

GENERAL NOTES

- G1 These drawings shall be read in conjunction with other consultants' drawings and specifications and with other such written instructions as may be issued during the course of the Contract. Any discrepancy shall be referred to the Engineer before proceeding with the work.
- G2 All dimensions are in millimetres, UNO (unless noted otherwise).
- G3 No dimension shall be obtained by scaling the drawings.
- G4 All levels and setting out dimensions shown on the drawings shall be checked on site prior to the commencement of the work.
- G5 During construction the structure shall be maintained in a stable condition and no part shall be overstressed.
- G6 Damp-proofing & sealing details shall be in accordance with Architect's details. All joints in concrete elements shall be suitably sealed or damp-proofed.

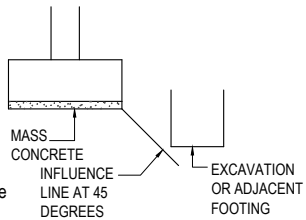
FOUNDATIONS

- F1 Assumed classification of site: M (Moderately Reactive Site) UNO.
- F2 Footings have been designed for an allowable bearing pressure of 150 kPa UNO. All foundations must be stable and uniform throughout.

- F3 Foundation material shall be inspected and approved for the above site classification and allowable bearing pressure by a Geotechnical Engineer before placing footing reinforcement.

- F4 Footings shall be placed centrally under walls and columns, UNO.

- F5 Where an excavation is required or exists below the base of a footing the side of the excavation shall be located away from edge of footing by the same distance that the excavation is below footing base. where this cannot be achieved, 'hyten engineering' shall be contacted for further direction. mass concrete is to extend to the influence line as required.



- F6 All walls and columns shall be concentric with the supporting footings unless noted otherwise on the drawings.

LOADING

- L1 Superimposed floor loads are generally in accordance with AS 1170.1 or as noted in Table L4.
- L2 Wind loads are in accordance with AS/NZS 1170.2 as follows:  
Region : A 2 Regional Wind Velocity, V500 : 45 m/s Category : 3, UNO.
- L3 Earthquake loads are in accordance with AS 1170.4 as follows:  
a = 0.08 S = 1.0 I = 1.0, UNO.
- L4 Live loads & additional dead loads: (to AS/NZS 1170.1)

| Area subject to loading    | Live Load |         | Add. Dead Load |
|----------------------------|-----------|---------|----------------|
|                            | Uniform   | Point   |                |
| Floors - Internal          | 1.50 kPa  | 1.80 kN | 0.50 kPa       |
| Floors - External & Garage | 3.00 kPa  | 1.80 kN | 1.00 kPa       |
| Roof Areas                 | 0.25 kPa  | 1.40 kN | 0.15 kPa       |

MASONRY

- M1 All workmanship and materials shall be in accordance with AS 3700.
- M2 Characteristic compressive strength of masonry (f<sub>uc</sub>) = 24 MPa

| Durability Requirements |                              |                                |   |
|-------------------------|------------------------------|--------------------------------|---|
| Mortar                  | Salt Attack Resistance Grade | Built In Component             | Min. Cover to Reinforcement & Tendons in Grouted Cavities |
| M2                      | Protected                    | R1 (Galv'd 300 g/m² each side) | 5   |
| M3                      | General Purpose              | R3 (Galv'd 470 g/m² each side) | 15  |
| M4                      | Exposure                     | R4 (Stainless)                 | 30  |

- M3 All masonry walls supporting slabs and beams shall have a pre-greased two layer galvanised steel slip joint between concrete and masonry.
- M4 All masonry walls supporting or supported by concrete floors shall be provided with vertical joints to match any control joints in the concrete.
- M5 Non load bearing walls shall be separated from concrete above by 12 mm thick closed cell polyethylene strip.
- M6 Provide vertical control joints at 8 metres maximum centres, and 4 metres maximum from corners in masonry walls, and between new & existing brickwork.
- M7 Masonry retaining walls are to be backfilled with either of the following material:
- Coarse grained soil with low silt content
  - Residual soil containing stones
  - Fine silty sand
  - Granular materials with low clay content

REINFORCED CONCRETE

- C1 All workmanship and materials shall be in accordance with AS 3600 current edition, except where varied by the contract documents.
- C2 Concrete quality shall be as follows (subject to note C4 being satisfied):

| Element          | Slump mm | Max. Agg. Size mm | Cement Type            | f <sub>c</sub> at 28 Days MPa |
|------------------|----------|-------------------|------------------------|-------------------------------|
| Footings         | 80       | 20                | Normal Portland Type A | 20                            |
| Slabs on Ground  | 80       | 20                |                        | 25                            |
| Suspended Floors | 80       | 20                |                        | 32                            |

- C3 Engineer to approve any admixtures used in concrete mix.

- C4 Cover to reinforcement shall be obtained by the use of approved bar chairs. All chairs to be placed at 750 maximum centres.

- C5 Minimum clear concrete cover to reinforcement including ties and stirrups (other than residential slabs on ground or footings) shall be as follows uno.

| Exposure Classification | Minimum Cover (mm)                  |        |        |        |         |
|-------------------------|-------------------------------------|--------|--------|--------|---------|
|                         | Concrete Strength (f <sub>c</sub> ) |        |        |        |         |
|                         | 20 MPa                              | 25 MPa | 32 MPa | 40 MPa | >50 MPa |
| A1                      | 20                                  | 20     | 20     | 20     | 20      |
| A2                      | (50)                                | 30     | 25     | 20     | 20      |
| B1                      | -                                   | (60)   | 40     | 30     | 25      |
| B2                      | -                                   | -      | (65)   | 45     | 35      |
| C                       | -                                   | -      | -      | (70)   | 50      |

For bracketed figures refer to AS 3600 current edition table 4.10.3.2

- C6 Residential slab on ground and footings cover requirements: (Minimum concrete grade N20)

- Unprotected ground: 40 mm
- External exposure: 40 mm
- Membrane in contact with ground: 30 mm
- Internal surface: 20 mm
- Strip & pad footing: 40 mm

- C7 All concrete shall be mechanically vibrated. Vibrators shall not be used to spread concrete.

- C8 Sizes of concrete elements do not include thickness of applied finishes.

- C9 No holes or chases other than those shown on the structural drawings shall be made in concrete members without the prior approval of the Engineer.

- C10 Construction joints where not shown shall be located to the approval of the Engineer.

- C11 Curing of all concrete is to be achieved by keeping surfaces continuously wet for a period of 3 days, and prevention of loss of moisture for a total of 7 days followed by gradual drying out. Approved sprayed on compounds may be used where no floor finishes are proposed. Polythene sheeting or wet hessian may be used if protected from wind and traffic.

- C12 Construction support propping is to be left in place where needed to avoid over stressing the structure due to construction loading. No masonry or partition walls are to be constructed on suspended levels until all propping is removed and the slab has absorbed its dead load deflection.

- C13 Conduits, pipes, etc. shall only be placed in the middle one third of slab depth and spread at not less than 3 diameters.

- C14 Reinforcement symbols :

- N - Denotes deformed grade 500 normal ductility reinforcing bars to AS/NZS 4671.
- R - Denotes plain round grade 250 normal ductility reinforcing bars to AS/NZS 4671.
- SL - Denotes deformed grade 500 low ductility reinforcing mesh to AS/NZS 4671.
- RL - Denotes deformed grade 500 low ductility reinforcing mesh to AS/NZS 4671.
- L--TM - Denotes deformed grade 500 low ductility trench mesh to AS/NZS 4671.

- C15 Reinforcement is represented diagrammatically; it is not necessarily shown in true projection.

- C16 Splices in reinforcement shall be made only in positions shown or otherwise approved by the Engineer.

- C17 Fabric reinforcement shall have splices made so that the overlap, measured between the outermost transverse wires of each sheet of fabric, is not less than the spacing of those wires plus 25 mm.

- C18 Welding of reinforcement shall not be permitted unless shown on the structural drawings or approved by the Engineer.

- C19 All thicknesses shown are minimum structural requirements, no reduction thickness due to falls or topping is permitted. refer architect drawings for all slab falls and confirmation of slab steps. No penetrations greater than 150mm diameter, or embedment of pipes greater than 40mm

- C20 diameter other than those shown on the structural drawings shall be made in concrete slabs. for all other concrete members no penetrations, chases or embedments shall be made without prior approval by 'hyten engineering'

STRUCTURAL STEEL

- S1 All workmanship and materials shall be in accordance with AS 4100, AS 1163, AS 1554.1 and AS/NZS 4600.
- S2 The structural design has been based on the following steel grades, UNO:  
Hot rolled universal beams, columns, channels & angles: 300PLUS  
Circular, square & rectangular hollow sections: C350/C450LO  
Cold formed open DuraGal profiles: C400/C450LO  
Cold formed lipped Cee & Zed purlins: G550/G500/G450
- S3 The structural design has been based on MBPMA nominal size Cee & Zed lipped purlins. All purlin profiles shall be in accordance with the MBPMA specifications.
- S4 Qualifications of welding procedures and personnel shall conform to Section 4 of AS 1554.1. Non destructive testing of welds shall include 100% visual inspection and additional testing as shown on the drawings.
- S5 All welds shall be 6 mm continuous fillet type SP, UNO. All butt welds shall be complete penetration in accordance with AS 1554.1, UNO.

- S6 Bolt designation:  
4.6/S: Commercial bolts to AS 1111, snug tightened  
8.8/S: High strength structural bolts to AS 1562, snug tightened  
8.8/TB: High strength structural bolts to AS 1562, fully tensioned bearing joint to AS 1511  
8.8/TF: High strength structural bolts to AS 1562, fully tensioned friction joint to AS 1511

- S7 All bolts shall be M16 8.8/S, with a minimum of 2 bolts per connection, UNO. High strength TF & TB bolts shall be installed using approved load indicator washers, or in accordance with the part turn method nominated in AS 4100.

- S8 Gusset plates shall be 10 mm thick, grade 300PLUS steel, UNO.

- S9 Concrete encased steelwork shall be wrapped with SL41 fabric and shall have a minimum of 50 mm cover, UNO.

- S10 Steelwork not encased shall have the following surface treatment :

| Exposure Classification | Steelwork Protection Required  |
|-------------------------|--|
| A1 / A2                 | Power tool clean to AS1627 Class 1<br>1 Coat Alkyd Primer (Zinc Phosphate) |
| B1                      | Abrasive blast to AS1627 Class 2.5<br>1 Coat Inorganic Zinc Silicate       |
| B2                      | Hot Dipped Galvanised to AS4680  |

- S11 Where sealed tube members are hot dip galvanised, the fabricator shall provide drill holes as necessary.

- S12 All transport and erection damage, site welds etc., shall be reinstated to an equivalent finish to adjacent steelwork

MASONRY NOTES

- M1 All workmanship and materials shall be in accordance with as 3700.

- M2 All blockwork walls shall be constructed in grade 16 blocks (15mpa) according to as 2733. all Bricks shall have a minimum unconfined compressive strength of 20 mpa according to as 3600. the maximum unrestrained five year expansion of bricks shall be in accordance with nata test bo1. All masonry supporting or supported by concrete floors shall be provided with vertical joints to match any control joints in the concrete.

- M3 Non load bearing wall shall be separated from concrete above by 12mm thick close cell polyethelene strips.

- M4 No chases or recesses are permitted in the load bearing masonry without the approval of the engineer.

- M5 Mortar admixtures shall not be used without the written approval of the engineer. unless noted otherwise the nominal proportions by volume of mortar shall be 1 : 1 : 6 of cement, lime and sand. no plasticisers to be used in the mix.

- M6 Grout used to fill cavities and cores in reinforced masonry 15mpa and a slump of 230mm (+/- 25mm). maximum aggregate size of 10mm rounded gravel. nominal proportions shall be 1 : 0.3 : 3 : 2 of cement, lime, sand and aggregate and with a minimum cement content of 300 kg/cm. provide clean out holes at base of pilasters and every core of reinforced walls.

- M7 Horizontal joint reinforcement shall be provided at maximum 600 vertical spacing for all concrete blockwork, concrete brickwork, and calcium silicote brickwork.

- M8 Hollow blockwork openings greater than 600mm vertically or horizontally shall be trimmed at the sides and bottom by filling one core and reinforce with 1n12 extending 600mm past opening. the top of the opening shall have a reinforced lintel beam, arch bar or steel angle support as detailed. All ties and reinforcement shall have a minimum clear cover of 50mm to external face of masonry. All walls shall be tied or bonded at their intersections.

- M1 No cavity or core shall be filled to a height greater than 1200mm without suitable shoring.

- All masonry walls and piers supporting slabs and beams between concrete soffit and the top of the masonry element, denoted as 's.j.' throughout.

- M1 Provide vertical control joints at 10m maximum centres and 5m maximum from corners in all masonry walls, u.n.o. by as2870.

- M1 Backfill to retaining walls to be free draining granular material unless noted otherwise. provide subsoil drain to weep holes.

- M1 Do not construct masonry walls on suspended concrete slabs until slab has been stripped and de-propped.

- M1 All cavity construction to have galvanised/stainless steel wall ties installed as per clause 3.8, in as 3700.

SITE PREPARATION FOR SLABS ON GROUND

- P1 Strip topsoil containing organic matter. Proof roll fill sub grade and remove any soft zones.
- P2 Where additional fill is required to the underside of slabs on ground, non cohesive materials such as sand and gravel dust shall be placed by "controlled" compaction in horizontal layers of 200 mm (loose) maximum depth. This fill shall be compacted to at least 95% of Standard Maximum Dry Density (SMDD), in accordance with AS 1289.
- P3 For slabs on ground, sand 50 mm approximate thickness is to be spread as a levelling layer and well watered down.
- P4 Damp-proofing membrane unpunctured and taped at laps, is to be placed over the sand, sufficient membrane being provided at edges to return under brickwork. Where no brickwork, tape membrane to side of footing below ground.

FOUNDATION MAINTENANCE

FOUNDATION SOILS : All soils are affected by water. Silts are weakened by water and some sands can settle if heavily watered, but most problems arise on clay foundations. Clays swell and shrink due to changes in moisture content and the potential amount of the movement is implied in the site classification in Australian Standard AS2870, which is specified as follows:

- A Stable (Non-reactive).
- S Slightly Reactive.
- M Moderately Reactive.
- H Highly Reactive.
- E Extremely Reactive.

CLASS A & S SITES : Sands, silts and clays shall be protected from becoming extremely wet by adequate attention to site drainage and prompt repair of plumbing leaks.

CLASS M, H & E SITES : Sites classified as M, H, or E shall be maintained at essentially stable moisture conditions and extremes of wetting and drying prevented. This will require attention to the following :

Drainage of the site : The site shall be graded or drained so that water cannot pond against or near the house. The ground immediately adjacent to the house shall be graded to a uniform fall of 50 mm minimum away from the house over the first metre. The sub floor space for houses with suspended floors shall be graded or drained to prevent ponding where this may affect the performance of the footing system. The site drainage requirements shall be maintained for the economic life of the building.

Limitations on gardens : The development of the gardens shall not interfere with the drainage requirements or the sub floor ventilation and weep hole drainage systems. Garden beds adjacent to the house should be avoided. Care should be taken to avoid over watering of gardens close to the house footings.

Restrictions on trees and shrubs : Planting of trees should be avoided near the foundation of a house or neighbouring house on reactive sites as they can cause damage due to drying of the clay at substantial distances. To reduce, but not eliminate, the possibility of damage, tree planting should be restricted to a distance from the house of :

- 1.50 x mature height for Class E sites
- 1.00 x mature height for Class H sites
- 0.75 x mature height for Class M sites

Where rows or groups of trees are involved, the distance from the building should be increased. Removal of trees from the site can also cause similar problems.

Repair of leaks : Leaks in plumbing, including storm water and sewerage drainage should be repaired promptly.

The level to which these measures are implemented depends on the reactivity of the site. The measures apply mainly to masonry houses and masonry veneer houses. For frame houses clad with timber or sheeting, lesser precautions may be appropriate.

BRICK LINTEL SCHEDULE

| OPENING SIZE (mm) | INTERNAL SKIN          | EXTERNAL SKIN          | END BEARING |
|-------------------|------------------------|------------------------|-------------|
| UP TO 900mm       | 100 x 8mm FLAT BAR     | 100 x 6mm FLAT BAR     | 100 mm      |
| 1200              | 100 x 10mm FLAT BAR    | 100 x 8mm FLAT BAR     | 100 mm      |
| 1500              | 100 x 100 x 8mm ANGLE  | 100 x 100 x 6mm ANGLE  | 150 mm      |
| 2100              | 150 x 100 x 8mm ANGLE  | 150 x 100 x 6mm ANGLE  | 150 mm      |
| 2400              | 150 x 100 x 8mm ANGLE  | 150 x 100 x 8mm ANGLE  | 150 mm      |
| 2700              | 150 x 100 x 10mm ANGLE | 150 x 100 x 10mm ANGLE | 150 mm      |
| 3000              | 150 x 100 x 12mm ANGLE | 150 x 100 x 12mm ANGLE | 150 mm      |

\*ALL STEEL LINTELS TO BE HOT DIPPED GALVANIZED

NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.

Do not scale drawings, use figured dimensions only.

WHEN IN DOUBT, ASK. It is your responsibility.

If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

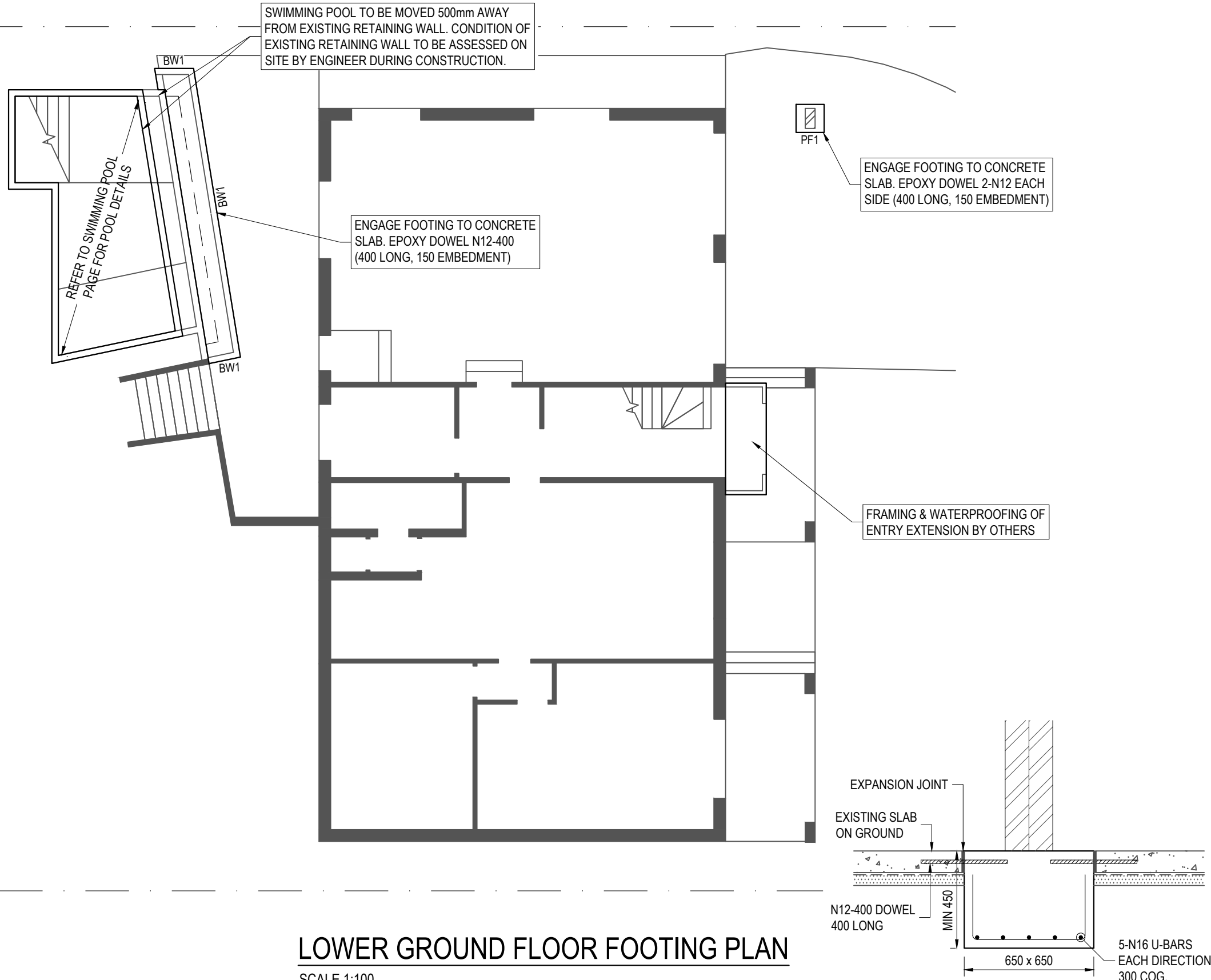
| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
|      |                 |      |      |            |
|      |                 |      |      |            |
|      |                 |      |      |            |
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |



|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

|                                       |             |                            |      |                       |      |
|---------------------------------------|-------------|----------------------------|------|-----------------------|------|
| Title                                 | COVER SHEET | Design                     | M.A. | Drawn                 | D.B. |
| ISSUED FOR<br>DEVELOPMENT APPLICATION |             | Project Number<br>23 H 294 |      | Drawing Number<br>S00 |      |





LOWER GROUND FLOOR FOOTING PLAN  
SCALE 1:100

LEGEND

- EXISTING WALL
- PROPOSED BRICK/TIMBER

FOUNDATION NOTE

THE FOOTINGS SHALL BE FOUNDED ON **STIFF CLAY** MATERIAL WITH A MINIMUM SAFE BEARING CAPACITY OF **200 kPa**. IF VIRGIN MATERIAL NOT FOUND THEN PIERS MUST BE PROVIDED AS PER PLAN.

BORED PIER NOTE

- BORED PIERS SHALL BE USED IN ACCORDANCE WITH THE FOLLOWING:
- ALL PIERS TO BE 450Ø MASS CONCRETE ( $f_c=25\text{MPa}$ ) U.N.O
  - SET OUT AS PER THE ADJACENT PLAN.
  - PIERS TO BE FOUND ON **VERY STIFF CLAY** THAT IS UNIFORM & STABLE THROUGHOUT.
  - FOUNDED A MINIMUM OF **700mm** BELOW EXISTING GROUND LEVEL.
  - ALL PIER GREATER THAN 2m or THROUGH FILL GREATER THAN 1m DEEP or CLASS P SITE TO BE REINFORCED WITH: 4N16 + R10-300 HELICAL TIES
  - MINIMUM SAFE **END BEARING OF 300 kPa** & **SKIN FRICTION OF 30 kPa**.
  - WHERE ROCK IS ENCOUNTERED, ALL PIERS TO BE FOUNDED OFF ROCK THAT IS UNIFORM & STABLE WITH A MINIMUM SAFE END BEARING OF **600 kPa**.

NOTES:

- DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECTURALS.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL SETOUT, LEVELS, FALLS ETC.
- GEOTECHNICAL ENGINEER TO VERIFY THE SAFE BEARING CAPACITY OF FOUNDATION MATERIAL PRIOR TO CONSTRUCTION.

CONCRETE QUALITY

| ELEMENT | SLUMP | AGGREGATE MAX. SIZE | CEMENT TYPE | $f_c$  |
|---------|-------|---------------------|-------------|--------|
| FOOTING | 80mm  | 20mm                | A           | 25 MPa |

REINFORCEMENT COVER SCHEDULE

| MEMBER  | COVER |        |       | EXPOSURE CLASSIFICATION |
|---------|-------|--------|-------|-------------------------|
|         | TOP   | BOTTOM | SIDES |                         |
| FOOTING | 40mm  | 40mm   | 40mm  | A1                      |

IMPORTANT:  
IT SHOULD BE NOTED THAT EXISTING STRUCTURE AND DETAILS HAVE BEEN ASSUMED BASED ON LOCAL KNOWLEDGE. IN ADDITION, PLANS AND DETAILS ISSUED FOR THIS PROJECT MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION. IT IS THE BUILDERS RESPONSIBILITY TO ADVISE HYTEN ENGINEERING IF CHANGES ARE REQUIRED &/OR WHAT IS INDICATED ON THE PLANS DO NOT CORRELATE TRUE TO SITE &/OR DURING CONSTRUCTION.

EXISTING STRUCTURE HAS BEEN ASSUMED TO BE ADEQUATE. IF THIS IS NOT TRUE &/OR THERE APPEARS TO BE STRUCTURAL ADEQUACY CONCERNS OF THE EXISTING STRUCTURE THEN IT IS THE BUILDERS RESPONSIBILITY TO ADVISE HYTEN ENGINEERING PRIOR OR DURING CONSTRUCTION.

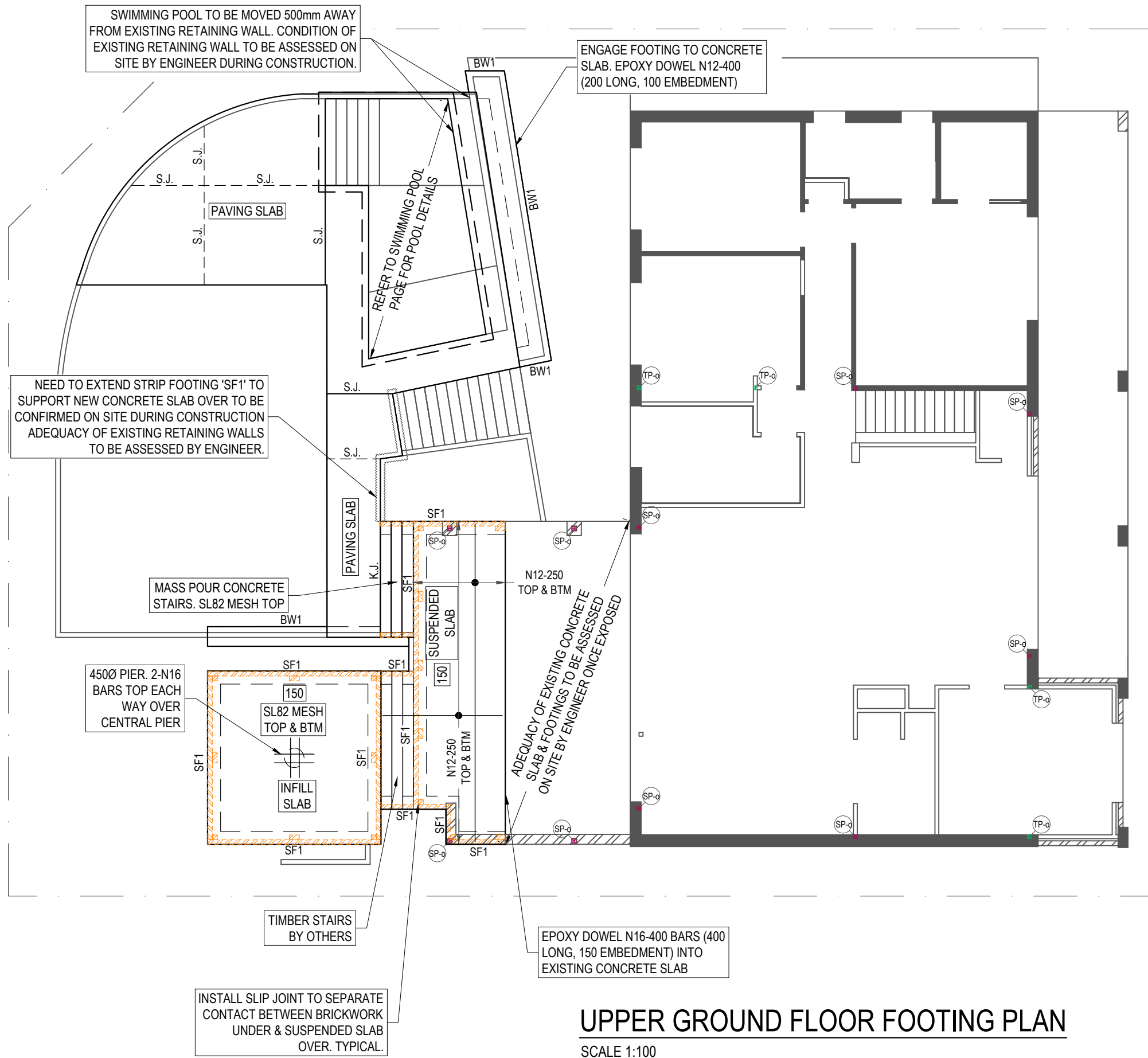
NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.  
  
Do not scale drawings, use figured dimensions only.  
  
WHEN IN DOUBT, ASK. It is your responsibility.  
  
If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |

**HYTEN**  
ENGINEERING  
STRUCTURAL | STORMWATER | GLASS ENGINEERING  
0413 863 363 michael@hyten.com.au www.hyten.com.au

|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

|            |                                    |                |          |                |      |
|------------|------------------------------------|----------------|----------|----------------|------|
| Title      | LOWER GROUND FLOOR<br>FOOTING PLAN | Design         | M.A.     | Drawn          | D.B. |
| ISSUED FOR | DEVELOPMENT APPLICATION            | Project Number | 23 H 294 | Drawing Number | S01  |



LEGEND

EXISTING WALL

PROPOSED BRICK/TIMBER

PROPOSED BRICK UNDER

PROPOSED STEEL POST OVER

PROPOSED TIMBER POST OVER

FOUNDATION NOTE

THE FOOTINGS SHALL BE FOUNDED ON **STIFF CLAY** MATERIAL WITH A MINIMUM SAFE BEARING CAPACITY OF **200 kPa**. IF VIRGIN MATERIAL NOT FOUND THEN PIERS MUST BE PROVIDED AS PER PLAN.

BORED PIER NOTE

BORED PIERS SHALL BE USED IN ACCORDANCE WITH THE FOLLOWING:

- ALL PIERS TO BE 450Ø MASS CONCRETE ( $f_c=25\text{MPa}$ ) U.N.O
- SET OUT AS PER THE ADJACENT PLAN.
- PIERS TO BE FOUND ON **VERY STIFF CLAY** THAT IS UNIFORM & STABLE THROUGHOUT.
- FOUNDED A MINIMUM OF **700mm** BELOW EXISTING GROUND LEVEL.
- ALL PIER GREATER THAN 2m or THROUGH FILL GREATER THAN 1m DEEP or CLASS P SITE TO BE REINFORCED WITH: 4N16 + R10-300 HELICAL TIES
- MINIMUM SAFE **END BEARING OF 300 kPa & SKIN FRICTION OF 30 kPa**.
- WHERE ROCK IS ENCOUNTERED, ALL PIERS TO BE FOUNDED OFF ROCK THAT IS UNIFORM & STABLE WITH A MINIMUM SAFE END BEARING OF **600 kPa**.

PAVING SLAB - 100mm SLAB WITH SL82 MESH TOP U.N.O

NOTE :

- 1. MAX 4m SAWN CONTROL JOINT
- 2. MAX 10m KEYED CONSTRUCTION JOINT
- 3. MAX 20m EXPANSION JOINT

- NOTES:
1. DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECTURALS.

2. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SETOUT, LEVELS, FALLS ETC.

3. GEOTECHNICAL ENGINEER TO VERIFY THE SAFE BEARING CAPACITY OF FOUNDATION MATERIAL PRIOR TO CONSTRUCTION.

CONCRETE QUALITY

| ELEMENT        | SLUMP | AGGREGATE MAX. SIZE | CEMENT TYPE | f <sub>c</sub> |
|----------------|-------|---------------------|-------------|----------------|
| SUSPENDED SLAB | 80mm  | 20mm                | A           | 32 MPa         |
| SLAB ON GROUND | 80mm  | 20mm                | A           | 25 MPa         |
| FOOTING        | 80mm  | 20mm                | A           | 25 MPa         |

REINFORCEMENT COVER SCHEDULE

| MEMBER         | COVER |        |       | EXPOSURE CLASSIFICATION |
|----------------|-------|--------|-------|-------------------------|
|                | TOP   | BOTTOM | SIDES |                         |
| SUSPENDED SLAB | 40mm  | 40mm   | 40mm  | B1                      |
| SLAB ON GROUND | 40mm  | 40mm   | 40mm  | A1                      |
| FOOTING        | 40mm  | 40mm   | 40mm  | A1                      |

NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.  
  
Do not scale drawings, use figured dimensions only.  
  
WHEN IN DOUBT, ASK. It is your responsibility.  
  
If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |

HYTEN  
ENGINEERING

STRUCTURAL | STORMWATER | GLASS ENGINEERING

0413 863 363 michael@hyten.com.au www.hyten.com.au

Client

MIDDLEBERG

Project

37 JOHN OXLEY DRIVE,  
FRENCHS FOREST

Title

UPPER GROUND FLOOR  
FOOTING PLAN

ISSUED FOR

DEVELOPMENT APPLICATION

Project Number

23 H 294

Drawing Number

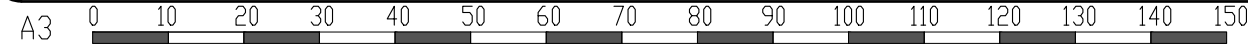
S02

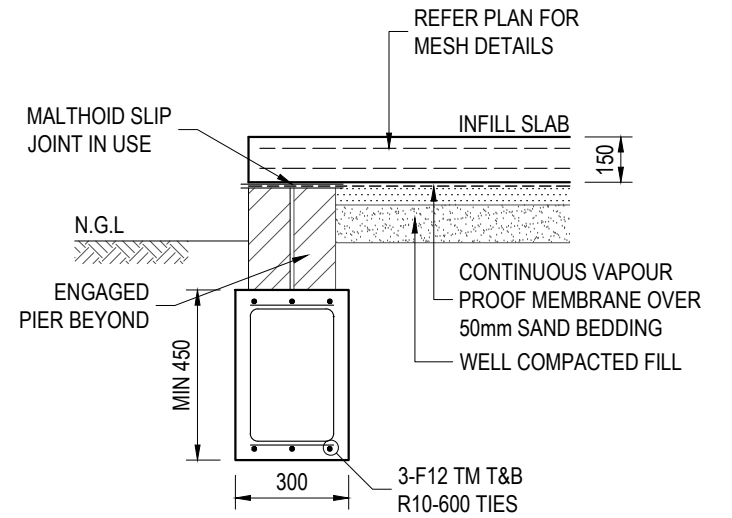
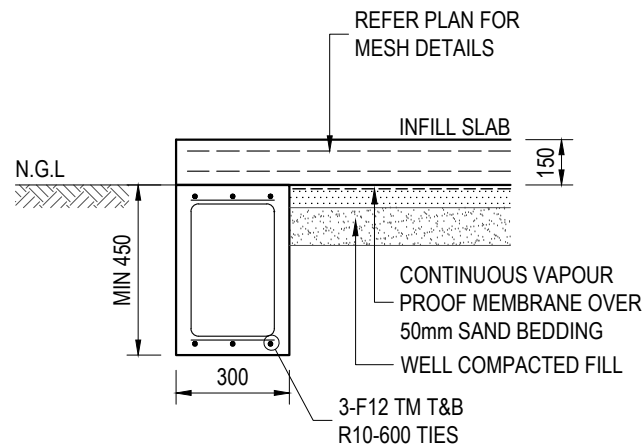
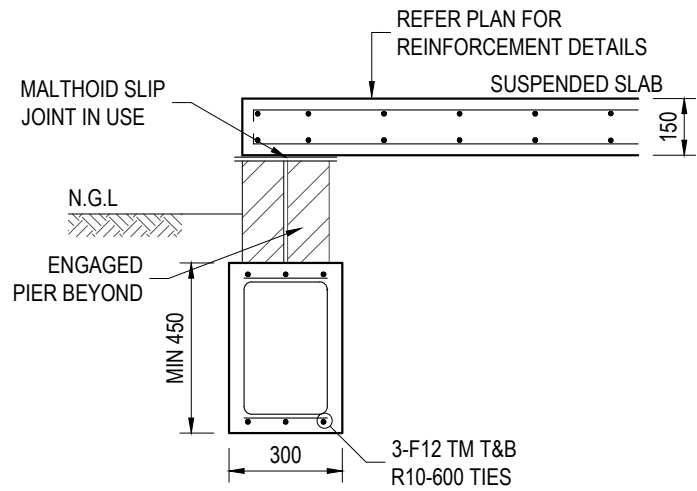
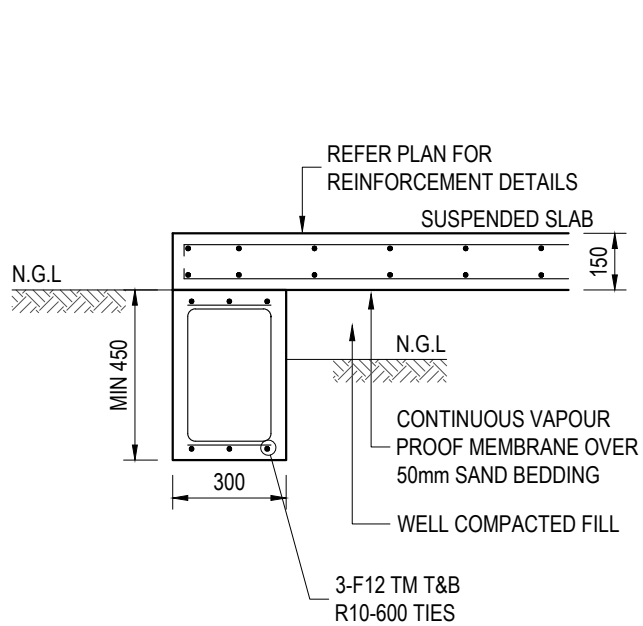
Design

M.A.

Drawn

D.B.



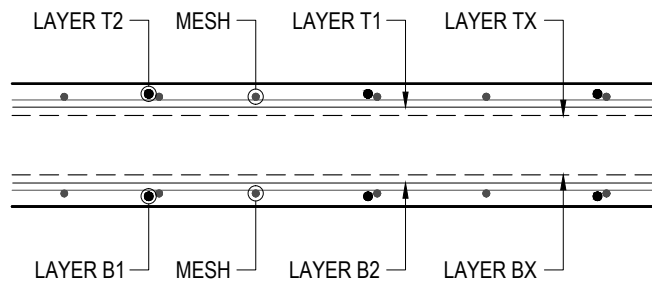


## STRIP FOOTING: SF1

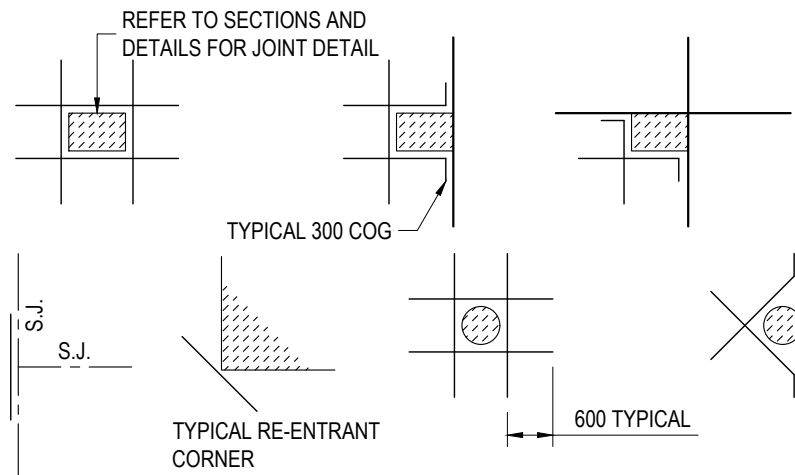
SCALE 1:20

### REINFORCEMENT NOTES:

- ENSURE 50mm MINIMUM SPACING BETWEEN BARS IN SLABS & ENSURE 100mm MINIMUM SPACING BETWEEN BARS IN BEAMS
- SLAB REINFORCEMENT LAYING SEQUENCE NOMINATION ONLY.



### 3. TYPICAL TRIMMERS AT PENETRATION DETAIL:



### 4. PROVIDE TOP & BOTTOM BARS ON ALL WALL OPENINGS AS PER THE SCHEDULE BELOW:

| LENGTH OF OPENING (m) | BTM. BAR | TOP BAR |
|-----------------------|----------|---------|
| 1.0 - 1.8             | 2-N16    | 2-N16   |
| 1.8 - 2.5             | 3-N16    | 3-N16   |
| 2.5 - 3.5             | 3-N20    | 3-N20   |

2-N12 (75 SPACING 1200 LONG)  
TRIMMERS TOP SHALL BE  
LOCATED 50 FROM ALL  
RE-ENTRANT CORNERS, TYP.

EXTRA 3-N16 TOP & BTM.  
(75 SPACING 1200 LONG)

### LAPPING SCHEDULE:

ADEQUATE OVERLAP FOR MESH AS FOLLOWS:

| MESH  | MIN LAPPING |
|-------|-------------|
| SL82  | 400mm       |
| SL92  | 450mm       |
| SL102 | 500mm       |

ADEQUATE OVERLAP FOR BARS AS FOLLOWS:

| BAR | MIN LAPPING |
|-----|-------------|
| N12 | 500mm       |
| N16 | 650mm       |
| N20 | 800mm       |
| N24 | 1000mm      |

### RAFT SLAB NOTES:

- IN LOCATIONS WHERE BEARING IS INADEQUATE OR NON UNIFORM, PROVIDE PIERS IN ACCORDANCE WITH ENGINEERS INSTRUCTIONS ON SITE. IT IS THE BUILDERS RESPONSIBILITY TO ADVISE THE ENGINEER OF ANY SUCH CONDITION PRIOR TO PLACING REINFORCEMENT.
- ALL TOPSOIL AND GRASS ROOTS TO BE REMOVED FROM THE AREA ON WHICH THE SLABS ARE TO REST. FILLING TO BE INERT ( NON REACTIVE ) GRANULAR MATERIAL, WHERE REQUIRED, WELL WATERED AND COMPACTED IN 200 MM. MAX. LAYERS IN ACCORDANCE WITH AS2870.
- POUR SLABS ON FORTECON MEMBRANE LAID OVER 50 COMPACTED SAND BED
- ALL EXPOSED SLABS TO BE WATERPROOFED WITH APPROVED SYSTEMS
- NOTE: ALL SLABS ON GROUND TO BE TYPE S1 UNLESS FILL EXCEEDS 600MM ACCORDINGLY IF FILL EXCEEDS 600MM, USE TYPE S2.

SLAB S1 TO BE 100 THICK WITH SL82 MESH TOP THROUGHOUT.  
SLAB S2 TO BE 150 THICK WITH SL82 MESH TOP AND BTM. THROUGHOUT.

### SUSPENDED SLAB NOTES:

- SLAB TO BE CURED BY ONE OF THE FOLLOWING METHODS:  
(I) WETTING TWICE DAILY FOR THE FIRST THREE DAYS.  
(II) USING AN APPROVED CURING COMPOUND
- ALL EXPOSED SLABS TO HAVE 40mm COVER
- ALL EXPOSED SLABS TO BE WATERPROOFED WITH APPROVED SYSTEM.
- CHAMFER, FILLET AND DRIP GROOVES TO ARCHITECTURAL SPECIFICATIONS AND TO BUILDER REQUIREMENTS.
- ALL STAIRS TO ARCHITECTURAL SPECIFICATIONS
- ACOUSTIC ENGINEER TO CHECK AND VERIFY ALL FLOOR SLABS FOR ACOUSTIC REQUIREMENTS IN ACCORDANCE WITH THE BCA REGULATIONS AND ADVISE ON ANY ACOUSTIC TREATMENT NEEDED TO SATISFY THE REGULATIONS.

#### IMPORTANT:

IT SHOULD BE NOTED THAT EXISTING STRUCTURE AND DETAILS HAVE BEEN ASSUMED BASED ON LOCAL KNOWLEDGE. IN ADDITION, PLANS AND DETAILS ISSUED FOR THIS PROJECT MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION. IT IS THE BUILDERS RESPONSIBILITY TO ADVISE HYTEN ENGINEERING IF CHANGES ARE REQUIRED &/OR WHAT IS INDICATED ON THE PLANS DO NOT CORRELATE TRUE TO SITE &/OR DURING CONSTRUCTION.

EXISTING STRUCTURE HAS BEEN ASSUMED TO BE ADEQUATE. IF THIS IS NOT TRUE &/OR THERE APPEARS TO BE STRUCTURAL ADEQUACY CONCERNS OF THE EXISTING STRUCTURE THEN IT IS THE BUILDERS RESPONSIBILITY TO ADVISE HYTEN ENGINEERING PRIOR OR DURING CONSTRUCTION.

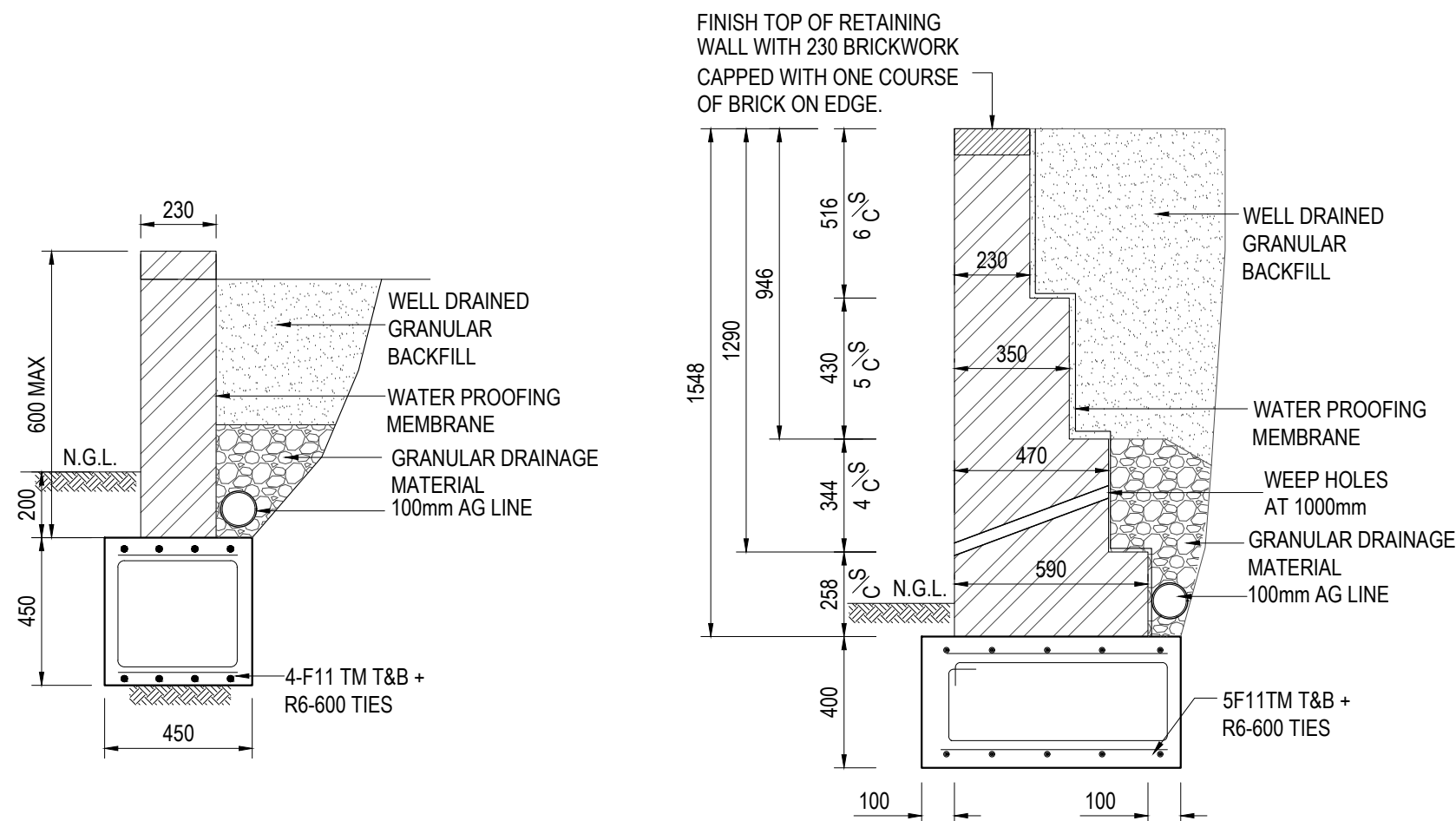
NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.  
  
Do not scale drawings, use figured dimensions only.  
  
WHEN IN DOUBT, ASK. It is your responsibility.  
  
If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |



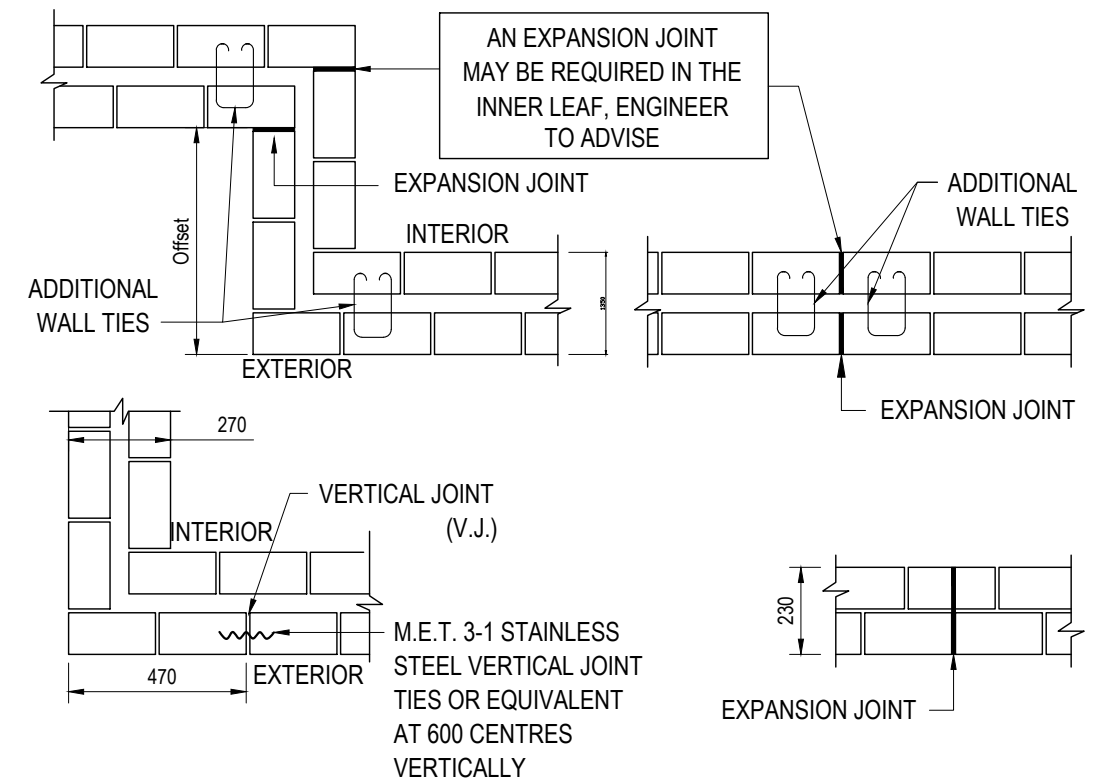
|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

|                |                         |
|----------------|-------------------------|
| Title          | FOOTING DETAILS 1 of 2  |
| ISSUED FOR     | DEVELOPMENT APPLICATION |
| Project Number | 23 H 294                |
| Drawing Number | S03                     |



## BRICK RETAINING WALL: BW1

SCALE 1:20



## TYPICAL BRICK JOINT DETAILS

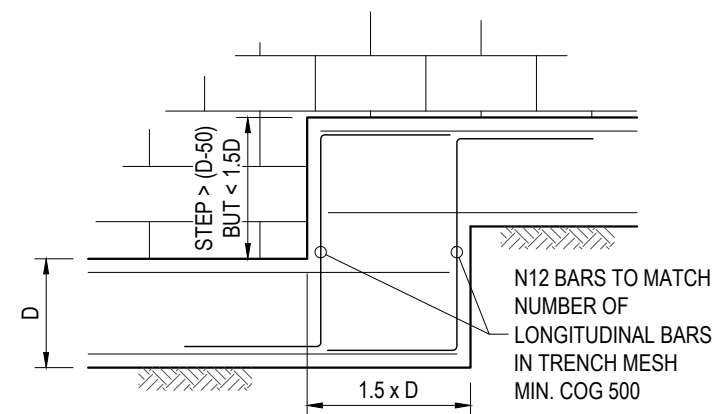
1:20

MINIMUM WIDTH OF JOINT TO BE 10mm

MAXIMUM SPACING OF VERTICAL CONTROL JOINTS TO BE 9m, AND AT LOCATIONS NOMINATED V.J. ON PLAN

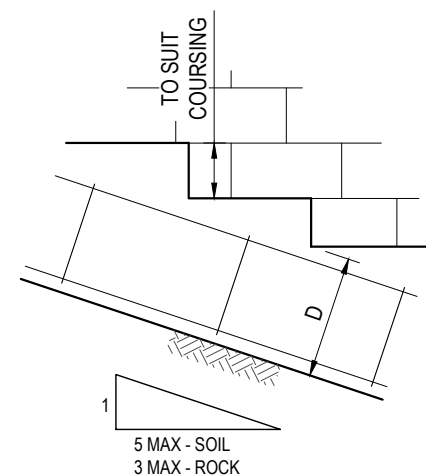
EXPANSION JOINTS TO CONSIST OF ABLEFLEX OR SIMILAR

NO TOOTHING OF BRICKWORK TO OCCUR AT VERTICAL CONTROL JOINTS



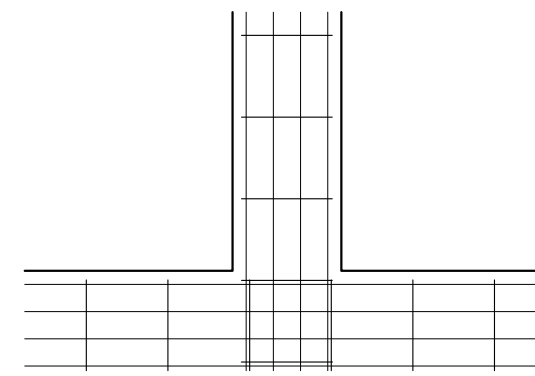
## FOOTING STEP DETAIL

N.T.S.



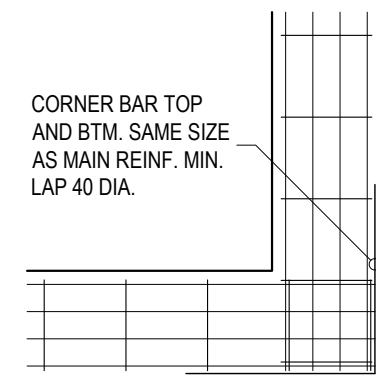
## STEP - GENTLE SLOPES

N.T.S.



## 'T' / CROSS JUNCTION

N.T.S.



## CORNER JUNCTION

N.T.S.

NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.

Do not scale drawings, use figured dimensions only.

WHEN IN DOUBT, ASK. It is your responsibility.

If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

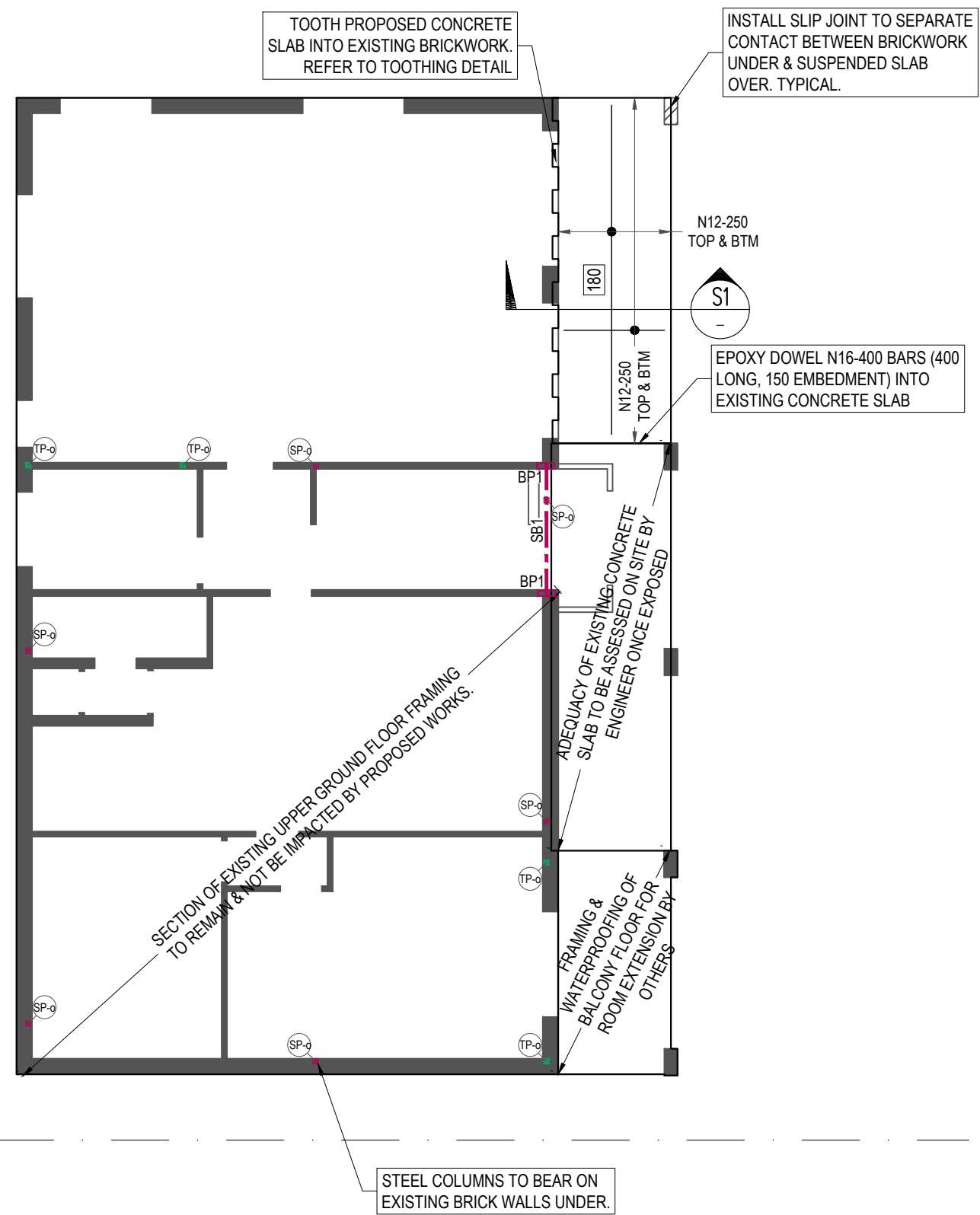
| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |



|         |                                     |
|---------|-------------------------------------|
| Client  | MIDDLEBERG                          |
| Project | 37 JOHN OXLEY DRIVE, FRENCHS FOREST |

|                |                         |
|----------------|-------------------------|
| Title          | FOOTING DETAILS 2 of 2  |
| ISSUED FOR     | DEVELOPMENT APPLICATION |
| Project Number | 23 H 294                |
| Drawing Number | S04                     |

|        |       |
|--------|-------|
| Design | Drawn |
| M.A.   | D.B.  |



LEGEND

EXISTING WALL UNDER

PROPOSED BRICK/TIMBER UNDER

SB#

BP#

- SUSPENDED SLAB NOTES:
1.

SLAB TO BE CURED BY ONE OF THE FOLLOWING METHODS:

(I) WETTING TWICE DAILY FOR THE FIRST THREE DAYS.

(II) USING AN APPROVED CURING COMPOUND
2.
- ALL EXPOSED SLABS TO HAVE 40mm COVER

3.

4.

5.

6.

- NOTES:
1.
- DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECTURALS.

2.

3.

| CONCRETE QUALITY |       |                     |             |                |
|------------------|-------|---------------------|-------------|----------------|
| ELEMENT          | SLUMP | AGGREGATE MAX. SIZE | CEMENT TYPE | f <sub>c</sub> |
| SUSPENDED SLAB   | 80mm  | 20mm                | A           | 32 MPa         |

| REINFORCEMENT COVER SCHEDULE |       |        |       |                         |
|------------------------------|-------|--------|-------|-------------------------|
| MEMBER                       | COVER |        |       | EXPOSURE CLASSIFICATION |
|                              | TOP   | BOTTOM | SIDES |                         |
| SUSPENDED SLAB               | 40mm  | 40mm   | 40mm  | B1                      |

| STRUCTURAL MEMBER SCHEDULE |               |                            |          |
|----------------------------|---------------|----------------------------|----------|
| MARK                       | DESCRIPTION   | SIZE                       | COMMENTS |
| SB1                        | STEEL BEAM    | 180 UB 22.2                | -        |
| BP1                        | BEARING PLATE | 300 x 100 x 10 STEEL PLATE | -        |

UPPER GROUND FLOOR FRAMING PLAN

SCALE 1:100

NOTE:

© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.

Do not scale drawings, use figured dimensions only.

WHEN IN DOUBT, ASK. It is your responsibility.

If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |

HYTEN  
ENGINEERING

STRUCTURAL | STORMWATER | GLASS ENGINEERING

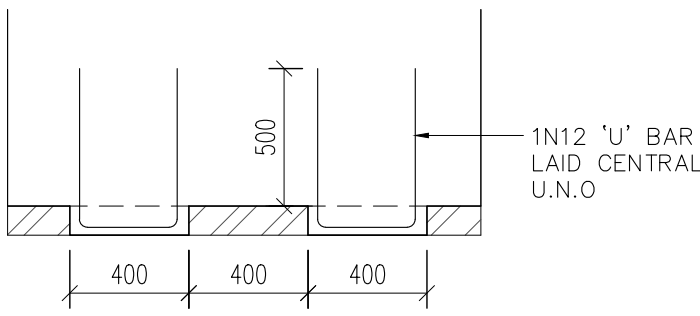
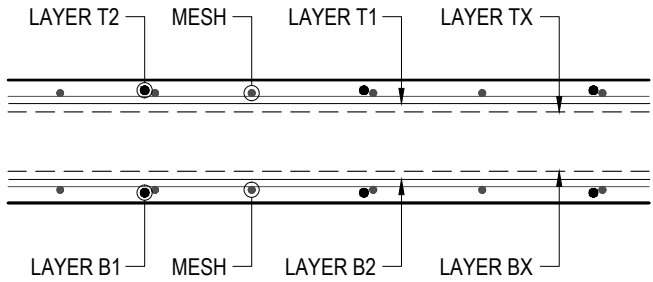
0413 863 363 michael@hyten.com.au www.hyten.com.au

|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

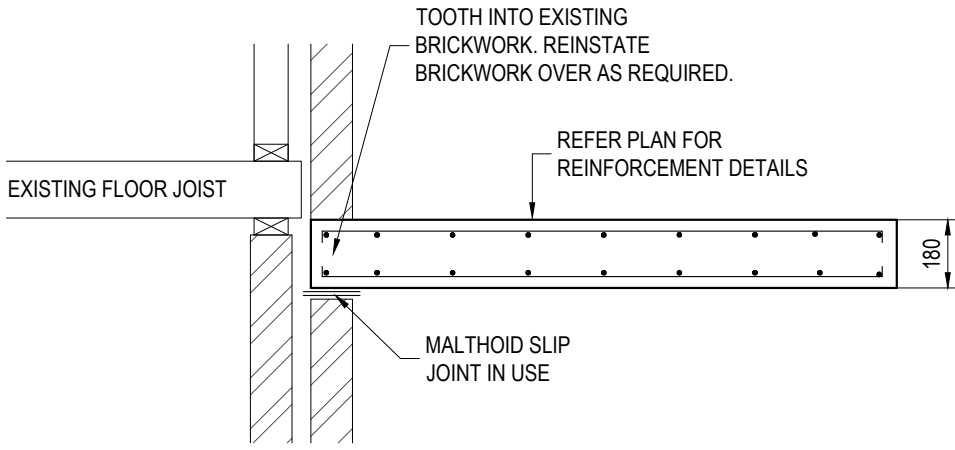
|                                       |  |                |                |
|---------------------------------------|--|----------------|----------------|
| Title                                 |  | Design         | Drawn          |
| UPPER GROUND FLOOR<br>FRAMING PLAN    |  | M.A.           | D.B.           |
| ISSUED FOR<br>DEVELOPMENT APPLICATION |  | Project Number | Drawing Number |
|                                       |  | 23 H 294       | S05            |

REINFORCEMENT NOTES:

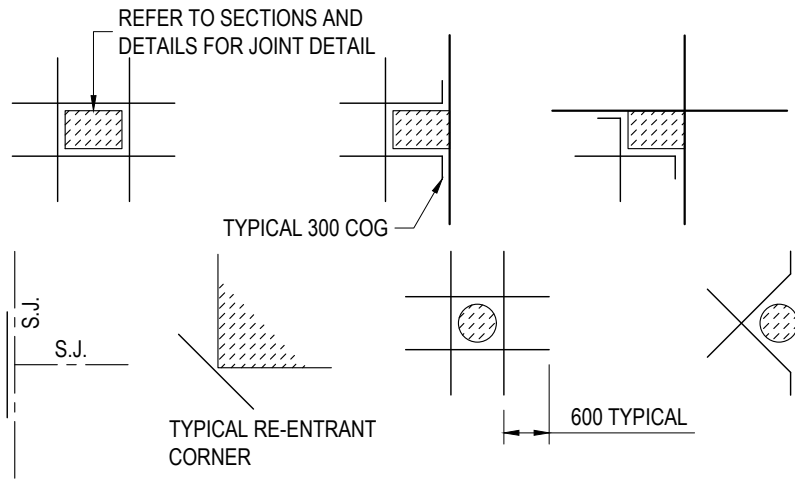
- 1. ENSURE 50mm MINIMUM SPACING BETWEEN BARS IN SLABS & ENSURE 100mm MINIMUM SPACING BETWEEN BARS IN BEAMS
- 2. SLAB REINFORCEMENT LAYING SEQUENCE U.N.O.



TYPICAL TOOTHING DETAIL  
SCALE 1:20



3. TYPICAL TRIMMERS AT PENETRATION DETAIL:



4. PROVIDE TOP & BOTTOM BARS ON ALL WALL OPENINGS AS PER THE SCHEDULE BELOW:

| LENGTH OF OPENING (m) | BTM. BAR | TOP BAR |
|-----------------------|----------|---------|
| 1.0 - 1.8             | 2-N16    | 2-N16   |
| 1.8 - 2.5             | 3-N16    | 3-N16   |
| 2.5 - 3.5             | 3-N20    | 3-N20   |

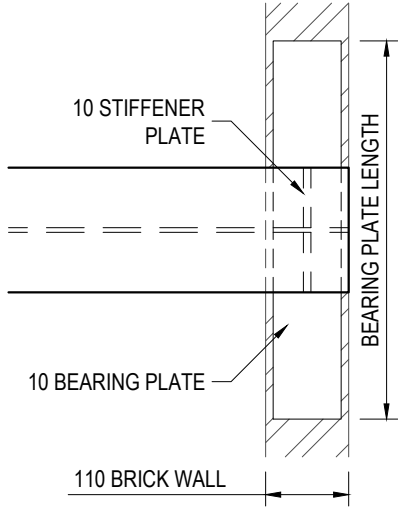
LAPPING SCHEDULE:

ADEQUATE OVERLAP FOR MESH AS FOLLOWS:

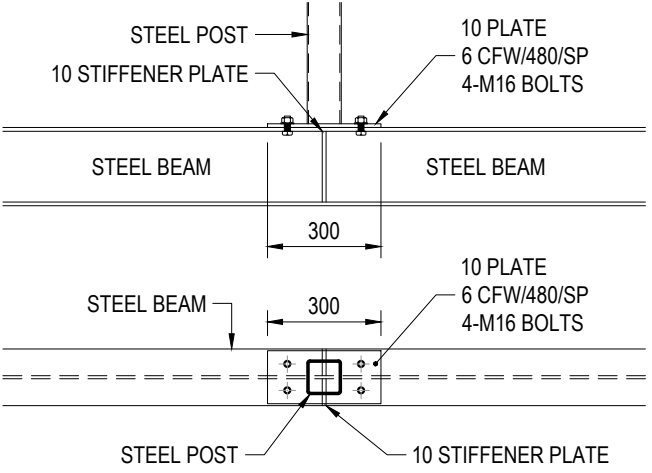
| MESH  | MIN LAPPING |
|-------|-------------|
| SL82  | 400mm       |
| SL92  | 450mm       |
| SL102 | 500mm       |

ADEQUATE OVERLAP FOR BARS AS FOLLOWS:

| BAR | MIN LAPPING |
|-----|-------------|
| N12 | 500mm       |
| N16 | 650mm       |
| N20 | 800mm       |
| N24 | 1000mm      |



TYP. STEEL BEAM BEAR ON BRICK WALL DETAIL  
N.T.S.



TYP. STEEL POST TO STEEL BEAM DETAIL  
N.T.S.

NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.  
  
Do not scale drawings, use figured dimensions only.  
  
WHEN IN DOUBT, ASK. It is your responsibility.  
  
If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

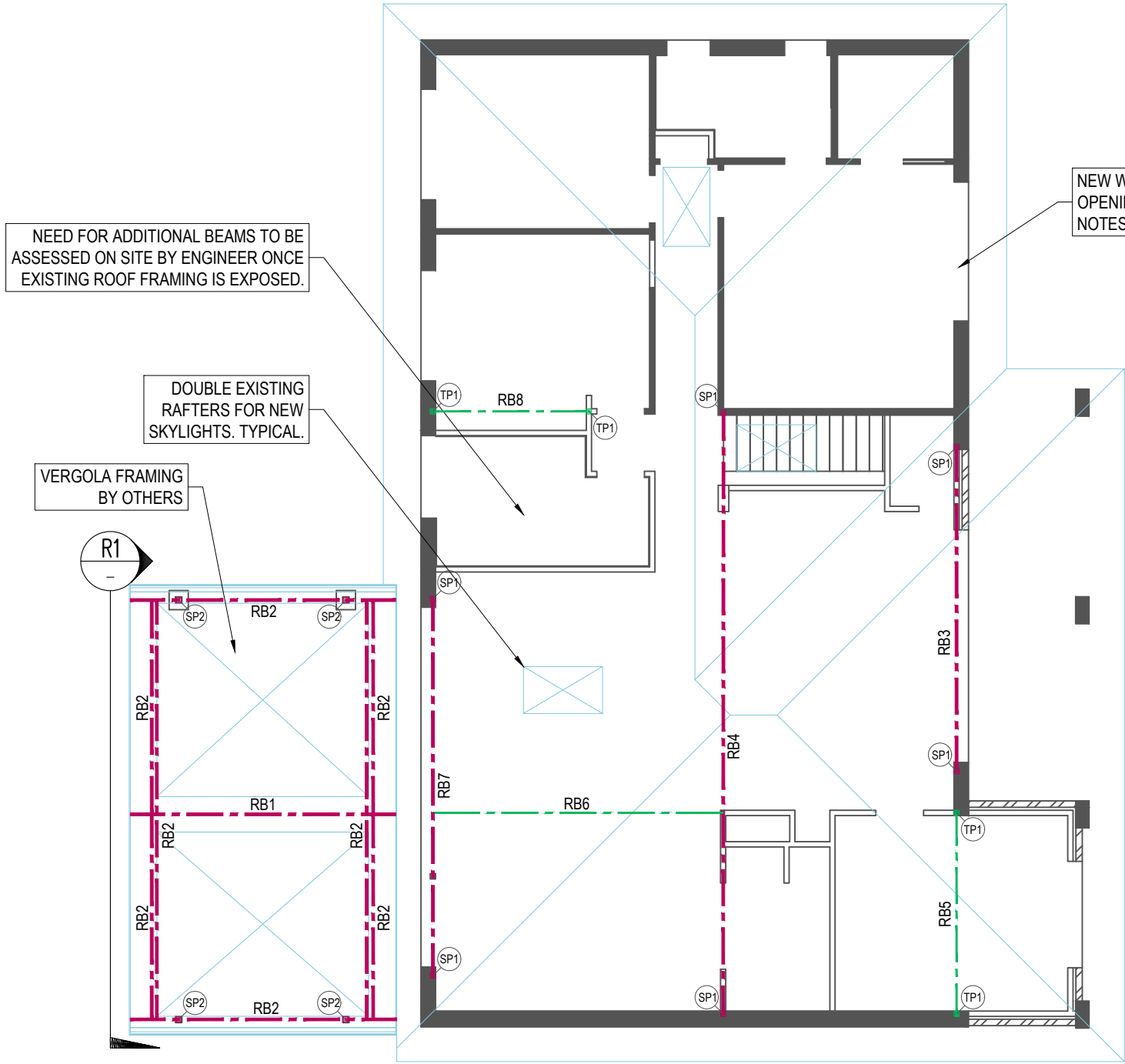
| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |

**HYTEN ENGINEERING**  
STRUCTURAL | STORMWATER | GLASS ENGINEERING  
0413 863 363 michael@hyten.com.au www.hyten.com.au

|         |                                     |
|---------|-------------------------------------|
| Client  | MIDDLEBERG                          |
| Project | 37 JOHN OXLEY DRIVE, FRENCHS FOREST |

|            |                                    |
|------------|------------------------------------|
| Title      | UPPER GROUND FLOOR FRAMING DETAILS |
| ISSUED FOR | DEVELOPMENT APPLICATION            |

|                |          |
|----------------|----------|
| Design         | M.A.     |
| Drawn          | D.B.     |
| Project Number | 23 H 294 |
| Drawing Number | S06      |



ROOF FRAMING PLAN

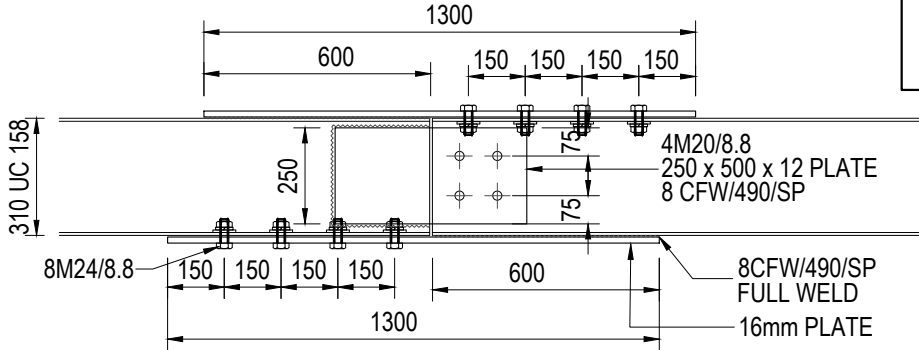
SCALE 1:100

FRAMING NOTES:

- ALL EXPOSED STEEL TO BE PRESSURE GALVANIZED
- ALL DETAILS TO BE CONFIRMED DURING CONSTRUCTION
- ALL STEEL FIXINGS TO BE IN ACCORDANCE TO AS4100
- ALL EXPOSED TIMBER TO BE PRESSURE TREATED TO AS1684
- ALL TIMBER TO BE IN ACCORDANCE TO AS1684
- ROOF TO BE BUILT IN ACCORDANCE TO AS1684
- NOMINAL TIMBER CONNECTIONS TO AS1684

LEGEND

- EXISTING WALL
- PROPOSED BRICK/TIMBER
- PROPOSED STEEL POST UNDER
- PROPOSED TIMBER POST UNDER
- PROPOSED STEEL BEAM
- PROPOSED TIMBER BEAM



STEEL BEAM SPLICE CONNECTION DETAIL

SCALE 1:20

LOAD-BEARING TIMBER LINTEL FOR WINDOW & DOOR OPENING AS FOLLOW, UNO.

|         |                     |
|---------|---------------------|
| 0m - 1m | 2 / 100 x 45 hySPAN |
| 1m - 2m | 2 / 150 x 45 hySPAN |
| 2m - 3m | 2 / 200 x 45 hySPAN |

NON LOAD BEARING STEEL LINTEL SCHEDULE

| SPAN   | LINTEL SIZE                | MIN. END BEARING |
|--|----------------------------|------------------|
| UP TO 900mm                                      | 100 x 8mm FLAT BAR         | 100mm            |
| 900mm - 2400mm                                   | 150 x 100 x 8mm ANGLE BAR  | 150mm            |
| 2400mm - 3000mm                                  | 150 x 100 x 12mm ANGLE BAR | 150mm            |
| MAXIMUM HEIGHT OF BRICKWORK OVER LINTEL = 3000mm |                            |                  |
| ALL EXTERNAL LINTELS TO BE HOT DIPPED GALVANISED |                            |                  |

STRUCTURAL MEMBER SCHEDULE

| MARK | DESCRIPTION | SIZE                            | COMMENTS        |
|------|-------------|---------------------------------|-----------------|
| TP1  | TIMBER POST | 2 / 90 x 45 MGP10 (DOUBLE STUD) | -               |
| SP1  | STEEL POST  | 89 x 89 x 5 SHS                 | -               |
| SP2  | STEEL POST  | 125 x 125 x 6 SHS               | GALVANIZED      |
| RB1  | STEEL BEAM  | 250 UB 31.4                     | GALV IF EXPOSED |
| RB2  | STEEL BEAM  | 250 PFC                         | GALV IF EXPOSED |
| RB3  | STEEL BEAM  | 250 PFC + 10 PLATE              | -               |
| RB4  | STEEL BEAM  | 310 UC 158                      | -               |
| RB5  | TIMBER BEAM | 2 / 240 x 45 hySPAN             | -               |
| RB6  | TIMBER BEAM | 2 / 360 x 45 hySPAN             | -               |
| RB7  | STEEL BEAM  | 300 PFC + 10 PLATE              | -               |
| RB8  | TIMBER BEAM | 2 / 200 x 45 hySPAN             | -               |

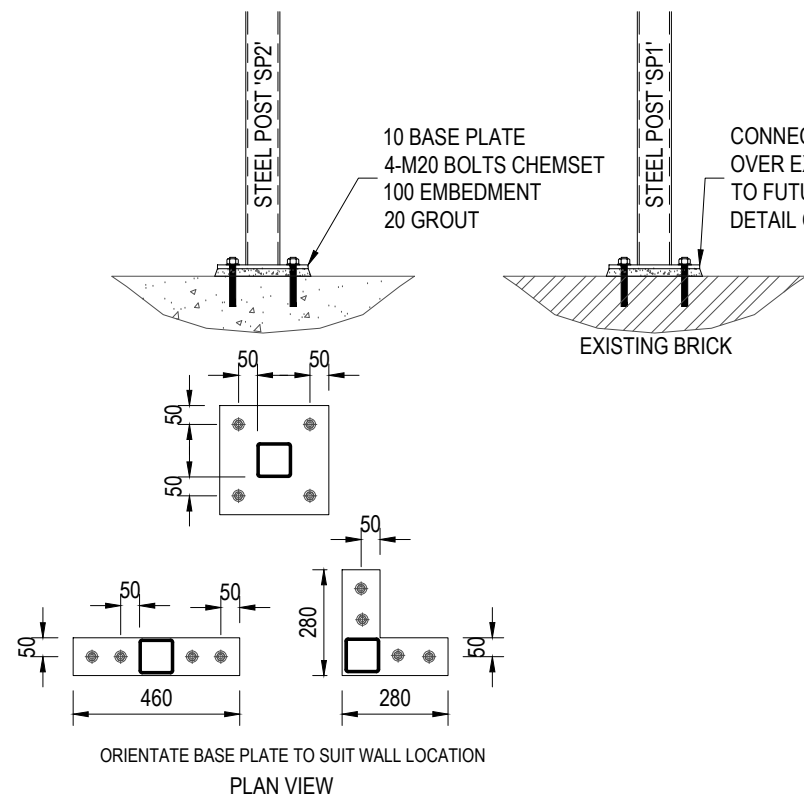
NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.  
Do not scale drawings, use figured dimensions only.  
WHEN IN DOUBT, ASK. It is your responsibility.  
If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |

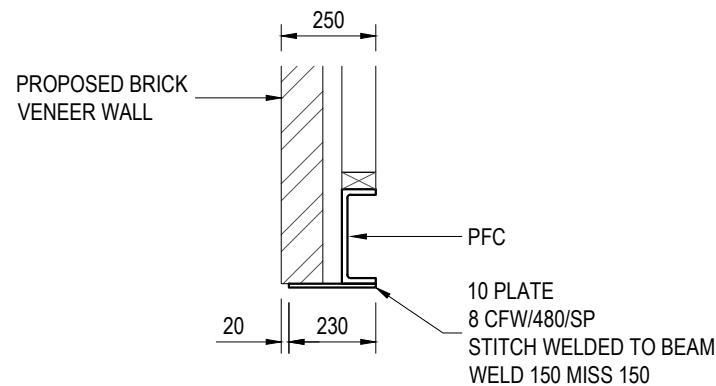
**HYTEN ENGINEERING**  
STRUCTURAL | STORMWATER | GLASS ENGINEERING  
0413 863 363 michael@hyten.com.au www.hyten.com.au

|         |                                     |
|---------|-------------------------------------|
| Client  | MIDDLEBERG                          |
| Project | 37 JOHN OXLEY DRIVE, FRENCHS FOREST |

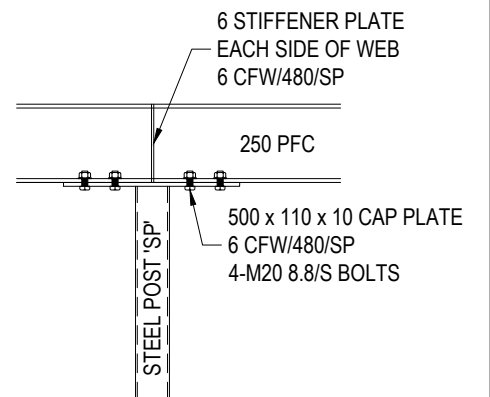
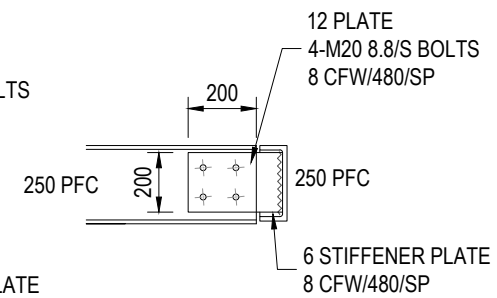
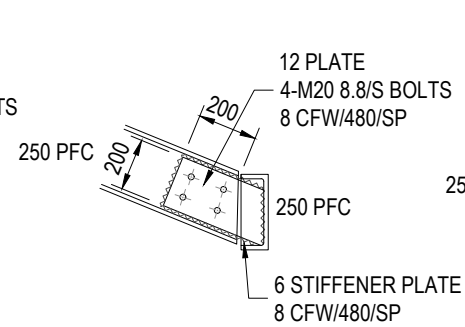
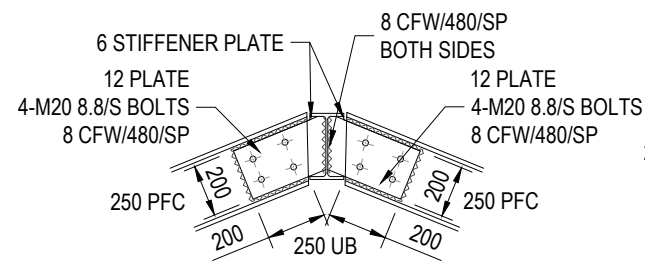
|                                    |  |                |                |
|------------------------------------|--|----------------|----------------|
| Title                              |  | Design         | Drawn          |
| ROOF FRAMING PLAN                  |  | M.A.           | D.B.           |
| ISSUED FOR DEVELOPMENT APPLICATION |  | Project Number | Drawing Number |
|                                    |  | 23 H 294       | S07            |



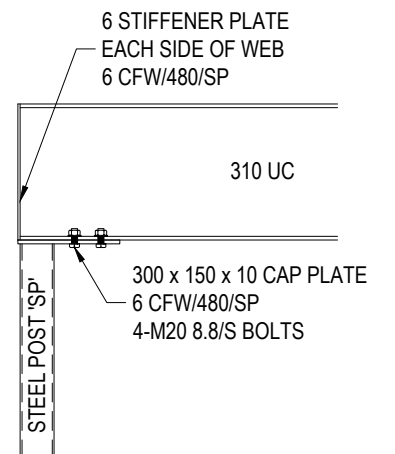
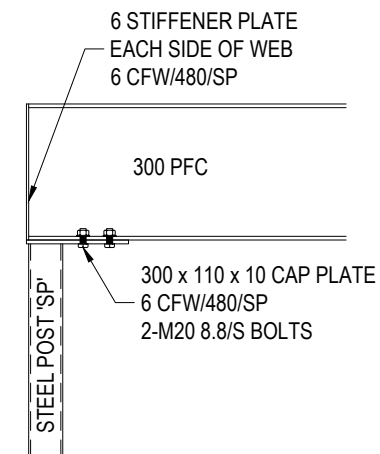
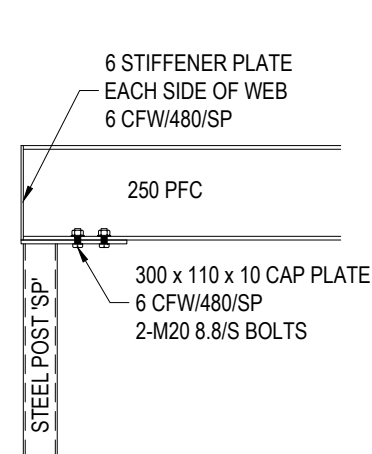
**STEEL POST BASE DETAIL**  
SCALE 1:20



**PFC WITH STEEL PLATE DETAIL**  
N.T.S.



**STEEL BEAM TO RIDGE BEAM, STEEL  
COULMN & STEEL BEAM DETAIL**  
N.T.S.



**STEEL BEAM TO STEEL POST CONNECTION DETAIL**  
N.T.S.  
BEAMS TO BE LOCATED CENTRALLY OVER COLUMN TYPICAL

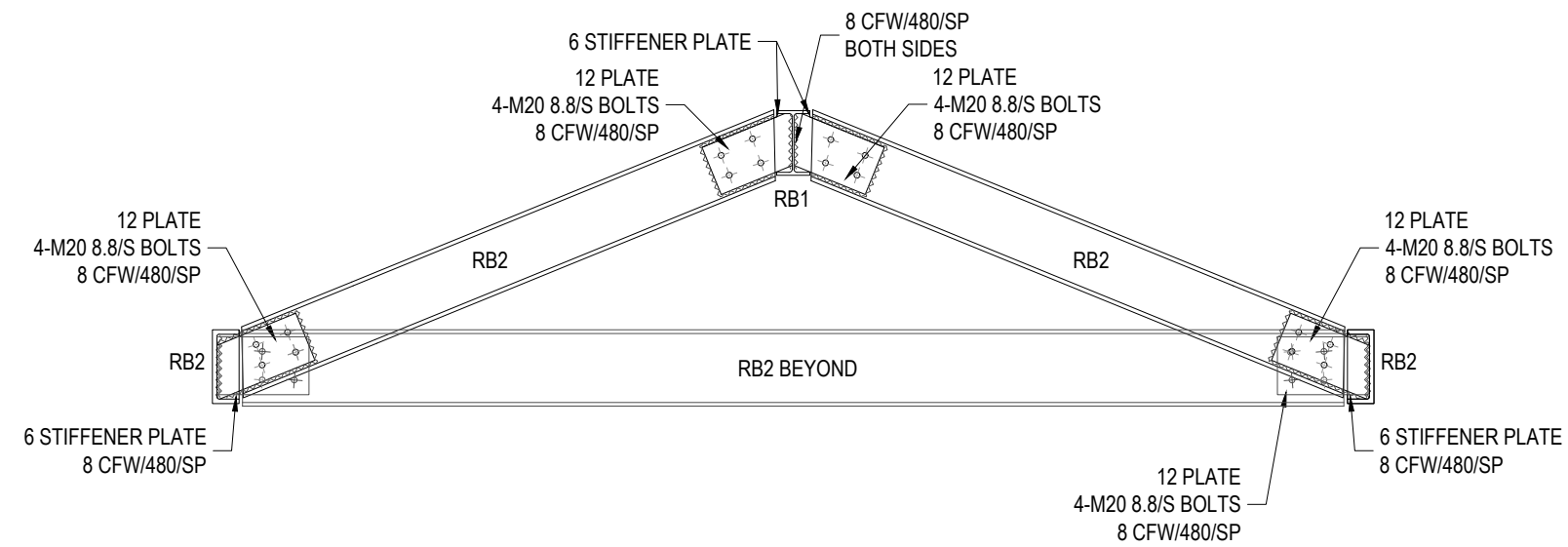
NOTE:  
© Copyright. This plan and design is the property of  
HYTEN ENGINEERING, and must not be used,  
reproduced or copied wholly or in part without written  
permission from the company.  
  
Do not scale drawings, use figured dimensions only.  
  
WHEN IN DOUBT, ASK. It is your responsibility.  
  
If HYTEN Engineering has not been engaged to carry out  
structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |



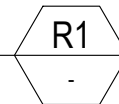
|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

|                         |                |                |       |
|-------------------------|----------------|----------------|-------|
| Title                   |                | Design         | Drawn |
| ROOF FRAMING DETAILS    |                | M.A.           | D.B.  |
| ISSUED FOR              | Project Number | Drawing Number |       |
| DEVELOPMENT APPLICATION | 23 H 294       | S08            |       |



SECTION

SCALE 1:20



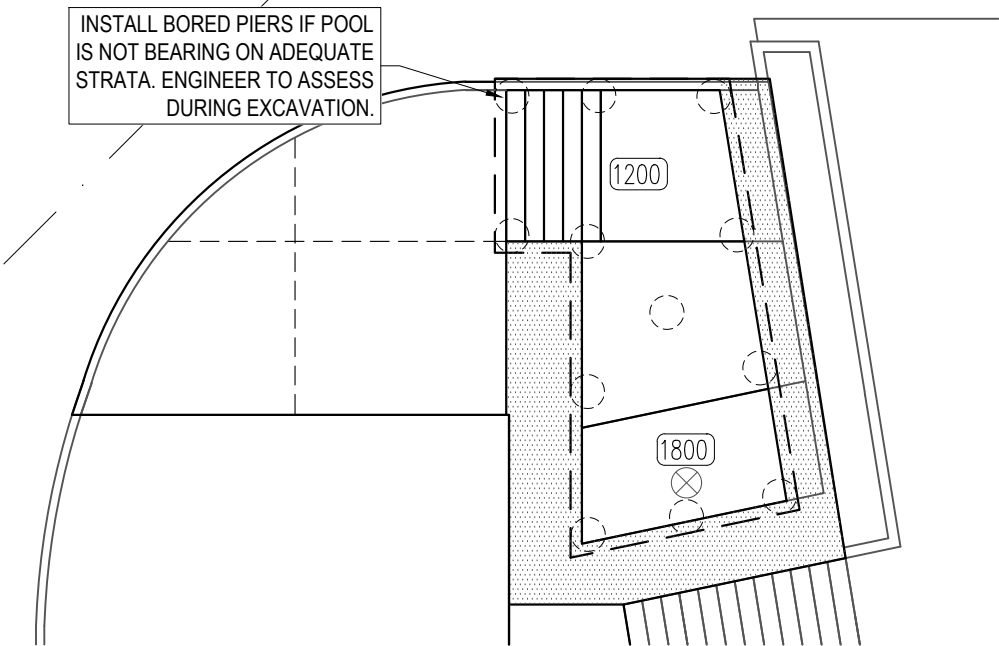
NOTE:  
© Copyright. This plan and design is the property of  
HYTEN ENGINEERING, and must not be used,  
reproduced or copied wholly or in part without written  
permission from the company.  
  
Do not scale drawings, use figured dimensions only.  
  
WHEN IN DOUBT, ASK. It is your responsibility.  
  
If HYTEN Engineering has not been engaged to carry out  
structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
|      |                 |      |      |            |
|      |                 |      |      |            |
|      |                 |      |      |            |
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |



|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

|            |                         |                |          |                |      |
|------------|-------------------------|----------------|----------|----------------|------|
| Title      | ROOF FRAMING SECTION    | Design         | M.A.     | Drawn          | D.B. |
| ISSUED FOR | DEVELOPMENT APPLICATION | Project Number | 23 H 294 | Drawing Number | S09  |



## POOL PLAN

SCALE: 1:100

NOTES:

- CONCRETE STRENGTH  $F'_c = 32 \text{ MPa}$
- DESIGN SUITABLE FOR CLASS M SITE CLASSIFIED UNDER AS2870-1996
- SUPPORTING FOUNDATION MATERIAL TO BE **A MINIMUM STIFF CLAY or SAND** OF UNIFORM MOISTURE CONTENT WITH SAFE BEARING CAPACITY OF **300 kPa**. (POOL BASE TO BE FOUND INTO VIRGIN MATERIAL.)
- IF POOL IS TO BE FOUND IN 'H' CLASS MATERIAL, **DROPPERS** ARE TO BE PROVIDED RIGHT AROUND POOL.
- TYPICAL WALL & FLOOR REINFORCEMENT TO BE S12-300 IN EACH DIRECTION. WHERE POOL WALL EXTENDS MORE THAN 600mm ABOVE UNDISTURBED SUBSOIL (300kPa MATERIAL) AND/OR WHERE DEPTH OF EXCAVATION IN OTHER THAN ROCK EXCEEDS MORE THAN 1500mm, **PROVIDE ADDITIONAL DROPPERS (S12-300 VERTICAL TO BE 450mm FROM TOP OF WALL & 1200mm INTO BASE OF POOL.)**
- PROVIDE AN EXPANSION JOINT BETWEEN THE SWIMMING POOL STRUCTURE AND ANY OTHER STRUCTURE SUCH AS CONCRETE WALKWAYS, FOOTING, ETC

### LEGEND

|  |                        |
|--|------------------------|
|  | POOL COPING            |
|  | POOL DEPTH             |
|  | H.R.VALVE              |
|  | CONCRETE PIER          |
|  | E.J. - EXPANSION JOINT |

## GENERAL

- DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECTURALS (SETOUT, LEVELS, FALLS ETC.).
- WRITTEN DIMENSIONS TO BE TAKEN IN REFERENCE TO SCALE.
- SKIMMER TO BE POSITIONED BY BUILDER.
- STEP & FILTER LOCATION TO BE DISCUSSED WITH CLIENTS DURING CONSTRUCTION
- PLUMBING IS TO BE IN ACCORDANCE WITH WRITTEN RECOMMENDATIONS OF FILTER MANUFACTURER.
- THIS DRAWING IS A STANDARD SPECIFICATION: ITEMS SHOWN ARE INCLUDED ONLY WHEN INDICATED IN CONTRACT.
- PLANS ARE ONLY APPROVED WHEN BEARING AN ORIGINAL SIGNATURE OF THE ENGINEER.
- POOL SETOUT ONSITE TO BE CONFIRMED WITH OWNER BEFORE COMMENCING TO DIG.
- POOL FENCE AS PER APPROVAL DOCUMENTS TO BE 1200 HIGH CHILD SAFETY POOL FENCE AND SELF (LATCHING) CLOSING GATE TO AS1926-86 BY OTHERS (NOTE: POOL FENCING IS OWNER'S RESPONSIBILITY.)

## CONCRETE AND REINFORCEMENT NOTES

- CONCRETE TO HAVE A MINIMUM DESIGN STRENGTH OF  $F'_c = 25 \text{ MPa}$  AT 28 DAYS (**32MPa WHERE WITHIN ONE KILOMETRE OF SEA OR OUT OF GROUND**) USING 10mm MAXIMUM AGGREGATE SIZE (POOL MIX) SLUMP 75MM. ADDITIVES NOT PERMITTED WITHOUT APPROVAL. UPON COMPLETION OF CONCRETING THE HYDROSTATIC VALVE IS TO BE CHECKED TO ENSURE EFFECTIVE AND SUFFICIENT OPERATION
- CONCRETE TO BE CURED BY HOSEING TWICE DAILY FOR SEVEN DAYS SEEK ADDITIONAL ADVICE FOR SITES NOT CONNECTED TO TOWN WATER SUPPLY
- REINFORCEMENT TO BE STRUCTURAL GRADE 250 DEFORMED BAR TO AS1302 LAPPED 450MM AS REQUIRED, TIED SECURELY WITH 1.2MM ANNEALED WIRE AND SHALL BE SUPPORTED ON APPROVED TYPE BAR CHAIRS AT 900MM CENTRES BOTH WAYS
- ALTERNATIVE REINFORCEMENT TO BE TEMCORE BARS IN ACCORDANCE WITH AS 1302 410 Y
- SPLICES IN BOND BEAM BARS SHALL BE STAGGERED
- WATER FACE REINFORCEMENT TO HAVE 65MM CONCRETE COVER REAR FACE REINFORCEMENT HAVE 50MM COVER FROM REAR REAR FACE IF FORMED AND 65MM COVER IS SPRAYED AGAINST GROUND

## POOL DESIGN

- WALKWAYS ARE NOT DESIGNED TO SUPPORT MASONRY WALLS UNLESS OTHERWISE NOTED
- DESIGN LIVE LOAD FOR WALKWAYS AND CONCOURSES 3 KPA
- GEOTECHNICAL ENGINEER TO VERIFY THE SAFE BEARING CAPACITY OF FOUNDATION MATERIAL PRIOR TO CONSTRUCTION.
- NOTE POOL IS NOT DESIGNED FOR DIVING.
- DESIGN COMPLIES WITH RELEVANT SECTIONS OF AS3600 AND AS2783 ISSUE 1992 FOR PNEUMATICALLY APPLIED CONCRETE FOR USE IN REINFORCED SWIMMING POOLS.
- NO ALLOWANCE HAS BEEN MADE FOR SURCHARGE LOADING FROM ANY STRUCTURE, UNLESS INDICATED ON PLAN.

## CONSTRUCTION NOTES

- WHERE IT IS CONSIDERED THAT GROUND WATER CAN BUILD UP TO A LEVEL 500MM ABOVE THE FLOOR OF THE EXCAVATION ADEQUATE DRAINAGE SHALL BE PROVIDED UNDER THE POOL FLOOR
- PVC PLUMBING PIPES TO BE 50MM FROM STEEL REINFORCEMENT, OR IF TIED TO STEEL REINFORCEMENT TO BE FULLY ENCASED WITH AT LEAST 50MM CONCRETE COVER.
- CONCRETE SIZES SHOWN ARE EXCLUSIVE OF RENDER OR OTHER INTERNAL FINISH AND SHALL NOT BE VARIED OR PENETRATED BY HOLES UNLESS SHOWN ON PLAN OR APPROVED BY ENGINEER.
- PROVIDE 10MM CONTROL JOINTS AT MAXIMUM 3500MM CENTRES AND AT ALL POINTS OF CONTRA-CURVATURE IN PLAN VIEW OF WALKWAY FINISH. PROVIDE 10MM CONTROL AT JUNCTION OF ANY ADDITIONAL PAVING TO POOL STRUCTURE AND/OR POOL FINISHES.
- TILE PAVEMENTS IN POOL AREA TO BE LAID IN ACCORDANCE WITH AS3958-1 AND AS3958-2.
- PROVIDE 10MM EXPANSION JOINT MATERIAL BETWEEN POOL CONCRETE AND ALL EXISTING RIGID STRUCTURES ON THE SITE INCLUDING BRICK WALLS OF HOUSE, DRIVEWAY SLAB ETC.
- WHERE POOL WALKWAY/COPING LEVEL IS IN PART BELOW ADJOINING GROUND LEVEL, PROVIDE SURFACE CATCH DRAINS AND/OR SUB-SURFACE DRAINS TO DIVERT STORMWATER AND/OR GROUND WATER AWAY FROM POOL

## NOTIFY ENGINEER

- STRUCTURAL ENGINEER TO BE NOTIFIED TO INSPECT STEEL PLACEMENT 48 HRS PRIOR TO CONCRETE PLACEMENT. ( FEE APPLICABLE AT TIME OF INSPECTION)
- ENGINEER TO BE ADVISED IF EXCAVATION IS IN FILL OR IF EXCESSIVE GROUND WATER IS ENCOUNTER.
- POOL WALLS NOT TO PROJECT MORE THAN 600MM OUT OF GROUND SUPPORTING MATERIAL (AT LEAST 200KPA MATERIAL) OR SEEK ENGINEERING ADVICE.
- IF POOL IN ZONE OF INFLUENCE OF EXISTING STRUCTURE, UNDERPINNING OF MAYBE REQUIRED, ENGINEER TO CONFIRM ON SITE

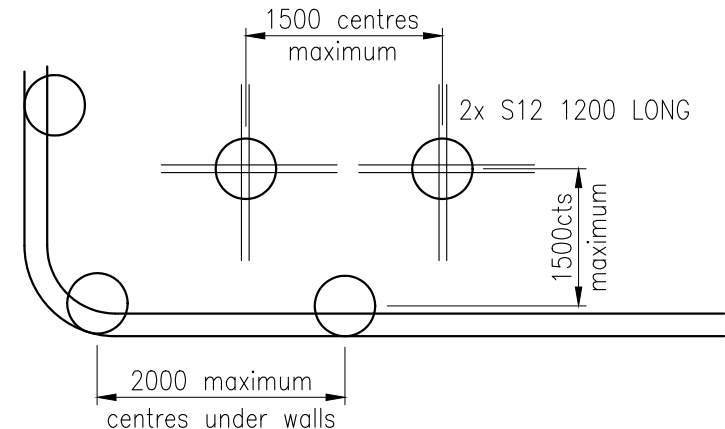
## PIERING NOTES (IF REQUIRED):

PIERS REQUIRED IF:

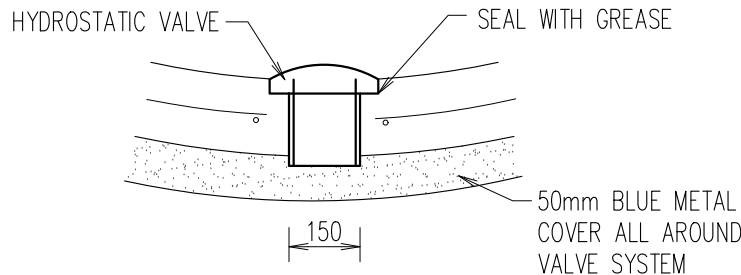
- POOL FOUND IN INADEQUATE STRATA or NON-VIRGIN MATERIAL (IE. FILL)
- BASE OF POOL FOUND IN STRATA THAT REVEALS DISSIMILAR MATERIAL (POOL TO HAVE EVEN BEARING THROUGHOUT)

TYPE OF PIERS TO BE USED WHERE REQUIRED:

- 300Ø PIERS TO ROCK,
- 450Ø PIERS TO STIFF CLAY OF 300Kpa BEARING CAPACITY,
- 600Ø PIERS TO NATURAL GROUND OF 200Kpa BEARING CAPACITY.
- PIER DEEPER THAN 1500mm or OUT OF GROUND, TO BE REINFORCED WITH 6N12 VERTICAL + R10-300 TIES



## PIER LAYOUT WHERE REQUIRED



## HYDROSTATIC RELIEF VALVE

NOTE:  
© Copyright. This plan and design is the property of  
HYTEN ENGINEERING, and must not be used,  
reproduced or copied wholly or in part without written  
permission from the company.

Do not scale drawings, use figured dimensions only.

WHEN IN DOUBT, ASK. It is your responsibility.

If HYTEN Engineering has not been engaged to carry out  
structural inspections, no certificate will be issued.

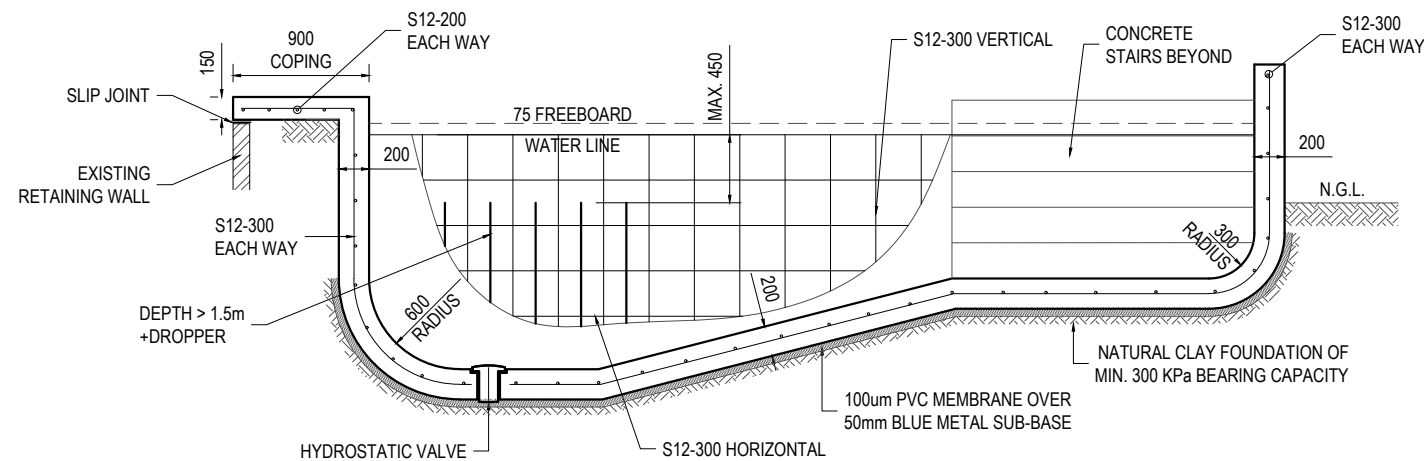
| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
|      |                 |      |      |            |
|      |                 |      |      |            |
|      |                 |      |      |            |
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |



|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

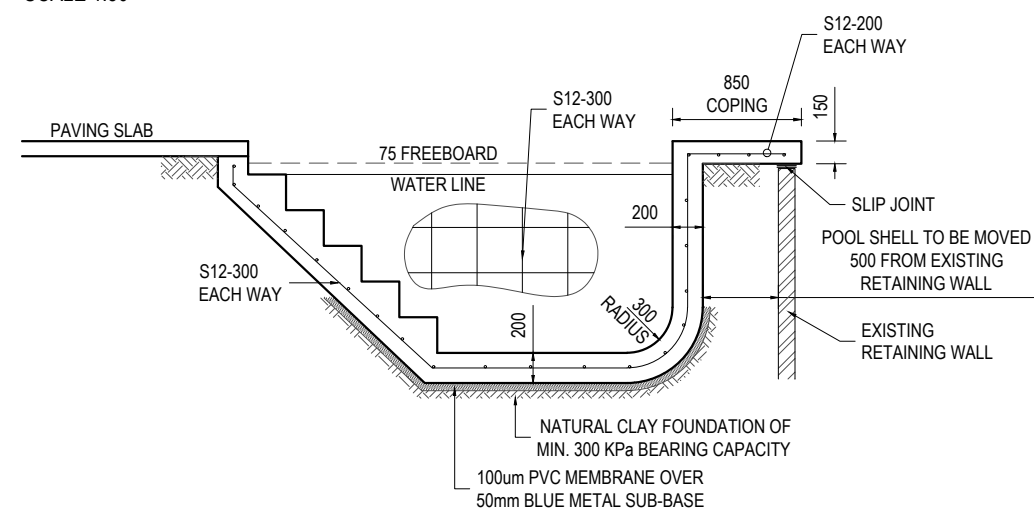
|                |                         |
|----------------|-------------------------|
| Title          | POOL PLAN               |
| ISSUED FOR     | DEVELOPMENT APPLICATION |
| Project Number | 23 H 294                |

|                |       |
|----------------|-------|
| Design         | Drawn |
| M.A.           | D.B.  |
| Drawing Number | S10   |



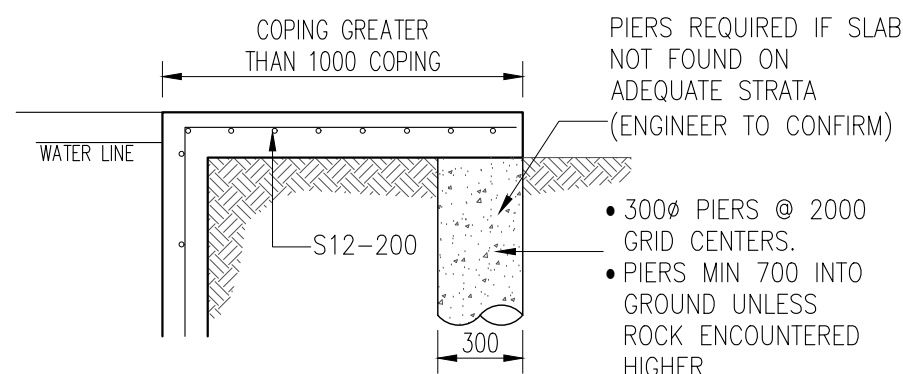
## POOL LONG SECTION

SCALE 1:50

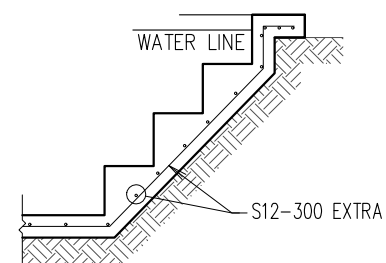


## POOL SHORT SECTION

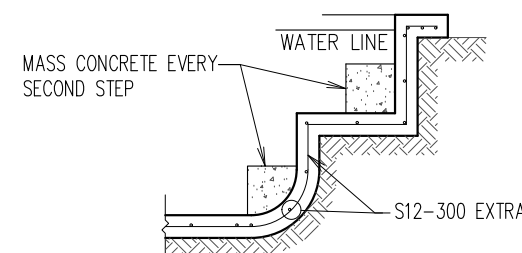
SCALE 1:50



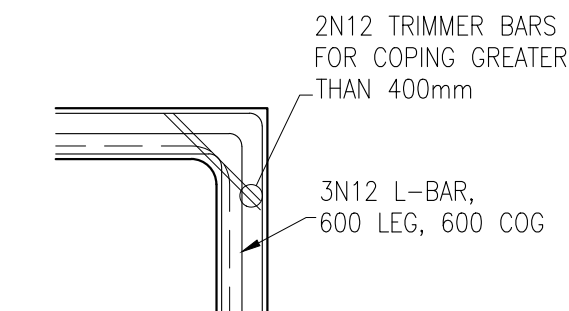
## CANTILEVERED WALKWAY DETAIL



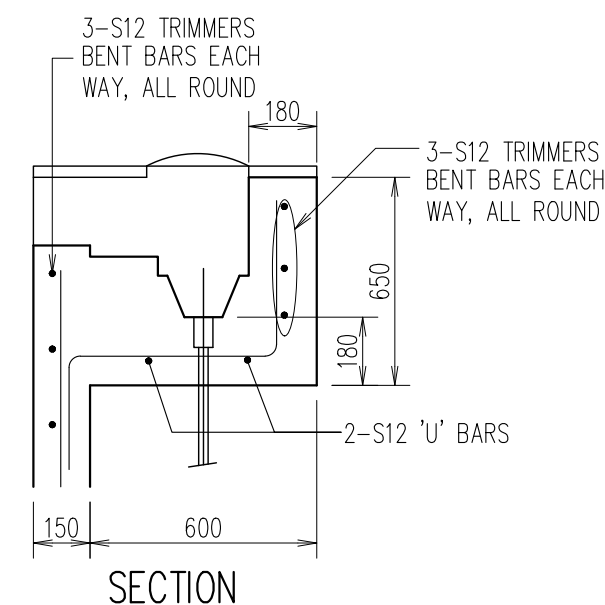
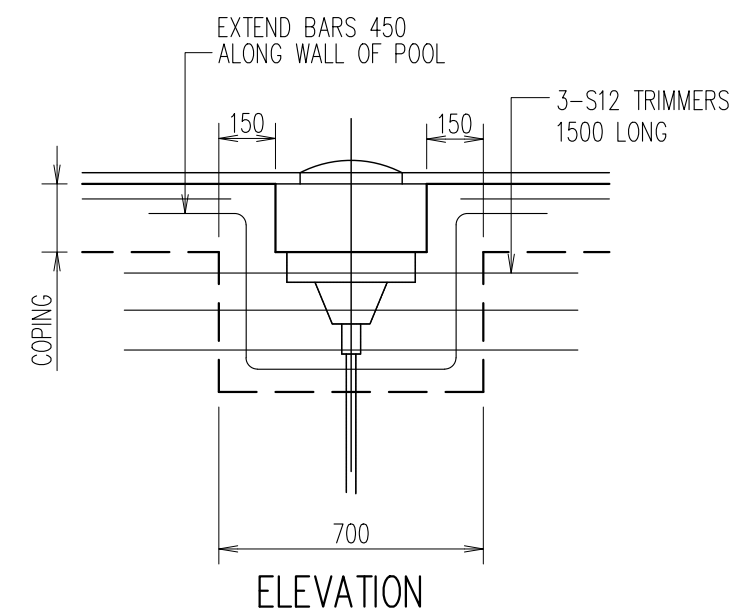
## STEP SECTION



## STEP & BENCH SECTION



## COPING (BOND BEAM) DETAIL



## SKIMMER BOX DETAIL

SCALE 1:20

NOTE:

- LOCATION TO SUIT PUMP MANUFACTURER'S SPECIFICATION
- ALL PVC PIPE TO BE MIN 50mm FROM STEELWORK, UNLESS FULLY ENCASED IN 50mm CONCRETE COVER

NOTE:  
© Copyright. This plan and design is the property of HYTEN ENGINEERING, and must not be used, reproduced or copied wholly or in part without written permission from the company.

Do not scale drawings, use figured dimensions only.  
WHEN IN DOUBT, ASK. It is your responsibility.

If HYTEN Engineering has not been engaged to carry out structural inspections, no certificate will be issued.

| Rev. | Description     | By.  | App. | Date       |
|------|-----------------|------|------|------------|
| A    | ISSUED FOR D.A. | D.B. | M.A. | 27.09.2023 |



|         |  |
|---------|--|
| Client  | MIDDLEBERG                             |
| Project | 37 JOHN OXLEY DRIVE,<br>FRENCHS FOREST |

|            |                         |                |          |                |      |
|------------|-------------------------|----------------|----------|----------------|------|
| Title      | POOL DETAILS            | Design         | M.A.     | Drawn          | D.B. |
| ISSUED FOR | DEVELOPMENT APPLICATION | Project Number | 23 H 294 | Drawing Number | S11  |