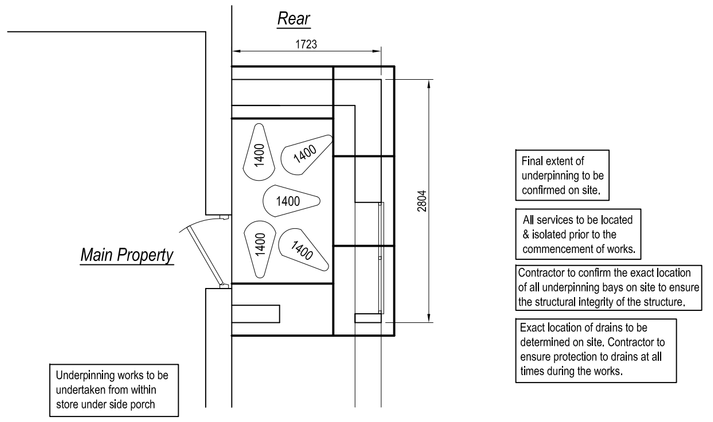


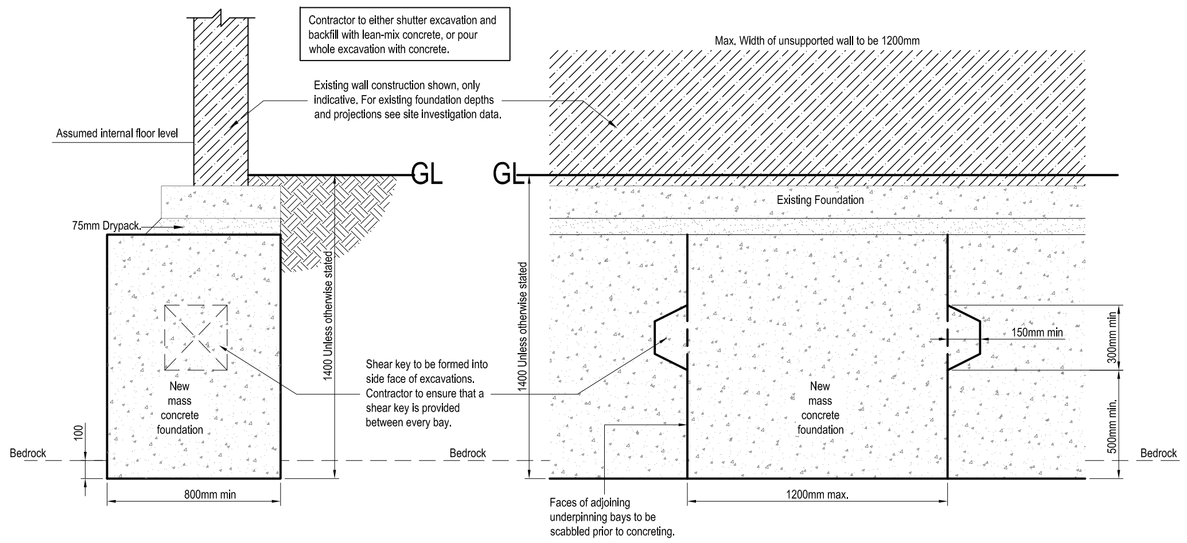
Final extent of underpinning to be confirmed on site.

All services to be located & isolated prior to the commencement of works.

Contractor to confirm the exact location of all underpinning bays on site to ensure the structural integrity of the structure.

Exact location of drains to be determined on site. Contractor to ensure protection to drains at all times during the works.

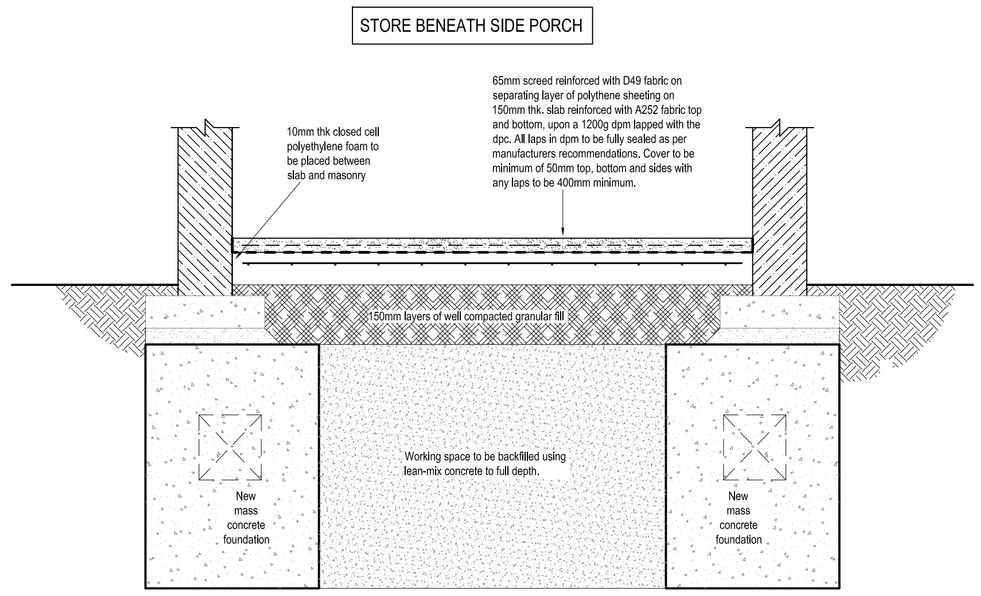
Underpinning Layout Plan



Section Through

Side Elevation

Typical Underpinning Details



Section Through

General

This drawing is to be read in conjunction with Cunningham Lindsey / Oriel standard contract documentation and all other relevant documents, unless alternative arrangements have been agreed with the Contract Administrator.

Do not scale this drawing, except for Planning purposes. The Contractor shall check all dimensions and levels on site prior to demolition of the existing structure. Any discrepancies shall be notified immediately to the Contract Administrator and the Design Engineer. All dimensions shown include finishes.

Layout of the works is to remain unaltered unless otherwise agreed with the Contract Administrator and the Design Engineer.

Contractor shall locate all services (including overhead) prior to commencement of any works on site and liaise with the Contract Administrator.

All temporary works are to be designed and detailed by the Contractor, including the provision for pumping, shoring & propping. Design to be undertaken by a suitably qualified professional.

All excavations and exposed foundations are to be adequately supported and protected by the Contractor at all times in accordance with Health & Safety requirements.

All materials to be fit for purpose and all works, whether specified or implied, to be in accordance with current Building Regulations, British Standards, Codes of Practice and accepted good building practice.

All proprietary products are to be installed strictly in accordance with the manufacturers recommendations.

On completion of the works the Contractor shall be responsible for reinstating the surrounding ground finished surfaces to their original state.

The structural design has been prepared in accordance with the CDM Regulations. In addition to the usual risks associated with building works and materials the Contractor should also ensure:

that demolition, excavation, drilling, cutting etc into existing structures or materials be carried out carefully in case there are any hidden services

that all items to be demolished or removed, eg walls, beams, slabs etc, are assessed for any loadbearing or stability function and temporary propping provided as necessary

that any existing structure or materials to be drilled, cut, or otherwise disturbed, be checked for asbestos content and appropriate action taken.

Underpinning

General
Underpinning is to be carried out in bays as indicated.

Prior to concreting, the underside of the existing foundation shall be carefully cleaned of all soil. The sides of the excavation and formation shall be protected from heavy rain and frost.

Concrete shall be placed with care avoiding loose soil or rubbish from falling into the excavation. The concrete shall be carefully compacted by means of a mechanical poker vibrator.

The proposed underpinning works have been designed to improve the stability of the sections of foundations that have suffered structural movement only, and are not intended to include preventative underpinning to other areas. It must not be inferred that on completion of the work any of the foundations comply with the requirements of the Building Regulations (or the NHBC) requirements for new buildings.

The underpinning depths shown are for tendering purposes only. The final depth should be agreed on site with the Contract Administrator and BCO.

1400 Indicates the direction from which the underpinning is to be carried out, and the formation depths below adjacent external ground level.

The width and position of the underpinning bays relative to the wall above shown on the layout plan are indicative only - their final alignment must be agreed on site between the Contract Administrator and the BCO.

Sequence Rules
The Contractor shall agree the sequence of works on site with the Contract Administrator prior to commencement of the works. The agreed sequence must be such that:

A) Not more than 25% of the total area to be underpinned is to be left in an unsupported condition at any one time,

B) Not more than 1.2m of wall is to be left in an unsupported condition at any one time in any one location.

C) Deeper pads are to be excavated and installed before adjoining shallower pads (if applicable - ie if depths vary).

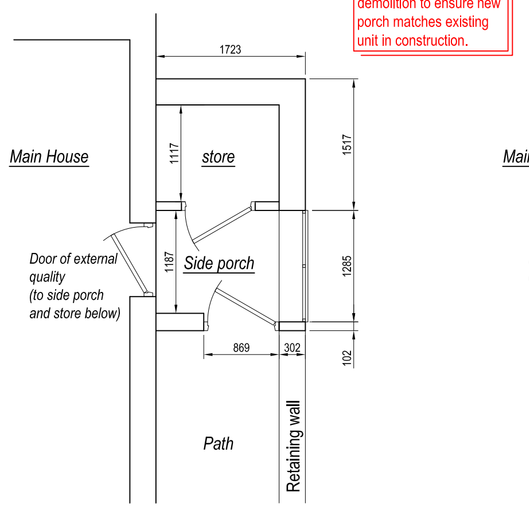
D) Maximum lengths of bays are as specified on the drawings.

E) 24 hours (min) is to elapse between concreting the bay and dry packing. The drypack shall be 75mm thick 3:1 sand:cement mix with an expanding agent, (eg 'Febgrout' or similar) with only enough water to hold the mix together. It is to be well rammed between the underside of the existing foundation and the top surface of the underpinning bay.

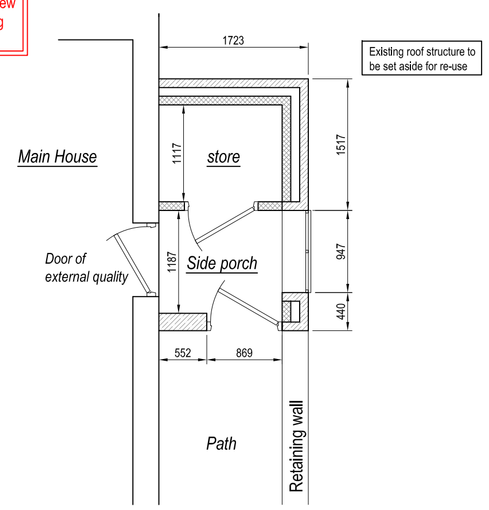
F) No adjacent bays are to be excavated until at least 24 hours after the dry packing to any completed bay.

G) No departure from these rules shall be permitted.

All dimensions and construction of side porch to be checked and confirmed on site prior to demolition to ensure new porch matches existing unit in construction.

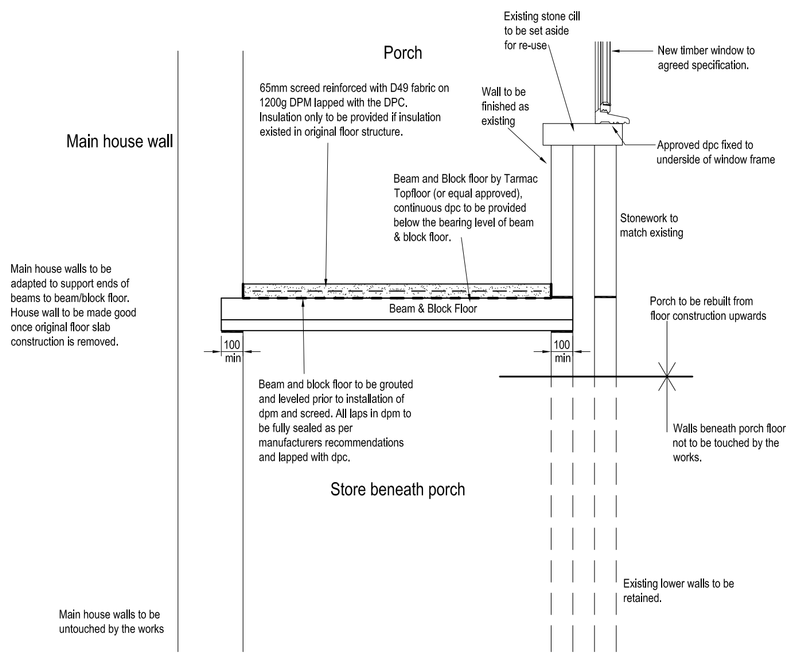


Existing Plan
Scale 1:50

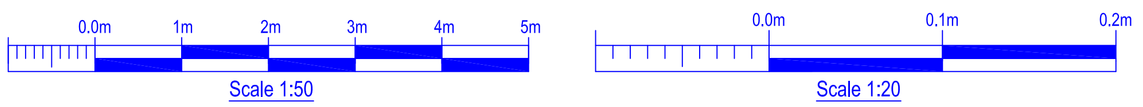


Proposed Plan
Scale 1:50

Existing wall, floor and roof construction not known at design stage. Drawing prepared for costing purposes only.
Existing roof structure to be set aside for re-use. Roof joists to be tied to all walls.
Walls to be reconstructed to match existing construction ensuring external appearance matches that of the remainder of the wall.
New beam/block floor to be provided spanning from main house wall to retaining wall, doubling up beams beneath partition wall.



Typical Section
Scale 1:20



Doors, Windows & Glazing

Windows and doors to be by proprietary manufacturer approved by CL, and to be installed in accordance with the manufacturers recommendations.

All windows and doors to be double glazed achieving 'U' value to match existing units and be fitted with trickle ventilators.

Glazing up to 800mm above internal finished floor level to be safety glazing.

Glazing to doors to be in safety glazing up to 1500mm above internal finished floor level.

External timber doors shall not be less than 44mm thick (nominal),

Proprietary approved insulated vertical dpc and cavity closer to be installed to all window and door jambs, and all frames are to be set forward of these and sealed accordingly to prevent any water ingress.

Cavity trays to be provided above all openings and where the cavity is bridged by air bricks, meter boxes etc. They shall extend a minimum of 150mm beyond the ends of the bridging. In areas of very severe exposure to driving rain a vertical dpm shall be provided behind meter boxes. Above window and door openings the trays shall be provided with stop ends. Cavity trays are also to be provided where a roof abuts a cavity wall.

Vertical dpc's at opening reveals should be correctly installed and should extend at least 25mm into the cavity.

Electrical System

To be designed and installed by a suitably qualified Electrical Engineer. Design and Installation shall comply with Building Regulations Part P, and BS 7671.

Proper design, installation, inspection and testing of electrical installations is required to protect persons from fire or injury.

Electrical installations to be inspected and tested during and at the end of installation, before they are taken into service. Test certificate to be issued to Building Control on completion of the works.

All sockets and switches are to be situated at appropriate heights between 450mm and 1200mm above finished floor level. Socket and switch boxes are not to be situated back-to-back.

Beam & Block Floors

Beam and block floor to be designed and supplied by 'MIBank' (or similar), Infill blocks to have a minimum density of 1500 kg/m³.

All calculations and construction details are to be submitted to Building Control for approval a minimum of 21 days prior to commencement of the construction process.

Concrete

All work to be in accordance with BS 8110. All mass concrete for foundations to be minimum GEN3, with Sulphate Resisting Portland cement.

No site batching unless authorised by Contract Administrator and the Design Engineer, and shall not be permitted for reinforced concrete.

The foundation design is based on a Gross Ground Bearing Capacity of 100 kN/m² and it has been assumed that there is no substantial variation in soil quality over the area of the site. Depths of foundations shown may be subject to variation on site once the subsoil has been exposed.

It must not be inferred that on completion of the work any of the foundations will comply with the Building Regulations (or the NHBC) requirements for new buildings.

No holes may be formed through any concrete member without written approval from the Design Engineer.

All dimensions to be verified on site by the Contractor and any discrepancies shall be immediately notified to the Contract Administrator and the Design Engineer. The layout of the works is to remain unaltered unless agreed otherwise with the Contract Administrator and the Design Engineer.

Flat Roof Covering

Thickness of all boarding to be checked to ensure that mass of boarding complies with Building Regulations Part E. Heads of nails to be well punched below the surface, in countersunk holes if necessary. Expansion gaps to be provided in accordance with manufacturers recommendations.

Where softwood boarding is used it shall be in accordance with BS 1297 and thickness shall be 16mm min for joists at 505mm centres or less, and 19mm min for centres up to 600mm, with end butt joints staggered. Boards to be tongued and grooved max 100mm wide, fixed with two flat headed 3mm dia ring shank nails to every joist, of length at least 2½ times the board thickness.

Plywood sheeting to be in accordance with BS EN 636 and to be Exterior Grade (WBP). Thickness to be 15mm min for joists at 450mm or less, and 18mm min for centres up to 600mm. Sheets to be laid with the face grain at right angles to the joists and shall be fixed using flat headed 3mm dia ring shank nails of length at least 50mm or penetration of not less than 32mm, at max 150 c/c to the perimeters and max 300 c/c on internal.

Walls

External leaf: Stonework to match existing laid in M4 (iii) mortar.
Cavity: As existing (if existed). Insulation only to be provided if insulation existed in original construction.
Internal leaf: Stonework or 100mm 7N dense blocks to BS 6703 (or similar approved) laid in M4 (iii) mortar - as existing.
In areas of the country in driving rain of very severe exposure, as shown in Building Regulations Part C and NHBC Standard 6.1, full fill cavity Insulation is not permitted.

Wall ties in new wall construction are to be stainless steel and of length to comply with the Building Regulations Part A, Table 5, with a minimum embedment of 50mm into each skin. They shall be installed at maximum 750mm c/c horizontally and at 450mm c/c vertically, staggered 375mm horizontally. At openings and movement joints wall ties should be spaced at maximum 300mm centres vertically and within 225mm of the edge of the masonry panel. Wall ties shall be level or sloping towards the outside, with any drips pointing downwards.

Unless independent assessment states otherwise, in order to provide adequate support and restraint where partial fill boards are being used in the cavity the wall ties should be spaced at 600mm c/c horizontally and at 450mm c/c vertically, and in rows not staggered. Correct proprietary clips shall be used to hold the insulation in place firmly against the inner leaf of the wall.

During construction the difference in height between two leaves of a cavity wall shall never exceed 1350mm. On steel lintels both skins shall be built up together to avoid twisting the flange.

Proprietary approved insulated cavity closers to be installed at all window and door jambs, and all frames are to be set forward of these and sealed accordingly to prevent any water ingress. Vertical dpc's at opening reveals should be correctly installed and should extend at least 25mm into the cavity.

Provide and install 'Rytons rytweep' (or similar approved) weepholes above the toes of lintels over all openings in external walls, at maximum 450mm c/c with a minimum of 2 weepholes per opening.

Cavity trays to be provided above all openings and where a roof abuts a cavity wall. They should also be provided where the cavity is bridged by air bricks, meter boxes etc., extending 150mm min beyond the ends of the bridging. In areas of very severe exposure to driving rain a vertical dpm shall be provided behind meter boxes.

Where a new wall abuts an existing wall, a wall starter profile is to be provided in accordance with manufacturers recommendations (refer to detail for further information). A vertical dpc is to be inserted at the junction of new and existing cavity walls where the existing runs through the cavity (see detail).

Internal skins of external walls shall be bonded to internal partitions and separating walls by toothing every alternate course where walls are of the same type, or tying with wall ties, expanded metal or equivalent at maximum 300mm c/c vertically where walls are of dissimilar materials. Where an internal separating wall is denser than the inner skin of a cavity wall, the separating wall shall be taken through to the cavity and the inner skin of the cavity wall tied to it on each side. (The cavity should be stopped with a flexible closer).

All brick piers to be fully bonded to the main walls using header bricks. Under no circumstances should piers be constructed separately and tied to the main walls with wall ties.

Brickwork bond/thickness shown on details are for illustration purposes only - refer to plans and Masonry specification for clarification of wall construction.

SUBJECT TO ASSENT BUILDING CONTROL APPROVAL
CONTRACTOR TO LIAISE WITH ASSENT (Tel: 07447 236139) or by e-mail at: Oriel@assentbc.co.uk QUOTING THEIR REFERENCE

REV	DRAWN	DATE	DESCRIPTION
A	MS	09.09.16	Superstructure rebuild part added

Oriel
Design Office, Solent House,
Solent Business Park, Whiteley,
Fareham, Hampshire PO15 7AF

JOB ID
Pickles

SITE ADDRESS
46 Field Head Lane
Birstall
West Yorkshire
WF17 9BJ

PROJECT
Demolition and Reconstruction of Front and Side Porches on new Foundation

DRAWING TITLE
Side Porch
Underpinning Layout Plan and Sections + Reconstruction of Upper Part

INITIAL DRG DATE	DRAWN BY
July 2016	MS
SCALE	DRG SIZE
As Shown	A1

REFERENCE	DRG No.	Rev.
6072459	103	A