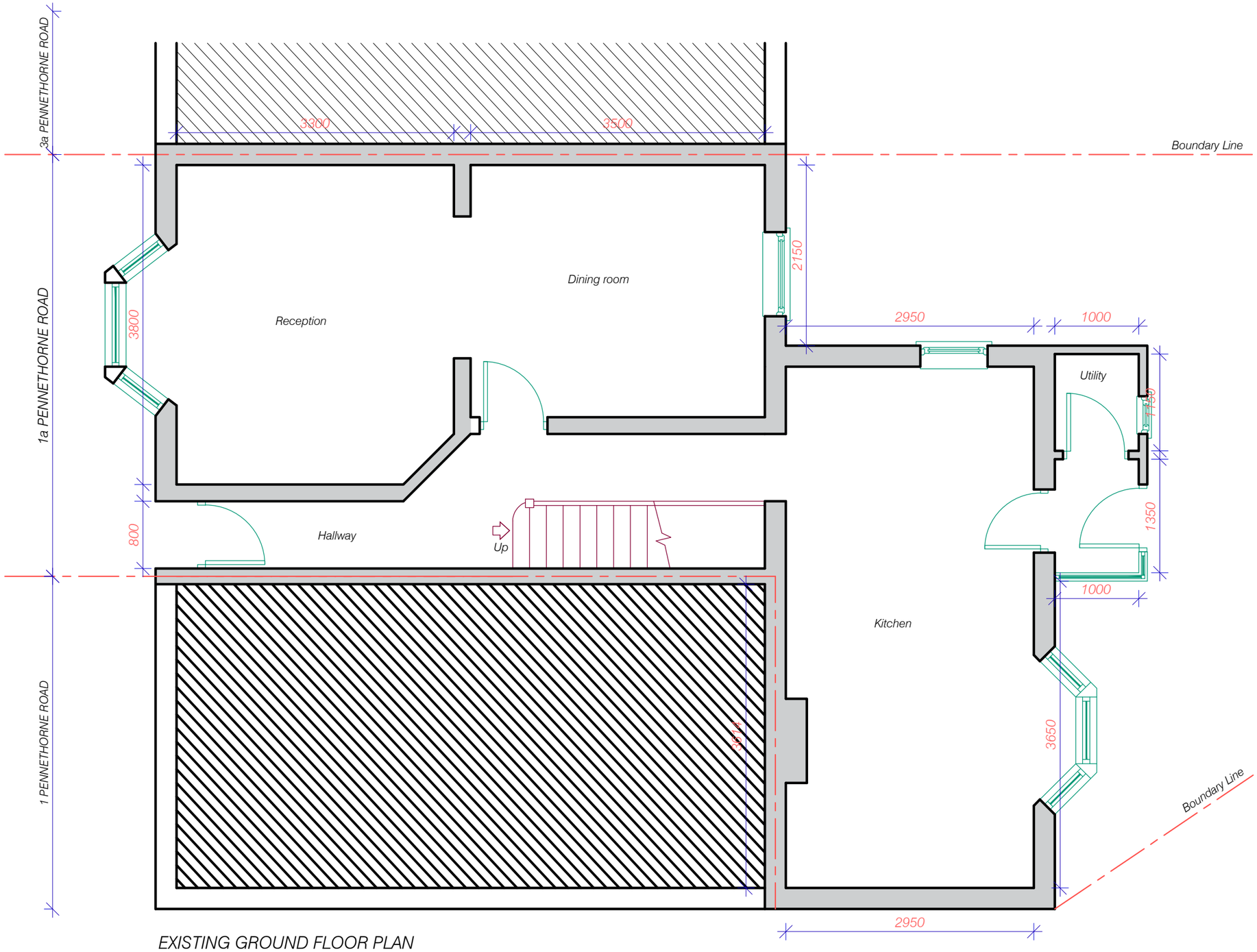

EXISTING GROUND FLOOR PLAN

Scale Bar/s:

1/50

0m 1m 2.5m 5m

Notes:
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Issue	Notes	Drawn	Date

Express Plans

Suite 12, 29 Belmont Road, Uxbrdge, UB8 1QS
Tel: 07375 455206 Email: info@expressplans.co.uk

Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
EXISTING GROUND FLOOR PLAN

Scale	Date	Checked	Drawn By
1:50 @A3	19/04/24	AZ	AZ

Drawing Number
D01

Revision

Notes:
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3a PENNETHORNE ROAD

1a PENNETHORNE ROAD

1 PENNETHORNE ROAD

3300

3500

Boundary Line

NEAR FULL FILL CAVITY WALL (BRICK FINISH)
Facing brickwork outer leaf (spec be be agreed with client)
10 cavity / air space
90mm kooltherm k106 - kingspan insulation
100mm 7.0n lightweight aerated blockwork inner leaf (max density of 730 kg/m3,
k-value 0.11 w/mk) with necessary movement joints as per manufacturer's specs
galvanised (vertical twist) cavity ties @450 cc vert + 900cc horizontal,
all spacing reduced to 225cc within 300mm of openings
12.5 foil-backed plasterboard on dabs + skim coat
over all u-value calculated = 0.17 w/m2k

install dpc at min 150 above ground level and continued under thresholds
- pre formed plastic weep holes at 75mm h x 10 w @ 900 c/c with chamfered mortar fill at dpc level

2150

Living room

Reception

3800

ventilation:
kitchen to have mechanical ventilation @ 60 litres per second or @ 30 litres per second if incorparated into cooker hood
shower to have mechanical ventilation @ 15 litres per second provide 8000mm2 background ventilation to all new extension rooms

2950

1100

600

all new rainwater goods to match profile and colour of existing retained.any new rainwater drainage system installed to be linked to either existing or new soak away system min +5m away from building foundation (tbc on site)

Kitchen

Kitchen to have hot and cold potable water supply with 40mm waste discharge pipe installed. Sink to have hot and cold potable water supply with 40mm waste discharge pipe installed.

50x150mm c24 timber at 400mm centres roof joists

1950

catnic ts90/100

catnic ts90/100

New doors to be aluminium powder coated doors, Colour to be either black or anthracite.

350

800

300

800

Hallway

Up

steel beam to structural engineers calculations and recommendation

2 layers 12.5mm fireline plasterboards to incased steel beam providing (half hour fire rating)

300

Dining

3650

all new external windows fitted with background trickle ventilators and windows located with in habitual space capable for fire escape. double glazing units to match existing and minimum 1.4 w/m2 k u-value rating, see pds specification for further details.

new structural support / steelwork shown indicative only, refer to s.e details. all steelwork to be fire protected to minimum 30 minutes
all new structural support / steelwork shown indicative only, and is subject to structural engineer's design and to building control approval.

Boundary Line

all stud partition are to be 100x50mm sawn timer @ 400c/c & horizontally nogged@ 600c/c to be lined with 15mm soundbloc plaster board by gyproc & 5mm skim on both sides. all partitions to have 100mm fiber glass insulation

2950

PROPOSED GROUND FLOOR PLAN

Scale Bar/s:

1/50

0m 1m 2.5m 5m

Issue	Notes	Drawn	Date

Express Plans

Suite 12, 29 Belmont Road, Uxbrdge, UB8 1QS
Tel: 07375 455206 Email: info@expressplans.co.uk

Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
PROPOSED GROUND FLOOR PLAN

Scale	Date	Checked	Drawn By
1:50 @A3	19/04/24	AZ	AZ

Drawing Number
D02

Revision

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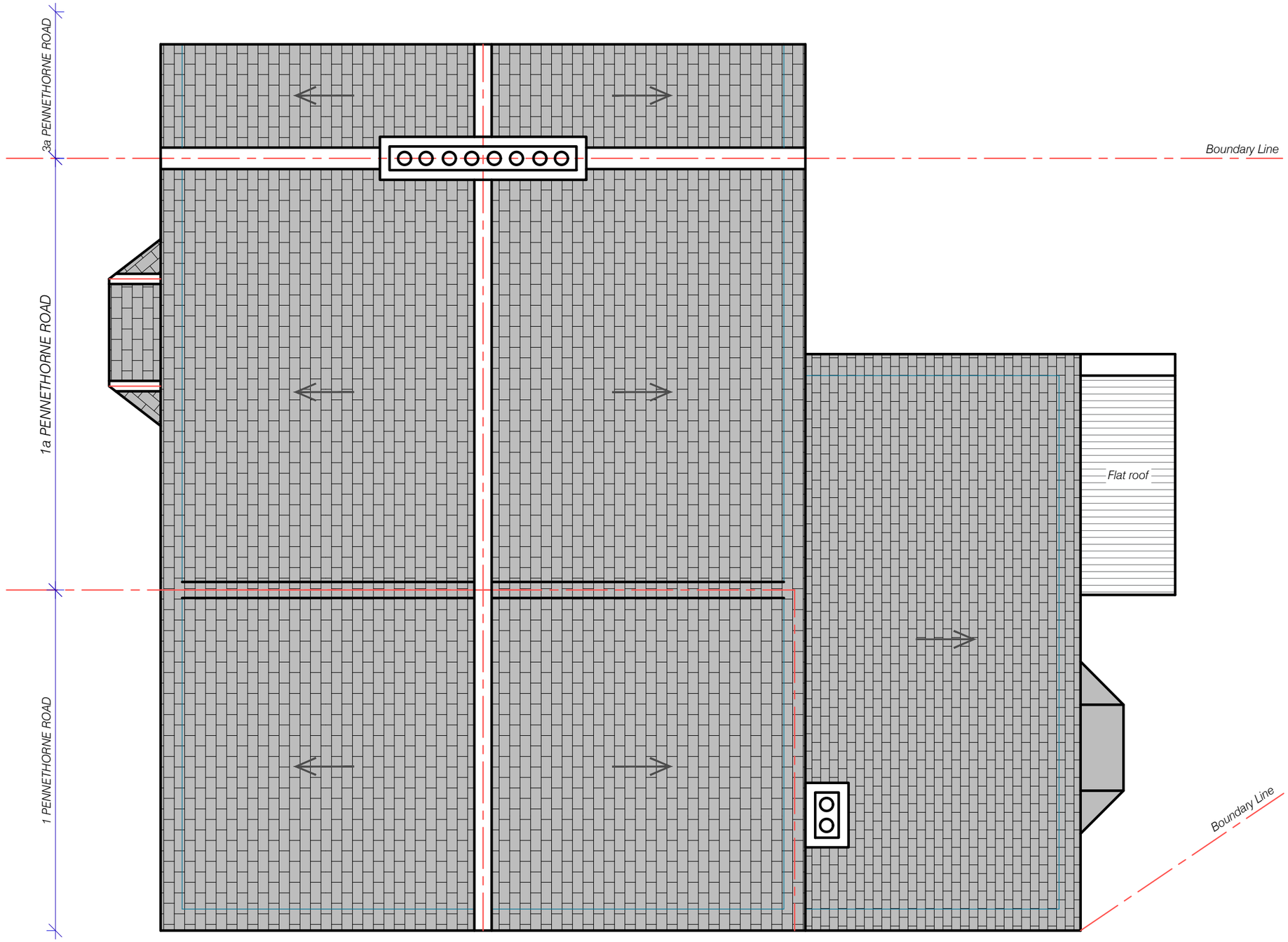

EXISTING ROOF PLAN

Scale Bar/s:

0m 1m 2.5m 5m 1/50

Issue	Notes	Drawn	Date

Express Plans

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Tel: 07375 455206 Email: info@expressplans.co.uk

Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
EXISTING ROOF PLAN

Scale	Date	Checked	Drawn By
1:50 @A3	19/04/24	AZ	AZ

Drawing Number
D03

Revision

Notes:
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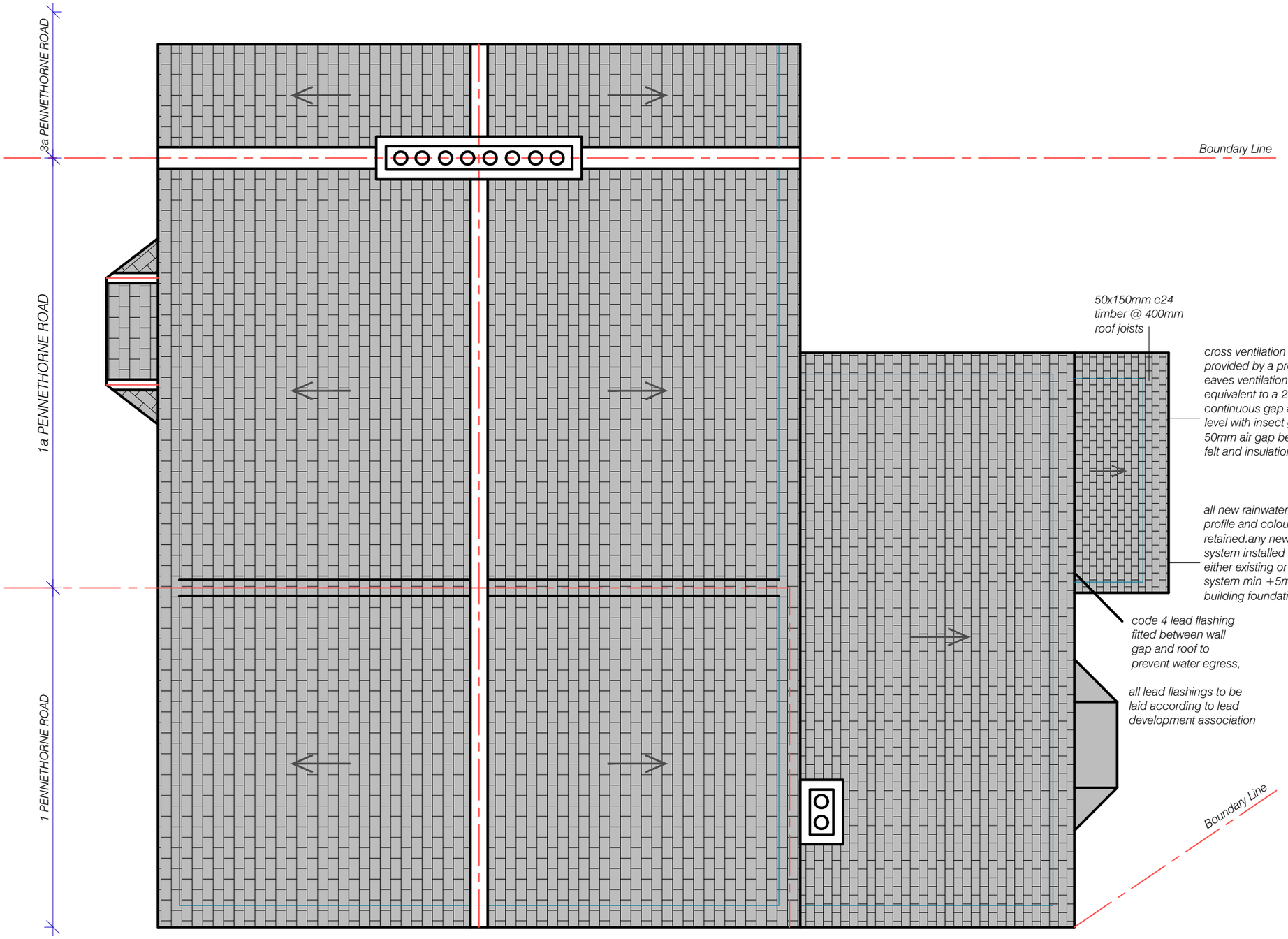
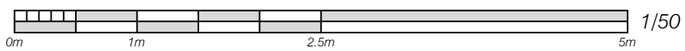


PROPOSED ROOF PLAN

Scale Bar/s:



Issue	Notes	Drawn	Date

Express Plans

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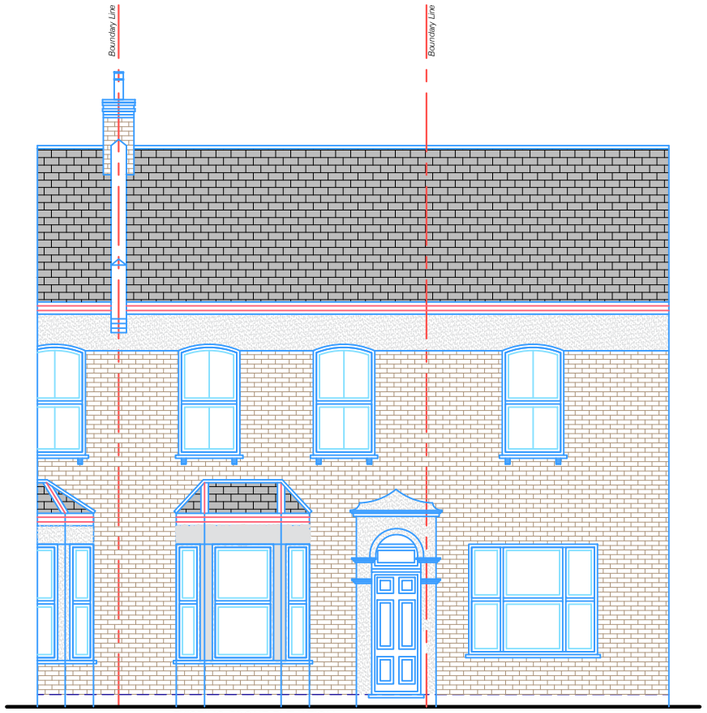
Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
PROPOSED ROOF PLAN

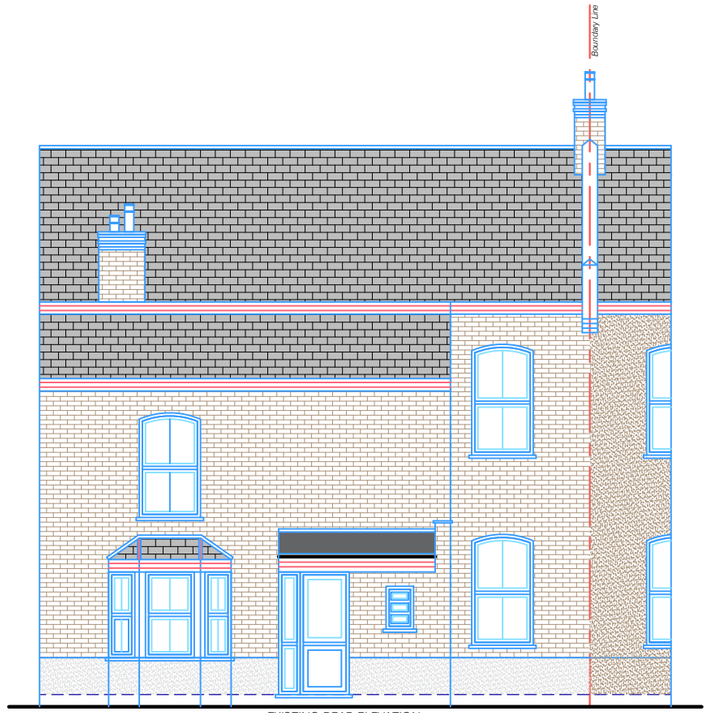
Scale	Date	Checked	Drawn By
1:50 @A3	19/04/24	AZ	AZ

Drawing Number
D04

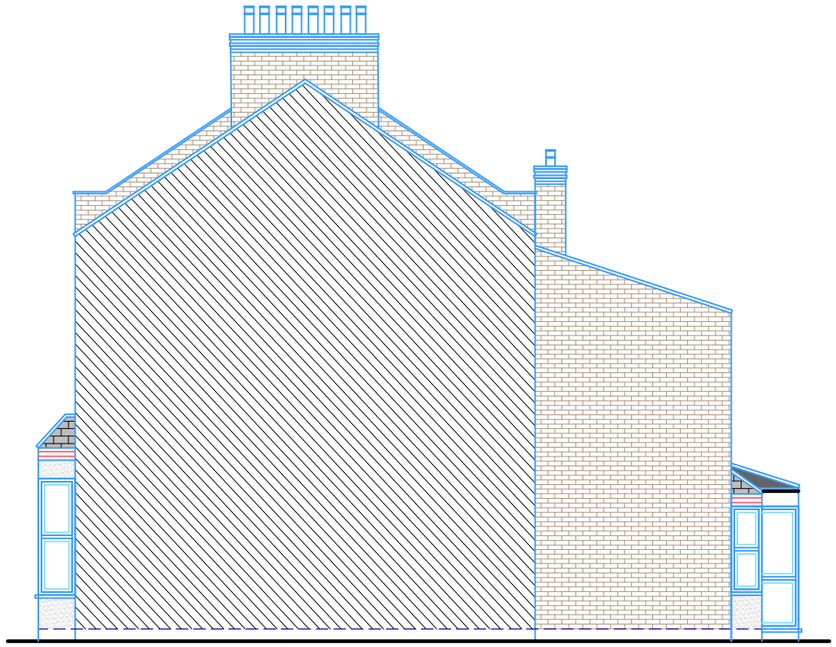
Revision



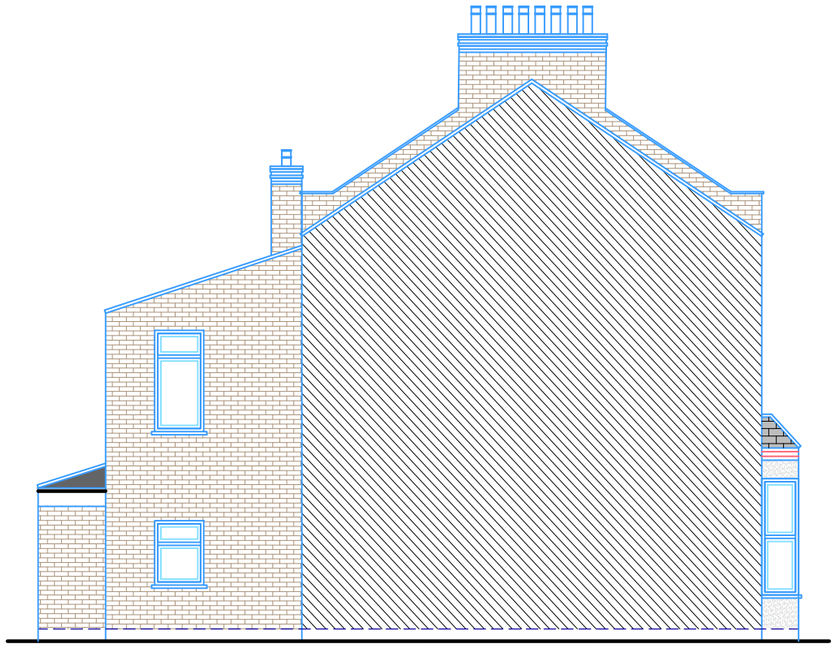
EXISTING FRONT ELEVATION



EXISTING REAR ELEVATION



EXISTING SIDE ELEVATION A



EXISTING SIDE ELEVATION B

Scale Bar/s:

1/100

Notes:
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London
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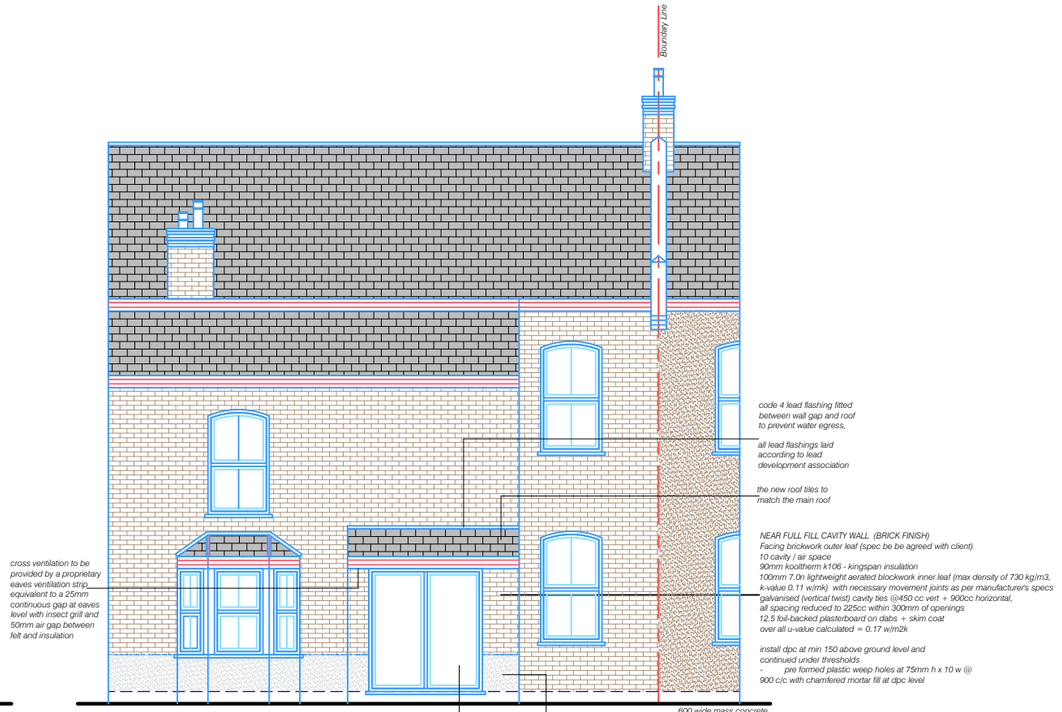
Drawing Title
EXISTING ELEVATIONS

Scale	Date	Checked	Drawn By
1:100 @ A3	19/04/24	AZ	AZ

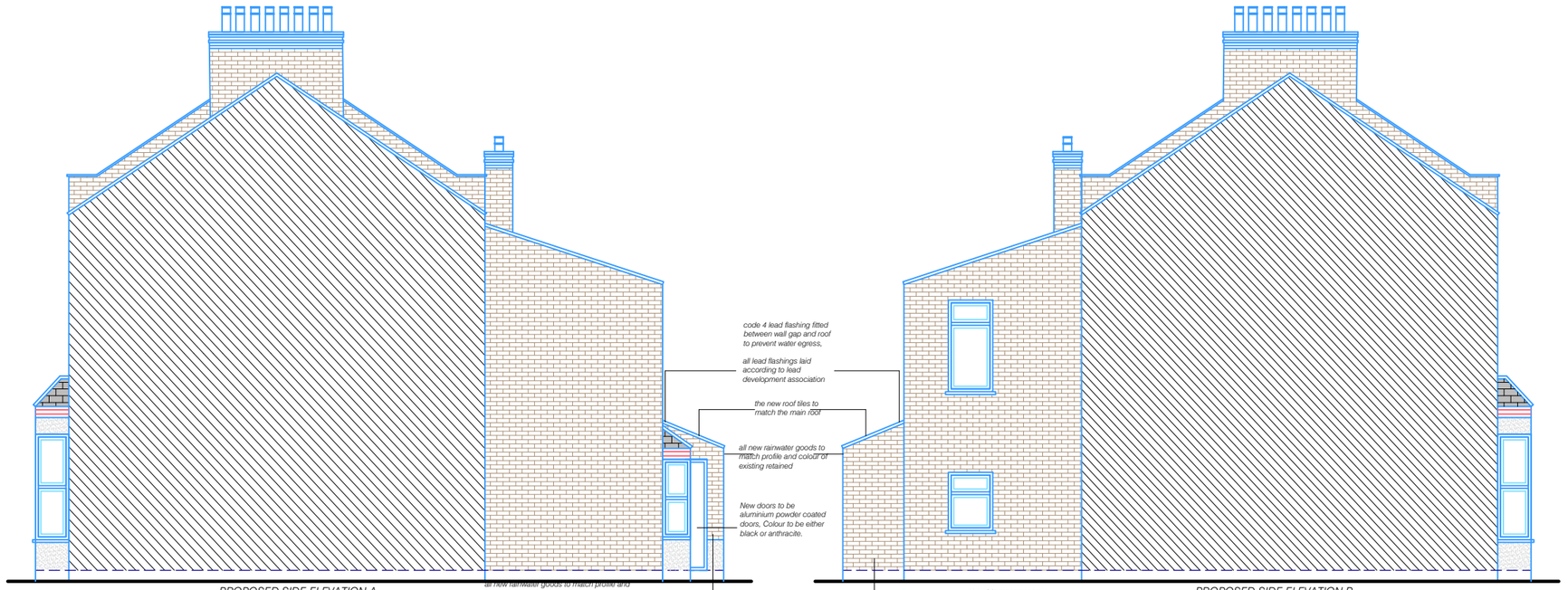
Drawing Number
D05

Revision

PROPOSED FRONT ELEVATION



PROPOSED REAR ELEVATION



PROPOSED SIDE ELEVATION A

PROPOSED SIDE ELEVATION B

Scale Bar/s:

0m 1m 5m 10m 1/100

Notes:

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Client
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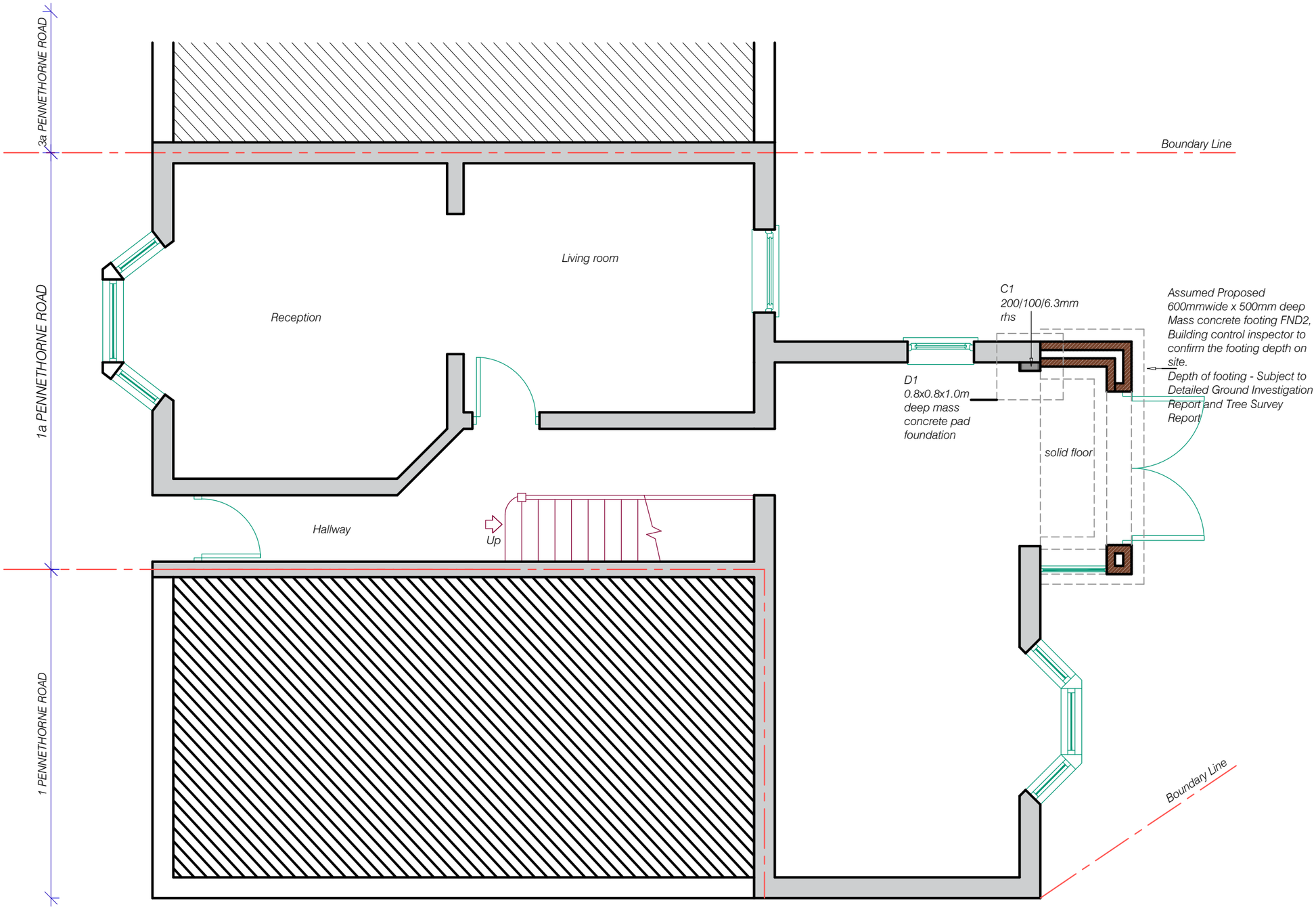
Drawing Title
PROPOSED ELEVATIONS

Scale	Date	Checked	Drawn By
1:100 @ A3	19/04/24	AZ	AZ

Drawing Number
D06

Revision



STRUCTURAL LAYOUT (FOUNDATION)

Scale Bar/s:

0m 1m 2.5m 5m 1/50

Notes:
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Issue	Notes	Drawn	Date

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Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
STRUCTURAL LAYOUT

Scale	Date	Checked	Drawn By
1:50 @ A3	19/04/24	AZ	AZ

Drawing Number
D07

Revision

Notes:
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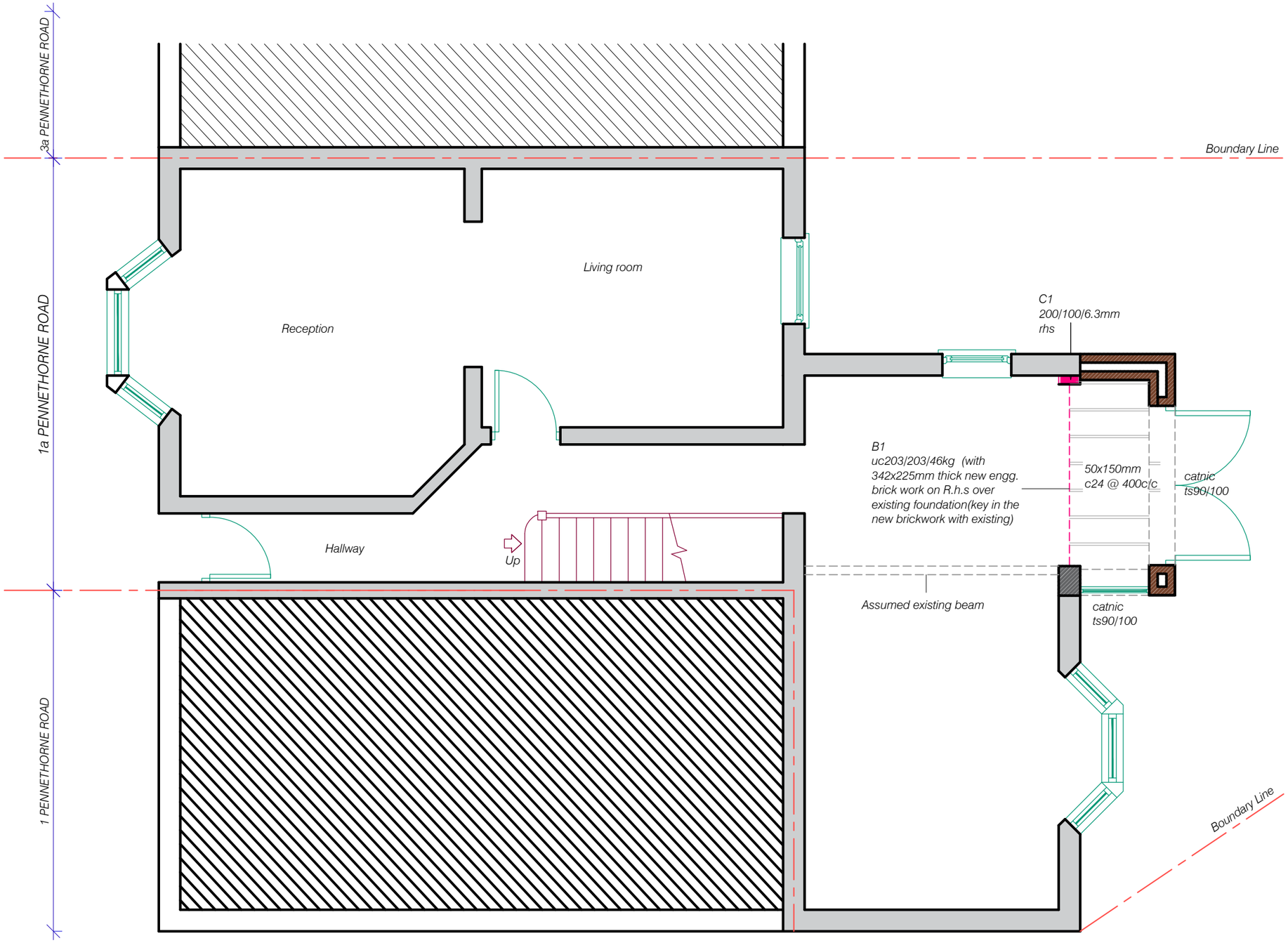
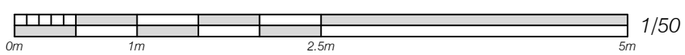


STRUCTURAL LAYOUT (FIRST FLOOR)

Scale Bar/s:



Issue	Notes	Drawn	Date

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Client
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1a Pennethorne Road
London
SE15 5TH

Drawing Title
STRUCTURAL LAYOUT

Scale	Date	Checked	Drawn By
1:50 @ A3	19/04/24	AZ	AZ

Drawing Number
D08

Revision

Notes:
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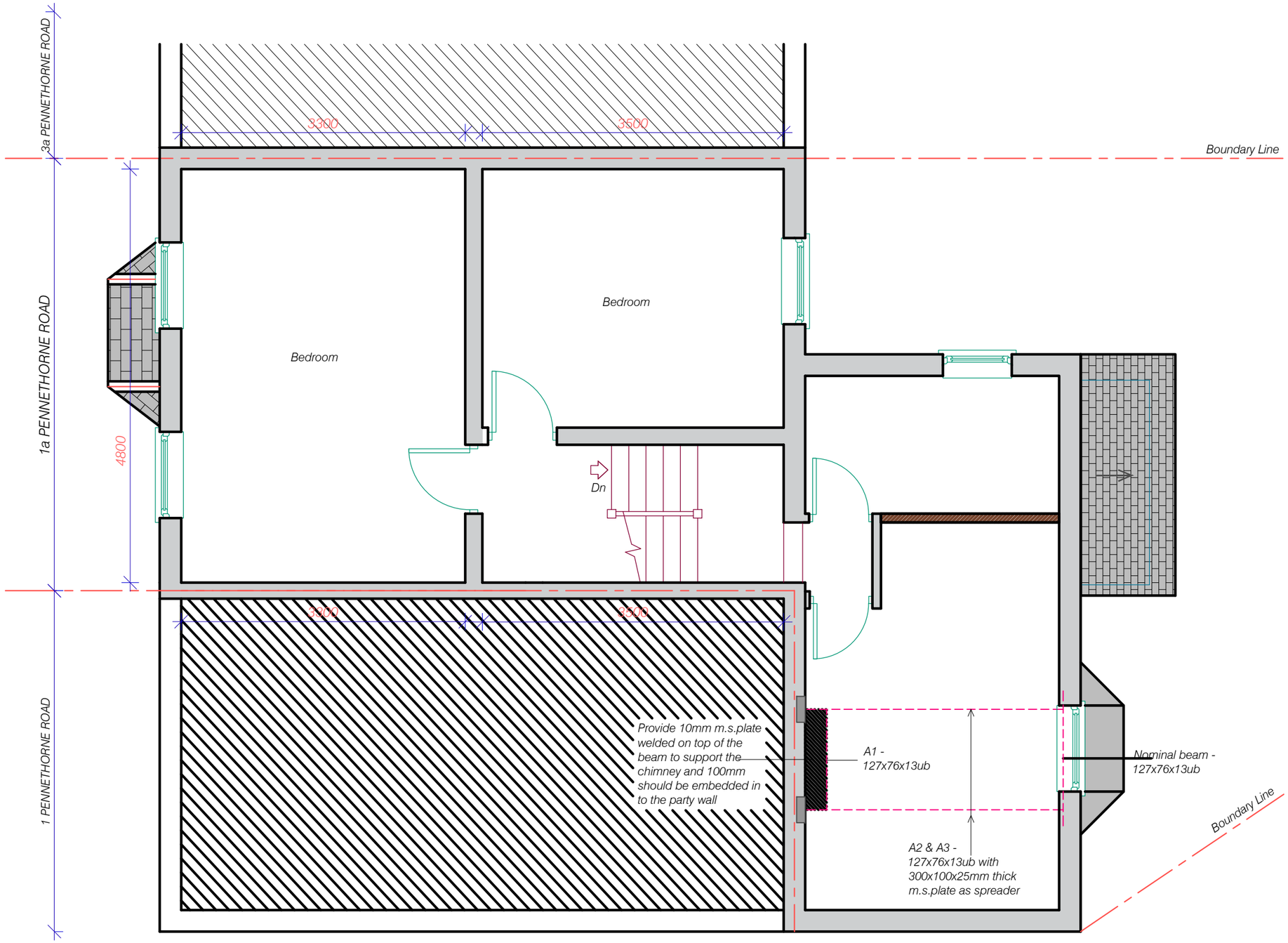

STRUCTURAL LAYOUT (CEILING LEVEL)

Scale Bar/s:

1/50

0m 1m 2.5m 5m

Issue	Notes	Drawn	Date

Express Plans

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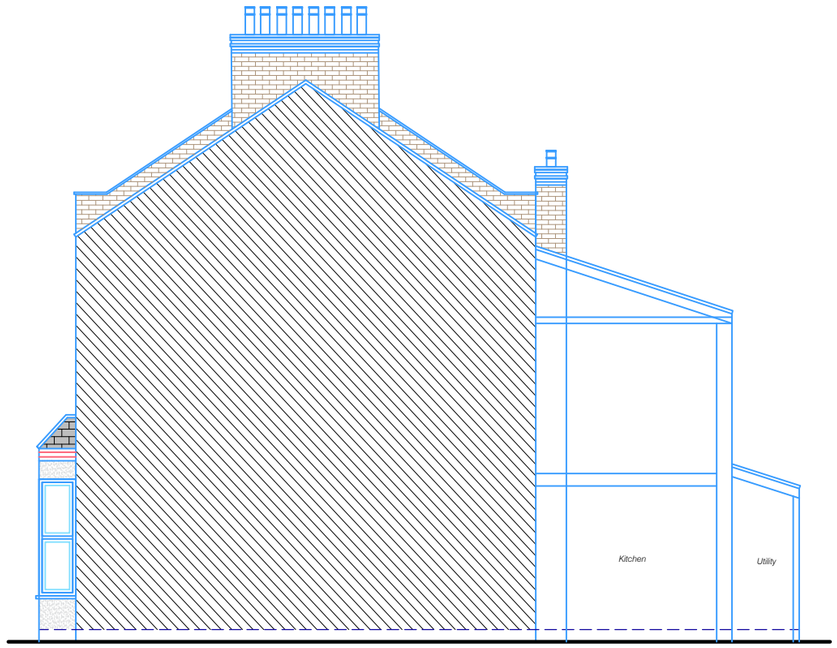
Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
STRUCTURAL LAYOUT

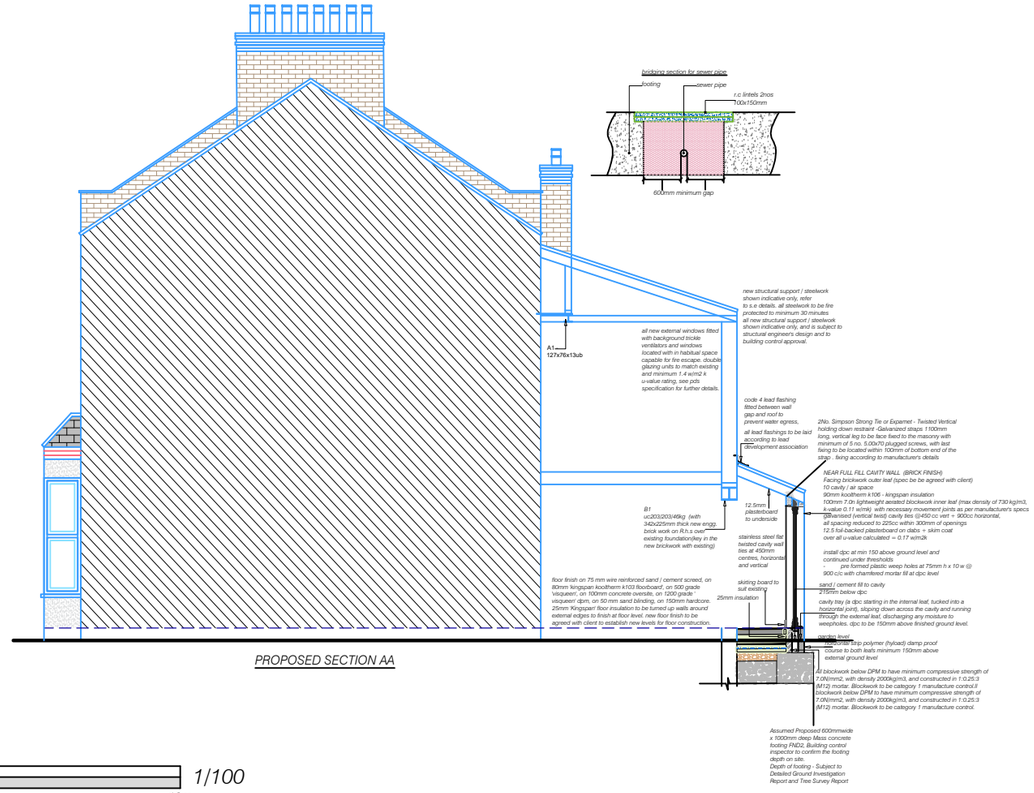
Scale	Date	Checked	Drawn By
1:50 @ A3	19/04/24	AZ	AZ

Drawing Number
D09

Revision



EXISTING SECTION AA



PROPOSED SECTION AA

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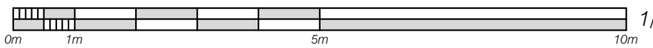

1/100

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Steel Corrosion Protection: Preparation: Shot blast to SA2.5. Shop primer, Zinc phosphate (dft 75 micron)
Fire Protection to steel Beams & columns; Box around all steels with 50 x 50 s.w. framework and 2 layers of 12.5mm Fire line plasterboard with staggered joints and 3.5mm skim finish,
Pad stones: Pad stones to be grade C30 concrete. Beam bearing on pad stones to be minimum 100mm unless otherwise noted specified on Structural Timber: All timber grade C24 unless otherwise stated. Joists may be notched over bearing, maximum depth of notch 1/3 joist depth. Use steel beam with solid timber packing/plates bolted through web of beams M12@500 centres behind joists hangers and for and strap fixing. Temporary Works: The contractor is to accept full responsibility for the stability and safety of the works during the total construction period. No undermining of existing structure is to be carried out prior to consultation of structural engineer

Issue	Notes	Drawn	Date

Express Plans

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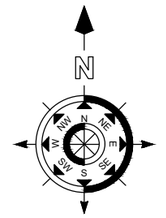
Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
EXISTING + PROPOSED SECTION AA

Scale	Date	Checked	Drawn By
1:100 @ A3	19/04/24	AZ	AZ

Drawing Number
D10

Revision



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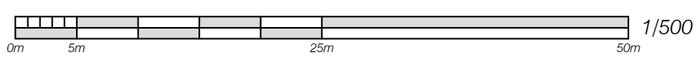
Scale Bar/s:



Issue	Notes	Drawn	Date

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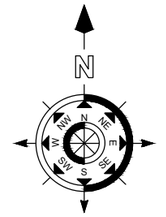
Drawing Title
BLOCK PLAN

Scale	Date	Checked	Drawn By
1:500 @ A3	19/04/24	AZ	AZ

Drawing Number	Revision
D11	



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Scale Bar/s:

1/1250

Issue	Notes	Drawn	Date

Express Plans

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Client

Mr.S. Contractor
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Drawing Title

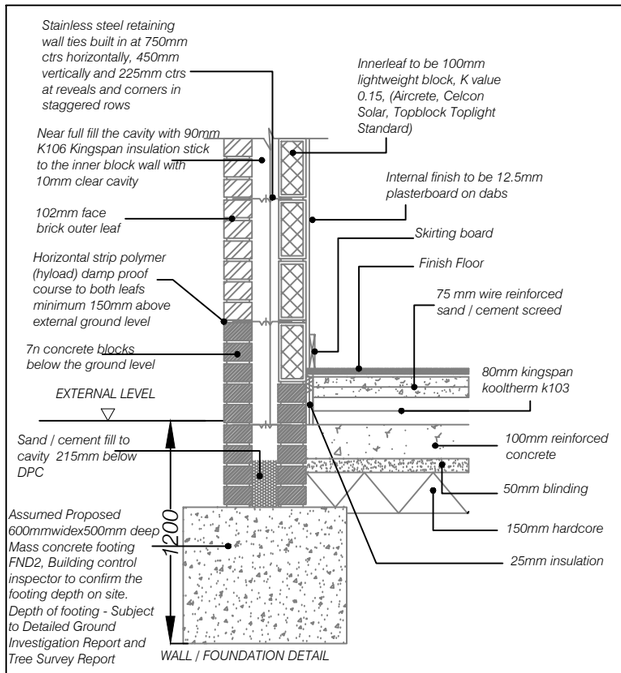
LOCATION PLAN

Scale	Date	Checked	Drawn By
1:1250 @ A3	19/04/24	AZ	AZ

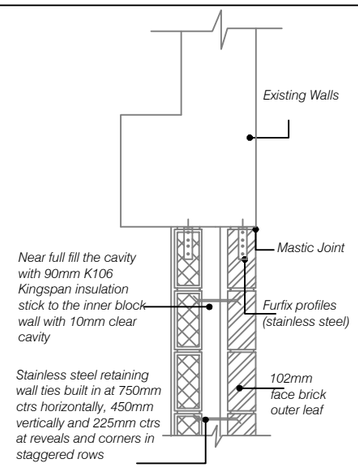
Drawing Number

D12

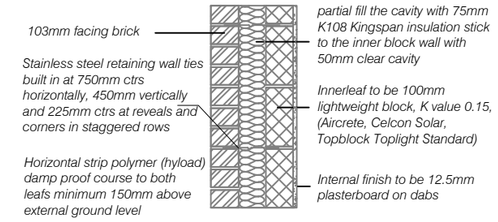
Revision



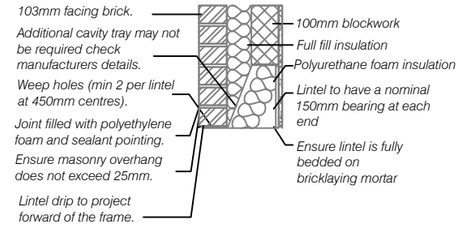
WALL / FOUNDATION DETAIL



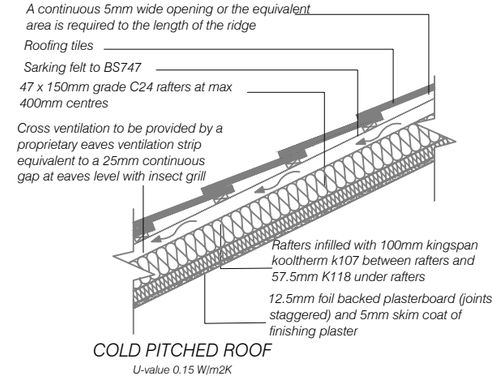
MASTIC JOINT BETWEEN NEW WALL & EXISTING WALL



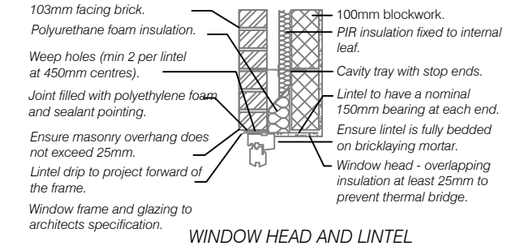
PARTIAL FILL CAVITY WALL (BRICK FACING)
U-Value - 0.18



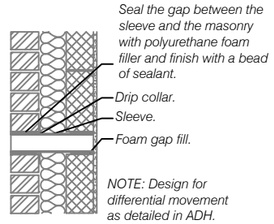
LINTEL WITH SLOPE WITHIN THE CAVITY



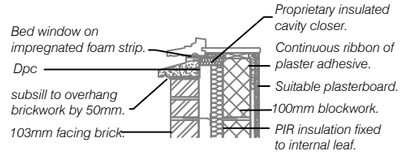
COLD PITCHED ROOF
U-value 0.15 W/m2K



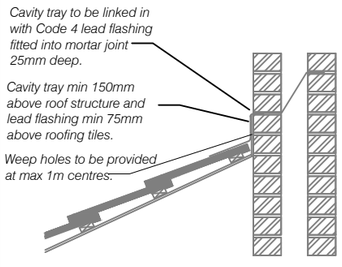
WINDOW HEAD AND LINTEL



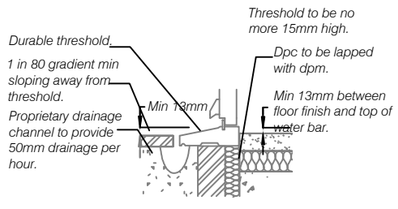
DRIP COLLAR ON CIRCULAR PIPE



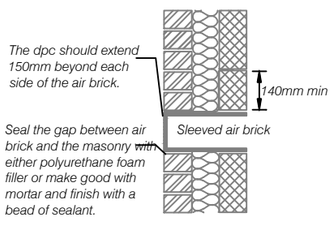
WINDOW SILL



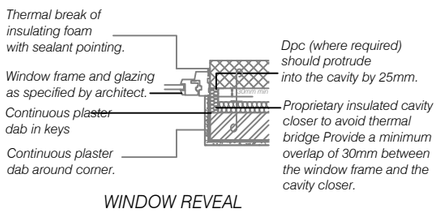
PITCHED ROOF AND WALL ABUTMENT



THRESHOLD DETAIL



CAVITY TRAY OVER SLEEVED AIR BRICK



WINDOW REVEAL

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Tel: 07375 455206 Email: info@expressplans.co.uk

Client
Mr.S. Contractor
1a Pennethorne Road
London
SE15 5TH

Drawing Title
B.R.DETAILS

Scale	Date	Checked	Drawn By
NTS	19/04/24	AZ	AZ

Drawing Number
D13

Revision

SPECIFICATION SHEET

EXTENSION SPECIFICATIONS

All work to be carried out in accordance with building regulations and british codes of practice.
dimensions to be checked on site before work commences and builder to report any discrepancies before work commences. this includes an assessment of whether there will be any significant problem in carrying out the work on site as per the drawing.
the builder is assumed to have a working knowledge of the building regulations and work on site must follow the latest building regulations as and when the local authority surveyor requires.
any lintels over window and door openings may have to be exposed on site in order to confirm suitability to support the additional loads. inadequate lintols will require renewal as necessary.
the building owner is responsible for serving any party wall notices on neighbours prior to building works commencing.

1.CONTRACTOR

Drawings to be read in conjuction
with all relevent contract documents,
structural engineer's details and specification.
The contractor shall be responsible for all levels and dimensions. He is to take requisite levels and dimensions from site and verify those shown on drawing. Any discrepency is to be brought to the attention of ARCHITECT immediately.
The contractor is to comply with all statutory obligations and regulations relating to CDM, and Health and Safety.

Builder to confirm whether any existing drain located beneath or within 3m of proposed extension is a public sewer to comply with Approved Document Part H4 obtain confirmation from Thames Water Utilities / Environment Agency to allow the discharging of rainwater into a surface water drain.
Air permeability and pressure Testing Reports in accordance with The ATTMA publication 'Measuring Air permeability of Building Envelopes' (ATTMA 2006.
are to be provided by builder.

Ventilation systems should be installed & commissioned in accordance with theguidance given in the 2010 edition of the Domestic Ventilation Compliance Guide. Sufficient information about ventilation system should be given to the building owner upon completion of the building work, so that the ventilation system can be operated to provide adequate air flow.

The proposed Heating & Hot water system's are to meet the requirement of 'The Domestic Heating Compliance Guide'.
Energy efficient light fittings will be provided and specified in accordance with Approved Document L1.
CO2 Emission rate Calculations and EPC's for the dwelling to show that the dwellings emission rate (DER) is no greater than the Target Emissions rate (TER) using SAP 2005
Full details of water efficiency (G2) and prevention of excessive temperatures (G5) are to be provided in accordance with approved Document G.

2.SOLID FLOOR INSULATION UNDER SLAB

To meet min u value required of 0.18 w/m²k
solid ground floor to consist of 150mm consolidated well-rammed hardcore. blinded with 50mm sand blinding. provide a 1200 gauge polythene dpm, dpm to be lapped in with dpc in walls. floor to be insulated over dpm with 80mm kingspan kooltherm k103. 25mm insulation to continue around floor perimeters to avoid thermal bridging. a vcl should be laid over the insulation boards and turned up 100mm at room perimeters behind the skirting, all joints to be lapped 150mm and sealed, provide 100mm st2 or gen2 ground bearing slab concrete mix to conform to bs 8500-2 over vcl. finish with 65mm sand/cement finishing screed with light mesh reinforcement.
where drain runs pass under new floor, provide a142 mesh 1.0m wide within bottom of slab min 50mm concrete cover over length of drain.
where existing suspended timber floor air bricks are covered by new extension, ensure cross-ventilation is maintained by connecting to 100mm dia upvc pipes to terminate at new 65mm x 215mm air bricks built into new cavity wall with 100mm concrete cover laid under the extension. ducts to be sleeved through cavity with cavity tray over.

3.STRIP FOUNDATION

Provide 225mm x 600mm concrete foundation, concrete mix to conform to bs en 206-1 and bs 8500-2. all foundations to be a minimum of 1000mm below ground level, exact depth to be agreed on site with building control officer to suit site conditions. all constructed in accordance with 2004 building regulations a1/2 and bs 8004:1986 code of practice for foundations. ensure foundations are constructed below invert level of any adjacent drains. base of foundations supporting internal walls to be min 600mm below ground level. sulphate resistant cement to be used if required. please note that should any adverse soil conditions be found or any major tree roots in excavations, the building control officer is to be contacted and the advice of a structural engineer should be sought.

4.CONCRETE

all materials and workmanship to be in accordance with bs 8110 part 1&2- the structural use of concrete.

concrete quality to be 35n / mm² at 28 days unless noted otherwise. max nominal aggregate to be 20mm.
above ground:
minimum cement content 300kg / m³. maximum free water cement ratio 0:6.
below ground:
minimum cement content 330kg / m³. maximum free water cement ratio 0:5.
cement:
minimum cement content 330kg / m³. maximum free water cement ratio 0:5

5.STRUCTURE

BEAMS

Supply and install new structural elements such as new beams, roof structure, floor structure, bearings, and padstones in accordance with the structural engineer's calculations and details. new steel beams to be encased in 12.5mm gyproc fireline board with staggered joints, gyproc firecase or painted in nullifire s or similar intumescent paint to provide 1/2 hour fire resistance as agreed with building control. all fire protection to be installed as detailed by specialist manufacturer.

LINTELS

- For uniformly distributed loads and standard 2 storey domestic loadings only lintel widths are to be equal to wall thickness. all lintels over 750mm sized internal door openings to be 65mm deep pre-stressed concrete plank lintels. 150mm deep lintels are to be used for 900mm sized internal door openings. lintels to have a minimum bearing of 150mm on each end. any existing lintels carrying additional loads are to be exposed for inspection at commencement of work on site. all pre-stressed concrete lintels to be designed and manufactured in accordance with bs 8110, with a concrete strength of 50 or 40 n/mm² and incorporating steel strands to bs 5896 to support loadings assessed to bs 5977 part 1. for other structural openings provide proprietary insulated steel lintels suitable for spans and loadings in compliance with approved document a and lintel manufactures standard tables. stop ends, dpc trays and weep holes to be provided above all externally located lintels.

OPENINGS AND RETURNS

An opening or recess greater than 0.1m² shall be at least 550mm from the supported wall (measured internally).

6.RESTRAINED TO STRUCTURE

STRAPPING FOR PITCHED ROOF
Gable walls should be strapped to roofs at 2m centres. all external walls running parallel to roof rafters to be restrained at roof level using 1000mm x 30mm x 5mm galvanised mild steel horizontal straps or other approved to bsen 845-1 built into walls at max 2000mm centres and to be taken across minimum 3 rafters and screw fixed, provide solid noggins between rafters at strap positions. all wall plates to be 100 x 50mm fixed to inner skin of cavity wall using 30mm x 5mm x 1000mm galvanized metal straps or other approved to bsen 845-1 at maximum 2m centres.

STRAPPING OF FLOORS
Provide lateral restraint where joists run parallel to walls, floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps or other approved in compliance with bs en 845-1 at max 2.0m centres, straps to be taken across minimum of 3 joists. straps to be built into walls. provide 38mm wide x ¼ depth solid noggins between joists at strap positions.

FLAT ROOF RESTRAINT
100m x 50mm c16 grade timber wall plates to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps at maximum 2.0m centres fixed to internal wall faces.

7.THERMAL BRIDGING
Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element, (i.e. around windows and door openings). reasonable provision shall also be made to ensure the extension is constructed to minimise unwanted air leakage through the new building fabric.

8.EXTERNAL WALLS

WALLS BELOW GROUND
All new walls to have class a blockwork below ground level or alternatively semi engineering brickwork in 1:4 masonry cement or equal approved specification. cavities below ground level to be filled with lean mix concrete min 225mm below damp proof course. or provide lean mix backfill at base of cavity wall (150mm below damp course) laid to fall to weepholes.

SOLID EXTERNAL BLOCK WALL
To achieve min u-value 0.18w/m²k
wall constructed using lightweight aggregate or aerated concrete block, r value 0.11, at least 215mm thick, eg. topblock supabloc or celcon solar. rake out joints in the wall to a depth of at least 10mm and apply 10mm polymer render with a scraped or textured finish. the rendering mix to comply to bs en 13914-1:2005 with waterproof additive. insulate wall on the inside using 75mm Kingspan K5 insulated plasterboard. batten out to provide a nominal 25mm cavity between the masonry and insulation. provide a vapour control layer under the insulation.

NEAR FULL FILL CAVITY WALL (BRICK FINISH)
Facing brickwork outer leaf (spec be be agreed with client)
10 cavity / air space
90mm kooltherm k106 - kingspan insulation
100mm 7.0n lightweight aerated blockwork inner leaf (max density of 730 kg/m3, k-value 0.11 w/mk) with necessary movement joints as per manufacturer's specs
galvanised (vertical twist) cavity ties @450 cc vert + 900cc horizontal,
all spacing reduced to 225cc within 300mm of openings
12.5 foil-backed plasterboard on dabs + skim coat
over all u-value calculated = 0.17 w/m2k

install dpc at min 150 above ground level and
continued under thresholds
- pre formed plastic weep holes at 75mm h x 10 w @
900 c/c with chamfered mortar fill at dpc level

NEAR FULL FILL CAVITY WALL (RENDERED FINISH)
100mm block work outer leaf with rendered finish (spec be be agreed with client)
10 cavity / air space
90mm kooltherm k106 - kingspan insulation
100mm 7.0n lightweight aerated blockwork inner leaf (max density of 730 kg/m3, k-value 0.11 w/mk)
galvanised (vertical twist) cavity ties @450 cc vert + 900cc horizontal,
all spacing reduced to 225cc within 300mm of openings
12.5 foil-backed plasterboard on dabs + skim coat
over all u-value calculated = 0.17 w/m2k

install dpc at min 150 above ground level and
continued under thresholds
- pre formed plastic weep holes at 75mm h x 10 w @
900 c/c with chamfered mortar fill at dpc level

9.TILING SPECIFICATION
Provide and fix wall tiles with waterproof adhesive and grout. Type of tile to be agreed with Client

10.INSULATION SPECIFICATION
All new windows are to be fitted with 'Pilkington' 'K' glass.
U value 1.4 W / m² K
New Roof: Insulation layed between and below rafters, use 100mm thick Kingspan 'Kooltherm K7' roof board between rafters and 62.5mm 'Kooltherm K18' insulated plasterboard below to achieve U value 0.18 W / m² K.

11.DPC

Provide horizontal strip polymer (hyload) damp proof course to both internal and external skins minimum 150mm above external ground level. new dpc to be made continuous with existing dpc's and with floor dpm. vertical dpc to be installed at all reveals where cavity is closed.

12.WALL TIES

All walls constructed using stainless steel vertical twist type retaining wall ties built in at 750mm ctrs horizontally, 450mm vertically and 225mm ctrs at reveals and corners in staggered rows. wall ties to be suitable for cavity width and in accordance with bs 5628-6.1: 1996 and bs en 845-1: 2003

13.CAVITIES

Provide cavity trays over openings. all cavities to be closed at eaves and around openings using thermabate or similar non combustible insulated cavity closers. provide vertical dpcs around openings and abutments. all cavity trays must have 150mm upstands and suitable cavity weep holes (min 2) at max 900mm centres.

14.EXISTING TO NEW WALL

Cavities in new wall to be made continuous with existing where possible to ensure continuous weather break. if a continuous cavity cannot be achieved, where new walls abuts the existing walls provide a movement joint with vertical dpc. all tied into existing construction with suitable proprietary stainless steel profiles.

15.CAVITY BARRIERS

30 minute fire resistant cavity barriers to be provided at at tops of walls, gable end walls and vertically at junctions with separating walls & horizontally at separating walls with cavity tray over installed according to manufacturers details.

16.FLAT ROOF

WARM FLAT ROOF (GRP)

To achieve U value 0.15 W/m²K
(imposed load max 1.0 kN/m² - dead load max 0.75 kN/m²)

GRP (Fibreglass) over 22mm OSB Board over 150mm TR24 Kingspan insulation.
Insulation bonded to 22mm exterior grade plywood on firings to
give 1:60 fall on 47 x 170mm C24 timber joists at 400 centres
max span 4.55m (see engineer's details for sizes). Ceilings of 12.5mm plasterboard over vapour barrier with skim plaster
finish.
Provide restraint to flat roof by fixing of 30 x 5 x 1000mm ms galvanised lateral restraint straps at maximum 2000mm centres
fixed to 100 x 50mm wall plates and anchored to wall

COLD FLAT ROOF (GRP).

To achieve U value 0.15 W/m²K
12.5 mm plasterboard and skim. 175 x 50
tanalised C16 s/w joists @ 400 c/c on heavy
duty joists hangers. firing pieces with fall 1:40.
Insulation to be 150mm TR24 Kingspan insulation. between Ceiling Joists and 57.5mm under and 50m. GRP (Fibreglass) over 22mm OSB Board. 20 mm fascia board.
1000 x 30 x 5 mild steel straps screwed to the
underside of joists and wall at 1800 mm c/c.
Provide Stone Chippings where built up felt is
to be used.

17.PITCHED ROOF

COLD PITCHED ROOF INSULATION AT CEILING LEVEL
pitch 22-45° (imposed load max 0.75 kn/m² - dead load max 0.75 kn/m²)
to achieve u value of 0.15 w/m²k
timber roof structures to be designed by an engineer in accordance with nhbc technical requirement r5 structural design. calculations to be based on bs en 1995-1-1. roofing tiles to match existing on 25 x 38mm tanalised sw treated battens on sarking felt supported on 47 x 150mm grade c24 rafters at max 400mm centres max span 3.47m. rafters supported on 100 x 50mm sw wall plates. insulation at ceiling level to be 90mm K107 Kingspan insulation between ceiling joists with a further 57.5mm K118 Kingspan insulation over joists. construct ceiling using sw joists at 400mm centres, finished internally with 12.5mm plasterboard and min 3mm thistle multi-finish plaster. provide polythene vapour barrier between insulation and plasterboard. provide opening at eaves level at least equal to continuous strip 25mm wide in two opposite sides to promote cross-ventilation. mono pitched roofs to have ridge/high level ventilation equivalent to a 5mm gap via proprietary tile vents spaced in accordance with manufacturer's details.
restraint strapping - 100mm x 50mm wall plate strapped down to walls. ceiling joists and rafters to be strapped to walls and gable walls, straps built into cavity, across at least 3 timbers with noggins. all straps to be 1000 x 30 x 5mm galvanized straps or other approved to bsen 845-1 at 2m centres.

COLD PITCHED ROOF
(Imposed load max 0.75 kn/m² - dead load max 0.75 kn/m²)
vented roof – pitch 22-45°
to achieve u-value 0.15 w/m²k
timber roof structures to be designed by an engineer in accordance with nhbc technical requirement r5 structural design. calculations to be based on bs en 1995-1-1. roofing tiles to match existing on 25 x 38mm tanalised sw treated battens on sarking felt to relevant bba certificate. supported on 47 x 150mm grade c24 rafters at max 400mm centres max span 3.47m. rafters supported on 100 x 50mm sw wall plates. insulation to be 100mm kingspan kooltherm k107 between rafters and 57.5mm K118 under rafters.
fix 12.5mm foil backed plasterboard (joints staggered) and 5mm skim coat of finishing plaster to the underside of all ceilings using galvanized plasterboard nails. maintain a 50mm air gap above insulation to ventilate roof. provide opening at eaves level at least equal to continuous strip 25mm wide and opening at ridge equal to continuous strip 5mm wide to promote ventilation. restraint strapping - ceiling joists tied to rafters (if raised collar roof consult structural engineer). 100mm x 50mm wall plate strapped down to walls. ceiling joists and rafters to be strapped to walls and gable walls, straps built into cavity, across at least 3 timbers with noggins. all straps to be 1000 x 30 x 5mm galvanized straps or other approved to bsen 845-1 at 2m centres.

18.LEAD WORK AND FLASHINGS

All lead flashings, any valleys or soakers to be code 5 lead and laid according to lead development association. flashings to be provided to all jambs and below window openings with welded upstands. joints to be lapped min 150mm and lead to be dressed 200mm under tiles, etc. all work to be undertaken in accordance with the lead development association recommendations.

19.LEAD VALLEYS

Lead-lined valleys to be formed using code 5 lead sheet. valley lead and two tiling fillets to be supported on min 19mm thick and 225mm wide marine ply valley boards on either side of the rafters. lead to be laid in lengths not exceeding 1.5m with min 150mm lap joints and be dressed 200mm under the tiles.
roofing tiles to be bedded in mortar placed on a tile slip to prevent direct contact. valley to have a minimum 100mm wide channel (125mm minimum for pitches below 30°).
all work to be in accordance with the roof cladding manufacturers and the lead development association recommendations.

20.HEATING

Extend all heating and hot water services from existing and provide new TVRs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.

21.WOOD BURNING STOVE

Ensure the wood burning stove is installed by an APHC, HETAS, NAPIT or NICEIC accredited specialist in compliance with Part J. Supply a suitable flue, hearth and CO / Carbon Monoxide alarm and provide ventilation to ensure the necessary combustion air and to prevent the depletion of oxygen in the room. There must not be an extractor fan fitted in the same room as the stove. A notice plate giving operating and maintenance instructions must be provided and fixed in an obvious place and the Part J installation checklist is to be completed and a copy given to Building Control.

22.OIL HEATING APPLIANCES UP TO 45kW

Oil burning appliances up to 45kW to be installed, commissioned and tested by an installer registered with OFTEC, in compliance with Approved Document J.
On completion, building control is to be provided with a copy of the commissioning certificates.

23.OIL STORAGE TANKS

Oil tanks up to 3500 litres.
Oil tanks to be:
-placed on a 50mm thick a concrete base which extends 300mm beyond the base of the tank
-located in the open air, 1.8m min from buildings or flues and 760mm from boundaries.
-provided with a proprietary fire resistant pipe and valve system.
If there is a risk of pollution to water courses or drains, the tank should either be:
-internally bunded.
Or:
-provided with an impervious masonry bund equal to capacity of 110% of its volume.

24.SMOKE DETECTION

Mains operated linked smoke alarm detection system to BS EN 14604 and BS5839:1:2017 to at least a Grade D category LD3 standard and to be mains powered with battery back up. Smoke alarms should be sited so that there is a smoke alarm in the circulation space on all levels/ storeys and within 7.5m of the door to every habitable room. If ceiling mounted they should be 300mm from the walls and light fittings. Where the kitchen area is not separated from the stairway or circulation space by a door, there should be an interlinked heat detector in the kitchen.

25.INTERNAL WALLS

INTERNAL STUD PARTITIONS

100mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 100mm head and sole plates and solid intermediate horizontal noggins at 1/3 height or 450mm. Provide min 10kg/m³ density acoustic soundproof quilt tightly packed (eg. 100mm Rockwool or Isowool mineral fibre sound insulation) in all voids the full depth of the stud. Partitions built off doubled up joists where partitions run parallel or provide noggins where at right angles, or built off DPC on thickened concrete slab if solid ground floor. Walls faced throughout with 12.5mm plaster board with skim plaster finish. Taped and jointed complete with beads and stops.

INTERNAL MASONRY PARTITIONS

Construct non load bearing internal masonry partitions using dense concrete blocks built off thickened floor slab and tied at 225mm centres with proprietary steel profiles or block bonded to all internal and external walls. Walls faced throughout with 12.5mm plasterboard on dabs with skim plaster finish or 13mm lightweight plaster.

INTERNAL LOADBEARING MASONRY PARTITIONS

Construct load bearing internal masonry partitions using dense concrete blocks built off concrete foundation. Concrete mix to conform to BS EN 206-1. Depth to engineers details and dependent on ground conditions to be agreed with BCO. Wall tied at 225mm centres with proprietary steel profiles or block bonded to all internal and external walls. Walls faced throughout with 12.5mm plasterboard on dabs with skim plaster finish or 13mm lightweight plaster.

26.WINDOWS AND DOOR Unprotected areas

Please note the extent of unprotected area on an external wall, i.e. windows, doors, timber cladding etc, should not exceed:
- 5.6m² when the minimum distance between side of the building and the relevant boundary is 1m
- 12m² when the minimum distance between the side of the building and the relevant boundary is 2m
- 18m² when the minimum distance between the side of the building and the relevant boundary is 3m
- 24m² when the minimum distance between the side of the building and the relevant boundary is 4m
- 30m² when the minimum distance between the side of the building and the relevant boundary is 5m
- no limit when the minimum distance between the side of the building and the relevant boundary is 6m
(The above applies only to buildings which are 1m or more from any point of a relevant boundary)
Other methods of calculation are given in Approved Document B1.

27.WASTES

bath waste to be 43mm diameter pvc
basin waste to be 37mm diameter pvc
w.c. waste to be 100mm diameter pvc
shower waste to be 50mm diameter pvc
traps to be 75mm diameter deep seal.
access and rodding points to all changes in direction.
gutter to dormer roof to be 100mm half round pvc, and rainwater downpipe discharging onto rear sloping roof or running down to the rainwater gulley is 63mm diameter pvc.

air admittance valve to the stub stack in bathroom to loft in order to provide for a vented system. connect to existing soil and vent pipe.
soil pipe to be extended up to 900mm above window opening where found to be within 3m of the window.

28.MEANS OF ESCAPE AND FIRE RESISTANCE

Fire doors
Form a protected escape stairway by providing half hour fire resistance to all partitions as well as floors and ceilings above and below rooms. Stairway to be protected at all levels and leading directly to external door at ground level (no inner rooms allowed). All doors on to the stairway must be FD30 rated fire doors to BS 476-22:1987 (fitted with intumescent strips rebated around sides & top of door or frame if required by BCD). Where applicable, any glazing in fire doors to be half hour fire resisting and glazing in the walls forming the escape route enclosure to have 30 minutes fire resistance and be at least 1.1m above the floor level or stair pitch line

ESCAPE WINDOWS

Provide emergency egress windows all first floor habitable rooms and ground floor inner rooms. Windows to have an unobstructed openable area of 450mm high x 450mm wide, minimum 0.33m sq, the bottom of the openable area should be not more than 1100mnn above the floor. The window should enable the person to reach a place free from danger from fire

29.THERMAL BRIDGING

Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element, (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the dwelling is constructed to minimise unwanted air leakage through the new building fabric. Size of wastes pipes and max length of branch connections (if max length is exceeded then anti vacuum traps to be used)
Wash basin - 1.7m for 32mm pipe 3m for 40mm pipe
Bath/shower - 3m for 40mm pipe 4m for 50mm pipe
W/c - 6m for 100mm pipe for single WC
All branch pipes to connect to 110mm soil and vent pipe terminating min 900mm above any openings within 3m.
Or to 110mm upvc soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting. Waste pipes not to connect within 200mm of the WC connection. Supply hot and cold water to all fittings as appropriate.

30. SOAKAWAY USING CRATES

Trench of soakaway to be provided slightly largely than designed depth after porosity test (if required) but just over 1m3 min from invert level of pipe. Provide suitable geotextile over the base and up the sides of the trench over 1COmm level and compact bed of coarse sand. Install AquaCell crate units or equivalent as manufacturer's details. Geotextile to be wrapped around crates. Provide 100mm of coarse sand between the trench walls and over the AquaCell structure. Backfill with suitable material.

31. PROTECTED LOBBY

Form a protected lobby within the flat entrance by providing half hour fire resistance to all partitions. All doors on to lobby must be FD20 rated fire doors to BS 476-22:1987 (fitted with intumescent strips rebated around sides and top of door or frame if required by BCO). Where applicable, any glazing in fire doors to be half hour fire resisting and glazing in the walls forming the escape route enclosure to have 30 minutes fire resistance and be at least 1.1m above the floor level.

Notes:
Building Regulation Approval: The owners of the property are advised that an approval of the calculations and drawings by the Local Authority Building Control should be obtained prior to any ordering of material or fabrication. No liability is accepted for any changes that may be required as a result of work having commenced prior to such an approval having been obtained. -This drawing remains the copyright of Express plans and is not to be copied, altered or changed without permission.
This drawing to be read in conjunction with architects and project specifications. Any discrepancy between this drawing and all other project drawings should be brought to the attention of Express plans for clarification prior to commencing the works
Local Authority's building inspector is to be informed by the contractor in writing at least 48 hours prior to the works starting on site and their agreement obtained that work can commence. Structural Steelwork: All steel members grade to be BS EN 10025 S275 JO (Hollow sections to be S355). Length of the beams and the columns should be provided by the contractor allowing minimum bearing. DO NOT SCALE THE DRAWING.
Steel Corrosion Protection: Preparation: Shot blast to SA2.5. Shop primer, Zinc phosphate (dft 75 micron)
Fire Protection to steel Beams & columns; Box around all steels with 50 x 50 s.w. framework and 2 layers of 12.5mm Fire line plasterboard with staggered joints and 3.5mm skim finish,
Pad stones: Pad stones to be grade C30 concrete. Beam bearing on pad stones to be minimum 100mm unless otherwise noted specified on Structural Timber: All timber grade C24 unless otherwise stated. Joists may be notched over bearing, maximum depth of notch 1/3 joist depth. Use steel beam with solid timber packing/plates bolted through web of beams M12@500 centres behind joists hangers and for and strap fixing. Temporary Works: The contractor is to accept full responsibility for the stability and safety of the works during the total construction period. No undermining of existing structure is to be carried out prior to consultation of structural engineer

Issue	Notes	Drawn	Date

Express Plans

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Drawing Title
SPECIFICATIONS

Scale	Date	Checked	Drawn By
NTS	19/04/24	AZ	AZ

Drawing Number
D14

Revision

SPECIFICATION SHEET

32.INTERMEDIATE FLOORS -

to achieve u value of 0.18 w/m²k
Intermediate floor to be 25mm t&g flooring grade chipboard or floorboards laid on C24 joists at 400mm ctrs (see engineer's calculation for sizes and details). Lay 120mm Kingspan mineral fibre insulation min 10kg/m³ or equivalent between floor joists & 32.5mm under. Ceiling to be 12.5 FireLine plasterboard with skim plaster set and finish. Joist spans over 2.5m to be strutted at mid span using 38 x 38mm herringbone strutting or 38mm solid strutting (at least 2/3 of joist depth). In areas such as kitchens, utility rooms and bathrooms, flooring to be moisture resistant grade in accordance with BS EN 312:2010. Identification marking must be laid upper most to allow easy identification. Provide lateral restraint where joists run parallel to walls, floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps or other approved in compliance with BS EN 845-1 at max 2.0m centres, straps to be taken across minimum 3 no. joists. Straps to be built into walls. Provide 38mm wide x ¾ depth solid noggins between joists at strap positions.

33.ELECTRICAL WORKS

All electrical work required to meet the requirements of part p (electrical safety) must be designed, installed, inspected and tested by a competent person registered under a competent person self certification scheme such as bre certification ltd, bsi, niceic certification services or zurich ltd. an appropriate bs7671 electrical installation certificate is to be issued for the work by a person competent to do so. a copy of a certificate will be given to the council.

ELECTRICAL SPECIFICATION

All new electrical work is to be designed, installed, inspected and tested in accordance with bs 7671 (i.e.e. wiring regulations 17th edition). the works are to be undertaken by an installer registered under a suitable electrical self-certification scheme, or alternatively by a suitably qualified person, with a certificate of compliance produced by that person to building control on completion of the works.
provide and install electrical power and lighting circuits and their fittings. type and positioning to be agreed with client.
light switches and power socket outlets are to be positioned between 450mm and 1200 mm above finished floor level.
75% energy efficient lighting to be provided
fixed external lighting should have effective control and/or use efficient lamps; having lamp capacity not greater than 100 lamp-watts per light fitting alternatively lights should have lamps with a luminous efficacy greater than 45 lumens per circuit-watt, the lighting automatically switches off when there is enough daylight and they should be controllable manually as well.

INTERNAL LIGHTING

Install low energy light fittings that only take lamps having a luminous efficiency greater than 45 lumens per circuit watt and a total output greater than 400 lamp lumens. Not less than three energy efficient light fittings per four of all the light fittings in the main dwelling spaces to comply with Part L of the current Building Regulations and the Domestic Building Services Compliance Guide.

34.NEW GAS BOILER

Heating and hot water will be supplied via a wall mounted condensing vertical balanced flue pressurised boiler with a min SEDBUK rating of 90%. No combustible materials within 50mm of the flue. System to be fitted with thermostatic radiator valves and all necessary zone controls and boiler control interlocks. The system will be installed, commissioned and tested by a "competent person" and a certificate issued that the installation complies with the requirements of PART L. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.

35.ESCAPE WINDOWS

Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms. Windows to have an unobstructed openable area of 450mm high x 450mm wide, minimum 0.33m sq. The bottom of the openable area should be not more than 1100mm above the floor. The window should enable the person to reach a place free from danger from fire.

DOOR BETWEEN HOUSE AND GARAGE

Door between garage and house to be fd30 self closing with a 100mm step down into garage, fitted with 3 steel hinges, intumescent strips and smoke seals. construction between house and garage to be 30 minutes fire resisting.

36.ROOF LIGHTS

Min u-value of 1.4 w/m²k,
roof-lights to be double glazed with 16mm argon gap and soft low-e glass. window energy rating to be band c or better. roof lights to be fitted in accordance with manufactures instructions with rafters doubled up to sides and suitable flashings etc. Please note rooflights with kerb/upstands can have a value no worse than 2.2W/m2k

37.SAFETY GLAZING

All glazing in critical locations to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations, i.e. within 1500mm above floor level in doors and side panels within 300mm of door opening and within 800mm above floor level in windows.

38.NEW AND REPLACEMENT WINDOWS
New and replacement windows to be double glazed with 16mm argon gap and soft coat low-E glass. Window Energy Rating to be Band C or better and to achieve U-value of 1.4 W/m²K. The door and window openings should be limited to 25% of the extension floor area plus the area of any existing openings covered by the extension.

39.NEW AND REPLACEMENT DOORS

New doors to be aluminium powder coated doors,
New and replacement doors to achieve a U-Value of 1.40W/m²K. Glazed areas to be double glazed with 16mm argon gap and soft low-E glass. Glass to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations.

40.VENTILATION

BACKGROUND AND PURGE VENTILATION
Background ventilation - Controllable background ventilation via trickle vents to BS EN 13141-3 within the window frame to be provided to new habitable rooms at a rate of min 5000mm²; and to kitchens, bathrooms, WCs and utility rooms at a rate of 2500mm²
Purge ventilation - New Windows/rooflights to have openable area in excess of 1/20th of their floor area, if the window opens more than 30° or 1/10th of their floor area if the window opens less than 30° Internal doors should be provided with a 10mm gap below the door to aid air circulation.Ventilation provision in accordance with the Domestic Ventilation Compliance Guide.

EXTRACT FOR SHOWER ROOM

Provide mechanical extract ventilation to shower room ducted to external air capable of extracting at a rate of not less than 15 litres per second. Vent to be connected to light switch and to have 15 minute over run if no window in the room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO BATHROOM

Bathroom to have mechanical vent ducted to external air to provide min 15 litres / sec extraction. Vent to be connected to light switch and to have 15 minute over run if no window in room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO W/C

W/C to have mechanical ventilation ducted to external air with an extract rating of 15l/s operated via the light switch. Vent to have a 15min overun if no window in room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO UTILITY ROOM

To utility room provide mechanical ventilation ducted to external air capable of extracting at a rate of 30 litres per second. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO KITCHEN

Kitchen to have mechanical ventilation with an extract rating of 60l/sec or 30l/sec if adjacent to hob to external air, sealed to prevent entry of moisture. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. Cooker hoods to BS EN 13141-3. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

VENTILATION OF TIMBER SUSPENDED FLOOR

Provide cross-ventilation under floor to outside air by ventilators in at least 2 opposite external walls of the building. Ventilation openings having an opening area of 1500mm² per metre run of perimeter wall or 500mm² per square metre of floor area whichever gives the greater opening area. All sleeper walls or similar under floor obstructions shall be of honeycombed construction or have similar provision for distribution of ventilation. The under floor space shall be free from debris. Ducts to be sealed using gas proof tap if they pass through a radon barrier.

BLOCK AND BEAM FLOOR VENTILATION

Provide cross-ventilation of the under floor to outside air by ventilators in at least 2 opposite external walls of the building. Ventilation openings having an opening area of 1500mm² per metre run of perimeter wall or 500mm² per square metre of floor area, whichever is the greater.

PITCHED ROOF VENTILATION

Maintain a 50mm air gap above insulation in the roof pitch to ventilate roof. Provide opening at eaves level at least equal to continuous strip 25mm wide and opening at ridge equal to continuous strip 5mm wide to promote ventilation.

FLAT ROOF VENTILATION

Cross-ventilation to be provided on opposing sides by a proprietary eaves ventilation strip equivalent to 25mm continuous with fly proof screen. Flat roof insulation is to be continuous with the wall insulation but stopped back to allow a 50mm air gap above the insulation for ventilation.

41.GLASS BALUSTRADING

All balcony balustrades to be min 1.1m in height. Balustrades to be in toughened glass in accordance with Part K (Part N in Wales) of the Building Regulations and designed to resist the horizontal force given in BS 6180:2011. No openings in any balustrading should allow the passage of a 100mm sphere and children should not readily be able to climb the guarding.

42.TRADITIONAL BALUSTRADES

Provide balustrades to balcony min 1100mm in height and capable of resisting at least the horizontal force given in BS 6180:2011. No openings in any balustrading should allow the passage of a 100mm sphere and children should not readily be able to climb the guarding.

43.DOOR BETWEEN HOUSE AND GARAGE

Door between garage and house to be FD30 self closing with a 100mm step down into garage, fitted with 3 steel hinges, intumescent strips and smoke seals. Construction between house and garage to be 30 minutes fire resisting.

44.RAINWATER DRAINAGE

New rainwater goods to be new 110mm UPVC half round gutters taken and connected into 68mm dia UPVC downpipes. Rainwater taken to new soakaway, situated a min distance of 5.0m away from any building, via 110mm dia UPVC pipes surrounded in 150mm granular fill. Soakaway to be min of 1 cubic metre capacity (or to depth to Local Authorities approval) with suitable granular fill and with geotextile surround to prevent migration of fines. If necessary carry out a porosity test to determine design and depth of soakaway.

45.UNDERGROUND FOUL DRAINAGE

Underground drainage to consist of 100mm diameter UPVC proprietary pipe work to give a 1:40 fall. Surround pipes in 100mm pea shingle. Provide 600mm suitable cover (900mm under drives). Shallow pipes to be covered with 100mm reinforced concrete slab over compressible material. Provide rodding access at all changes of direction and junctions. All below ground drainage to comply with BS EN 1401-1: 2009.

46.INSPECTION CHAMBERS

Underground quality proprietary UPVC 450mm diameter inspection chambers to be provided at all changes of level, direction, connections and every 45m in straight runs. Inspection chambers to have bolt down double sealed covers in buildings and be adequate for vehicle loads in driveways.

47.ABOVE GROUND DRAINAGE

All new above ground drainage and plumbing to comply with BS EN 12056-2:2000 for sanitary pipework. All drainage to be in accordance with Part H of the Building Regulations. Wastes to have 75mm deep anti vac bottle traps and rodding eyes to be provided at changes of direction.

Size of wastes pipes and max length of branch connections (if max length is exceeded then anti vacuum traps to be used)
Wash basin - 1.7m for 32mm pipe 4m for 40mm pipe
Bath/shower - 3m for 40mm pipe 4m for 50mm pipe
W/c - 6m for 100mm pipe for single WC
All branch pipes to connect to 110mm soil and vent pipe terminating min 900mm above any openings within 3m.
Or to 110mm upvc soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting.
Waste pipes not to connect on to SVP within 200mm of the WC connection.
Supply hot and cold water to all fittings as appropriate.

48.SOIL AND VENT PIPE

Svp to be extended up in 110mm dia UPVC and to terminate min 900mm above any openings within 3m. Provide a long radius bend at foot of SVP.

49.AUTOMATIC AIR VALVE

Ground floor fittings from WC to be connected to new 110mm UPVC soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting and connected to underground quality drainage encased with pea gravel to a depth of 150mm.

50.PIPEWORK THROUGH WALLS

Where new pipework passes through external walls form rocker joints either side wall face of max length 600mm with flexible joints with short length of pipe bedded in wall.
Alternatively provide 75mm deep pre-cast concrete plank lintels over drain to form opening in wall to give 50mm space all round pipe: mask opening both sides with rigid sheet material and compressible sealant to prevent entry of fill or vermin.

51.TANKED PROTECTION.

Vandex Super
Type A waterproofing in accordance with BS 8102: 1990 to give a protection level of grade 2 (suitable for concrete surfaces and storage areas only as detailed in BBA certificate).
Ensure that all materials and products are compatible. Assess structure for suitability of tanking system and ensure substructure is free draining. The concrete surface must be examined for defects and repaired in accordance with manufacturer's details if required.
All retaining elements are to be detailed by a Structural Engineer.
All materials and products to be installed by a competent contractor strictly in accordance with the manufacturer's recommendations, BS 8102 and BBA certificate.
Concrete surfaces to be prepared for waterproofing system by being bush hammered, scabbled or sandblasted and then wetted down.
Apply two coats of Vandex Super Crystalline Waterproofing, to the wall and floor slab surface with a trowel or suitable spray equipment.
Provide a coved fillet with a suitable mortar at wall and floor junction
Ensure continuity between wall and floor waterproofing and around the structure.
Penetrations through waterproofing to be kept to a minimum and detailed by specialist waterproofing manufacture where unavoidable. Vandex Premix to be used as a final coat in areas where enhanced resistance to mechanical abrasion is required.
Provide 77.5mm Celotex PL4000 insulated plasterboard dry-ling and floor finish as required strictly in accordance with manufacturer's recommendations.

52.DRAINED CAVITY WATER PROOFING SYSTEM

Type C drained protection in accordance with BS 8102: 1990 -
RIW Cavity Drain System as BBA certificate for use in new constructions.
Ensure that all materials and products are compatible. Assess structure for suitability of tanking system. The surface must be examined for defects and repaired in accordance with manufacturer's details if required. All retaining elements are to be detailed by a Structural Engineer.
All materials and products to be installed by a competent contractor strictly in accordance with the manufacturer's recommendations, BS 8102 and BBA certificate.

Prepare wall by cleaning with a stiff brush. Provide a high density polythene (HDPE) cavity drain membrane, e.g. RIW Cavity Drain, fixed using RIW brick plugs to wall and floor slab staggered at 1m centres. Fixings to be sealed using RIW Sealing Rope.
The horizontal and vertical sheets should be butt jointed at the base of the wall and the joint covered with a pre-formed RIW Wall/Floor Junction piece and sealed with proprietary sealing tape.
The floor membrane is to be covered by reinforced concrete or screed at least 65mm thick.
Provide a suitable drainage channel, e.g. RIW Aqua Channel within the slab around the perimeter of the floor and install a sump and mechanical pump as manufacturer's details with suitable access if required.
Drainage channel to be provided with an adequate fall to a suitable soakaway.
Ensure suitable access points and rodding eyes at every 10m and every change of direction.
Penetrations through waterproofing to be kept to a minimum and filled with RIW flexible sealant or sealing rope detailed by RIW specialist waterproofing manufacturer where unavoidable.
In very high water table area an additional moisture barrier may be required.
Construct an independent timber frame with preservative treated timber studwork using 100mm x 50mm treated timbers with head and sole plates and noggins at 400mm ctrs ensuring an adequate clear cavity between wall and new stud for cavity drain membrane.

Insulation requirements
Insulation between and over studs to be 90mm Celotex FR4000 between and 37.5mm Celotex PL4000 insulated plaster board with VCL over studs.

53.FIXED EXTERNAL LIGHTING

External light fittings to be fitted as calculated in the DER and in compliance with the Domestic Building Services Compliance Guide.
Light fitting to be either:
a. lamp capacity not greater than 100 lamp-watts per light fitting and provided with automatic movement detecting devices (PIR) and automatic daylight sensors ensuring lights shut off automatically when not required.
Or
b. lamp efficacy greater than 45 lumens per circuit-watt; fitted with manual controls and automatic day light cut-off sensors so that lights switch off when daylight is sufficient.

54.PLUMBING SPECIFICATION

All new drainage and sanitary pipework, including layout, materials, bedding/surround etc, must be discussed and approved on site by a Building Control Surveyor prior to installation. Perform air and running tests on completion of work.

Provide and install hot and cold water supplies for connection to fittings and appliances, positioning to be agreed with Client.
Fit new and existing appliances. Positioning to be agreed with Client.

Fit sink, washing machine and dishwasher with 38 diameter PVC waste pipes, with 75mm deep back inlet gully to suit ground finish.

Provide and lay 100 mm diameter underground quality PVC pipe, to form under floor ventilation duct between existing and new air bricks.

55.STRUCTURAL STEEL WORK:

All material and workmanship to be in accordance with BS 449 or BS 5950.

Structural steelwork sections to be Grade 43A mild steel in accordance with BS 4360.

Contractor must verify all dimensions on site before commencing any work or making any shop drawings. No dimensions to be scaled from drawings, any discrepancies must be reported to the Structural Engineers prior to proceeding.

Steel work contractor to design all connection details for maximum moments and reactions as indicated on Structural Engineers drawings and calculations.

Steel work which is not required to be encased in concrete to be blast cleaned / wire brushed free from mill scale, rust and other contamination and painted with two coats of approved primer as soon as practicable but not more than four hours after cleaning.

Uncased stanchions and beams located within an external wall to have a minimum gap of 40 mm from face of external brickwork, or alternately 25 mm minimum impermeable insulation from face of steel to the external wall, unless galvanised or similary treatment.

All concrete encased steel work to be unpainted.
All pockets formed in brick work or block work for steel beams to be made good in grade 35 concrete.
Concrete padstones to be provided for steel beam, for sizes see Structural Engineer's calculations.
All existing lintels are to be checked for suitability, where taking additional loads, if inadequate new lintels to be installed.

All existing steel columns and beams to be painted with two layers of fire resistant paint and encased with 2no. layers of 12.5mm plasterboard with staggered and taped joints, and apply 5mm gypsum plaster set to give half hour fire resistance.

56. TIMBER:
new timber to be grade c16 or c24 or engineering timber to bs en1995 as directed on the drawings. new timber to be vacuum impregnated with preservative to bs 5268. cut ends to be treated with brush applied preservative.
notches in joists not to exceed 25mm in depth.
timber fixings to be simpson strong tie or similar approved as directed on the drawings.

57. Part L1B:
Limiting parameters of thermal elements proposed

Element
Threshold U-value W/m2 K
1.Wall - cavity insulation - 0.70
2.Wall - external or internal insulation -0.70
3.Floor - 0.70
4.Pitched roof - insulation at ceiling level 0.35
5.Pitched roof - insulation between rafters - 0.35
6.Flat roof or roof with integral insulation - 0.35
Improved U-value W/m2 K
1.Wall - cavity insulation - 0.55
2.Wall - external or internal insulation -0.30
3.Floor - 0.25
4.Pitched roof - insulation at ceiling level 0.16
5.Pitched roof - insulation between rafters - 0.18
6.Flat roof or roof with integral insulation - 0.18
New & Replacement U-value W/m2 K
1.Wall - cavity insulation - 0.18
2.Wall - external or internal insulation -0.18
3.Floor - 0.18
4.Pitched roof - insulation at ceiling level 0.15
5.Pitched roof - insulation between rafters - 0.15
6.Flat roof or roof with integral insulation - 0.15

58. LOCATIONS OF FIRE COLLARS OR SERVICES PENETRATING COMPARTMENTATION WALLS AND FLOORS

WALL & CEILING LININGS
Contractor must ensure that all linings achieve minimum requirements of BS 476 Part 6 (Fire propagation) AND BS 476 Part 7 (Surface spread of flame)

Small rooms (4M² or less & domestic garage of 40m2 or less)
*Class 3/Euro class D-s3,d2**
Other rooms/Circulation spaces
*Class 1/Euro class C-s3,d2**

Refer to BS EN 13501-1 Fire classification of construction products and building elements. Classification using data from reaction to fire tests All material to comply with BS 476-11 Fire tests on building materials and structures. Method for assessing the heat emission from building materials

PERFORATIONS TO WALLS AND FLOORS
Perforation to fire-rated elements should be reduced to a minimum. Where this is not possible:

- *Contractor to supply and install intumescent Quelfire Fire Stop Seal CE marked collar or similar approved to pipework penetrations through fire resisting walls or floors.*
- *Use intumescent putty pad (Rockwool Firepro or similar approved) to all sockets and switches located on partitions and walls forming protected areas (e.g partitions forming escape routes). Install following manufacturers guidelines*
- *Use UKAS certified acoustic & fire rated hoods to ceiling openings/ holes used for electrical installation.*
- *Restore fire protection levels to ceiling, partition and wall boards by using Rockwool Firepro sealant or similar UKAS certified, to all linear joints around holes*

WALL SURFACES
External surfaces of the building to comply with the guidance of BS 9991 Fire safety in the design, management and use of residential buildings. Code of practice

WALL MATERIALS
The wall system should be constructed in non-combustible materials or material of limited combustibility, as defined in Clause 3.45 of BS 9991:2015. Alternatively, materials to demonstrate adequate performance to BR 135.

ROOF COVERINGS
The performance of roof coverings is designated by reference to the test methods specified in BS 476-3. As part of the roof covering is within 6m from the adjacent site boundary, the minimum classification to be achieved is AA, AB or AC (National Class) or BROOF(t4) (European Class).

BESPOKE FURNITURE
Use timber pressure treated with fire retardant, compliant with BS EN 335:2013: Durability of wood and wood-based products. Alternatively, use Fire Retardant MDF, suitable for use in internal dry conditions for non-structural applications. Product to be CE marked and comply with Euroclass B or C fire rating in accordance with European Standards and BS 476: Part 22: 1987 Fire tests on building materials and structures.

CAVITY CLOSERS & BARRIERS
To comply with both BS 9991 and Approved Document B2: having a minimum 30-minute integrity and 15-minute insulation. Cavity barriers to be provided at all of the following locations:

- *Edges of cavities, including around openings (such as windows, doors and exit/entry points for services)*
- *Junction between an external cavity wall and every compartment floor and compartment wall.*
- *Junction between an internal cavity wall and every compartment floor, compartment wall or other wall or door assembly forming a fire resisting barrier.*

Minimum thermal resistance path through the cavity closer (R-Value) must be at least 0.45m2k/W. Contractor to establish compliance with BS/ Building Regs and ensure the installed product is UKAS certified. Both cavity barriers and fire stops to be correctly located and fixed in the method prescribed by the manufacturer. This includes ensuring the material proposed is appropriate for the space requiring to be sealed.

Notes:
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This drawing to be read in conjunction with architects and project specifications. Any discrepancy between this drawing and all other project drawings should be brought to the attention of Express plans for clarification prior to commencing the works
Local Authority's building inspector is to be informed by the contractor in writing at least 48 hours prior to the works starting on site and their agreement obtained that work can commence. Structural Steelwork: All steel members grade to be BS EN 10025 S275 JO (Hollow sections to be S355). Length of the beams and the columns should be provided by the contractor allowing minimum bearing. DO NOT SCALE THE DRAWING.
Steel Corrosion Protection: Preparation: Shot blast to SA2.5. Shop primer, Zinc phosphate (dft 75 micron)
Fire Protection to steel Beams & columns; Box around all steels with 50 x 50 s.w. framework and 2 layers of 12.5mm Fire line plasterboard with staggered joints and 3.5mm skim finish.
Pad stones: Pad stones to be grade C30 concrete. Beam bearing on pad stones to be minimum 100mm unless otherwise noted specified on Structural Timber: All timber grade C24 unless otherwise stated. Joists may be notched over bearing, maximum depth of notch 1/3 joist depth. Use steel beam with solid timber packing/plates bolted through web of beams M12@500 centres behind joists hangers and for and strap fixing. Temporary Works: The contractor is to accept full responsibility for the stability and safety of the works during the total construction period. No undermining of existing structure is to be carried out prior to consultation of structural engineer

Issue	Notes	Drawn	Date

Express Plans

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Tel: 07375 455206 Email: info@expressplans.co.uk

Client
Mr.S. Contractor
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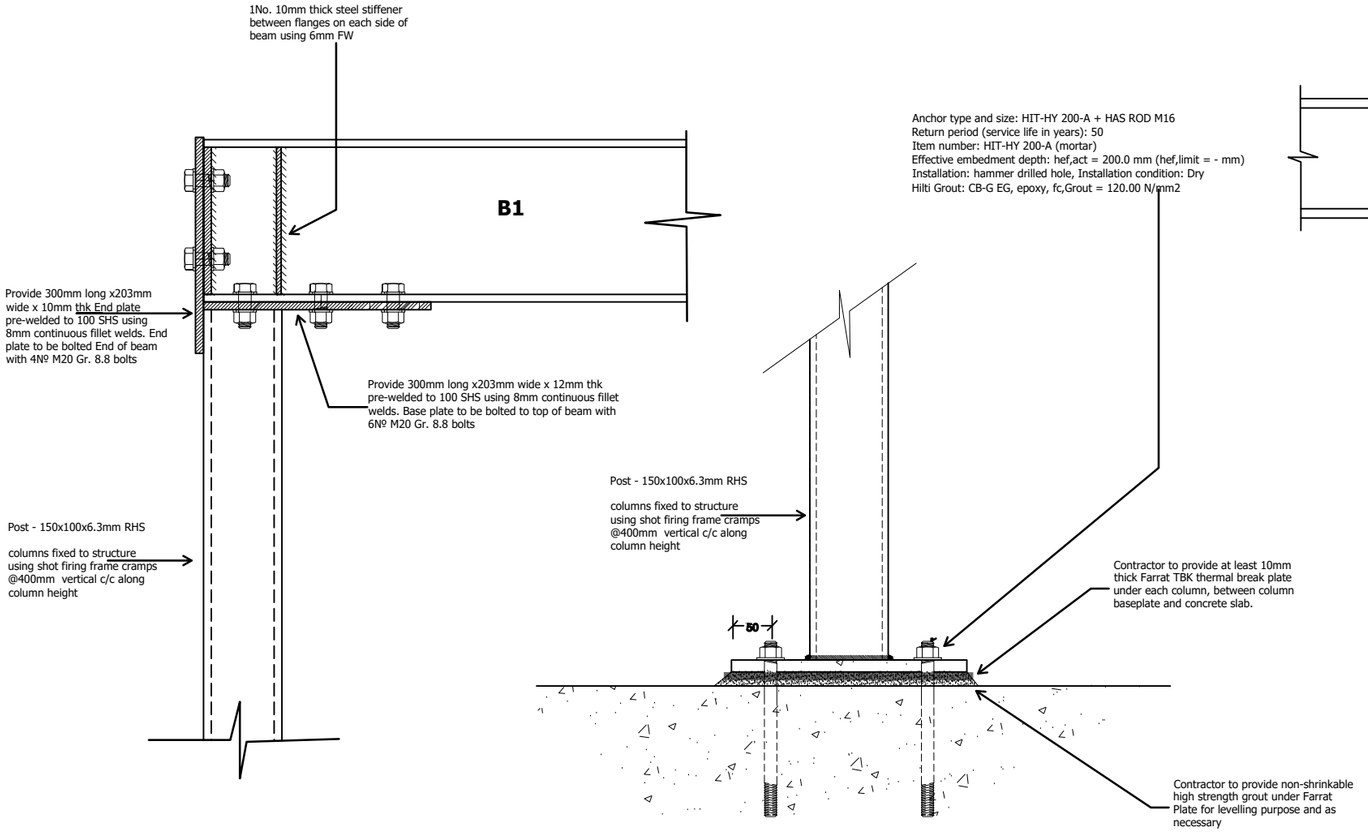
Drawing Title
SPECIFICATIONS

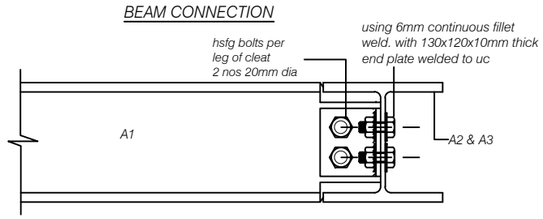
Scale	Date	Checked	Drawn By
NTS	19/04/24	AZ	AZ

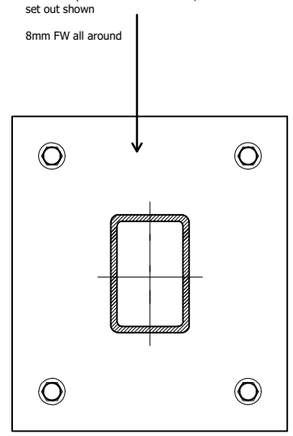
Drawing Number
D15

Revision



Steel Beam to Steel Column Connection





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Drawing Title
CONNECTIONS

Scale	Date	Checked	Drawn By
NTS	19/04/24	AZ	AZ

Drawing Number
D16

Revision

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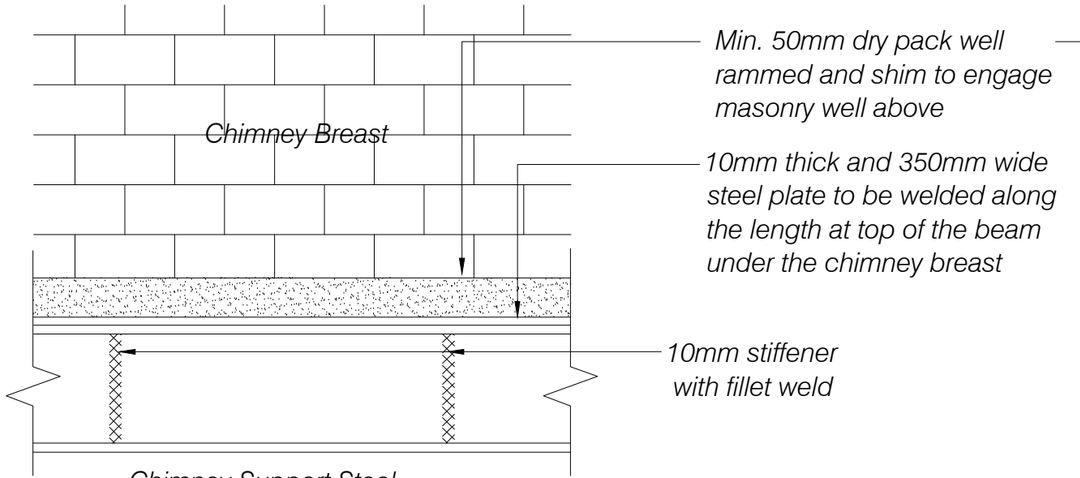
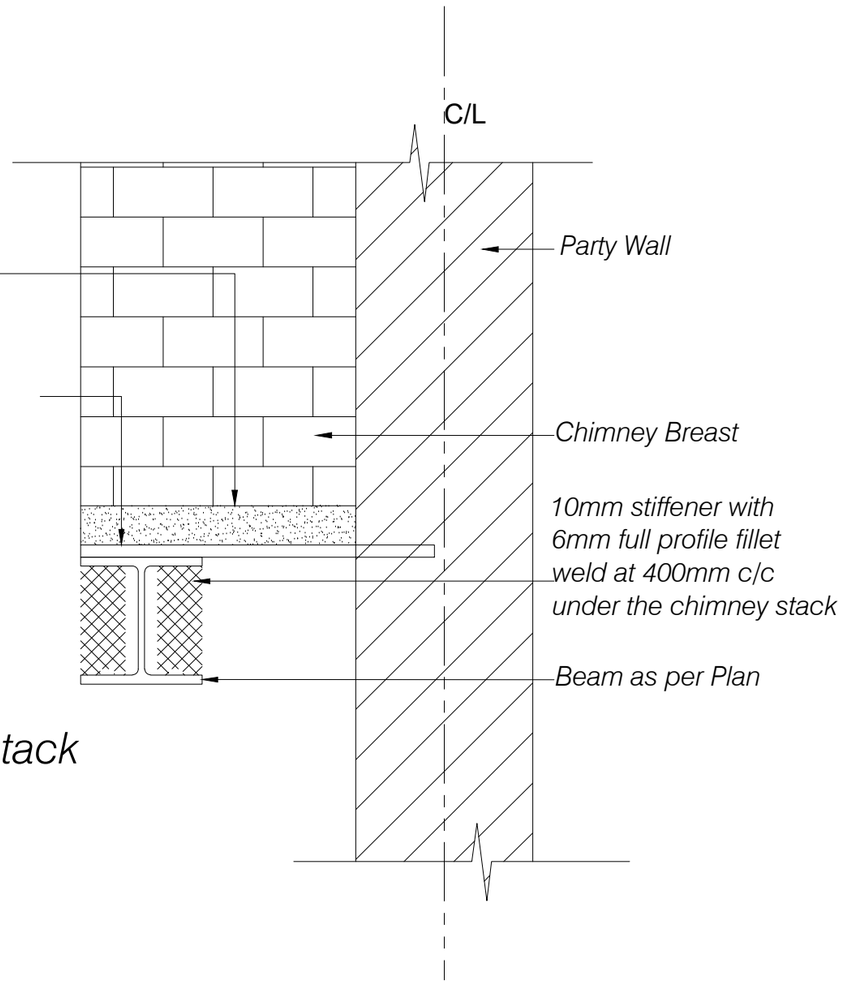


steel beam to chimney stack support detail



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Drawing Number
D17

Revision