

Ground Floor Plan
(Scale 1:50)

Underpinning Notes

- The bearing strata shall be approved by the Engineer and the Local Authority's Building Inspector before casting foundations. Any additional excavation shall be replaced with a grade C16/20 concrete. In the event of extensive additional excavation being required, the Engineer must be informed immediately and fresh instructions obtained.
- Concrete mix for foundations shall be grade C30/37. Concrete shall be left for at least 24 hours before dry packing. The concrete of the underpins shall be stopped off 75mm below the underside of the existing footing. Contractor to ensure tight bearing of existing members on new structure elements.
- The underside of all underpins is to bear onto sand & gravel typically found @ 2.20m B.G.L.
- The underside of the existing strip foundation shall be trimmed and cleaned of all mud and debris before dry packing. The underpinning shall be carried out in short sections of about 1 metre in length in the sequence of construction as typically detailed below. The dry pack shall be a 1:3 sharp sand/cement well rammed home in horizontal layers not exceeding 75mm thick. Dry packing shall be left for at least 48 hours before commencing excavation for any adjacent underpins.
- The central area of excavation shall not be carried out until the perimeter underpinning has been completed.
- Backfilling behind retaining walls shall be a grade C16/20 concrete using ordinary Portland cement (if required).
- The Contractor is to keep a record of the sequence and dimensions of the underpinning actually carried out including relevant details of excavation, casting concrete and pinning up for each section.
- Excavated material intended for backfilling is to be kept protected from drying out or wetting and is to be placed in maximum 150mm layers, carefully compacted with a pneumatic or electric percussion tool with compacting plate.
- Reinforcement in pins to be pushed into adjacent soil to ensure continuity between pins.

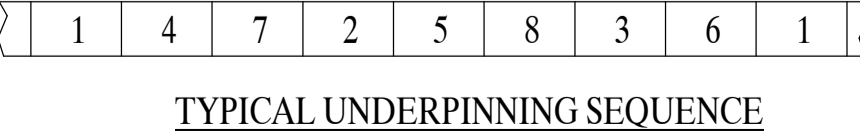
Movement Monitoring Notes

- All Movement Monitors to be installed and calibrated before commencement of any works to established baseline readings. All Movement Monitors to be fixed to the existing buildings and to the RC underpinned walls.
- Monitoring positions shown indicatively only. Number, positioning and recording of all movement monitors is the responsibility of the Contractor. Any reference points used to be positioned so as not to interfere with any of the construction works.
- Positioning of monitors should not interfere with any of the proposed works (temp/permanent).
- The Contractor to note readings and relay information to Structural Engineer as follows:
 - One set of readings to be taken following demolition of existing structures;
 - Daily readings to be taken during excavation works;
 - Two readings weekly during construction up to new Ground Floor slab and retaining walls;
- Readings to have an accuracy of ± 1 mm using total systems with optical targets mounted on the faces of members. Precise levelling and measuring techniques are to be used. All monitors to measure movement in 3No. orthogonal directions.
- Contractor to also visually inspect neighbouring walls for cracking and to report any cracks from the works to the Contract Administrator and to the Project Manager.
- Trigger Values in all Orthogonal Directions:

Location	Amber (mm) Threshold Values	Red (mm) Action Values
Existing walls	3	5

If amber threshold value is reached then Contractor to slow down work and to ascertain the cause which lead to the amber value being reached. Contractor to proceed with caution and to inform the relevant parties. Proposals are to be agreed to ensure that red action trigger values are not exceeded.

If red action value is reached, then Contractor to stop all work, affected areas are to be made safe by providing necessary bracing & ascertain cause which lead to the red action value being reached. Contractor to immediately inform all relevant parties. Work may only recommence when all relevant parties have reached a common conclusion on how to prevent further movements and how to proceed forward. The rate of monitoring shall be increase to alternative days (i.e. 3-4 times weekly) and commensurate with the rate at which movements occur.
- Readings to stop only after completion of entire proposed development. Contractor to also allow for possible relocation and/or additional movement monitor positioning.
- Contractor to provide detailed method statement for approval before commencement of any work.



Masonry Wall Legend:

GW1 (cavity wall)
Outer Leaf: 100mm wide brickwork using 100mm wide x 215mm long x 65mm deep clay bricks with min. 20 N/mm² unit strength (per BS EN 771-3)
Inner Leaf: 100mm wide brickwork using 100mm wide x 215mm long x 65mm deep Class B Engineering clay bricks with min. 50 N/mm² unit compressive strength (per BS EN 771-3)
Cavity: 100mm wide infilled with solid concrete

GW2 (cavity wall)
Outer Leaf: 215mm wide brickwork using 100mm wide x 215mm long x 65mm deep Class B Engineering clay bricks with min. 50 N/mm² unit compressive strength (per BS EN 771-3)
Inner Leaf: 215mm wide brickwork using 100mm wide x 215mm long x 65mm deep Class B Engineering clay bricks with min. 50 N/mm² unit compressive strength (per BS EN 771-3)
Cavity: 100mm wide infilled with solid concrete

GW3 (cavity wall)
Outer Leaf: 100mm wide brickwork using 100mm wide x 215mm long x 65mm deep clay bricks with min. 20 N/mm² unit strength (per BS EN 771-3)
Inner Leaf: 215mm wide brickwork using 100mm wide x 215mm long x 65mm deep Class B Engineering clay bricks with min. 50 N/mm² unit compressive strength (per BS EN 771-3)
Cavity: 100mm wide infilled with solid concrete

Brick Frost Resistance
All F2 as per BS EN 771-1. See drawing No. L2216-S-15-001 for more notes.

Mortars
All M6 (ii) cement mortars with 1:3 cementsand ratio. See drawing No. L2216-S-15-001 for more notes.

Legend:

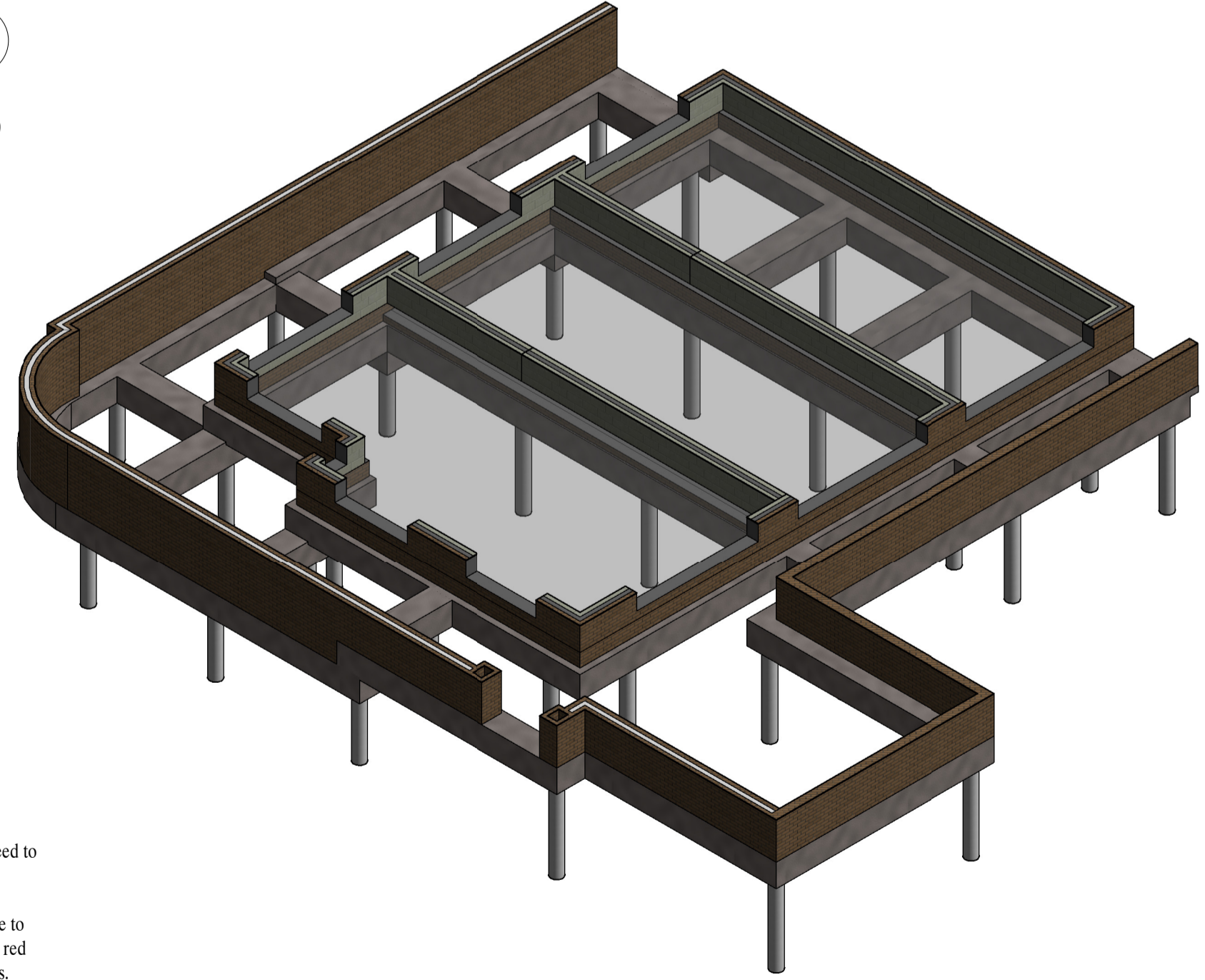
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150mm thk PC hollowcore planks by Bison Precast Ltd. with 50mm thk structural concrete topping (C30/37), reinforced with a single layer of A252 mesh. Provide additional gas resisting 2000g DPM bituthene type membrane across entire area. To be designed and detailed by Specialist, to have min. 150mm laps on all faces.

○
Denotes piles under. See drawing No. L2216-S-20-009 for details.

GB
Denotes 600mm wide x 600mm deep RC ground beams (C30/37) cast on 220mm deep RDB 18/24 board by Pecavoid and 50mm thk blinding. TOB = +35.177 m unless noted otherwise

MM
Denotes locations of movement monitoring points to neighbouring buildings. See notes on drawing No. L2216-S-15-001.

Note: For masonry walls above ground and retaining walls see drawing No. L2216-S-20-100



3D Ground Floor

General
For General Notes Drawing refer to PJCE drawing L2216-S-15-001.

All Structural Engineering drawings are to be read with the specification and with all relevant Architects drawings and specifications.
Do not scale from any Structural Engineers drawing. All dimensions are in millimetres and levels in metres.
All waterproofing (DPM & DPC) works to Architects details.
All fire protection works to Architects details unless specifically noted otherwise.

Abbreviations:-
 SSL - Structural slab level FFL - Finished floor level
 C/S - Column Stops C/C - Column Capped
 UNO - Unless Noted Otherwise/O.S.A - Or Similar/Approved

The Contractor is responsible for the design, installation and maintenance of all necessary temporary works to ensure the strength and stability of the building throughout the course of the works. Drawings and calculations detailing all temporary works shall be submitted to the Engineer for comment prior to commencement of the works.

To be printed in colour

02	01.05.18	DA	TF	Revisions Clouded
01	19.04.18	NC	TF	Revisions Clouded
-	06.04.18	NC	TF	Issued for Information
Rev	Date	Drn	Chk	Amendment

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GENERAL ARRANGEMENT OF GROUND FLOOR

Status : INFORMATION	
Scales : 1:50 @ A1	Date :
Drawn : NC	Engineer : TF
Checked : SPJ	Revision :
Drawing No. L2216-S-20-010	02