739-14 (Rev QA1) - SANDFIELD 19 MILLER | | |

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| | |
|---|---|
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| CHECKED: | S.A.A |
| APPROVED: |  |
| S. Abdelfattah ME (Aust) (PEng) NPER Civ/Struct RPE Acc Certifier 0737 | |
| DATE: | 11/02/2015 |

| | | | |
|-----------------------------|--|--------------|------|
| FOR: | K.K SONG & J.K LEE LOT 2227 cnr WOODROW & WILLIAM HART cr PENRITH-THORNTON NSW | | |
| Secta Ref Nbr | SC_16741 | DRG Nbr | E-01 |
| REV | A | DO NOT SCALE | |
| REINFORCED SLAB PLAN | | | |



It is the responsibility of the Contractor/Supervisor, that any "on site" deviation/alibration to the Engineer's Drawings/Design must be formally brought to the attention of the Engineer/Inspector, prior to any work proceeding.

| Rev | DATE | AMENDMENT |
|-----|----------|-------------------------|
| A | 11/02/15 | Issued for construction |

Arch Ref: 739-14 (Rev QA1) - SANDFIELD 19 MILLEN

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Consulting Engineers Pty Ltd
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FD BOX 259 CONDELL PARK NSW 2201 ofice: (02) 9707 3414 - fax: 9707 3414
web: www.sectaengineering.com.au email: admin@sectaeng.com.au

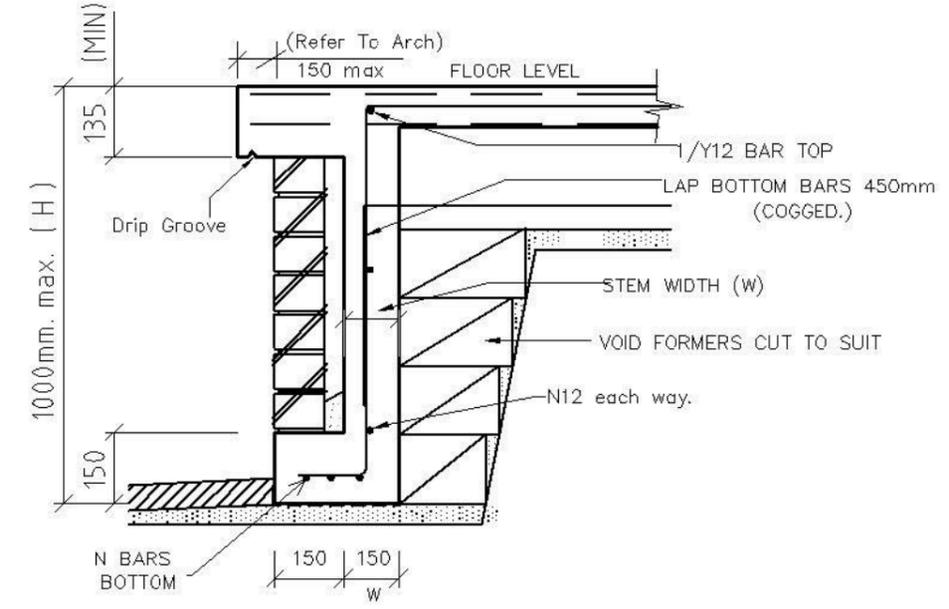
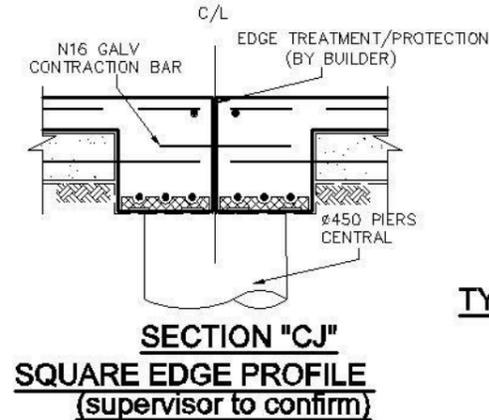
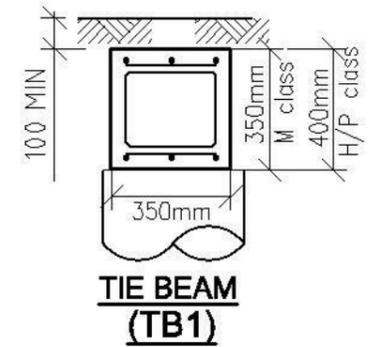
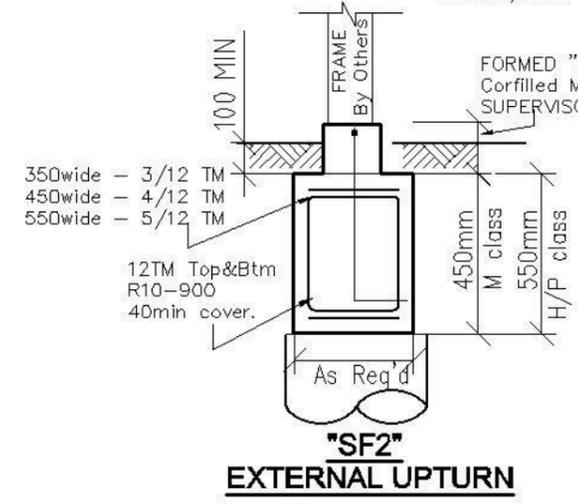
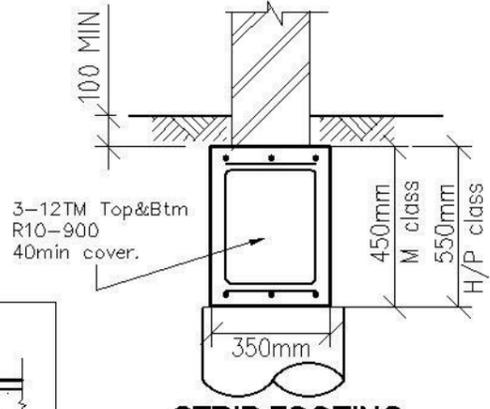
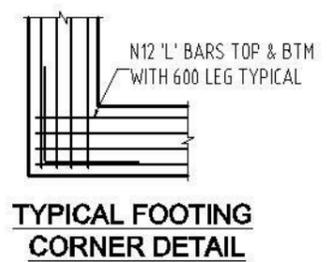
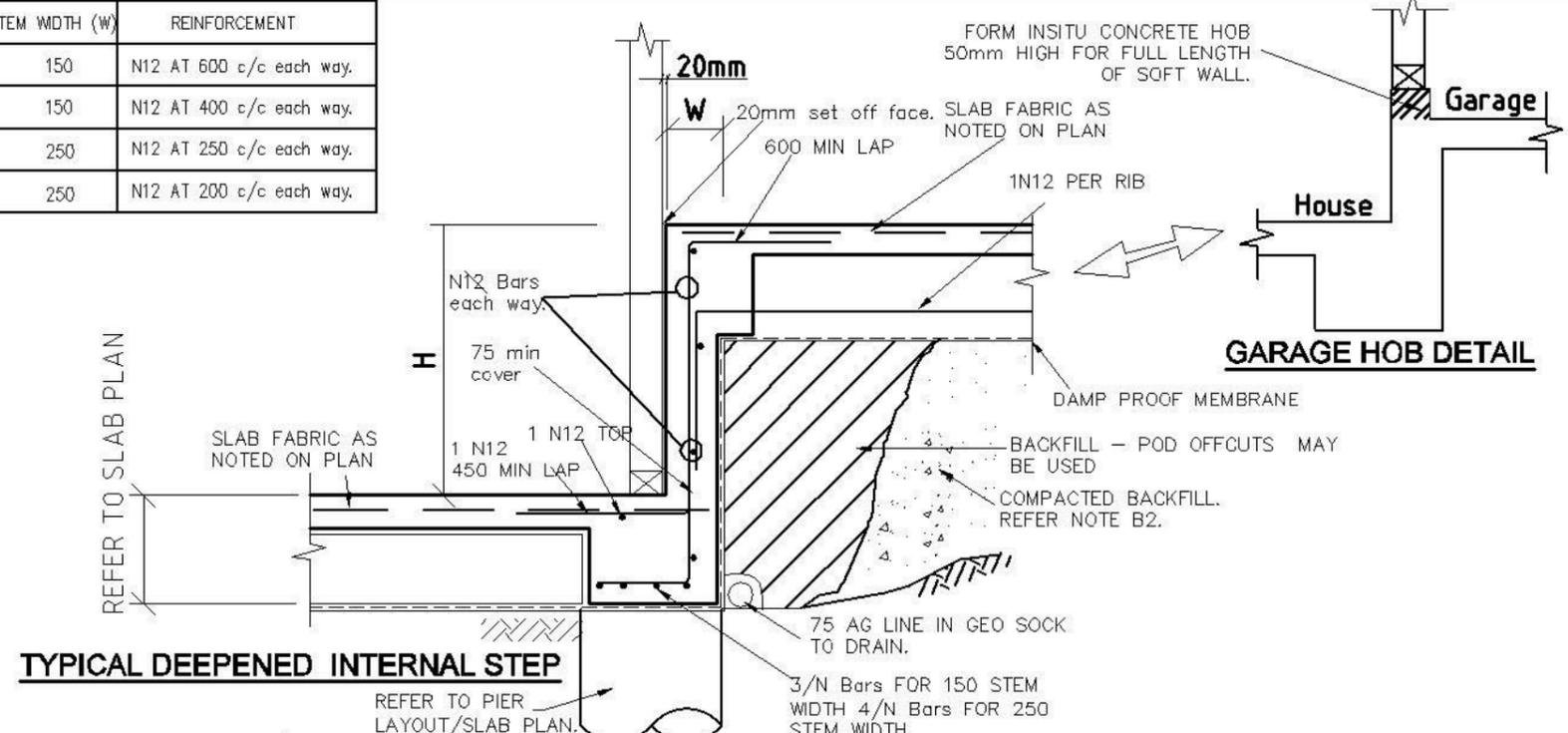
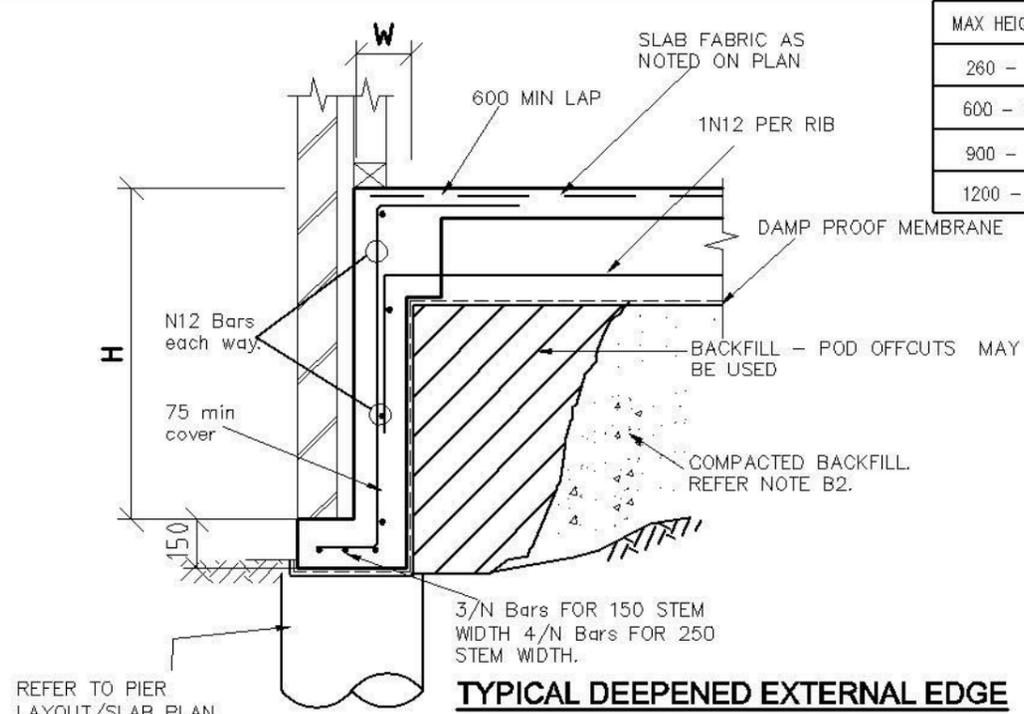
PREPARED: S.I.D
CHECKED: S.A.A
APPROVED: S. Abdelrahman
NE Aust. CPEng
MPEL Civ/Struct
BRB Lic 02186 0797
DATE: 11/02/2015

FOR: K.K SONG & J.K LEE
LOT 2227 cnr WOODROW & WILLIAM HART cr
PENRITH-THORNTON NSW

Secta Ref Number: SC_16741
DRG Number: E-02
REV: A

SLAB DETAIL SHEET
DO NOT SCALE

| MAX HEIGHT (H) | STEM WIDTH (W) | REINFORCEMENT |
|----------------|----------------|--------------------------|
| 260 - 600 | 150 | N12 AT 600 c/c each way. |
| 600 - 900 | 150 | N12 AT 400 c/c each way. |
| 900 - 1200 | 250 | N12 AT 250 c/c each way. |
| 1200 - 1600 | 250 | N12 AT 200 c/c each way. |



Where step "S" does not exceed 100mm;
 x length "L" shall be a minimum of 600mm.
 x reinforcement to be arranged as shown in method A.

Where step "S" does exceed 100mm;
 x step "S" shall not exceed 600mm.
 x length "L" shall be a minimum of 600mm.
 x reinforcement to be arranged as shown in either methods B, C, D.

65mm cover to reinforcement. Steel spacers at 900cts.

METHOD - A

65mm cover to reinforcement. Steel spacers at 900cts.

METHOD - B

65mm cover to reinforcement. Steel spacers at 900cts.

METHOD - C

65mm cover to reinforcement. Steel spacers at 900cts.

METHOD - D

REINFORCED CONCRETE STRIP FOOTINGS STEPPINGS AND REINFORCEMENT

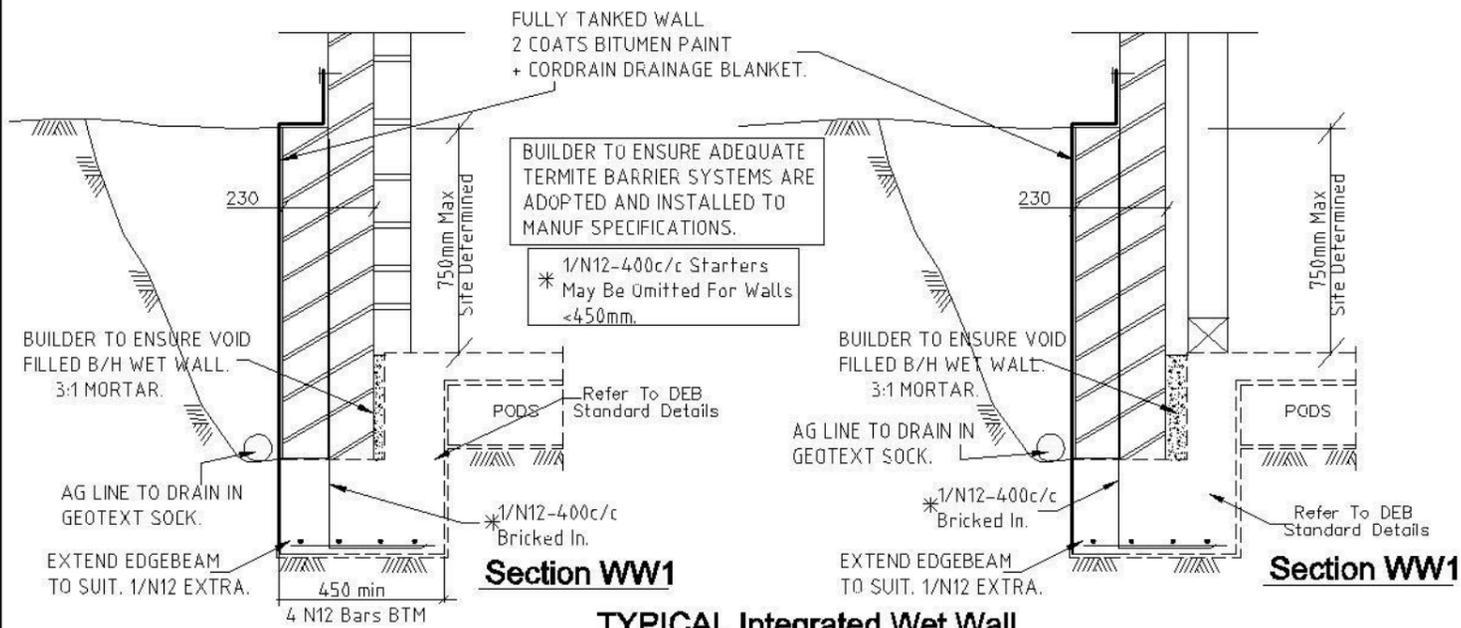


| Rev | DATE | AMENDMENT |
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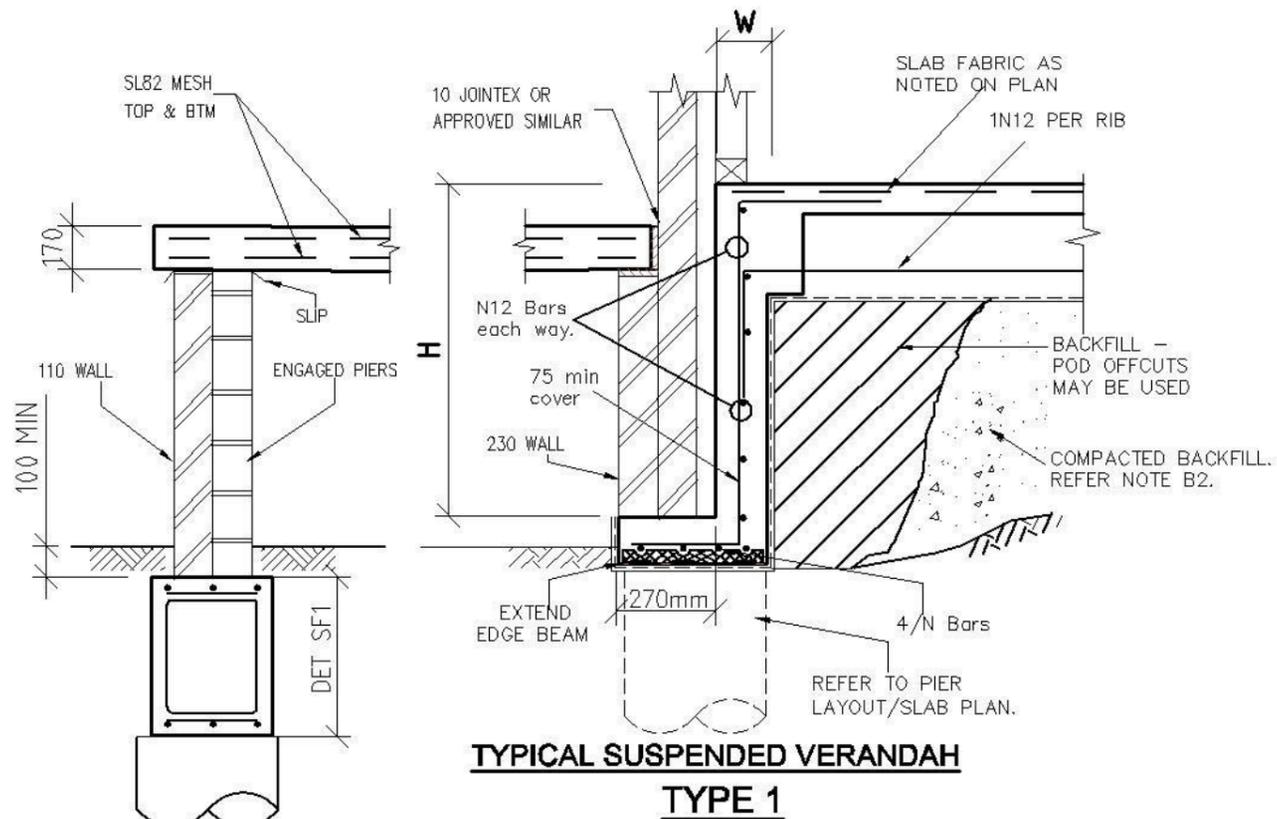
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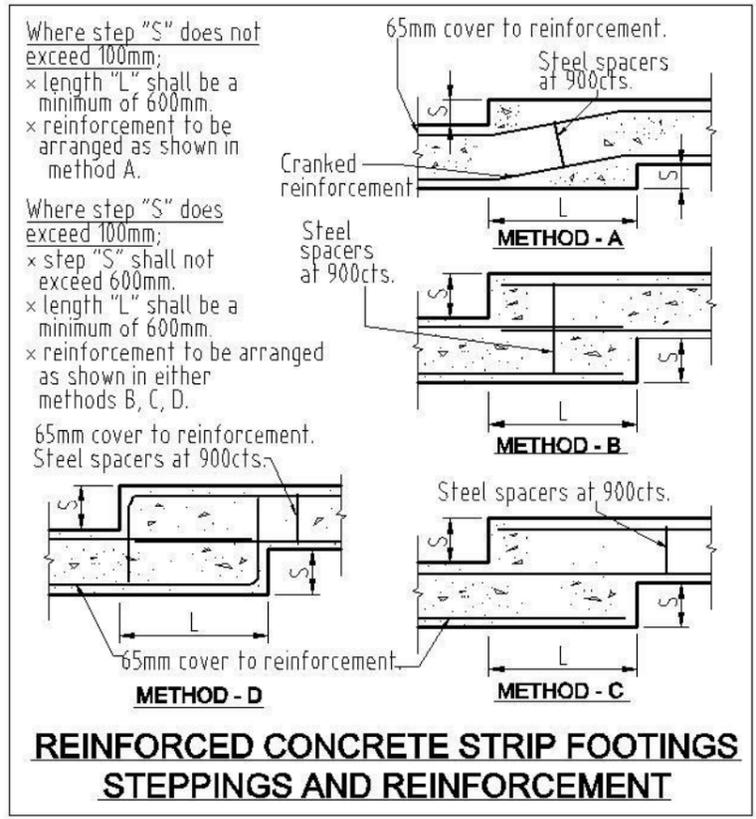
| | |
|--|--|
| PREPARED: S.I.D | FOR: K.K SONG & J.K LEE |
| CHECKED: S.A.A | LOT 2227 cnr WOODROW & WILLIAM HART cr |
| APPROVED: | PENRITH-THORNTON NSW |
| S. Abdelfattah ME (Aus) / CE Eng NPER Civ/Struct BPE Acc Certifier 0737 | SC_16741 |
| DATE: 11/02/2015 | E-03 |
| DEEPEDED EDGE BEAM SHEET | |
| DO NOT SCALE | |



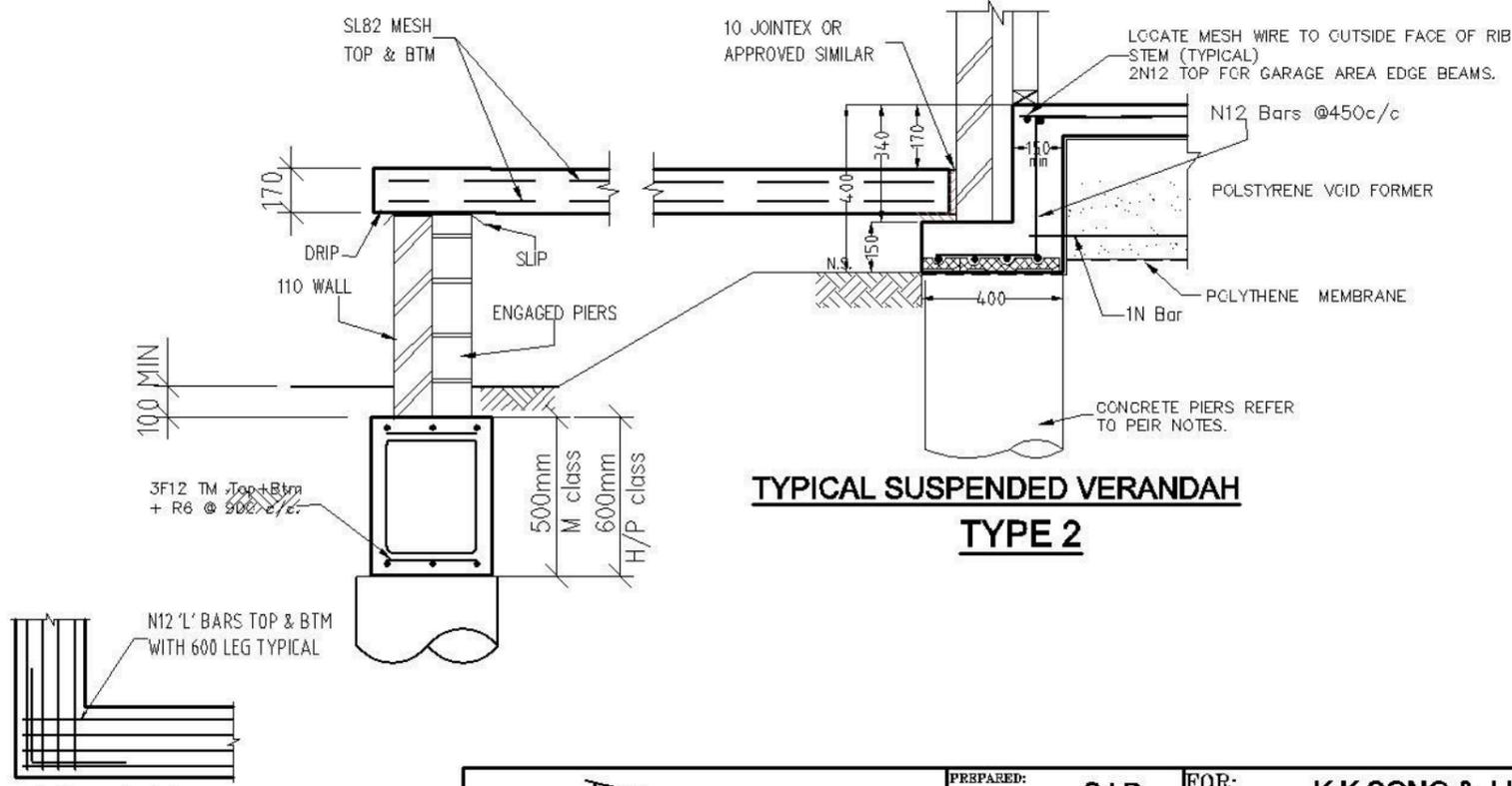
Section WW1
TYPICAL Integrated Wet Wall
 SUPERVISOR TO CONFIRM DETAIL VARIANCE.
 REFER TO ARCHITECTURALS



TYPICAL SUSPENDED VERANDAH
TYPE 1



REINFORCED CONCRETE STRIP FOOTINGS
STEPPINGS AND REINFORCEMENT



TYPICAL SUSPENDED VERANDAH
TYPE 2

TYPICAL FOOTING CORNER DETAIL



| | | |
|--|----------|-------------------------|
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| | |
|--|------------------|
| PREPARED: | S.I.D |
| CHECKED: | S.A.A |
| APPROVED: | |
| S. Abdelattah ME (Aust) CP Eng NPER Civ/Struct BPE Acc Certifier 0737 | DATE: 11/02/2015 |

| | | | |
|-------------------|--|---------|--------------|
| FOR: | K.K SONG & J.K LEE LOT 2227 cnr WOODROW & WILLIAM HART or PENRITH-THORNTON NSW | | |
| Secta Ref Nbr | SC_16741 | DRG Nbr | E-04 |
| CONC DETAIL SHEET | | | REV A |
| | | | DO NOT SCALE |

FIRST FLOOR BEAM PLAN

FJ DENOTES ASSUMED FLOOR JOIST SPAN DIRECTION
 TB DENOTES TIMBER BEAM TO FRAME MANUFACTURER'S DETAILS
 TIMBER FRAMING SPAN DIRECTIONS, SIZES & SUPPORTS (OTHER THAN STEEL BEAMS SHOWN) ARE INDICATIVE ONLY & SHALL BE CONFIRMED WITH THE FRAME MANUFACTURER'S SPECIFICATIONS.
 REFER TO TIMBER FRAMING NOTES ON SHEET No. E-00

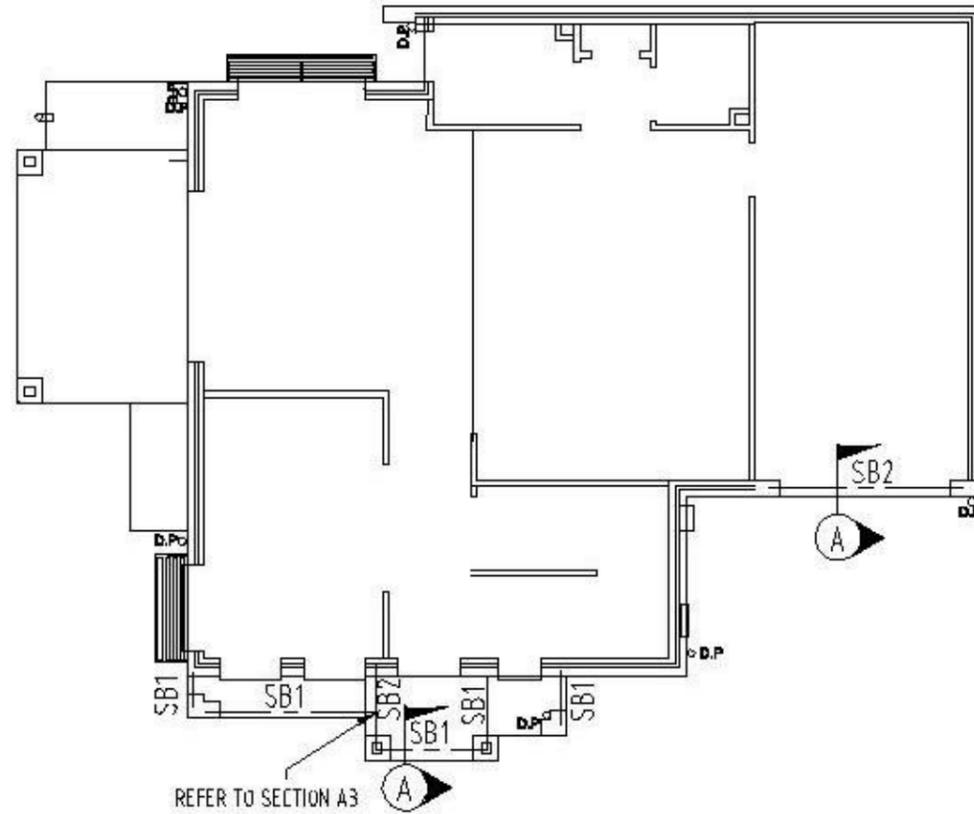
'A' UNLESS NOTED OTHERWISE ALL BEAMS AND LINTEL SUPPORTED ON BRICKWORK TO HAVE A MINIMUM BEARING LENGTH OF 150mm

LINTELS OVER DOOR & WINDOW OPENINGS, OTHER THAN THOSE SPECIFIED ABOVE, SHALL BE TO THE BUILDER'S SPECIFICATION

TEMPORARY BRACING OF STEEL STRUCTURE
 STEEL COLUMNS SHALL BE TEMPORARILY BRACED UNTIL ALL THE TIMBER FRAMING IS POSITIVELY FIXED TO THE STEELWORK AS DETAILED & THE PERMANENT WALL BRACING IS IN PLACE.

NOTE:
 -STEEL WORK DESIGNED IN ACCORDANCE WITH AS4100 "STEEL STRUCTURES CODE" AND AS1178.1/AS1170.2 " DEAD AND LIVE LOADS AND WIND LOADS."
 STRUCTURAL STEEL TO BE GRADE (BHP 300 PLUS) U.N.D.
 SURFACE PREPARATION & FINISH TO COMPLY WITH AS/NZS 2312 - 1994.

NOTE: ROOF TRUSSES HAVE BEEN ASSUMED TO BE SUPPORTED ON LEVEL 1 EXTERNAL WALLS (ON STUDS). PRIOR TO COMMENCING CONSTRUCTION THE BUILDER SHALL OBTAIN FROM THE TRUSS MANUFACTURER A PLAN WHICH CLEARLY IDENTIFIES ANY INTERNAL LEVEL 1 STUD WALLS WHICH ARE TO BE USED TO SUPPORT ROOF TRUSSES & THEIR CORRESPONDING REACTIONS (WORKING DEAD, LIVE & WIND LOADS) TO ALLOW VERIFICATION OF STRUCTURAL STEELWORK SHOWN ON THIS DRAWING. IT IS NOTED THAT IF INTERNAL LEVEL 1 WALLS ARE TO BE USED AS LOAD BEARING ELEMENTS TO SUPPORT THE ROOF FRAMING, THEN ADDITIONAL STRUCTURAL STEELWORK MAY BE REQUIRED.



STEEL MARKING PLAN

Do Not Scale

| ITEM | MEMBER | SCHEDULE |
|------|--------------------|-------------|
| | | DESCRIPTION |
| SB1 | 200x200x6 Gal Tee | |
| SB2 | 200x200x10 Gal Tee | |
| SB3 | | |
| SB4 | | |
| SB5 | | |
| SB6 | | |
| SB7 | | |
| C1 | | |
| C2 | | |

DESIGN LIVE LOAD : GENERALLY 1.5kPa
 ROOF (NON-TRAFFICABLE) 0.25kPa



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| A | 11/02/16 | Issued for construction |

Arch Ref: 739-14 (Rev QA1) - SANDFIELD 19 MILLER

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PREPARED: S.I.D
 CHECKED: S.A.A
 APPROVED: S. Abdelfattah
 NE/Aussil (PEng)
 NPER Civil/Struct
 NPA Acc Cert No: 4757
 DATE: 11/02/2016

FOR: K.K SONG & J.K LEE
 LOT 2227 cnr WOODROW & WILLIAM HART cr
 PENRITH-THORNTON NSW

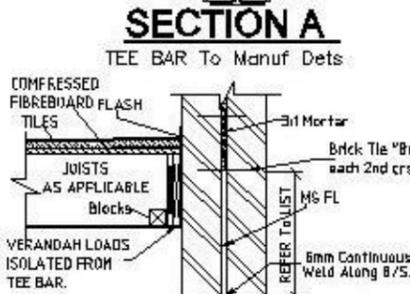
Secta Ref Number: SC_16741
 DRG Number: E-05
 REV: A

STEEL MARKING PLAN
 DO NOT SCALE

TYPICAL TEE BAR NOTE

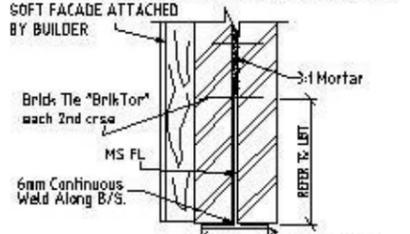
- NOTES, GALINTEL TEE (GARAGE DOOR OPENING)
1. TEE TO BE PROPPED @ 1.2m e/c max.
 2. PROPS TO REMAIN IN PLACE UNTIL MORTAR ACHIEVES FULL STRENGTH (7 DAYS)
 3. MORTAR MIX 1:4 (min) AND APPLIED TO ALL FACES BETWEEN BRICK & MORTAR INCLUDING BTM FLANGE & VERTICAL WEB.
 4. MINIMUM 3 BRICK COURSES TO BOTH SIDES.

"BUILDER" TO ENSURE FULL MORTAR COVERAGE TO ALL SURFACES.



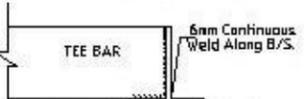
SECTION A1

ALTERNATIVE FABRICATED SECTION

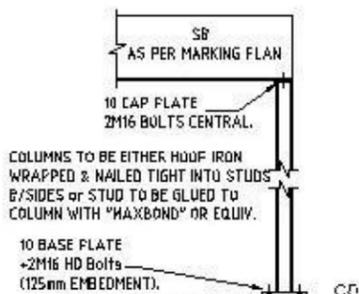


SECTION A2

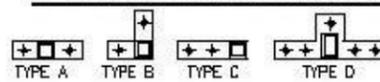
FABRICATED SECTION



SECTION A3

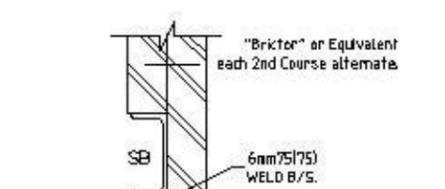


TYPICAL POST DETAIL C1 & C2

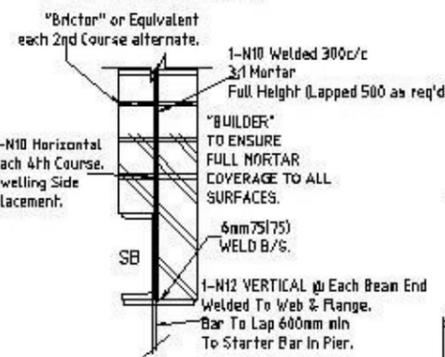


BASE PLATE PLAN DETAIL

- *ALL BASE PLATES TO BE 10mm THICK
- *ORIENTATE BASE PLATE TO SUIT WALL LOCATION
- *SURFACE TREATMENT AS PER COLUMN

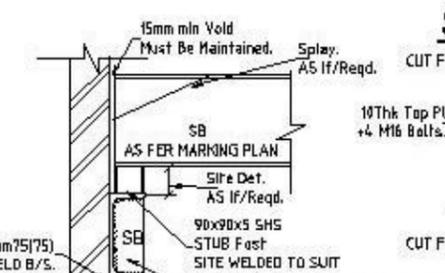


SECTION B

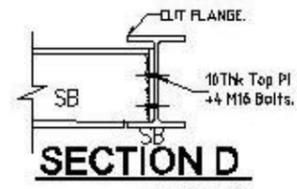
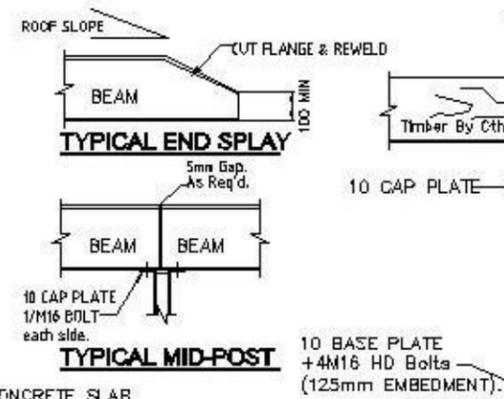


SECTION B1

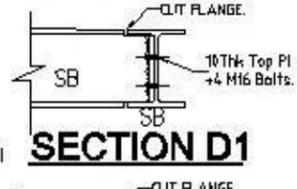
MINIMUM PARAPET REINFORCEMENT T/O



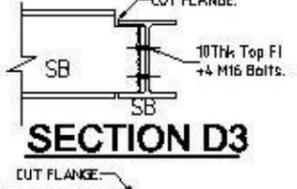
SECTION B2



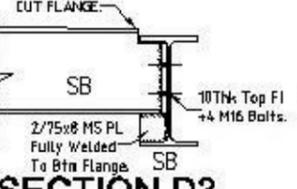
SECTION D



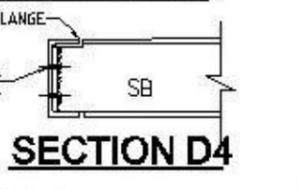
SECTION D1



SECTION D3



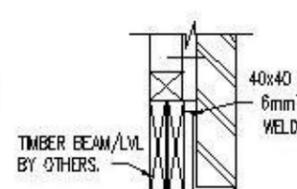
SECTION D3



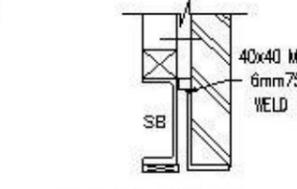
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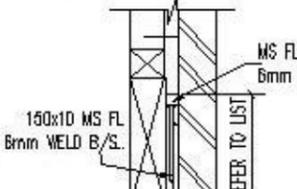
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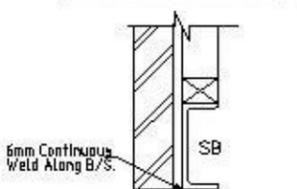
SECTION E



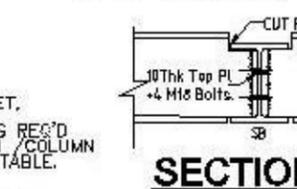
SECTION E1



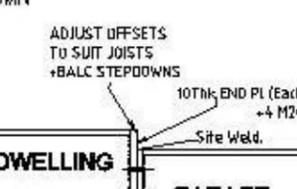
SECTION E2



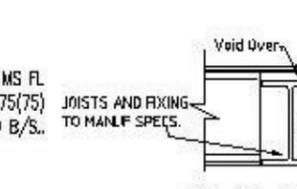
SECTION E3



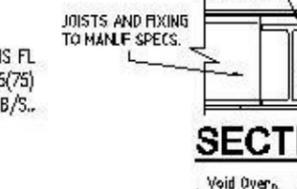
SECTION D6



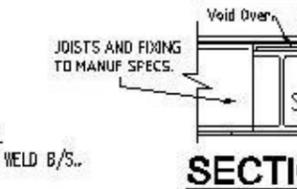
TYPICAL MID-POST GARAGE-DWELLING



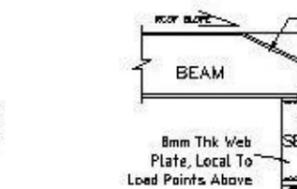
SECTION F



SECTION F1



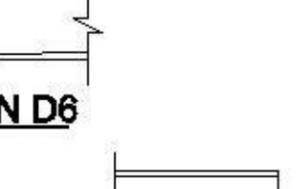
SECTION F2



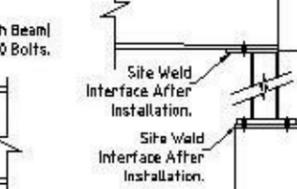
SECTION F3



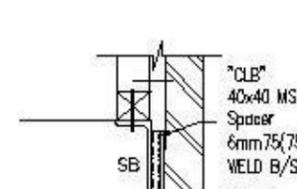
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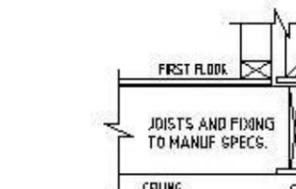
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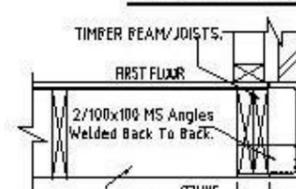
SECTION K1



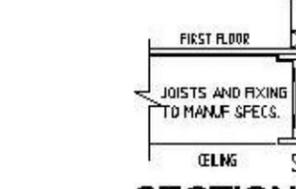
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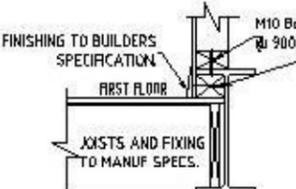
SECTION U1



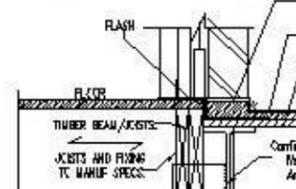
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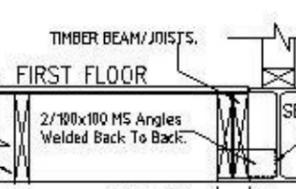
SECTION U3



SECTION U4



SECTION U5



SECTION U6



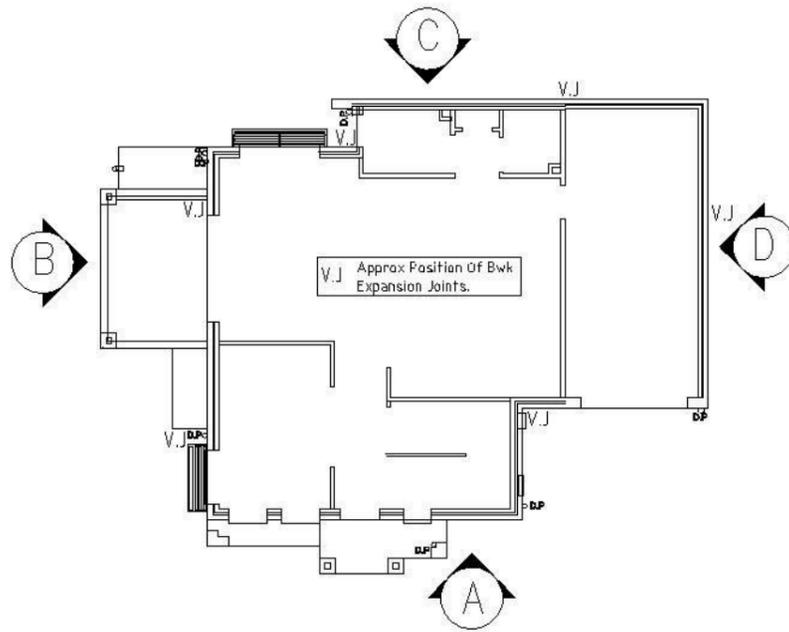
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| | |
|--|------------------|
| PREPARED: | S.I.D |
| CHECKED: | S.A.A |
| APPROVED: | |
| S. Abdelfattah NE/Asst/PEER NEER Civil/Struct PEER Acc/Co/Dir/MSR | DATE: 11/02/2016 |

| | | | |
|------------------|---|------------|--------------|
| FOR: | K.K SONG & J.K LEE LOT 2227 onr WOODROW & WILLIAM HART onr PENRITH-THORNTON NSW | | |
| Secta Ref Number | SC_16741 | DRG Number | E-06 |
| REV | | | A |
| STEEL DETAILS | | | DO NOT SCALE |



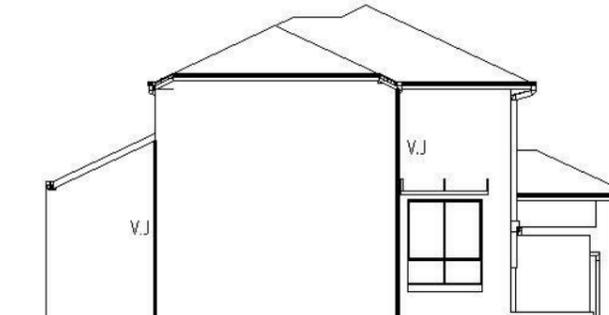
ELEVATION A



ELEVATION B



ELEVATION D



ELEVATION C

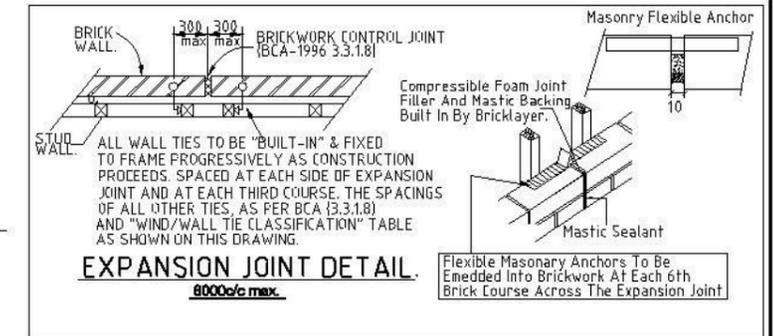
DURABILITY CLASSIFICATION. EXTERIOR

| CATEGORY (durability) | WALL TIES AS 3700 | GRADE OF BRICKS AS/NZS 4456.10 | MORTAR AS 3700 | STRUCTURAL STEEL (Surface finish) |
|-----------------------|-------------------------|--------------------------------|----------------|-----------------------------------|
| severe marine | R4 Stainless or Polymer | EXPOSURE | M4 (1:4) | GALVANISED (GZLP) (600g per sq.m) |
| marine | R3 | GENERAL PURPOSE | M3 (1:5) | AS/ANZ 2312/1994. |
| exterior | R2 | GENERAL PURPOSE | M2 (1:2:8) | AS/ANZ 2312/1994. |

WIND/WALL TIE CLASSIFICATION NZ "W33"

| WIND Class (Vp) | WALL TIE | HORIZONTAL SPACING | VERTICAL SPACING |
|-----------------|-------------------|--------------------|------------------|
| N1 | W28N1 LIGHT DUTY | 600 | 600 |
| N2 | W33N2 MEDIUM DUTY | 600 | 600 |
| N3 | W4IN3 MEDIUM DUTY | 600 | 430 (5 COURSES) |

WALL TIE SPACINGS AROUND OPENINGS 300c/c EACH WAY.
POLYMER WALL TIES RATED "LIGHT DUTY ONLY" (W28N1).
(Vp = PERMISSIBLE STRESS METHOD)



EXPANSION JOINT DETAIL.

8000c/c max.

Flexible Masonry Anchors To Be Emded Into Brickwork At Each 6th Brick Course Across The Expansion Joint

It is the responsibility of the Contractor/Supervisor, that any "on site" deviation/alteration to the Engineer's Drawings/Design must be formally brought to the attention of the Engineer/Inspector, prior to any work proceeding.

| Rev | DATE | AMENDMENT |
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| A | 11/02/15 | Issued for construction |

Arch Ref: 739-14 (Rev QA1) - SANDFIELD 19 MILLER



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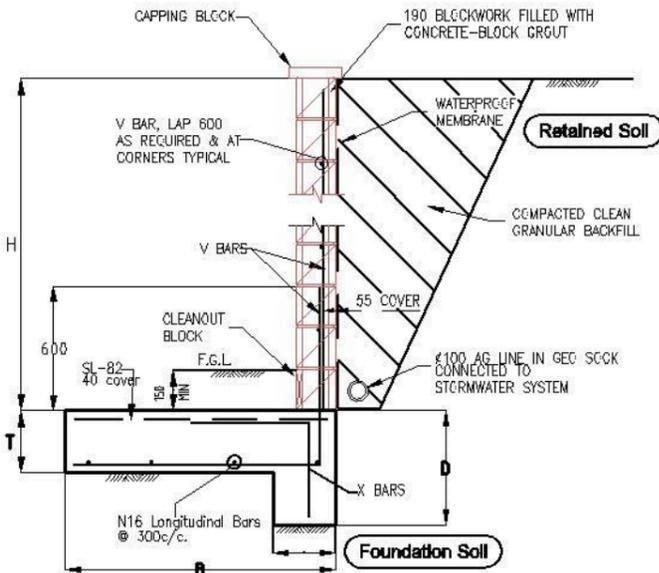
| | |
|-----------|------------|
| PREPARED: | S.I.D |
| CHECKED: | S.A.A |
| APPROVED: | |
| DATE: | 11/02/2015 |

| | | | |
|--------------------------------|--|---------|---------------------|
| FOR: | K.K SONG & J.K LEE LOT 2227 cnr WOODROW & WILLIAM HART or PENRITH-THORNTON NSW | | |
| Secta Ref Nbr | SC_16741 | DRG Nbr | E-07 |
| REV | | | A |
| BRICK ARTICULATION PLAN | | | DO NOT SCALE |



**RESPONSIBILITY OF OWNER
RETAINING STRUCTURE BY OWNER.**

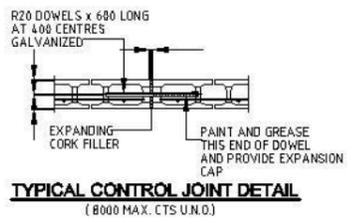
- A) ENSURE RET WALL TYPE COMPLIES WITH SUBMISSION and/or COUNCIL CONDITIONS.
- B) ALL EXISTING SERVICES/STRUCTURES WITHIN CRITICAL ZONES ARE PROTECTED.
- C) USE OF PROPRIETY WALL SYSTEMS ARE INSTALLED AND SPECIFIED AS PER MANUFACTURERS SPECS.
- D) ENSURE SITE/SGIL CONDITIONS SUIT SELECTED RET WALL TYPE.
- E) ENSURE APPROPRIATE SURFACE DRAINAGE MEASURES ARE ADOPTED INCLUDING APPROPRIATE MATERIALS ARE PLACED BEHIND WALL TO CONVEY GROUND WATER AWAY FROM THE WALL AND ITS FOUNDATIONS.



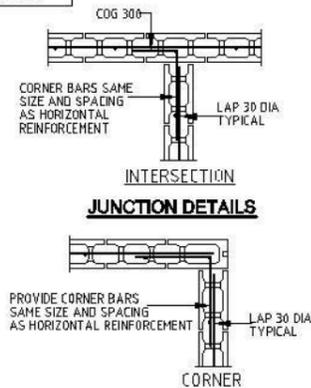
**TYPE A
RETAINING WALL HEIGHT 0 - 1000**

4.0kPa MAX ALLOWABLE SURCHARGE

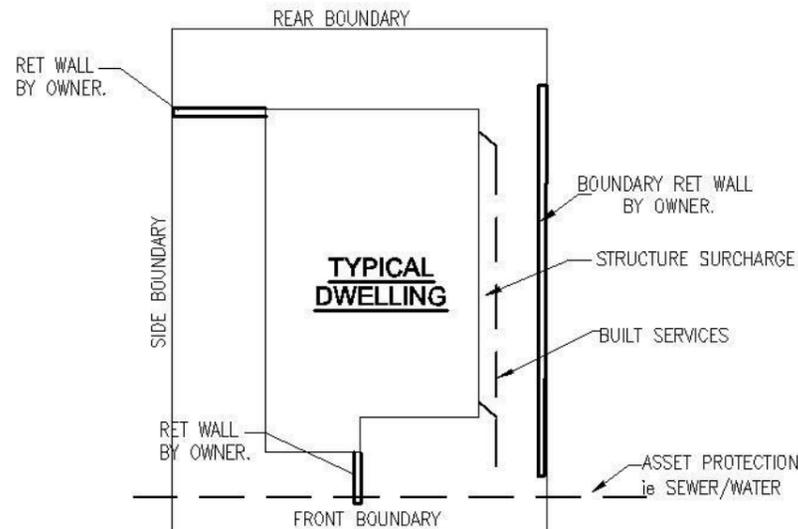
| RETAINING WALL SCHEDULE | | | | | |
|-------------------------|-----|-----|-----|---------|---------|
| H | B | D | T | V BARS | X BARS |
| 0 - 800 | 800 | 400 | 200 | N12-400 | N12-400 |
| 800-1000 | 900 | 400 | 200 | N12-400 | N12-400 |



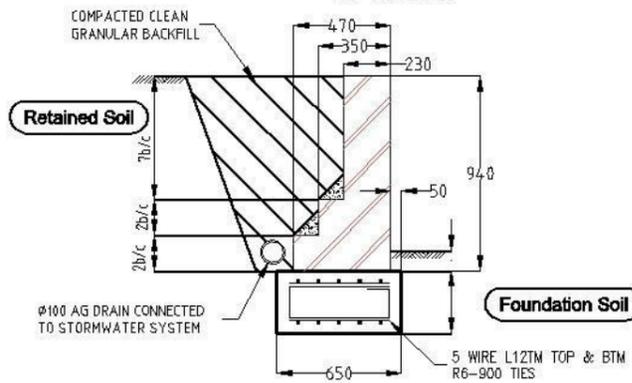
TYPICAL CONTROL JOINT DETAIL
(8000 MAX. CTS U.N.O.)



JUNCTION DETAILS

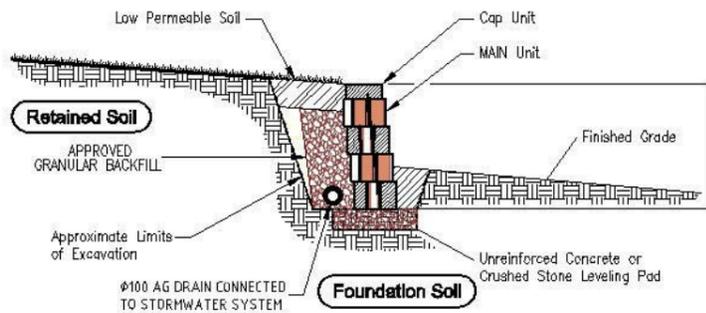


**TYPICAL SITE
NOT TO SCALE**

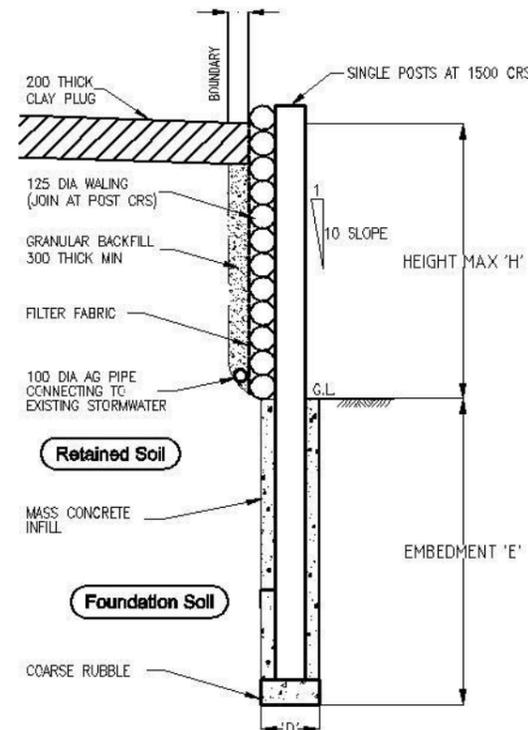


**TYPE B
TYPICAL GRAVITY BRICKWORK
RETAINING WALL DETAILS**

- 1. 4 kPa SURCHARGE ALLOWED
- 2. ALL BRICKWORK TO BE INTERLOCKED USING HEADER COURSES SO THAT THE WALLS ACT AS AN INTEGRAL UNIT
- 3. VERTICAL BRICK JOINTS AT 6000 CTRS U.N.O.



**TYPE C
Typical "PROPRIETY"
Gravity Wall Section**



**TYPE D
TYPICAL LOG RETAINING WALL**

| TIMBER LOG RETAINING WALL | | | | |
|---------------------------|---------------|--------------|------------------|--------------|
| HEIGHT MAX 'H' | EMBEDMENT 'E' | POST DIA MIN | POST Spacing MIN | WALL DIA MIN |
| 900 | 1000 MIN | 200 | 1500 | 125 |

CONSTRUCTION OF WALL TO BE IN ACCORDANCE WITH "KOPPERS LOG" RETAINING WALL SPECIFICATIONS
 'D' 400 DIA FOR POST 200 DIA
 'D' 2 x 400 DIA FOR DOUBLE POSTS

TYPICAL RET WALL TYPES

PRIOR TO SELECTION, OWNER MUST CONTACT EITHER MANUFACTURER and/or QUALIFIED ENGINEER TO DISCUSS SUITABILITY OF SYSTEM.

BRICKWORK AND BLOCKWORK

- B1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700, S.A.A BLOCKWORK CODE AS1475 AND ALL OTHER RELATED CODES.
- B2 STRENGTHS OF MASONRY UNITS AND TYPE OF MORTAR SHALL BE AS FOLLOWS:

| ELEMENT | MATERIAL | CHARACTERISTIC MORTAR UNCONFINED | |
|---------|----------|----------------------------------|---------------------------|
| | | COMPRESSIVE STRENGTH (F'c) | MORTAR (LIME: SAND) (F'c) |
| BRICKS | CLAY | 20 MPa | 1:1:6 |
| BLOCKS | CONC | 15 MPa | 1:0.25:3 |

MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT.

- B3 ONLY LOAD BEARING MASONRY WALLS ARE SHOWN UNDER CONCRETE SLABS.
- B4 OTHER THAN REINFORCED CONCRETE BLOCKWORK, MASONRY SUPPORTING SLABS AND BEAMS SHALL BE TROWELLED SMOOTH WITH MORTAR FILLING ALL VOIDS. TWO LAYERS OF MALTHOID SHALL BE PLACED FULL WIDTH ACROSS SUCH LOAD BEARING SURFACES EXCEPT WHERE PROPRIETARY BEARING STRIP IS NOTED OR ALTERNATIVE DETAIL IS DOCUMENTED. THE HEADS OF LOAD BEARING WALLS SHALL NOT EXTEND ABOVE THE SOFFIT OF THE CONCRETE SLAB ABOVE.
- B5 ALL DOUBLE SKIN SOLID WALLS SUCH AS 230mm THICK BRICKWORK SHALL BE BONDED BY A HEADER COURSE EVERY 4th COURSE.
- B6 ALL MASONRY SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.
- B7 NON LOAD BEARING WALLS BUILT PRIOR TO POURING CONCRETE SHALL BE SEPARATED FROM CONCRETE ABOVE BY 16 mm THICK CLOSED CELL POLYSTYRENE STRIP. WHERE BUILT AFTER CONCRETE IS POURED LEAVE 12 mm CLEAR OF CONCRETE SOFFIT.
- B8 NO CHASES OR RECESSES ARE PERMITTED IN LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.
- B9 PROVIDE VERTICAL CONTROL JOINTS AT 8 m MAX. CENTRES GENERALLY, AND 5 m MAX. FROM CORNERS FOR BRICKWORK AND UNREINFORCED BLOCKWORK.
- B10 REFER TO CONCRETE NOTES FOR DE-PROPPING PRIOR TO CONSTRUCTION OF MASONRY WALLS ON SUSPENDED SLABS.
- B11 ALL CAVITY CONSTRUCTION SHALL INCLUDE STAINLESS STEEL TIES INSTALLED IN ACCORDANCE WITH CLAUSE 3.8 AS 3700.
- B12 REINFORCED CONCRETE BLOCKWORK SHALL COMPLY WITH THE FOLLOWING, UNLESS NOTED
 - * BLOCKS SHALL BE STRENGTH GRADE 15 CONFORMING TO AS 2733.
 - * MORTAR SHALL COMPRISE 1 CEMENT:0.25 LIME:3 SAND.
 - * PROVIDE CLEANOUT HOLES 100 mm SQUARE MINIMUM AT BASE OF ALL WALLS AND ROD CORE HOLES TO REMOVE PROTRUDING MORTAR FINIS PRIOR TO GRUUTING.
 - * CORE FILLING GROUT SHALL BE :- F'c = 20 MPa
MINIMUM CEMENT CONTENT = 300 kg/m,
SLUMP = 230 ± 30 mm.

- * REINFORCEMENT PROJECTING FROM FOUNDATION OR SLABS INTO CORES, SHALL BE SET ACCURATELY IN PLACE USING TEMPLATES TO ALIGN WITH THE CENTRE OF THE LENGTH OF CORES AND WITH COVER AS NOTED. WHERE HORIZONTAL BARS ARE INDICATED, THE WEBS OF THE BLOCKS BELOW THE BARS SHALL BE CUT DOWN TO ACCOMMODATE THE BARS.
- * GROUT ALL CORES IN REINFORCED BLOCKWORK UNLESS OTHERWISE NOTED. HEIGHT OF BLOCKWORK TO BE GROUTED ON ONE DAY SHALL BE 2400mm. GROUT SHALL BE PLACED IN LIFTS OF 1200mm MAXIMUM AND COMPACTED BY PICKER VIBRATOR. A SHORT TIME SHOULD ELAPSE BETWEEN SUCCESSIVE LIFTS TO ALLOW PLASTIC SETTLEMENT TO OCCUR.
- * PROVIDE 50 mm COVER FROM THE OUTSIDE OF THE BLOCKWORK UNLESS NOTED.

- B13 BACKFILL TO RETAINING WALLS SHALL BE FREE DRAINING GRANULAR MATERIAL. PROVIDE SUBSOIL DRAIN AT BASE OF WALL. DO NOT BACKFILL UNTIL 14 DAYS AFTER GRUUTING, OR IF APPLICABLE, AFTER RESTRAINING SLAB COVER HAS BEEN PCURED AND CURED FOR 7 DAYS. BACKFILL SHALL BE COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CCNTENT ±2 %.

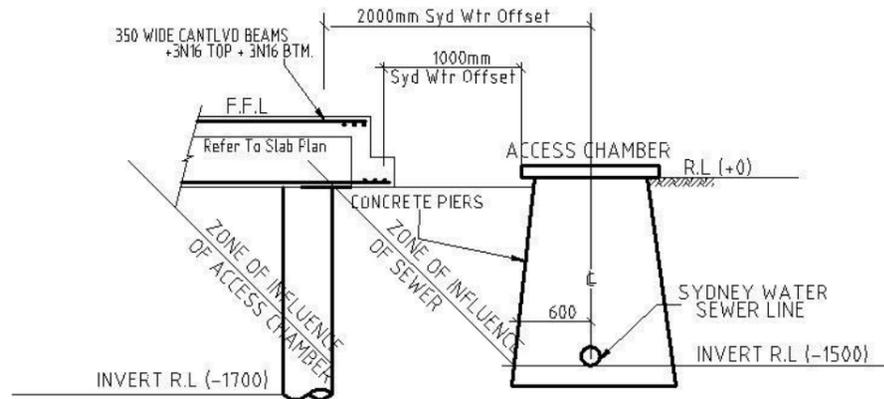


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PREPARED: S.I.D
CHECKED: S.A.A
APPROVED: S. AbdelFattah
N.E.(Aust) CPEng
NPER Eng/Struct
BPE: Acc Certifier 0737
DATE: 11/02/2015

FOR: K.K SONG & J.K LEE
LOT 2227 cnr WOODROW & WILLIAM HART or PENRITH-THORNTON NSW
Secta Ref Nmbr SC_16741
DRG Nmbr E-08
REV A
DO NOT SCALE
RET WALL DETAILS



S1-Adjusted
REQ'D MIN SETOUT

Do Not Scale

NOTE: CHECK WITH SYDNEY WATER OR LOCAL AUTHORITY ON MIN. CLEARANCES

(TYP) BUILDING ADJACENT/OVER TO SEWER

Do Not Scale

NOTE: PIERS TO BE FOUNDED 200 BELOW ZONE OF INFLUENCE OF SEWER. IF ROCK IS ENCOUNTERED NOTIFY ENGINEER PRIOR TO COMPLETION.

NOTE: CHECK WITH SYDNEY WATER OR LOCAL AUTHORITY ON MIN. CLEARANCES

**DEPTH GOVERNED BY ENGINEERING REQUIREMENTS
ALL PIERS EXPECTED TO STIFF NATURAL SHALE BEARING
REFER TO PIER NOTES IN CUT AREA.**

IF ROCK IS NOT ENCOUNTERED FULL DEPTH OF PIERING MUST BE ADOPTED TO SATISFY SYDNEY WATER REQUIREMENTS.



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| CHECKED: | S.A.A | | | | |
| APPROVED: | | | | | |
| S. AbdelFattah M.E.(Aust) C.P.Eng N.P.E.R. Civ/Struct B.P.B. Acc Certifier 0737 | | Secta Ref Nmr | SC_16741 | DRG Nmr | E-09 |
| DATE: | 11/02/2015 | | SEWER DETAILS | | A |
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