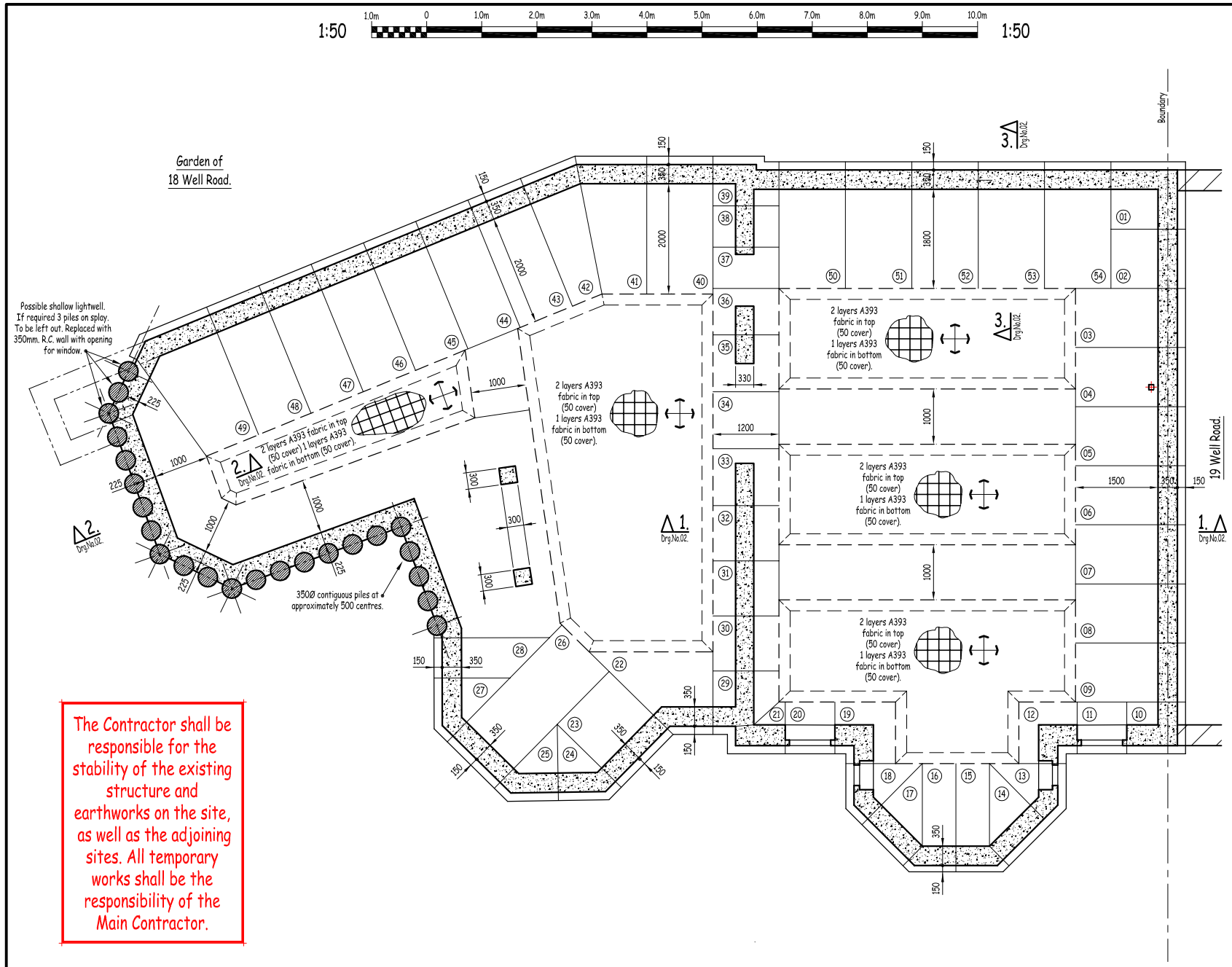
APPENDIX 1

STRUCTURAL DRAWINGS



The Contractor shall be responsible for the stability of the existing structure and earthworks on the site, as well as the adjoining sites. All temporary works shall be the responsibility of the Main Contractor.

Proposed Basement Plan Showing Proposed Underpinning Plan.

Scale 1:50 (at A1)

Underpinning Notes

U1. The underpin numbering is for identification purposes only.

U2. The sequence of underpinning should follow the traditional 1, 4, 2, 5, 3 pattern. The Contractor is to provide drawings marked up, to show their proposed sequence. for the Engineer to approve, a minimum of 14 days before work is commenced.

U3. Underpinning to be a maximum length of 1200mm. subject to the Engineers approval.

U4. Provide corner bars in under pinning stems, to ensure mesh reinforcement is held in place, during concreting.

U5. All reinforced concrete cast on the ground shall be placed on 50mm. GEN 1 concrete mix.

U6. Foundations have been designed to impose a net bearing pressure of 125kN/m², on Sand and Gravel, at depths shown. The bearing strata shall be approved by the Local Authority's Building Inspector, before laying blinding, or casting foundations. Any additional excavation shall be replaced with a GEN 1 concrete mix. But in the event of extensive additional excavation being required, the Engineer must be immediately and fresh instructions obtained.

U7. Concrete mix for foundations shall be a RC35/45 mix with a minimum Ordinary Portland cement content of 320kg/m³. and a maximum water/cement ratio of 0.50 Concrete shall for at least 48 hours before dry packing.

U8. Concrete cover to the reinforcement shall be as detailed on the drawings but never less than 35mm.

U9. The minimum depth of the underpinning, (measured from the underside of the existing footing, to the underside of the new), shall be 500mm. and shall be formed on a strata, capable of sustaining a permissable net ground pressure of 100kN/m². on sand and gravel.

U10. The underside of the existing wall or foundation shall be trimmed and cleaned of all mud and debris, before dry packing. The dry pack shall be a 1:3 mix and well rammed in horizontal layers, not exceeding 75mm thick. Dry packing shall be left. 24 hours before works are commenced on adjacent underpins.

U11. The central area of excavation shall not be carried out until the perimeter underpinning has been completed.

U12. If necessary backfilling behind retaining walls shall be a 1:20 mix, using Ordinary Portland Cement.

U13. Services The Contractor is to carry out a survey of the property and adjacent areas, to establish the location of obstructions, such as service runs or drains. Any obstructions found are to be brought to the attention of the Architect and Engineer. The Contractor is to allow for any temporary support to the services or obstructions during the underpinning.

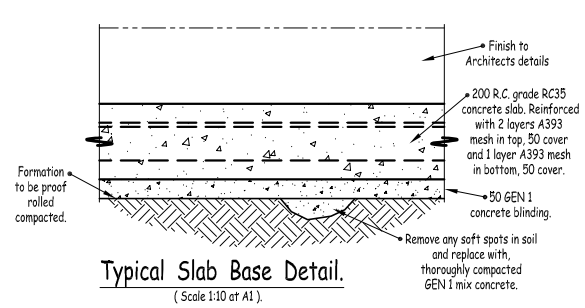
U14. Excavations. The excavation shall be to the depth and width shown on the drawings. However where tree roots are encounted, new underpins are to extend 600mm. below the last trace of any root activity. The sides of the excavation, shall be adequately shored and propped to prevent subsidence or slip of the soil faces behind the pin and at formation level shall be undisturbed.

Reinforcement Note

Wall and Foundation reinforcement shall be continuous.
If loose bars are used to provide continuity
The area of loose bars shall not be less.
than the area of reinforcement specified.
Laps shall be not less than 45 times the lesser bar diameter.

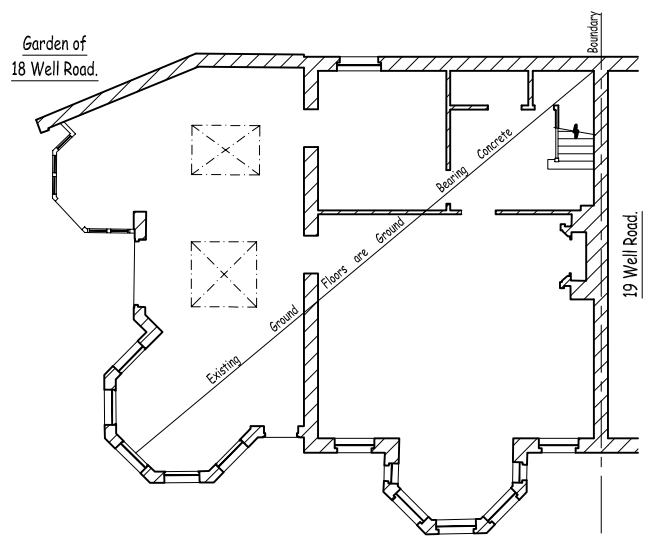
Tension Lap Lengths for Reinforcement

10mm. Ø = 450mm.
12mm. Ø = 540mm.
16mm. Ø = 720mm.
20mm. Ø = 950mm.

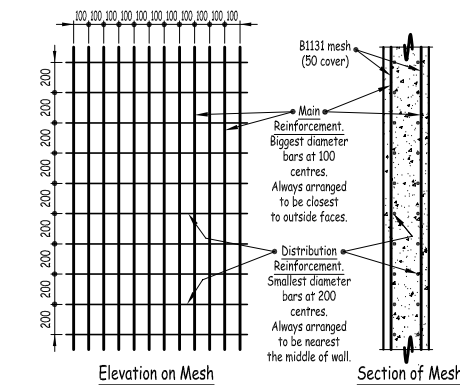


Typical Slab Base Detail.

(Scale 1:10 at A1).



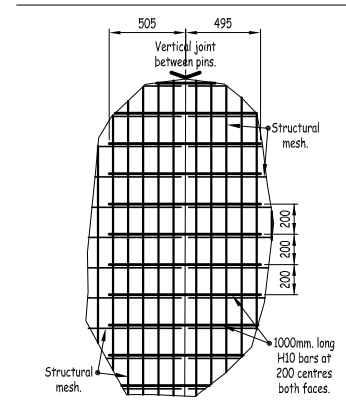
Existing Ground Floor Plan. (Scale 1:100 at A1).



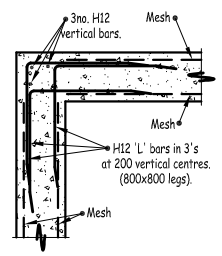
Elevation on Mesh as Fixed in Wall.

Section of Mesh as Fixed in Wall.

Important Note with Reference to the Fixing of Structural Mesh in Walls. i.e. Mesh Prefixed with the letter 'B' e.g. B1131 or B785 etc.



Part Elevation on Wall Showing Lacing Reinforcement Between Pins.



Plan Section on Typical Corner Showing Typical Reinforcement.

Notes

1. This drawing remains the copyright of Vincent and Rymill and is not to be copied, altered or changed without permission.
2. All dimensions are in millimetres unless otherwise noted.
3. Do not scale off this drawing.

Structural Steelwork Notes.

1. Generally all structural steel shall be grade S355 and shall be in accordance with the National Specification for Structural Steelwork in all necessary aspects.
2. Steelwork connections shall comprise not less than 4no. M16 grade 8.8 bolts for all other members. Except where otherwise shown on the drawings. Where connection loads are provided by the Engineer. The steelwork contractor shall design connections, which will be subject to comment by the Engineer.
3. Steel beams shall at least have the minimum bearings on masonry walls as shown on the drawings. Where no details of bearings are shown, provide bearings to the full width of the supporting leaf, padstone or 100mm whichever is the greater.
4. Steel columns bases shall be levelled using sawn steel packs, not less than 75mm. square. Allowance shall be made for nominal 25mm. thickness of grout between the column baseplates and foundations/masonry supports. Grout shall take the form of neat cement slurry with a non shrink additive and should be just fluid enough to pour.
5. All structural steelwork shall be blast cleaned to B.S.7079:Part A1 perparation grade SA2.5 and except where specified as galvanised, shall be painted with a suitable good quality high build epoxy zinc phosphate primer. To provide a dry film thickness of not less than 75 microns. A pre-fabrication primer may be used at the fabricators discretion. The Contractor shall ensurethat the primer used is compatible with subsequent coatings specified by others. (e.g. intumescent paint).
6. Steelwork specified as galvanised shall be blast cleaned as above and hot dip galvanised to B.S.729 Minimum coating thickness 85 microns.
7. All steelwork below d.p.c. level or built within the masonry wall cavity, shall be site painted with a compatible high build epoxy zinc phosphate primer, to provide a dry film thickness of not less than 125 microns, to achieve an overall primer coating of 200 microns. i.e. Leighs paints Epigrip C400 Zinc Phosphate Primer/Buildcoat or equal. Steelwork below d.p.c. shall be encased in not lessthan 100mm. of concrete, not weaker than specified on the drawings.
8. Steelwork contractor to coordinate with the Main Contractor to provide adequate bracing during the sequence of erection.
9. Fire protection to steel to Architects details.

Concrete.

1. Generally all structural concrete works to be in accordance with the National Specification for Concrete in all necessary aspects.
2. Concrete mix for foundations shall be a RC35/45 mix with a minimum Ordinary Portland cement content of 320kg/m³. and a maximum water/cement ratio of 0.50.
3. All concrete below ground level, (slabs, walls and foundations), to be desined for a design sulphate class of DS-1.
4. Under no circumstances is concrete to be poured, if expected temperature within the following 24 hour period is expected to be 5°C or less.
5. No admixtures, of any form, to be added to the concrete, without the written permission of the Structural Engineer. It is STRICTLY forbidden to add water to premixed concrete on site.
6. Site batching of concrete to be approved by the Engineer before its use.

Structural Masonry Notes.

1. Refer to Architects drawings and the specification for masonry requirements, in respect of acoustic, thermal insulation and durability requirements. The Engineer shall be notified immediately if conflicts with the structural requirements.
2. Blockwork below ground level to have a minimum compressive strength of 7.3N/mm². and to be set in 1:3 cement:sand mortar. All blockwork to be solid, unless specified otherwise on the drawing and is to comlpy with B.S.5628 Table 4. Requirements for Special Category Manufacture.
3. Brickwork below ground to have a minimum compressive strength of 30N/mm². and is to comply with B.S.5628 Requirements for Special Category of Manufacture.
4. Mortar designation as follows :- Above d.p.c. Mortar Designation III.
   Below d.p.c. Mortar Designation II.
5. Refer to the Architects drawings for details of d.p.c.'s, d.p.m.'s waterproofing and insulation.
6. Lintels
   External walls : Provide proprietary lintels as specified on the drawings or equivalent approved by alternative manufacturer.
   Internal Walls : Provide proprietary IG Box Lintel to loadbearing internal walls as specified on the drawings or equivalent approved by alternative manufacturer.
   Provide proprietary IG internal lintel to small opening in non loadbearing blockwork walls or equivalent approved by alternative manufacturer.
   All steel lintels to be fully galvanised and have a minimum 150mm. bearing to each end unless noted. otherwise.

Rev	Details	Date
D	Lightwells removed.	20.11.18
C	Updated to show existing Ground Floor as concrete.	24.09.18
B	Lightwell revised.	14.05.18
A	Updated.	06.11.17

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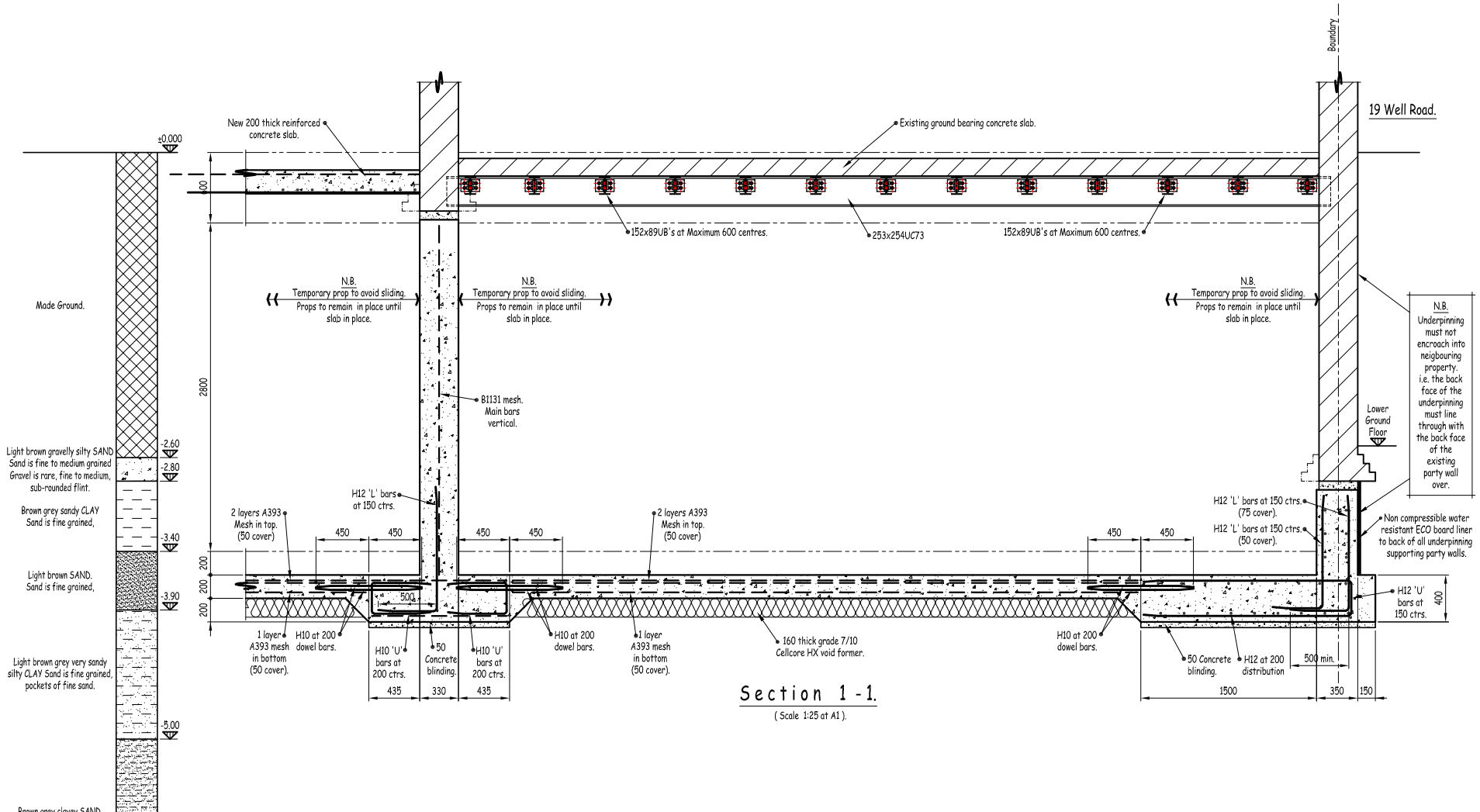
Title

Basement Plans Showing Underpinning Layout

Scale at A1	Date	Job No	Drg No	Rev
1:50 1:100 1:10 1:25	Oct. 2017	17J02	01	D

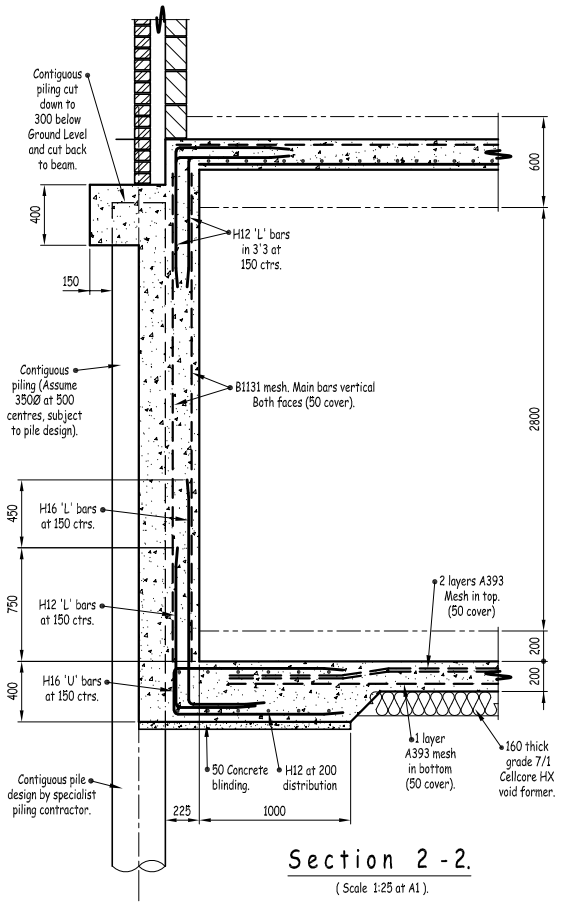
D1

1:25 1.0m 0 1.0m 2.0m 3.0m 4.0m 5.0m 1:25



Section 1 - 1.

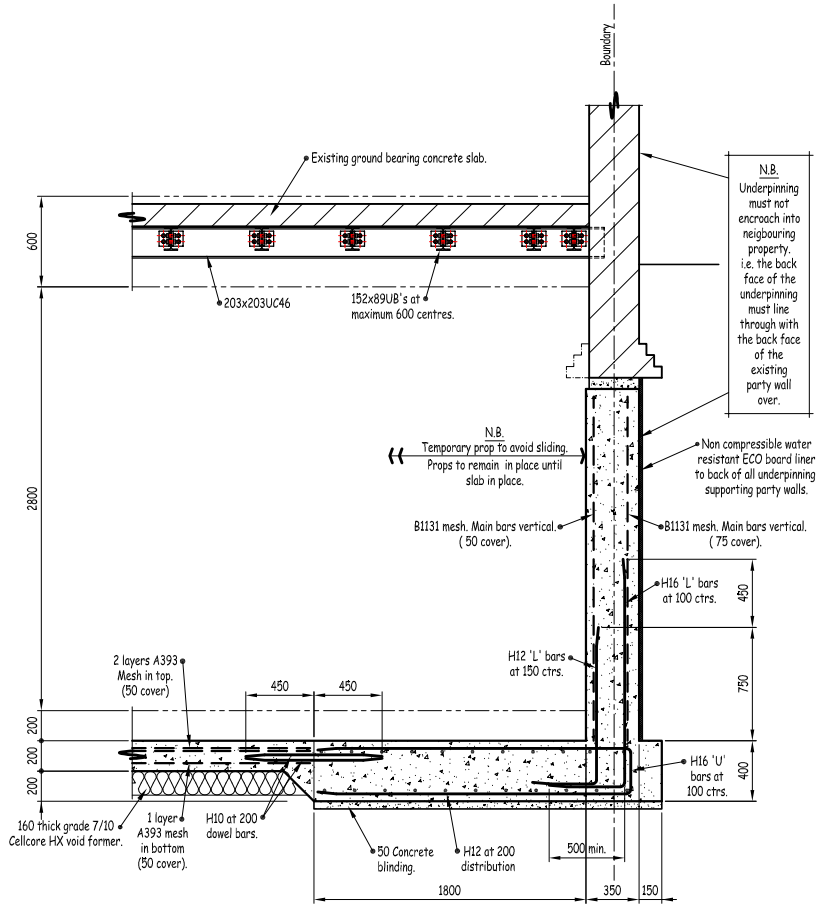
(Scale 1:25 at A1).



Section 2 - 2.

(Scale 1:25 at A1).

Borehole 1.



Section 3 - 3.

(Scale 1:25 at A1).

Notes

1. See drawings 17J02 / 01 and 03 for location of sections.

Rev	Details	Date
B	Updated to show support to existing concrete Ground Floor.	24.09.18
A	Updated.	06.11.17

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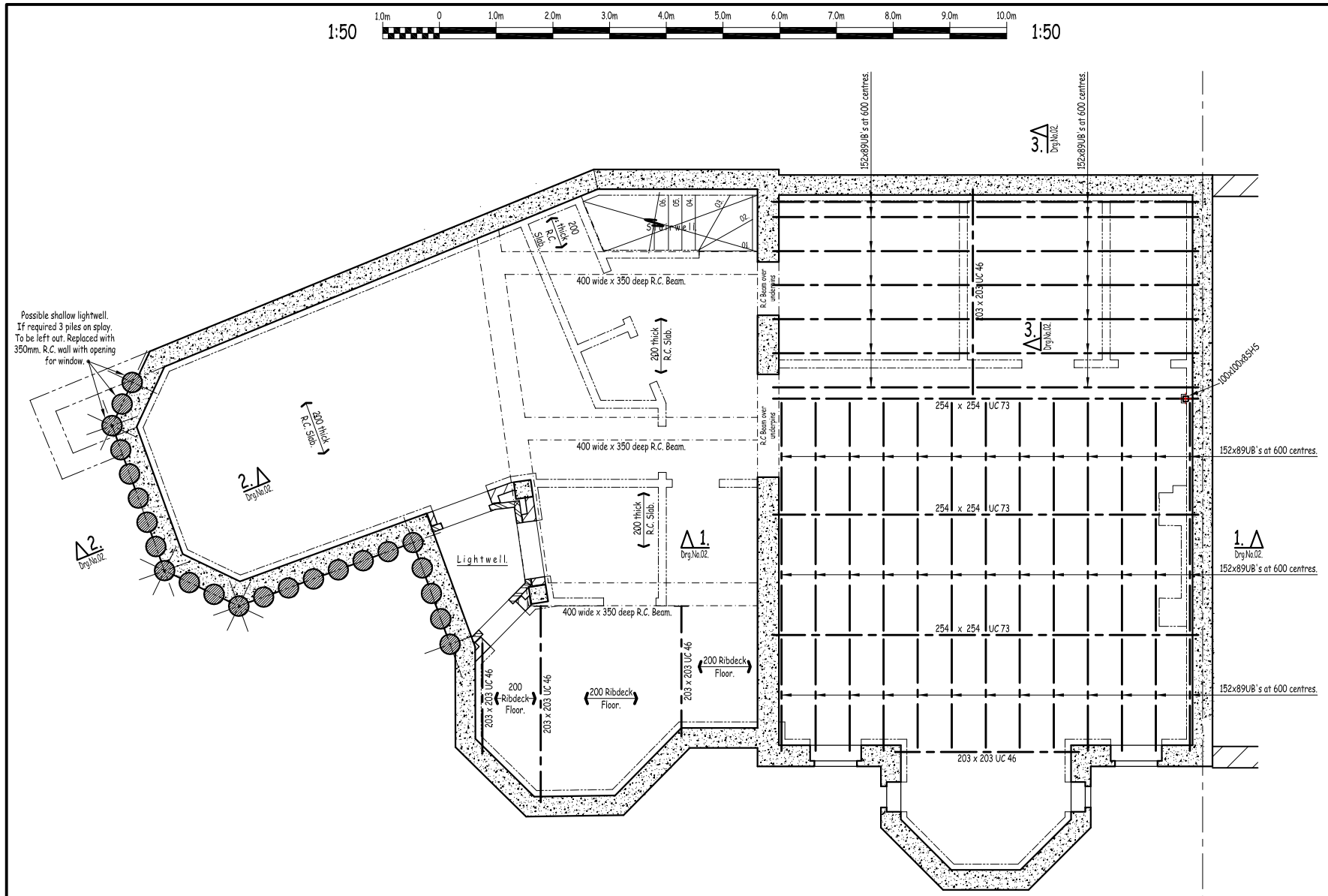
Title

Basement and Ground Floor Sections

Scale at A1	Date	Job No	Drg No	Rev
1:25	Oct. 2017	17J02	02	B

B1



Proposed Basement Plan Showing Ground Floor Structure.

Scale 1:50 (at A1)

Notes

1. For sections see drawing number 17J02 / 02.

Rev	Details	Date
D	Lightwells removed.	20.11.18
C	Updated to show support to existing concrete Ground Floor.	24.09.18
B	Lightwell revised.	14.05.18
A	Updated.	07.11.17

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Title

Basement Plan Showing
Ground Floor Structure

Scale at A1	Date	Job No	Drg No	Rev
1:50	Oct. 2017	17J02	03	D

D1