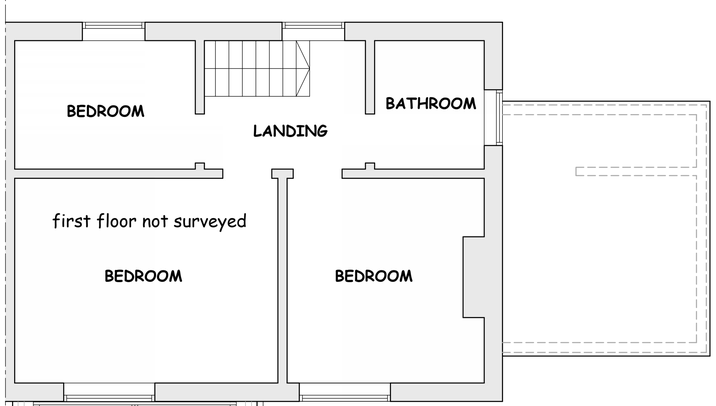
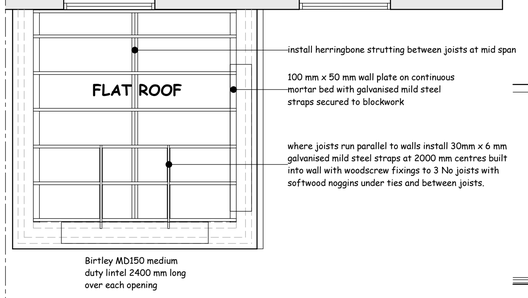




FIRST FLOOR PLAN

Materials: All materials should comply with the appropriate British Standards or Agrement Certificates. Alternatively, the materials should be marked, stamped, independently certified or otherwise justified by test or calculation to show their suitability. Standards of workmanship should meet the relevant BS8000 series

Commissioning and Certificates:- provide the following information to Building Control on completion of the project;
a - an appropriate BS 7671 electrical installation certificate
b - an installation certificate for the solid fuel stove installation (HETAS) or competent person registration
c - an installation certificate for the oil fired boiler, fittings and controls
d - a design, installation and commissioning certificate for the ventilation apparatus

Trial holes:- Excavate trial holes (if required by the Building Control Officer) to ascertain the foundation design requirements and submit details together with (if necessary) any relevant Structural Engineer's details for approval by the Local Authority. Include details of the depth of ground water encountered in each trial hole.

Foundations: Excavate for and lay 600 x 250 mm concrete strip foundations (C20 mix) in trenches to suit site conditions (minimum 1000 mm deep). Construct cavity block wall below D.P.C. level and fill cavity with weak concrete up to 225 mm below D.P.C. Backfill excavations within building with clean hardcore compacted in layers not exceeding 150 mm.

Ground Floor :- Selected floor covering on minimum 50 mm liquid screed with light anti-crack fabric mesh reinforcement (A98) on 1000 gauge vapour control layer on 150 mm Kingspan Thermafloor TF70 insulation with 8 mm flanking strips around perimeter of flooring, 150 mm thick concrete slab (BS 5328 mix design C.108),1200 gauge polythene damp proof membrane turned up to link with horizontal D.P.C. on 25 mm sand blinding on well consolidated hardcore in layers not exceeding 150 mm. Ground floor to provide a U value of at least 0.14 W\m2k.

Walls:- Construct new cavity walls comprising an outer leaf of 103 mm facing brickwork, 150 mm cavity filled as work proceeds with Dritherm 32 cavity batts and an inner leaf of 100 mm Aglite Ultima blocks finished internally with 13 mm plasterboard and skim. Install wall ties to BS 1243 at minimum 900 mm horizontal and 450 mm staggered vertical centres increased to 225 mm within 300 mm of all openings. Close all cavities with Thermabate or equal insulated d.p.c's. Pre-textured pitch-free polythene horizontal d.p.c. to be set 150 mm above finished ground levels. External walls to provide a minimum U value of 0.18 W\m2k.

Wall Fixings:- Join new walls to existing with Catnic GWC galvanised wall starter kit (or equal approved) with wall ties at maximum 300 mm vertical centres all installed in accordance with the manufacturer's instructions. Fill joints with compressible polymer foam. Finish with 15 mm deep flexible epoxide sealant to external perpend.

Lintels:- Install proprietary insulated galvanised steel lintels over all openings with minimum 150 mm end bearings. Plans, details and calculations of the form, loading, structural strength and stability of the new lintels shall be deposited with the Local Authority (if required) before works to those parts of the building is commenced.

Ceiling:- 38 mm PIR insulated plasterboard ceilings with skim finish and vapour control layer over.

Flat roof:- Glass reinforced polyester flat roof covering on 22 mm OSB 3 deck on treated softwood firrings (20 mm - 70 mm = 1:80 fall) all on 195 mm x 47 mm C16 grade softwood flat roof joists at 600 mm centres. Provide minimum equivalent of 25mm continuous ventilation at opposite eaves with minimum 50 mm air space above insulation. Fit 175 mm Kingspan Thermaroof insulation boards between the joists. Flat roof to provide a minimum U value of 0.11 W\m2k.

Windows and External Doors:- Install new pvcU windows and French doors. Windows and doors to provide a minimum U value of 1.6 W\m2k.

Glazing:- All glass lower than 1500 mm above floor level to doors, adjacent side lights and windows and lower than 800 mm above floor level elsewhere to be laminated or toughened in accordance with the requirements of BS 6206.

Background ventilation:- From table 5.2a of Approved document F of the building regulations the total required background ventilation shall be not less than 12,000 sq mm. This is based on a design air permeabilty of 5 Sq m/h. sq m) at 50 Pa. Install Trimvent S13 2700EA ventilators (or equal approved) in locations as shown each providing 4045 mm2 free area of ventilation (total 3 x 4045 = 12135 mm2)

Purge ventilation:- Provide purge ventilation with a minimum free opening area equal to 1/20 th of the floor area of the habitable rooms

Electrical:- All electrical work to be designed, installed, inspected and tested by a competant person. Appropriate certificates are to be provided to the Local Authority upon completion of work in accordance with BS 7671. p1.

Internal Lighting:- Fixed internal lighting shall be of a high efficacy type with a luminous efficiency greater than 45 lumens per circuit-Watt and a total output greater than 400 lamp lumens.

External Lighting:- External lighting to consist of energy efficient fittings complete with low energy lamps. Installl doorbells/entry-phones a maximum 1200 mm above external entrance level.

Heating:- Install a radiator complete with TRV and connect to the existing heating system

U Value Calculations

1) Cavity Walls (Required U value less than 0.18 W/m2K)

	Thickness (metres)	λ (W/m.K)	R value (1/λ)
RSO			0.0600
Brick outer skin	0.1035	0.8400	0.1232
Fully insulated cavity	0.1500	0.0220	4.6875
Blockwork inner skin	0.1000	0.1100	0.9091
Plasterboard	0.0125	0.1600	0.0781
RSI			0.1200
Total R			5.9779
U value = 1/total R (W/m2K)	**0.1673**	less than 0.18 ∴ O.K.	

2) Ground Floor (Required U value less than 0.14 W/m2K)

	Thickness (metres)	λ (W/m.K)	R value (1/λ)
RSO			0.0400
Screed	0.0500	1.1500	0.0435
Vapour control layer	0.0030	0.5000	0.0060
PIR insulation	0.1500	0.0220	6.8182
Dense concrete slab	0.1500	2.0000	0.0750
RSI			0.1700
Total R			7.1527
U value = 1/total R (W/m2K)	**0.1398**	less than 0.14 ∴ O.K.	

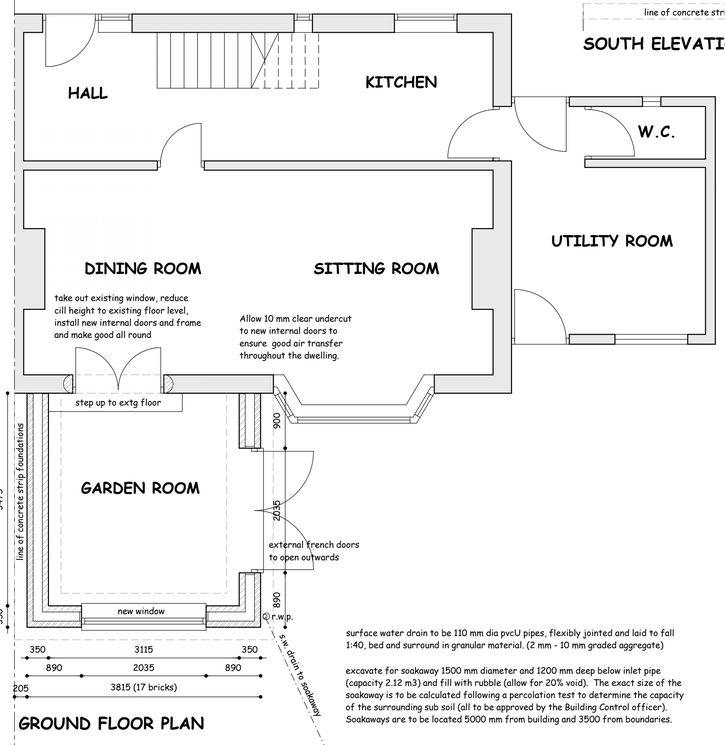
3) Flat Roof (Required U value less than 0.11 W/m2K)

	Thickness (metres)	λ (W/m.K)	R value (1/λ)
RSO			0.0400
GRP Covering	0.0060		
Oriented strand board	0.0220	0.1300	0.1692
Standard cavity	0.0500	0.3125	0.1600
Thermaroof TR27 insulation	0.1750	0.0240	7.2917
Insulated plasterboard	0.0380	0.0220	1.7273
RSI			0.1000
Total R			9.4882
U value = 1/total R (W/m2K)	**0.1054**	less than 0.11 ∴ O.K.	



SOUTH ELEVATION

EAST ELEVATION



GROUND FLOOR PLAN

surface water drain to be 110 mm dia pvcU pipes, flexibly jointed and laid to fall 1:40, bed and surround in granular material. (2 mm - 10 mm graded aggregate)

excavate for soakaway 1500 mm diameter and 1200 mm deep below inlet pipe (capacity 2.12 m3) and fill with rubble (allow for 20% void). The exact size of the soakaway is to be calculated following a percolation test to determine the capacity of the surrounding sub soil (all to be approved by the Building Control officer). Soakaways are to be located 5000 mm from building and 3500 from boundaries.

Specification of Structural Elements

1) External cavity walls

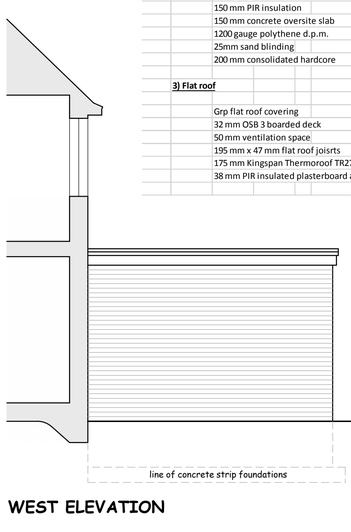
102.5 mm clay facing bricks
100 mm cavity
150 mm Dritherm 32 cavity batts
100 mm Thermolite Turbo blocks
27.5 mm PIR insulated plasterboard

2) Ground floor

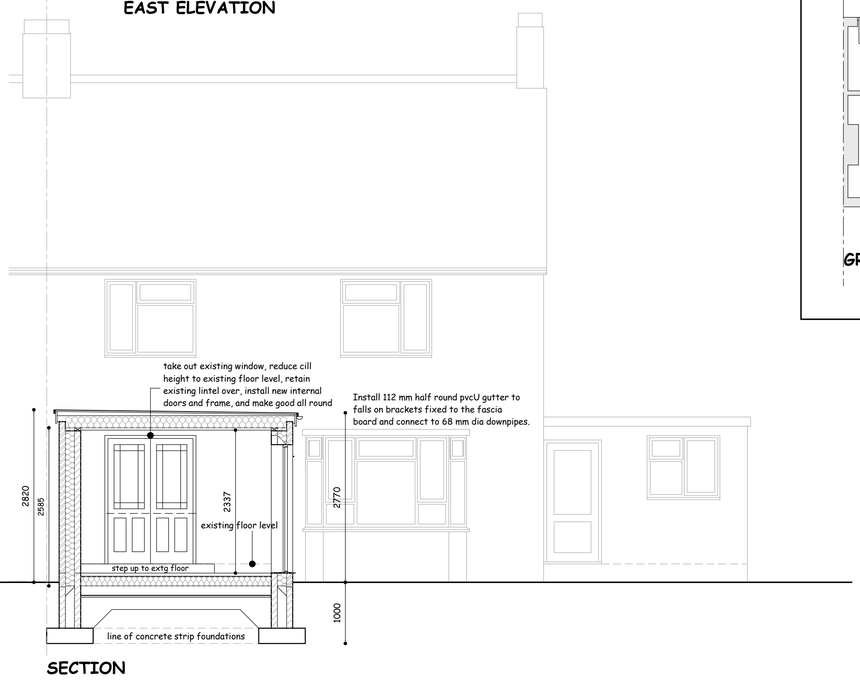
50 mm cement and sand screed
1000 gauge vapour control layer
150 mm PIR insulation
150 mm concrete oversite slab
1200 gauge polythene d.p.m.
25mm sand blinding
200 mm consolidated hardcore

3) Flat roof

Grp flat roof covering
32 mm OSB 3 boarded deck
50 mm ventilation space
195 mm x 47 mm flat roof joisrts
175 mm Kingspan Thermoroof TR27 rigid insulation
38 mm PIR insulated plasterboard and skim



WEST ELEVATION

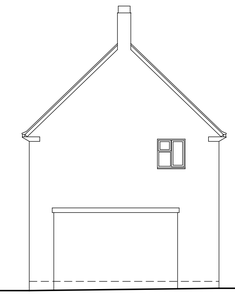


SECTION

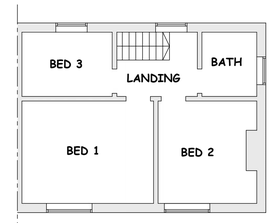
EXISTING PLANS



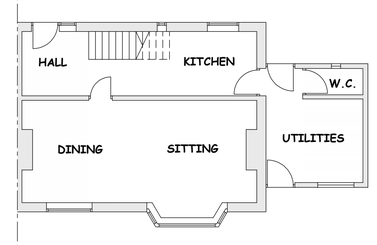
SOUTH ELEVATION



EAST ELEVATION



FIRST FLOOR PLAN



GROUND FLOOR PLAN

Rev A:- Construction notes added - November 2022

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PROPOSED REAR EXTENSION
85 PRINCE'S STREET
SUTTON BRIDGE
SPALDING
LINCOLNSHIRE PE12 9RF

MISS LISA CRITCHLOW

GENERAL ARRANGEMENT PLAN

SCALES	NOVEMBER 2022	REVISION
1:50, 1:100 A1 DRAWING	22/629/01	A