BASEMENT CONSULTING

Construction Method Statement

3 Shelley Lane, Harefield,

UB9 6HP

Produced 17th March 2021

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Basements Consulting Limited

Contents

Construction Method Statement

3 Shelley Lane, Harefield, UB9 6HP

1. Introduction

The following report sets out the design philosophy and methodology for the proposed construction works at 3 Shelley Lane, Harefield, UB9 6HP.

Which consist of a single storey side extension. The extension will be traditionally built with pitched roof, cavity walls supported on mass concrete strip foundation. The extension will be accessed from the main house by forming a new structural opening in the external side wall. As the land is slopping it will be levelled and retained to accommodate build.

The property is a 5 bedroom detached house made up of ground, first and loft floors. The property was built in 1997, brick built. An external non intrusive survey shows the house to be in good condition along with neighbouring properties 1 & 5 Shelley Lane. The property is located on a sloping site.

To be read in conjunction with Structural Engineers drawings and Calcs: and Architects Drawings.

2. Site Establishment

On taking possession of the site, the area must be made secure and set up as a safe working environment.

Mesh fencing will be used to form a compound within the main front garden area prior to our starting the works. A skip will be located within the compound for the discharge of the spoils. Delivery of goods will be by HIAB off load into fenced area for storage.

Construction site safety signs will be displayed as well as personal protective equipment requirements. Before Commencement of any work, we will carry out a CAT scan survey to note the location and routing of any services. Should any utilities pipe work or cables be found within the areas of our works, these will be reported to and dealt with by the appropriate bodies.

A temporary site electrical and water supply will be installed for the duration of the works.

A fixed datum should be given before the works commences and that level transferred around the site, for the purpose of accurate setting out. At intervals, levels should be checked from this datum.

3. Welfare and Safety Requirements

Welfare and site safety will be dictated by the Construction (Design and Management) Regulations 2015.

Before commencement on site:

Site specific risk assessments will be carried out and fire evacuation plan will be established.

Site induction will be given to all operatives entering the site and toolbox talks given as and when specific tools, plant and equipment are first used.

All operatives will wear high visibility vests.

An appropriate area will be established for the first aid box, fire extinguishers, site visitors' book, an accident book and operator's time record book should be present and a list of all relevant and important contact numbers displayed clearly on the site board as well as all relevant drawings and documents to assist with and maintain a safe working environment.

Generally effective 'housekeeping' will be in place as an ongoing operation. Public areas will be monitored regularly with specific emphasis pre and post deliveries. The requirement of traffic marshals has been assessed and deemed necessary to ensure efficient and safe operation. All deliveries vehicles will arrive by the main road and depart by the main road with no diversions, stopping for a short period of time outside the property.

4. Temporary works

The site foremen will act as TWS ensuring compliance at all times.

Temporary support to excavated faces.

Ground conditions will be continuously assessed by a competent person to determine the means and method of supporting any face of any excavation. Our experienced operatives overseen by our Site Foreman shall ensure that every part of every excavation is inspected at the start of each shift. Suitable provision for edge protection including toe boards around the excavation to prevent falls from height will be put in place. Propping of excavated earth is detailed in item 5.

5. Reinforced concrete retaining wall

This method sets out the process to safely install, the reinforced concrete retaining wall.

Ground conditions: local BGS Bore Hole logs show ground make up to be heavy clay no ground water presence but in the event that perched water becomes present a filtered sump and pump system will be installed to ensure that no undue movement within the ground takes place.

Concrete: Strength grade C30 CEM I-SR (Sulphate Resistant Cement)

Stage 1

It is proposed to form a retaining structure prior to excavation by driving a contagious line of sheet metal piles into the ground approximately 20cm back behind the line of the wall construction. This can be done with the use of a 3-5 tonne excavator using a piling cap to drive the sheets into the ground. The sheets should be driven to a depth of more than 1 meter below the formation level.

Stage 2

Excavation of the ground on the build side of the piles can then take place. Once full excavation has been completed, the ground below the proposed wall and toe should be prepared i.e. hard core and blinding laid and well compacted. Mesh and starter bars on spacers are then tied into place for the slab, heel, and toe areas. Following that the continuation of the of the wall mesh can also be placed and tied.

Stage 3

A 200mm wide shuttering board is then fitted, to form an upstand at a level from the top of the proposed slab. This must be securely braced to ensure that there is no movement from the pressure of the concrete pour. Concrete is then mixed and poured for the slab, heel, and toe areas. Once this is firm enough to take the additional pressure, the upstand can then be poured. The concrete should be vibrated throughout the pour.

Stage 4

Approximately 48 hours should be allowed to achieve relative curing, then the upstand shuttering can then be stripped. Plastic piping should be fitted along the top of the upstand, at recommended centres, to act as weep holes. A full height face shutter is then fitted. Adequate bracing must be applied at 3 levels along the height of the shutter to take the full pressure of the impending force from the concrete pour. The wall concrete can then be poured. The concrete should be vibrated throughout the pour.

Stage 5

Approximately 60 hours should be allowed to achieve relative curing, then the shuttering can then be stripped. A further 28 days should be allowed for the concrete to reach its design strength. Then sheet pile can be extracted. This should be carried out in a gradual sequence. Allowing to raise the sheets approximately 200 mm at a time then placing the granular backfill, repeating this process until the full removal and fill is completed.

6. Construction sequence

1. Set out
2. Level ground
3. Cut back high ground to facilitate RC wall
4. Construct RC wall and steps
5. Excavate and pour foundation for extension
6. Excavate and cast ground slab
7. Build cavity walls
8. Install Roof
9. Install windows and doors
10. Form opening from main house to extension
11. Commence fit out

7. Potential impact on the adjoining properties

Damage to surrounding buildings and structures has been assessed and deemed low risk and unlikely.

8. Noise, Vibration, and Dust

Noise, Vibration and Dust will be controlled by employing Best Practicable Means (BPM) as prescribed in the following legislative documents and the approved code of practice BS 5228:

· The Control of Pollution Act 1972

· The Health & Safety at Work Act 1974

· The Environmental Protection Act 1990

· Construction (Design and Management) Regulations 2015

· The Clean Air Act 1993

General measures to be adopted by the Contractor to reduce noise, dust and vibration include:

· Use of super silenced plant where feasible.

· Use of well-maintained modern plant.

· Site operatives to be well trained to ensure that noise minimisation and BPM's are implemented.

· Effective noise and vibration monitoring to be implemented.

· Reducing the need to adopt percussive and vibrating machinery.

· Vehicles not to be left idling.

· Vehicles to be washed and cleaned effectively before leaving site.

· All loads entering and leaving the site to be covered.

· Measures to be adopted to prevent site runoff of water or mud.

· Water to be used as a dust suppressant.

· Cutting equipment to use water as suppressant or suitable local exhaust ventilation system.

· Skips to be covered

· Set up and monitor effective site monitoring of dust emissions.

· Working hours to be restricted as required by the Local Authority.

Noise - The Control of Noise (Codes of Practice for Construction and Open Site) Order 1984 gives legal approval for BS 5228, parts 1 & 2, 1984. This provides information on noise and noise control on Construction Sites. Every attempt shall be made to control noise at source. On sites where construction works are in progress everyone has a responsibility to see that activities are carried out in the quietest practicable manner. Where noisy activities are unavoidable the disturbance will be minimised/attenuated by choice of technique, timing, shielding or protection as appropriate. Where any person is liable to be exposed to noise levels greater than 80 dB (A), they will be informed and provided with suitable ear protection. The most likely protection, in ascending order of attenuation is ear plugs, ear muffs and noise attenuation helmets. Noise will be kept to a minimum at all times and any further restrictions imposed under the terms of the construction contract will be strictly adhered to.

Vibration - All works involving vibration will be minimized, where possible eradicated by design and the use of controlled mechanical equipment. Any operation involving vibration will have a HAVS risk assessment and procedures put into place to minimize the effects on personnel.

Conclusion - it is our opinion that the proposed works can be carried out within a safe manner by a suitable contractor and that noise, dust and vibration can be sufficiently mitigated.

The working hours on site will be set by the local council. It is generally 8:00 to 17:30 hours Monday Friday and 8:30 to 13:00 hours Saturday. Generally, works will be carried out with less minimal noise and vibration impact on Saturday.

Dust – The following documents will be referred to 'Control of Dust from Construction and Demolition Activities' 2006, HSE CI36 rev2 guidance on the control of dust. Stock piles will be minimised and covered/damped down. A water supply/stand pipe will be available on site for dust suppression purposes. Vehicle movements: Any loads likely to produce dust shall be covered and wheel wash facilities where necessary will be provided at the exit to the site to prevent tracking of material off site. The contractor will monitor on a daily basis the areas immediately surrounding the site to ensure dust and dirt is minimised. All personnel working in a dusty area shall, where necessary, wear a dust mask deemed suitable by the HSE (Health and Safety Executive) General dust extraction will be used if required and local extraction used whilst wall chasing.

9. Traffic congestion

It is proposed to set up a site compound by suspending two parking bays directly in front of the property surrounded by timber hoarding. There will be a static skip placed in the compound for excavated spoil and the remaining space will used for material storage, which will be minimal.

Actions:

- Parking: Site operatives will commute to work, all other visitors to site will be required to utilise local authority parking facilities.
- Deliveries and spoil removal operations to low traffic volume times, between 9:30am and 15:00pm.

- Positioning banksman and traffic marshals to give local traffic the option of using alternative routes.
- Moving the delivery or collection vehicle when local traffic wants to pass.
- Coordinating deliveries and collection with any nearby construction sites.
- Organising the site efficiency to minimise traffic disturbance.
- All public areas effected by the works will be kept clean at all times.

10. Neighbourhood liaison

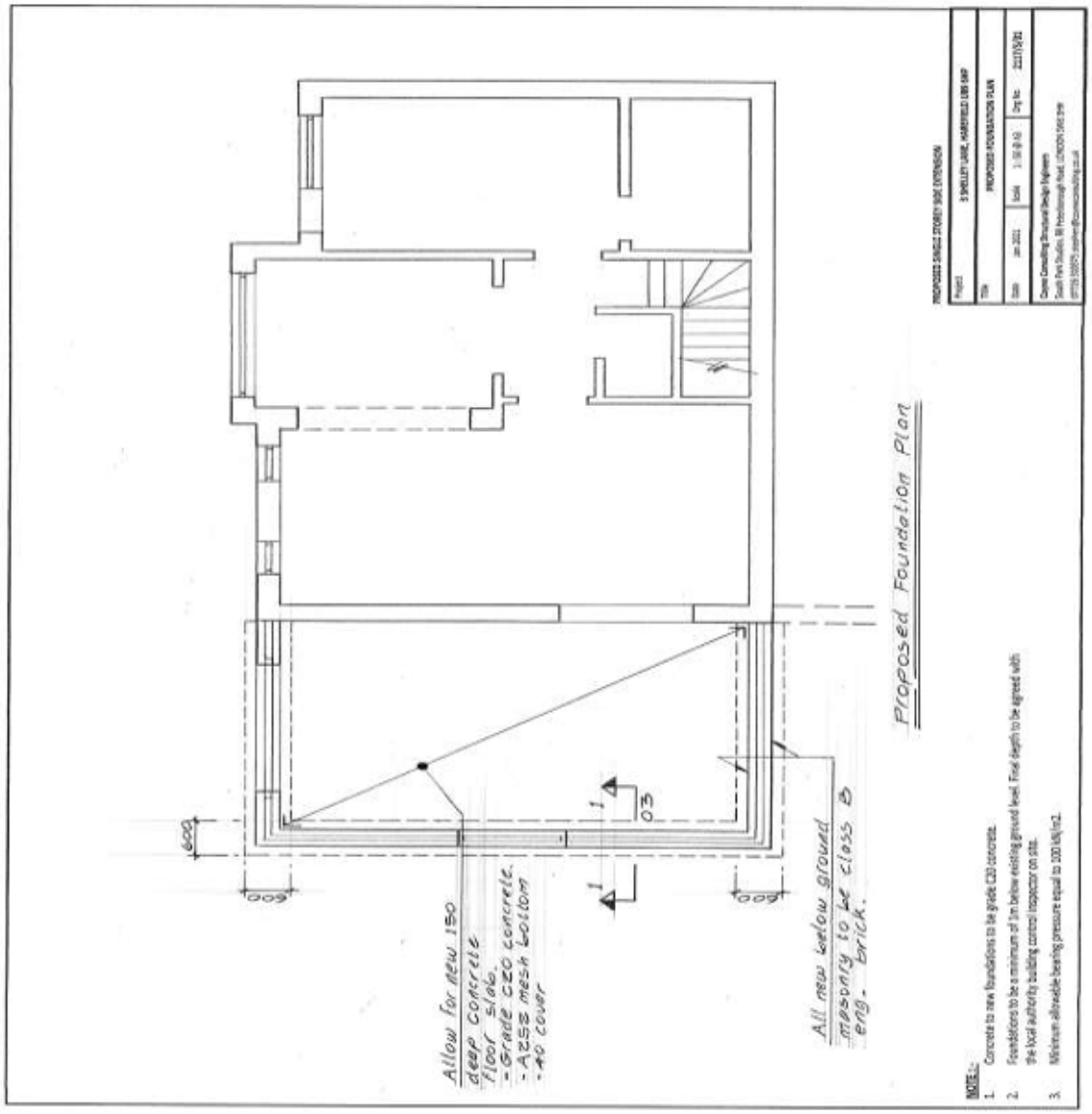
The contractor will understand the sensitive nature of the site and recognise the importance of the neighbourhood liaison role in ensuring the smooth running of site activities and their relation to the local residents and general public's welfare.

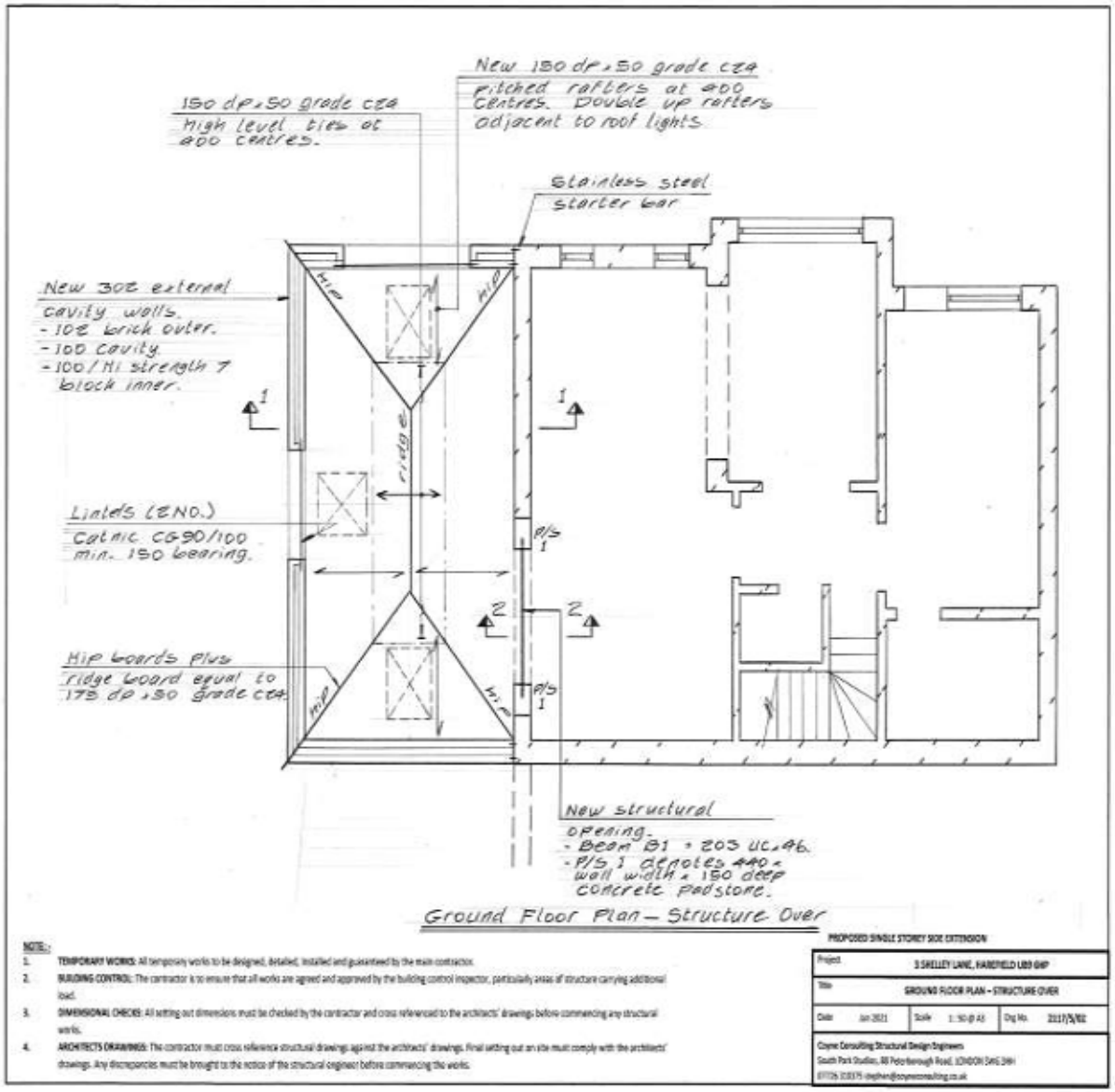
During the excavation and construction works he will ensure that all works are carried out safely and in such a manner that it will not inconvenience pedestrians or other road users and with a positive consideration to the needs of the local residents, site personnel and visitors as well as the general public.

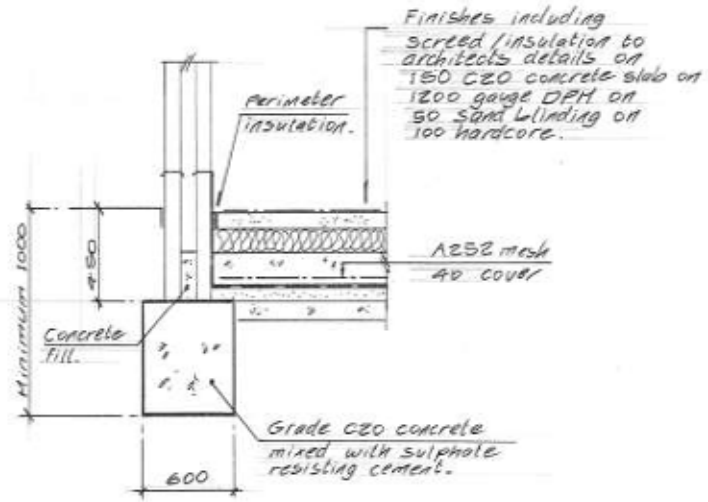
Footways and carriageways will be kept tidy and in a safe condition. Hoardings, safety barriers, lights and other features will be maintained in a safe and tidy condition. The site is to be kept clean and in good order at all times, with surplus materials and rubbish controlled within the site and not allowed to spill over into the surroundings.

Disturbance from site operations due to the effects of noise and dust emissions will be minimised by the use of plant and equipment fitted with suitable noise suppression facilities in accordance with the manufacturer's recommendation.

11. Appendix A: Structural Drawings




New 150 dp x 50 grade C24 pitched rafters at 400 centres. Double up rafters adjacent to roof lights
150 dp x 50 grade C24 High level ties at 400 centres.
Stainless steel starter bar
New 30t external cavity walls. - 10t brick outer. - 100 cavity. - 100 / Hi strength 7 block inner.
Lintels (2 No.) Catnic CG90/100 min. 150 bearing.
Hip boards plus ridge board equal to 175 dp x 50 grade C24.
P/S 1
New structural opening. - Beam B1 = 203 UC 46. - P/S 1 denotes 440 x wall width x 150 deep concrete padstone.
Ground Floor Plan – Structure Over
NOTE:
1. TEMPORARY WORKS: All temporary works to be designed, detailed, installed and guaranteed by the main contractor.
2. BUILDING CONTROL: The contractor is to ensure that all works are agreed and approved by the building control inspector, particularly areas of structure carrying additional load.
3. DIMENSIONAL CHECKS: All setting out dimensions must be checked by the contractor and cross referenced to the architects' drawings before commencing any structural works.
4. ARCHITECTS DRAWINGS: The contractor must cross reference structural drawings against the architects' drawings. Final setting out on site must comply with the architects' drawings. Any discrepancies must be brought to the notice of the structural engineer before commencing the works.
PROPOSED SINGLE STOREY SIDE EXTENSION
Project 3 SHELLEY LANE, HAREFIELD UB9 6HP
Title GROUND FLOOR PLAN – STRUCTURE OVER
Date Jan 2021 Scale 1:50 @ A3 Drg No. 2317/S/02
Coyne Consulting Structural Design Engineers
South Park Studios, 88 Peterborough Road, LONDON SW6 3HH
07726 318375 stephen@coyneconsulting.co.uk

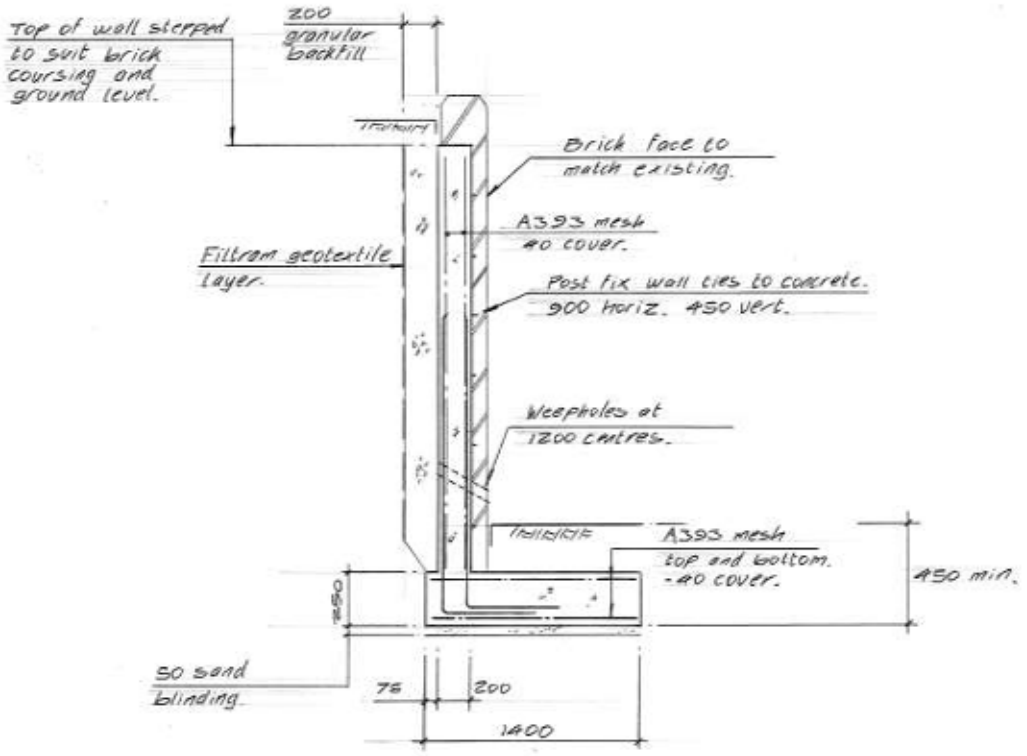


Section 1–1 (1:20)

PROPOSED SINGLE STOREY SIDE EXTENSION

Project	5 SHELLEY LANE, HAREFIELD UB9 6HP
Title	SECTION 1 – 1 THRU FOUNDATIONS
Date: Jan 2021	Scale: As Shown @ A3 — Dg No. 2117/S/03

Coyne Consulting Structural Design Engineers
South Park Studios, 84 Peterborough Road, LONDON SW6 3HH
07725 330775 stephen@coyneconsulting.co.uk



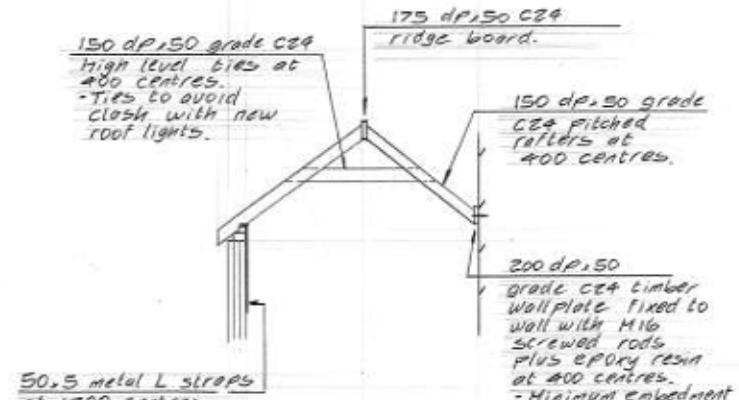
Section 3-3 (1:20)

Note:-
-Grade C30 concrete.

PROPOSED RETAINING WALL

Project	3 SHELLEY LANE, HADFIELD GLOSOP			
Title	SECTION 3 – 3 THRO RETAINING WALL			
Date	Jan 2021	Scale	As Shown @ A3	Drg No. 2317/S/13

Coyne Consulting Structural Design Engineers
South Park Studios, 88 Peterborough Road, LONDON SW6 3HH
07726 333075 stephen@coyneconsulting.co.uk



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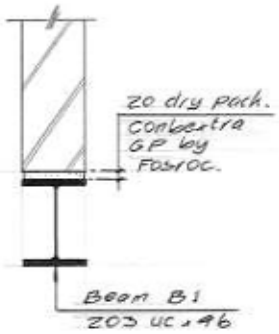
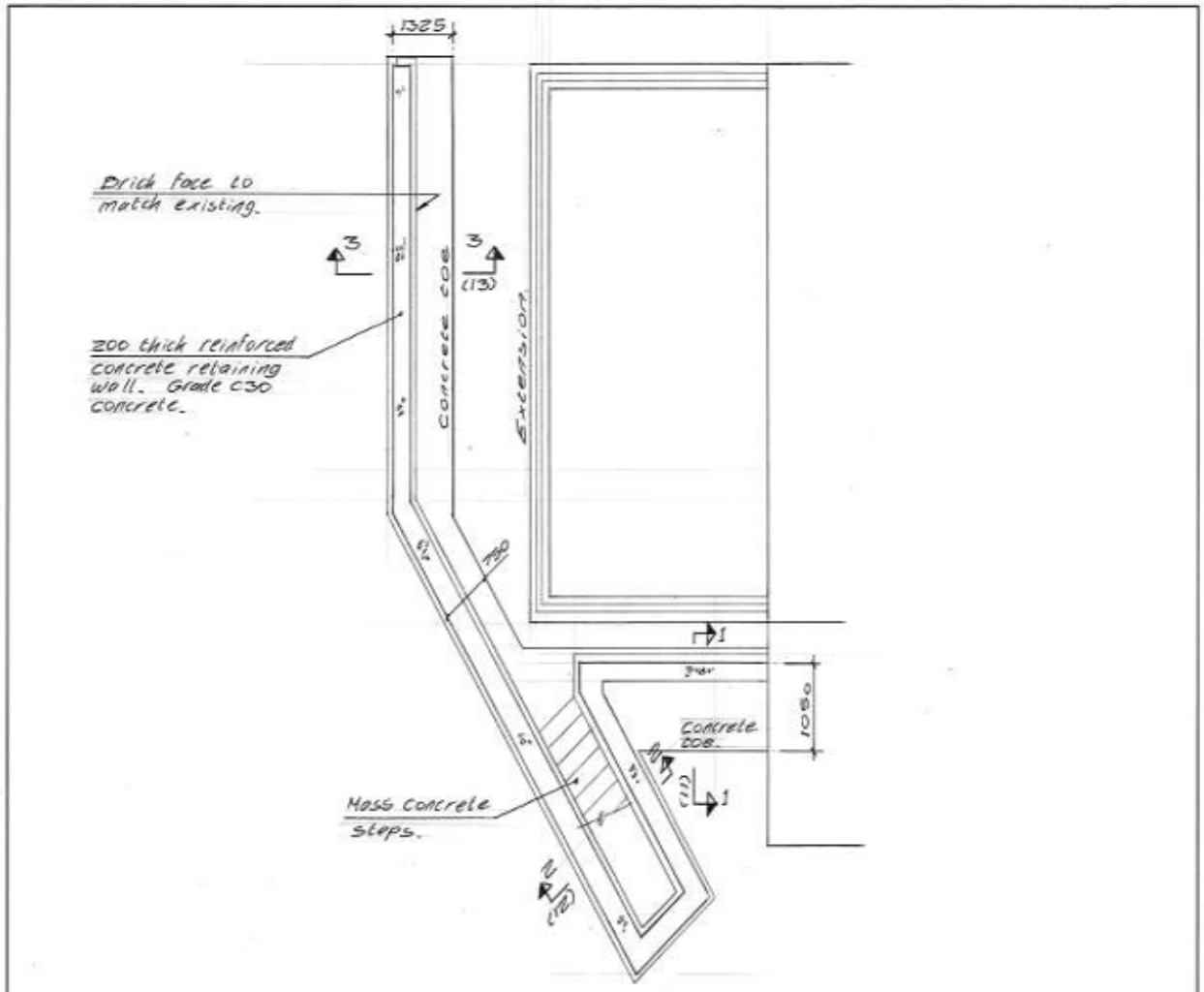


Section 3-3 (1:20)

PROPOSED SINGLE STOREY SIDE EXTENSION

Project	3 SHELLEY LANE, HAREFIELD UB9 6HP			
Title	SECTION 2 - 2 THRO ROOF			
Date	Jan 2021	Scale	As Shown @ A3	Drg No. 2117/S/04

Gayre Consulting Structural Design Engineers
South Park Studios, 88 Peterborough Road, LONDON SW6 3HH
07726 110375 stephen@gayreconsulting.co.uk



NOTE:-

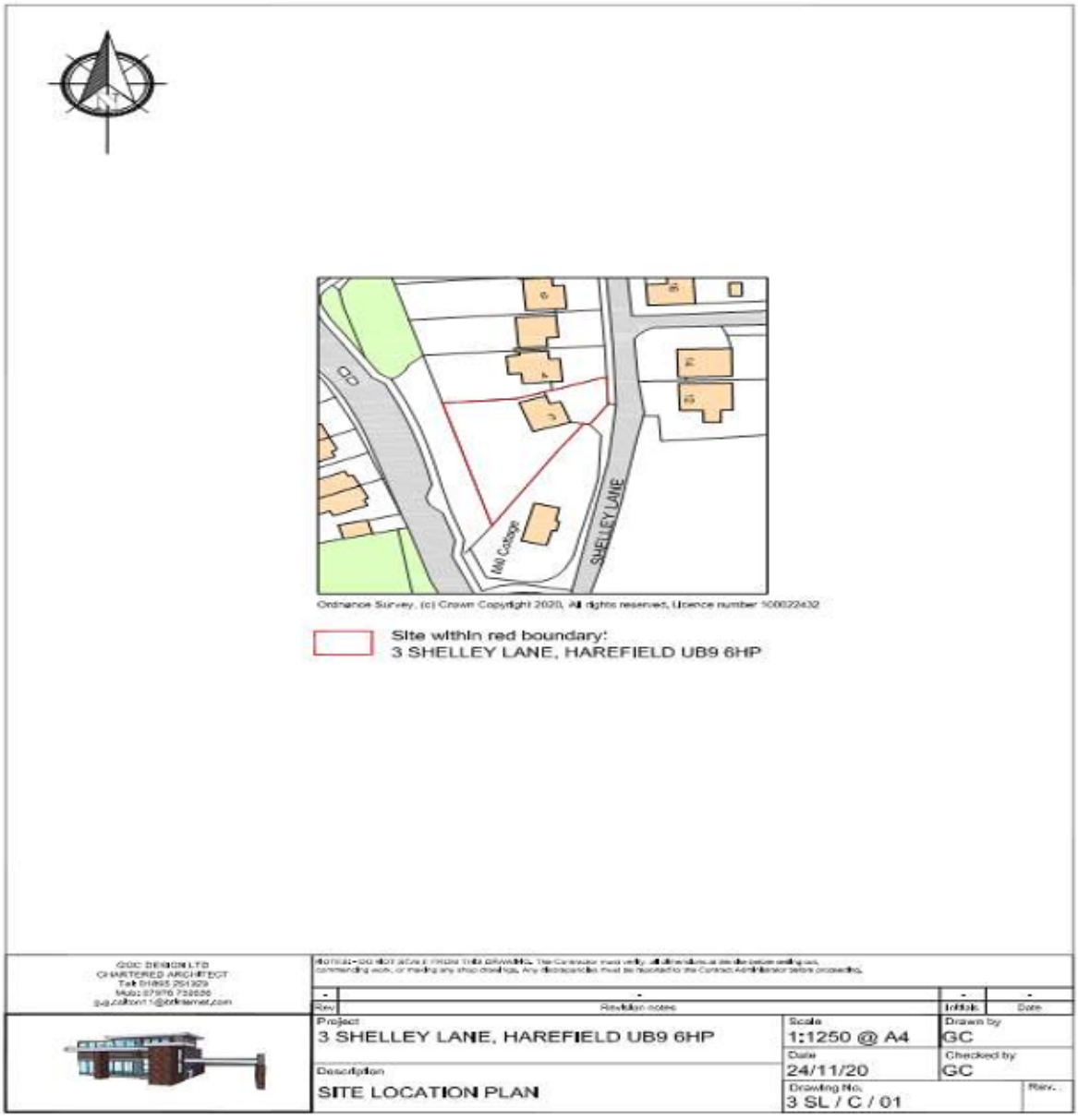
1. **TEMPORARY WORKS:** All temporary works to be designed, detailed, installed and guaranteed by the main contractor.
2. **BUILDING CONTROL:** The contractor is to ensure that all works are agreed and approved by the building control inspector, particularly areas of structure carrying additional load.
3. **DIMENSIONAL CHECKS:** All setting out dimensions must be checked by the contractor and cross referenced to the architects' drawings before commencing any structural works.
4. **ARCHITECTS DRAWINGS:** The contractor must cross reference structural drawings against the architects' drawings. Final setting out on site must comply with the architects' drawings. Any discrepancies must be brought to the notice of the structural engineer before commencing the works.

PROPOSED RETAINING WALL

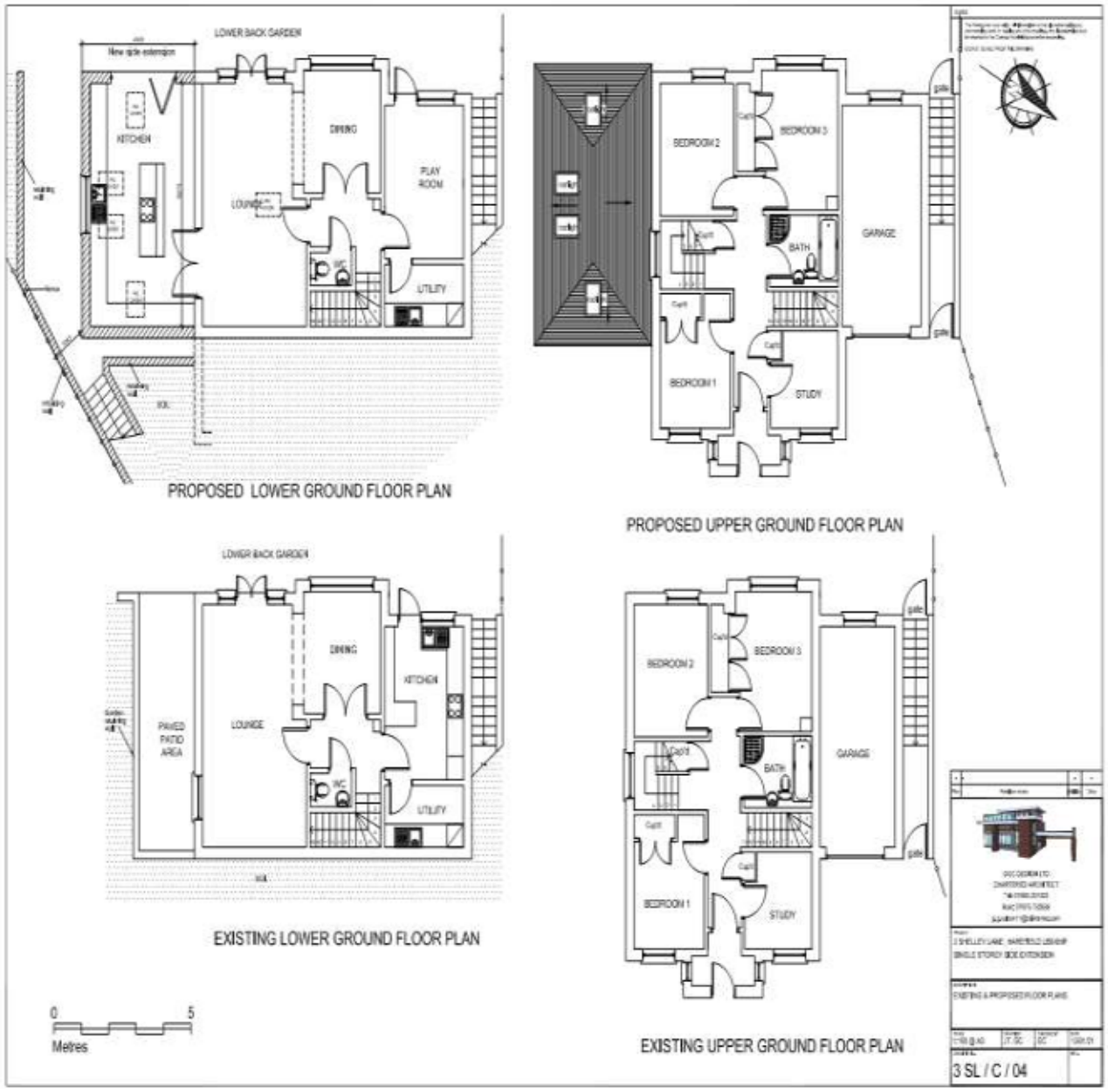
Project:	3 SHELLEY LANE, HARRYFIELD UB9 6HP		
Title:	PLAN ON RETAINING WALL		
Date: Jan 2021	Scale: 1:10 @ A3	Org No:	2137/S/100

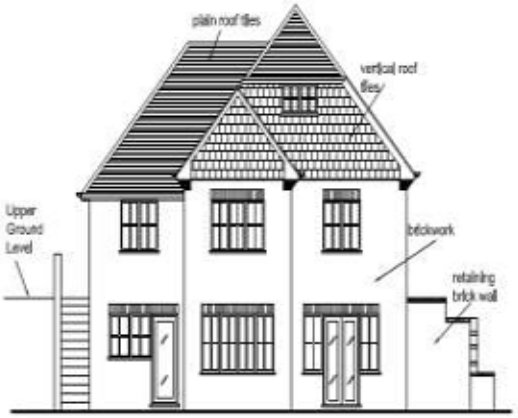
Coyne Consulting Structural Design Engineers
South Park Studios, 88 Peterborough Road, LONDON SW6 3HH
07716 283075 stephen@coyneconsulting.co.uk

12. Appendix B: Architectural Drawings

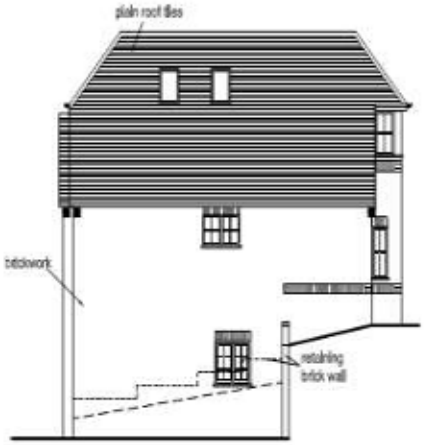



4
14
12
3
PARK LANE
Mill Cottage
SHELLEY LANE
EXISTING SITE PLAN
4
14
12
3
PARK LANE
Mill Cottage
SHELLEY LANE
PROPOSED SITE PLAN
Ordnance Survey, (c) Crown Copyright 2020. All rights reserved. Licence number 100022432
3 SL / C / 02


LOWER BACK GARDEN
New cycle extension
KITCHEN
DINING
LOUNGE
PLAY ROOM
UTILITY
PROPOSED LOWER GROUND FLOOR PLAN
BEDROOM 2
BEDROOM 3
BATH
GARAGE
BEDROOM 1
STUDY
PROPOSED UPPER GROUND FLOOR PLAN
LOWER BACK GARDEN
PAVED PATIO AREA
LOUNGE
DINING
KITCHEN
UTILITY
EXISTING LOWER GROUND FLOOR PLAN
BEDROOM 2
BEDROOM 3
BATH
GARAGE
BEDROOM 1
STUDY
EXISTING UPPER GROUND FLOOR PLAN
0
5
Metres
3 SL / C / 04

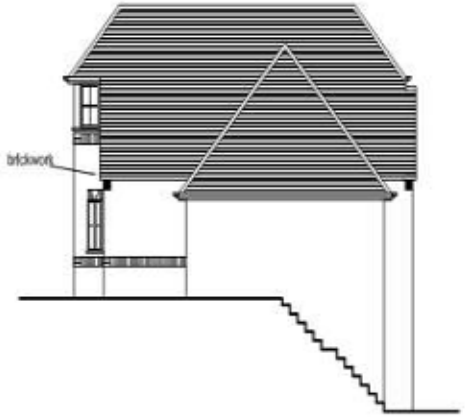


EXISTING REAR ELEVATION



EXISTING SIDE ELEVATION

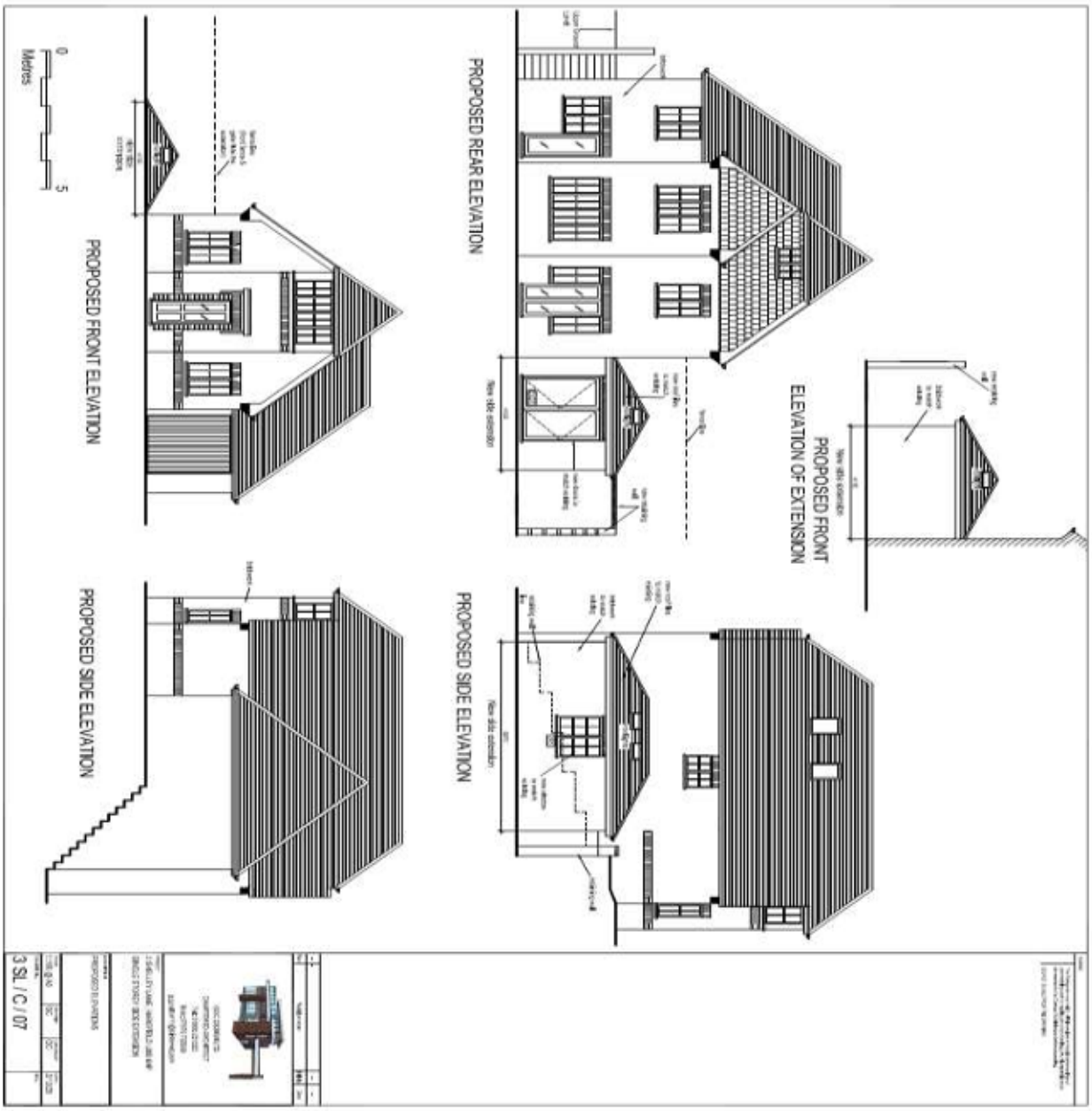
EXISTING FRONT ELEVATION

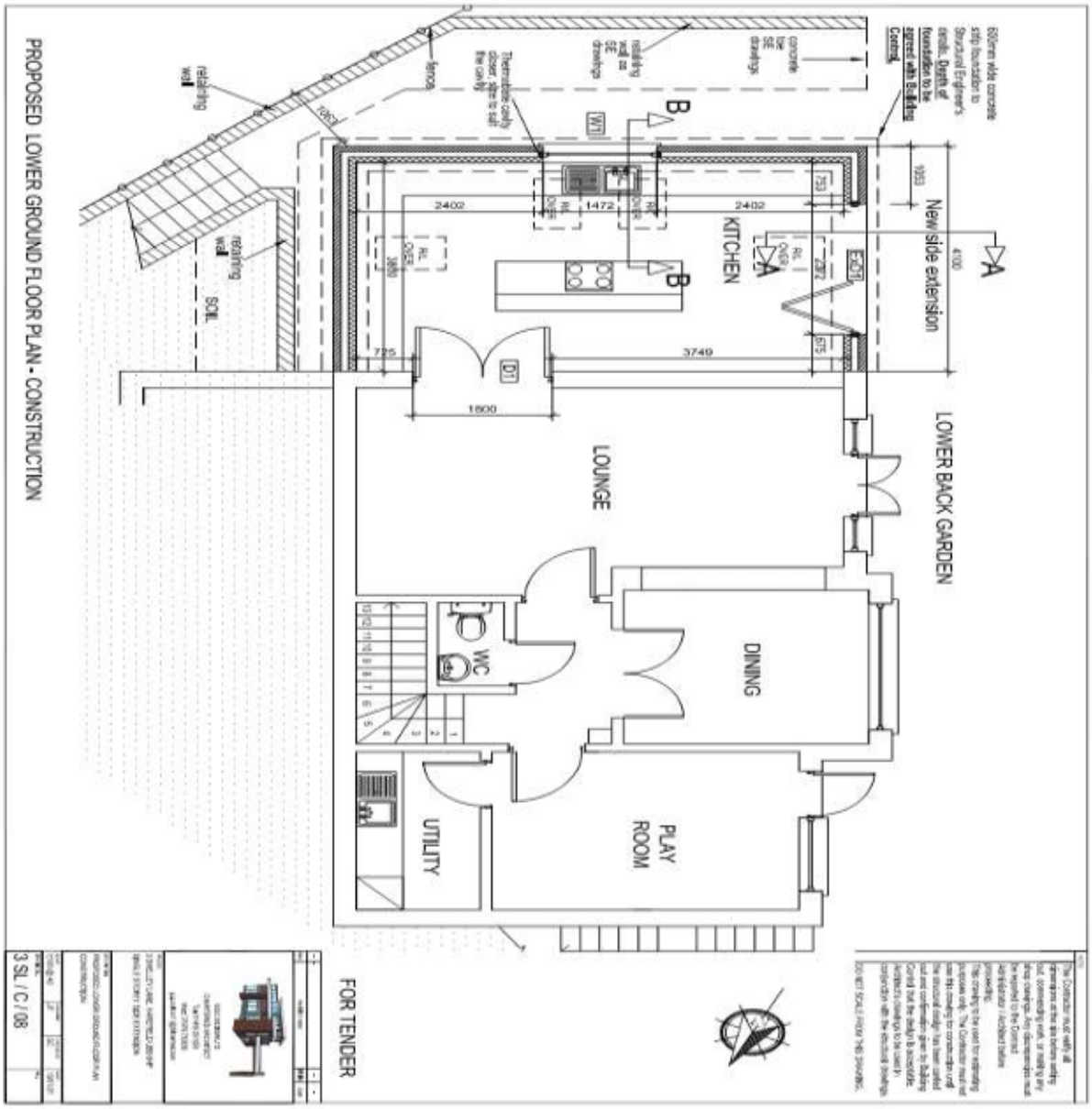


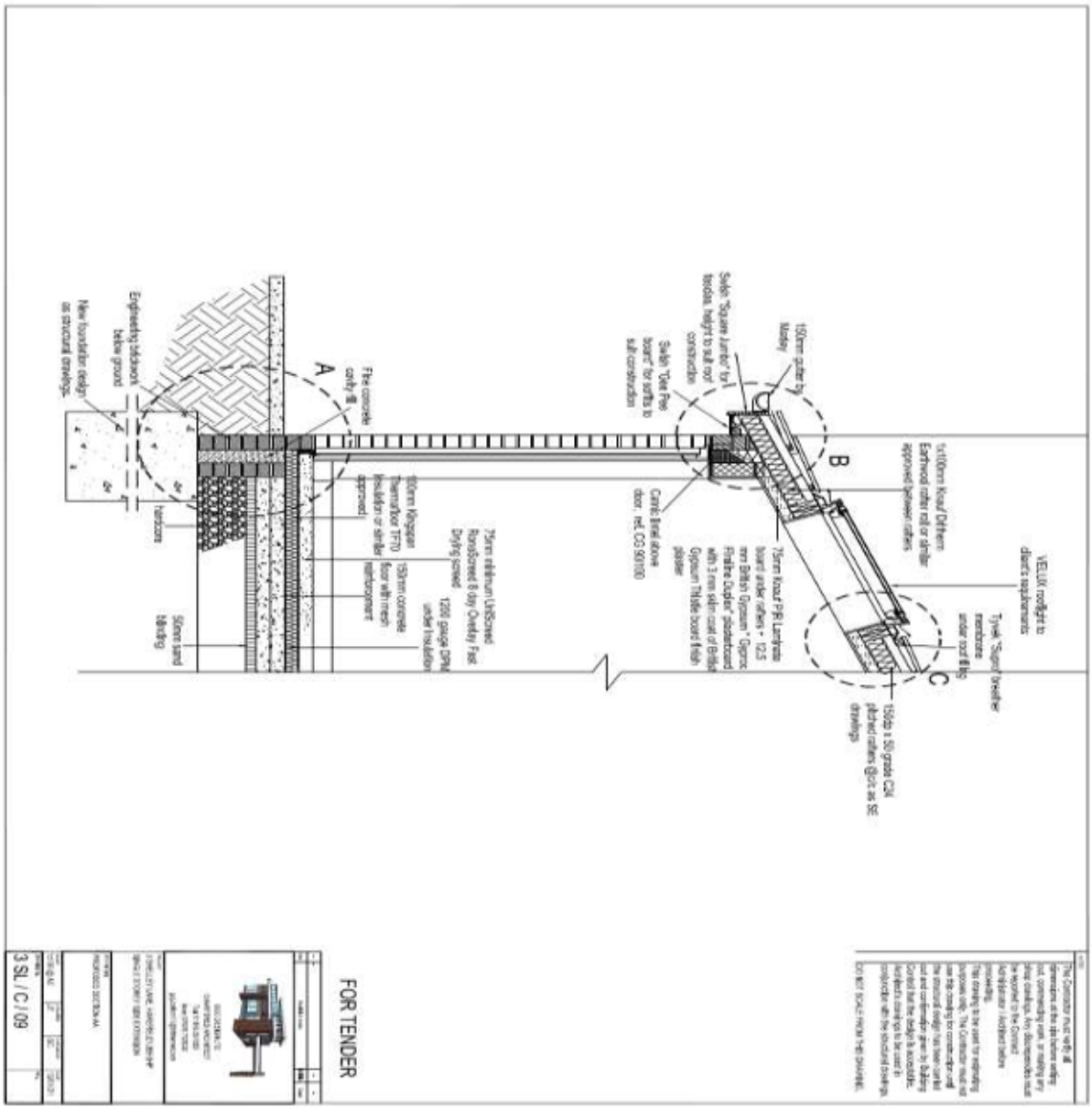
EXISTING SIDE ELEVATION

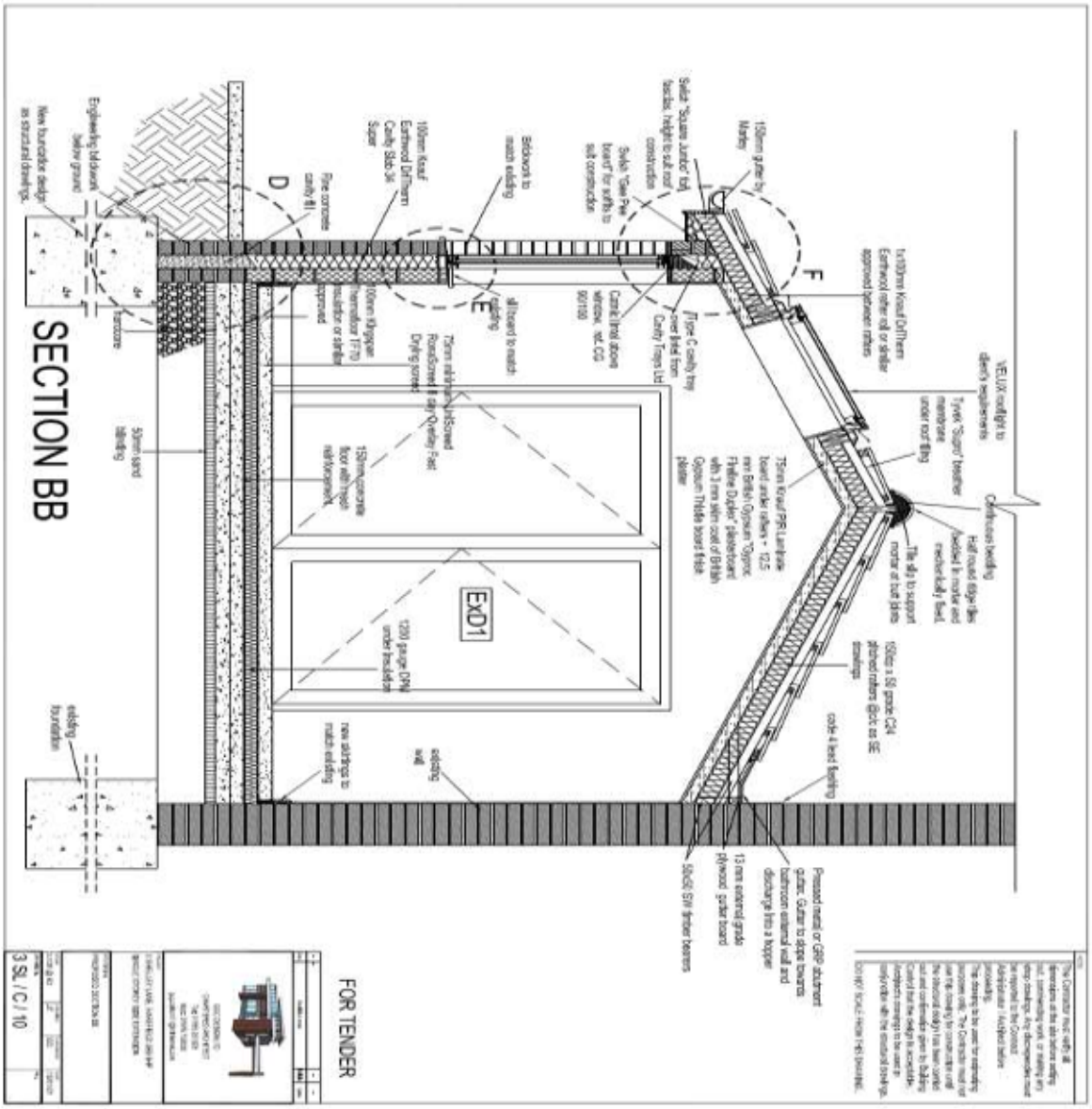
0 5
Metres

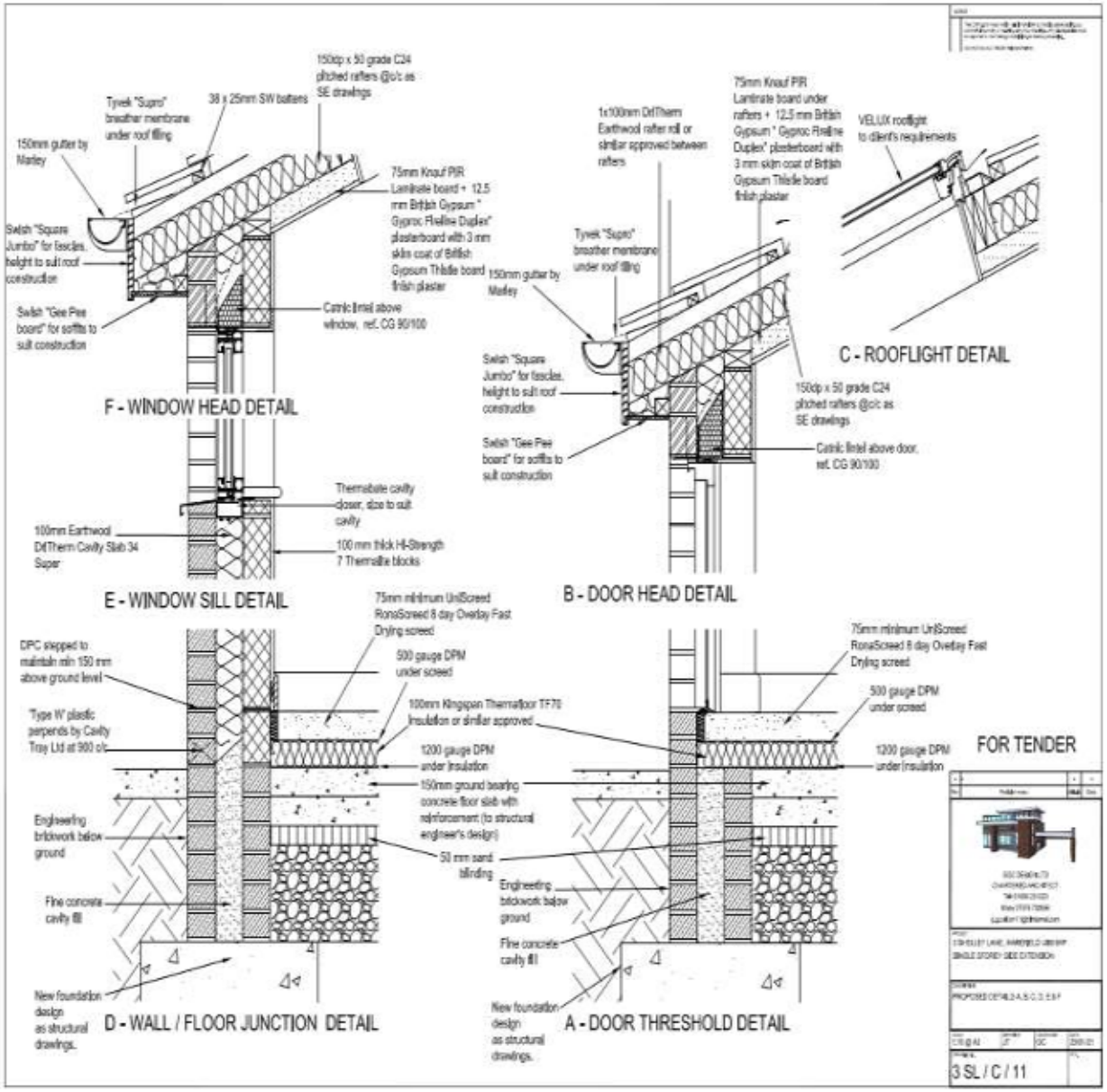
3 SL / C / 07

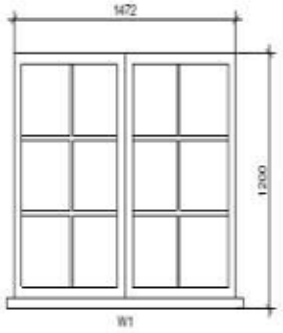

PROPOSED REAR ELEVATION
PROPOSED FRONT ELEVATION OF EXTENSION
PROPOSED FRONT ELEVATION
PROPOSED SIDE ELEVATION
PROPOSED SIDE ELEVATION
0
5
Metres
3 SL / C / 07

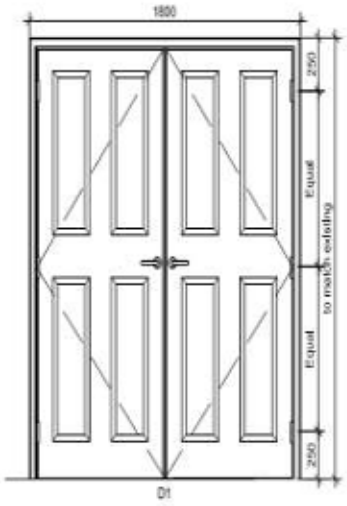

PROPOSED LOWER GROUND FLOOR PLAN - CONSTRUCTION
FOR TENDER
New side extension
LOWER BACK GARDEN
KITCHEN
LOUNGE
DINING
WC
UTILITY
PLAY ROOM
retaining wall
SOIL
fence
3 SL / C / 08


A
B
C
FOR TENDER
3 SL / C / 09


SECTION BB
FOR TENDER
EXD1
D
E
F
3 SL / C / 10


150dp x 50 grade C24 pitched rafters @c/c as SE drawings
Tyvek "Supro" breather membrane under roof tiling
38 x 25mm SW battens
150mm gutter by Marley
75mm Knauf PIR Laminate board + 12.5 mm British Gypsum " Gyproc Fireline Duplex" plasterboard with 3 mm skim coat of British Gypsum Thistle board finish plaster
Swish "Square Jumbo" for fascias, height to suit roof construction
Cutnic lintel above window, ref. CG 90/100
Swish "Gee Pee board" for soffits to suit construction
F - WINDOW HEAD DETAIL
Thermabate cavity closer, size to suit cavity
100mm Earthwool DriTherm Cavity Slab 34 Super
100 mm thick Hi-Strength 7 Thermalite blocks
E - WINDOW SILL DETAIL
1x100mm DriTherm Earthwool rafter roll or similar approved between rafters
75mm Knauf PIR Laminate board under rafters + 12.5 mm British Gypsum " Gyproc Fireline Duplex" plasterboard with 3 mm skim coat of British Gypsum Thistle board finish plaster
Tyvek "Supro" breather membrane under roof tiling
150mm gutter by Marley
Swish "Square Jumbo" for fascias, height to suit roof construction
Swish "Gee Pee board" for soffits to suit construction
150dp x 50 grade C24 pitched rafters @c/c as SE drawings
Cutnic lintel above door, ref. CG 90/100
B - DOOR HEAD DETAIL
VELUX rooflight to client's requirements
C - ROOFLIGHT DETAIL
DPC stepped to maintain min 150 mm above ground level
75mm minimum UniScreed RonaScreed 8 day Overlay Fast Drying screed
500 gauge DPM under screed
100mm Kingspan Thermafloor TF70 Insulation or similar approved
1200 gauge DPM under insulation
150mm ground bearing concrete floor slab with reinforcement (to structural engineer's design)
50 mm sand blinding
'Type W' plastic perpends by Cavity Tray Ltd at 900 c/c
Engineering brickwork below ground
Fine concrete cavity fill
New foundation design as structural drawings.
D - WALL / FLOOR JUNCTION DETAIL
75mm minimum UniScreed RonaScreed 8 day Overlay Fast Drying screed
500 gauge DPM under screed
1200 gauge DPM under insulation
Engineering brickwork below ground
Fine concrete cavity fill
New foundation design as structural drawings.
A - DOOR THRESHOLD DETAIL
FOR TENDER
3 SL / C / 11





NOTES FOR INTERNAL DOOR;

1. The manufacturer for doors, the door type and ironmongery to be Client's choice.
Doors to have all necessary hardware, finish – client's choice.

2. Sizes to be confirmed from site dimensions and with manufacturer before ordering.

3. All internal doors except for cupboard doors to be 1/2 hour fire resistant.

The Contractor must verify all dimensions on the site before setting out, commencing work, or making any shop drawings. Any discrepancies must be reported to the Contract Administrator / Architect before proceeding.
This drawing to be used for estimating purposes only. The Contractor must not use this drawing for construction until the structural design has been carried out and confirmation given by Building Control that the design is acceptable. Architect's drawings to be used in conjunction with the structural drawings.

DO NOT SCALE FROM THIS DRAWING.

NOTES FOR EXTERNAL DOORS & WINDOWS:

1. The manufacturer for the windows and doors, the door or window type and ironmongery to be Client's choice.
Windows and doors to have all necessary hardware, finish – satin chrome.

2. Sizes to be confirmed from site dimensions and with manufacturer before ordering.

3. Windows & external doors to be uPVC framed with 28mm double glazed insulating units, 4mm super soft low emissivity & low iron glass, 20mm argon gas filled chamber and warm edge spacer board.
Windows and external doors to achieve max. U-value of 1.3 W/m²K.

4. Windows to have trickle ventilators to provide background ventilation.

5. Openable windows to have an unobstructed opening area of 0.33 sq m and have a minimum dimension of 450 mm in either direction. The bottom should be no more than 1100 mm above the floor.
The external door to have laminated glazing in all critical areas to comply with the current Building Regulations.

6. Windows & doors to comply with the current Building Regulations and to comply with the Secured by Design requirements.

[redacted]

[redacted]

PROPOSED INTERNAL & EXTERNAL DOOR & WINDOW SCHEDULE

3 SL / C / 12

FOR TENDER