

By Email

Our Ref: 24-218.02L

FAO Sam Buswell
Countryside Partnerships (Yorkshire)
1 Red Hall Avenue
Paragon Business Village
Wakefield
WF1 2UL

22nd November 2024

Dear Sam,

RE: Verification of Hazardous Ground Gas Protection Measures at Plots 15-16 and 26-31, Land at Hollin Bank, Hollingworth Road, Littleborough

As requested by Countryside Partnerships, site visits were conducted on 7th and 18th October and 15th November 2024 by a suitably qualified and experienced geo-environmental engineer from Arc Environmental Ltd, in order to independently validate the implementation of hazardous ground gas protective measures within Plots 15-16 and 26-31 on a proposed residential development at Hollingworth Road, Littleborough.

From the results of the hazardous ground gas risk assessment completed by Arc Environmental Ltd, it was determined that the installation of gas protective measures to meet BS8485:2015+A1:2019 – CS2 classification were required, in order to negate any potential risks to the proposed end users.

In order to ensure that the gas protective measures were properly implemented validation works have been undertaken comprising the inspection of the construction and installation of the gas membrane, in general accordance with BS8485:2015 & A1:2019 - Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings, and CIRIA C735:2014 - 'Good Practice on the Testing and Verification of Protection Systems for Buildings Against Hazardous Ground Gas'.

The inspection details are summarised in Table 1 below and continued on the following page. Photographic record sheets for the inspections are also attached with this report.

Table 1

1. Development Summary		
1.1	Type of development and building/blocks inspected	Residential development comprising 126 no. dwellings (1 no. block of 3 terraced houses, 25 no. blocks of semi-detached houses and 73 no. detached houses). Plots 15-16 were inspected, which are semi-detached, and plots 26-31 were inspected, which are detached houses.
1.2	Foundation type	Majority of plots utilise strip foundations with a suspended block & beam floor and sub floor void. Plots 62-68 alone utilised raft foundations.
1.3	Gas protection type	Majority of plots utilise passive vented sub-floor void and installation of hazardous ground gas barrier membrane. Plots 62-68 alone utilise a cast in-situ reinforced concrete raft with integral retaining wall and fully tanked basement, along with hazardous ground gas barrier membrane.



Arc Environmental Ltd
Solum House
Unit 1 Elliott Court
St John's Road
Meadowfield
Durham
DH7 8PN

RE: Verification of Hazardous Ground Gas Protection Measures at Plots 15-16 and 26-31, Land at Hollin Bank, Hollingworth Road, Littleborough (Cont'd)

Table 1 (Cont'd)

2. Passive Venting		
2.1	Sub-floor void	A c.150mm minimum sub-floor void has been constructed below the block and beam floor and this was noted to be vented by way of telescopic swan neck vents (see photographic record sheets). Excluding plots 62-68 which utilise a raft foundation and tanked basement.
2.2	External wall airbricks	c.210mm x c70mm airbricks with double telescopic swan neck vents to sub-floor void at regular intervals / spacings.
3. Gas Barrier Membrane		
3.1	Condition of sub-grade and underside of gas membrane	No sub-grade present – block & beam and cavity wall construction in plots 15-16 and 26-31. Floor cleaned before laying gas barrier membrane and noted to be free of significant debris.
3.2	Gas membrane type	Juta GP5 Gas Barrier Membrane (blue) is an extremely robust and high-performance ground gas resistant membrane and also provides protection against moisture. The membrane was laid across all the individual floor areas, and joints between sections of membrane were heat welded. Juta GP DPC is a high specification multi-layer damp proof course (DPC) designed to be sufficiently durable to build into perimeter cavity and load bearing walls as part of a gas barrier membrane system to resist moisture and ground gasses. Where the DPC is joined to the GP5 Gas Barrier Membrane, the joint was heat welded. Juta Gas Resistant Self Adhesive Membrane (GR SAM) was used to seal all service entries and repair any damage to the membrane.
3.3	Extent of coverage	The extent of the Gas Barrier Membrane coverage was confirmed over all floor areas and was lapped over the perimeter GAS DPC. The laps were sealed with by heat welding.
3.4	Slab / membrane condition	The condition of the Gas Barrier Membrane was confirmed as being in good condition, and any holes or tears were repaired using GR SAM.
3.5	Joining details	The Juta GP5 Gas Barrier Membrane sheets across the floor areas were jointed to each other utilising heat welding.
3.6	Damp proof membrane	Juta GP DPC was used as a DPM across all floor areas (in accordance with manufacturers specifications). Confirm all laps and joints were heat welded to the Gas Barrier Membrane.
3.7	Service entries and seals	GR SAM was used to seal the Gas Barrier Membrane to every service entry point in the floor slab.
3.8	Service ducts	Service ducts will require appropriate sealing using a closed cell sealant such as FiloSeal or FiloForm. It remains the responsibility of the main contractor to provide photographic evidence of service duct sealings to the Local Authority once services have been pulled through the ducts, if required.

Based on the inspection carried out by Arc Environmental Ltd., this validation letter confirms that the hazardous ground gas protective measures within Plots 15-16 and 26-31 of the residential development have been satisfactorily installed and as such have PASSED inspection.

Based on successful validation of 11 No. plots at the site, it is now deemed suitable to progress to a verification regime of 1 in 5 plots.

RE: Verification of Hazardous Ground Gas Protection Measures at Plots 15-16 and 26-31, Land at Hollin Bank, Hollingworth Road, Littleborough (Cont'd)

We trust the information we have provided to you is to your satisfaction. However, if you require any further information or clarification, please do not hesitate to contact us.

Yours sincerely



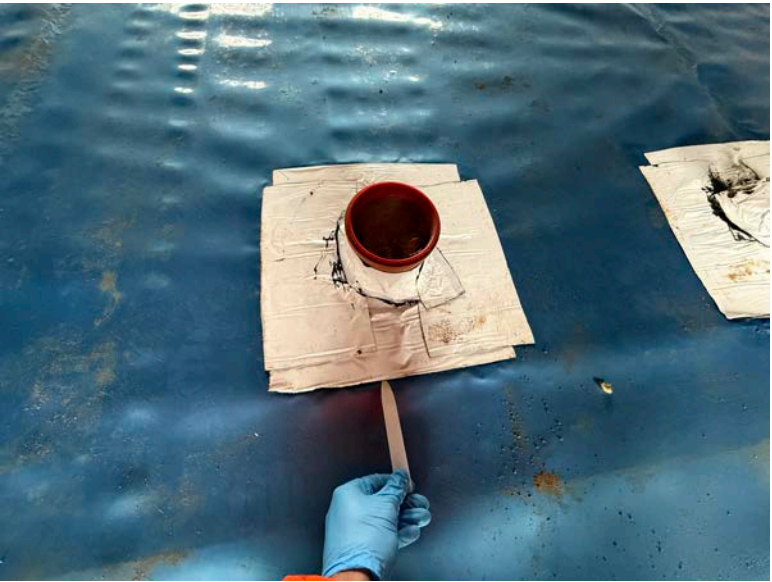
.....
Thomas White

Associate

For and on behalf of Arc Environmental Limited

Photographic Record Sheets

Plots 15-16



ARC ENVIRONMENTAL LTD

Solum House
Unit 1 Elliott Court
St. John's Road
Meadowfield
Durham, DH7 8PN
Tel: (0191) 378 6380
Fax: (0191) 378 0494
e-mail: admin@arc-environmental.com
web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
© Copyright Reserved

rev.	date	amendments		drawn	chckd

Client:

Countryside Partnerships

Project Title:

Proposed Residential Development,
Land at Hollin Bank,
Hollingworth Road
Littleborough

Drawing Title:

Photographic Record Sheet Plots
15-16 and 26-31
Gas Protection Measures

Scale at A3: | Date: 22.11.24 | Drawn by: TAW | Approved by:

Job Ref: 24-218 | Drg no: | Rev: 1

Plots 26-27



ARC ENVIRONMENTAL LTD

Solum House
Unit 1 Elliott Court
St. John's Road
Meadowfield
Durham, DH7 8PN
Tel: (0191) 378 6380
Fax: (0191) 378 0494
e-mail: admin@arc-environmental.com
web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
© Copyright Reserved



rev.	date	amendments		drawn	chckd

Client:

Countryside Partnerships

Project Title:

Proposed Residential Development,
Land at Hollin Bank,
Hollingworth Road
Littleborough

Drawing Title:

Photographic Record Sheet Plots
15-16 and 26-31
Gas Protection Measures

Scale at A3: | Date: | Drawn by: | Approved by:

22.11.24 | TAW

Job Ref: | Drg no: | Rev:

24-218 | 1

Plots 28-29



ARC ENVIRONMENTAL LTD

Solum House
Unit 1 Elliott Court
St. John's Road
Meadowfield
Durham, DH7 8PN
Tel: (0191) 378 6380
Fax: (0191) 378 0494
e-mail: admin@arc-environmental.com
web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
© Copyright Reserved



rev.	date	amendments	drawn	chckd

Client:

Countryside Partnerships

Project Title:

Proposed Residential Development,
Land at Hollin Bank,
Hollingworth Road
Littleborough

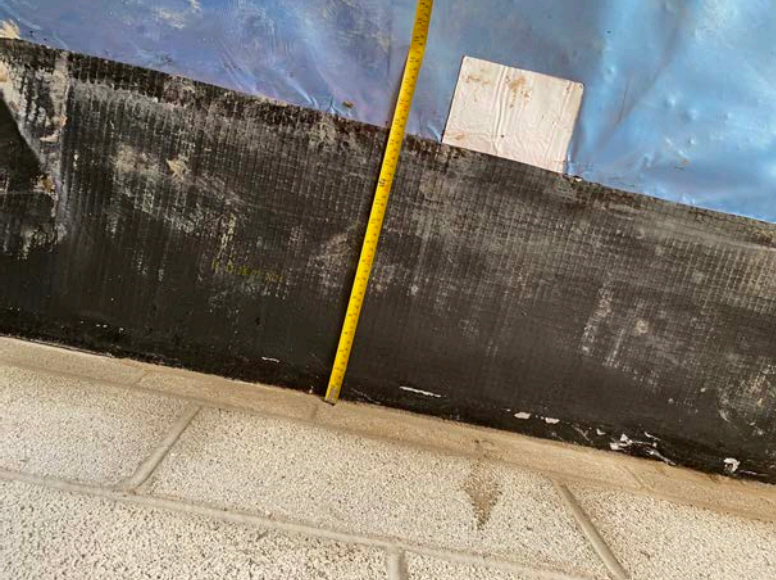
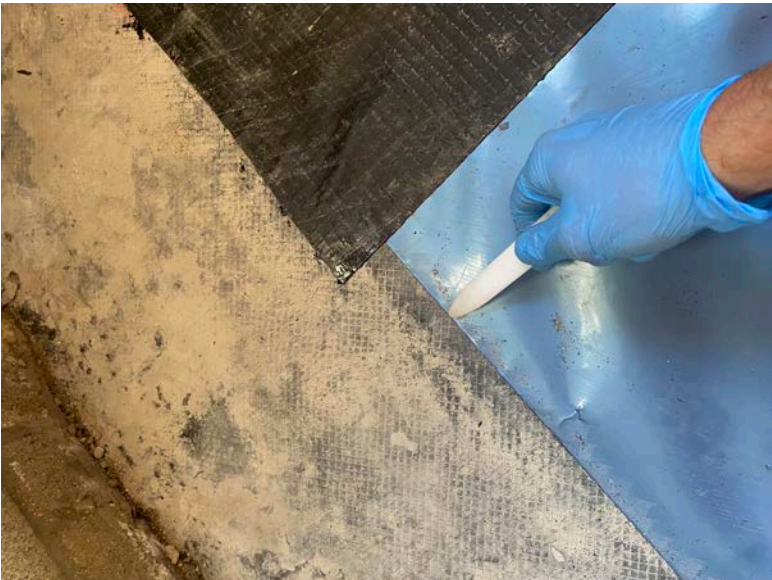
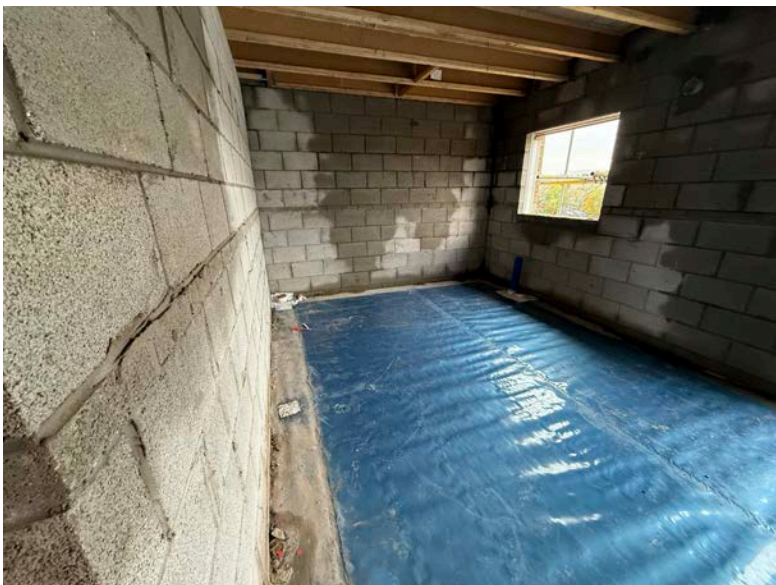
Drawing Title:

Photographic Record Sheet Plots
15-16 and 26-31
Gas Protection Measures

Scale at A3: | Date: 22.11.24 | Drawn by: TAW | Approved by:

Job Ref: 24-218 | Drg no: | Rev: 1

Plots 30-31



ARC ENVIRONMENTAL LTD

Solum House
Unit 1 Elliott Court
St. John's Road
Meadowfield
Durham, DH7 8PN
Tel: (0191) 378 6380
Fax: (0191) 378 0494
e-mail: admin@arc-environmental.com
web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
© Copyright Reserved

rev.	date	amendments		drawn	chkd

Client:

Countryside Partnerships

Project Title:

Proposed Residential Development,
Land at Hollin Bank,
Hollingworth Road
Littleborough

Drawing Title:

Photographic Record Sheet Plots
15-16 and 26-31
Gas Protection Measures

Scale at A3: | Date: 22.11.24 | Drawn by: TAW | Approved by:

Job Ref: 24-218 | Drg no: | Rev: 1

Product Specifications



GP®5

GP®5 gas barrier is a multi-layer composite of virgin polyethylene (PE) giving exceptional resistance to the passage of ground gas and organic vapours. It also acts as a high performance DPM.

Thickness	0.4 mm
Width	Various m
Length	Various m
Weight	400 g/m ²

TITANTECH®

For developers of brownfield and contaminated sites the TITANTECH® family of products represent a major step forward in safeguarding projects against gaseous and chemical contamination.

GP®5 is suitable for the following applications:

- Carbon dioxide and methane affected sites in accordance with BS 8485:2015 + A1:2019 & NHBC
- Radon affected sites in accordance with BRE211:2015
- Damp protection in accordance with Building Regulations Part C
- Low level VOC contaminated sites (site specific assessment required)

Handling

Roll weights can be in excess of 20kg and hence appropriate care and equipment is required for unloading and handling.

Installation

GP®5 should be installed in accordance with the product installation guidelines, and in accordance with BS 8485:2015.

Certifications



Please
Scan



Rev 2024



Feature	Characteristics	Test Method	GP [®] 5
Physical Properties	Thickness	EN 1849-2	0.4 mm
	Width	EN 1849-2	Various m
	Length	EN 1849-2	Various m
	Weight	EN 1849-2	400 g/m ²
Hydraulic Press	Resistance to Water Penetration	EN 1928 (A)	Pass
Mechanical Properties	Resistance to Static Load	EN 12730	> 20 kg
	Tensile Strength (MD)	EN 12311-2 (A)	> 300 N/50mm
	Tensile Strength (CMD)	EN 12311-2 (A)	> 300 N/50mm
	Resistance to Tearing (Nail Shank) MD	EN 12310-1	> 230 N
	Resistance to Tearing (Nail Shank) CMD	EN 12310-1	> 230 N
	Impact Resistance	EN 12691-B	500 mm
	Puncture Resistance	ASTM D 4833	> 160 N
	Puncture Resistance	EN 12236	1.60 kN
	Reaction to Fire	EN 13501-1	E
Vapour Permeability	Methane Permeability	BS EN ISO 15105-1	0.12 ml/m ² /day/atm
	Carbon Dioxide Permeability	BS EN ISO 15105-1	1.53 ml/m ² /day/atm
	Hydrogen Permeability	BS EN ISO 15105-1	68.7 ml/m ² /day/atm
	Benzene Permeability	BS EN ISO 15105-2	0.41 ml/m ² /day
	Oxygen Permeability	BS EN ISO 15105-2	<3 ml/m ² /day
	Radon Permeability	K124/02/95	1.0 x 10 ⁻¹² m ² /s
	Hydrogen Sulphide Permeability	BS EN ISO 15105-1	<0.68 ml/m ² /day/atm
Fuel Vapour Permeability	Petrol	BS EN ISO 15105-2	(ave.) 3.4 x 10 ⁻¹³ /mol/(m ² .s.Pa)
	Diesel	BS EN ISO 15105-2	(ave.) 3.4 x 10 ⁻¹³ /mol/(m ² .s.Pa)
Durability	Durability Watertightness After Artificial Ageing	EN 1928	Pass
	Durability Watertightness Against Chemicals	EN 1928	Pass
Compliance and Certification	CE Mark - EN 13967:2012		
	NHBC Standards Compliant		
	BS 8485:2015 + A1 2019 Accordant		

JUTA UK

Please contact JUTA UK Directly for more information on GP[®]5

Storage

Rolls of GP[®]5 should be stored on stable/level ground and stacked not more than five rolls high, with no other material stacked on top. The rolls can be stored outdoors when packaged, but should be protected from exposure to UV.



JUTA UK

Please contact JUTA
UK Directly for more
information on GP[®]5

Jointing and Sealing

It is recommended GP[®]5 can be heat welded where possible, with welding carried out by competent personnel with suitable qualifications in accordance with best practice, and guidance contained within BS 8485:2015. GP[®]5 should be overlapped by at least 100mm. If taping joints, only suitable tape must be used, ensuring application with a silicone roller to remove trapped air. JUTA pre-formed details, or self adhesive gas membrane are available for sealing around protuberances.

Accessory Products

- GP[®] DPC
- GP[®] Tape
- GP[®] Self Adhesive Membrane (SAM)
- GP[®] Primer
- GP[®] Top Hats and Preformed Corners
- GP[®] Protection Fleece
- GP[®] Void Vent (24/40mm)

Design Drawings

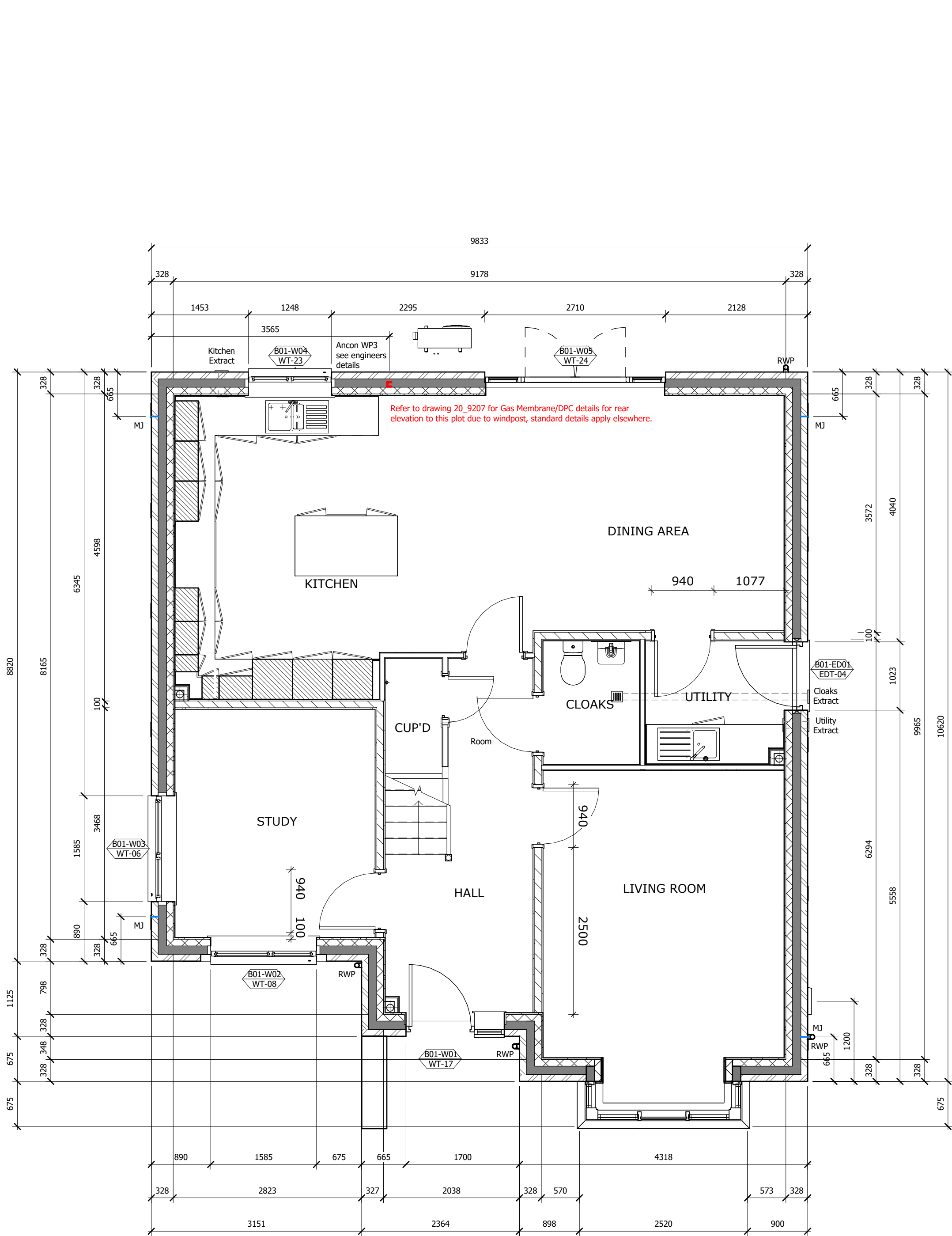
External Door Schedule (Block 01)					
Door Ref	Type Mark	STRUCTURAL Width	Height	Door Panel - Colour	Required Glaze Width
R01-ED01	EDT-04	1023	2110	Dark Grey	

Window Schedule (Block 1)					
Mark	Type Mark	STRUCTURAL Width	Height	Exposure	Safety (Shower)
Comments					
L00 - Ground Floor					
R01-W01	WT-17	1473	2118		
R01-W02	WT-08	1345	1510	No	No
R01-W03	WT-06	1395	1210	No	No
R01-W04	WT-23	1348	1950	No	No
L01 - First Floor					
R01-W06	WT-07	1385	1360	Yes	No
R01-W07	WT-26	685	1135	No	Yes
R01-W08	WT-03	685	1360	Yes	No
R01-W09	WT-03	685	1360	Yes	No
R01-W10	WT-07	1385	1360	No	No
R01-W11	WT-02	685	1210	No	Yes
R01-W12	WT-28	1248	1360	Yes	No
R01-W13	WT-28	1248	1360	Yes	No
R01-W14	WT-28	1248	1360	Yes	No
R01-W15	WT-02	685	1210	No	Yes
R01-W16	WT-02	685	1210	No	No

Glazing and Trickle Vent Requirements

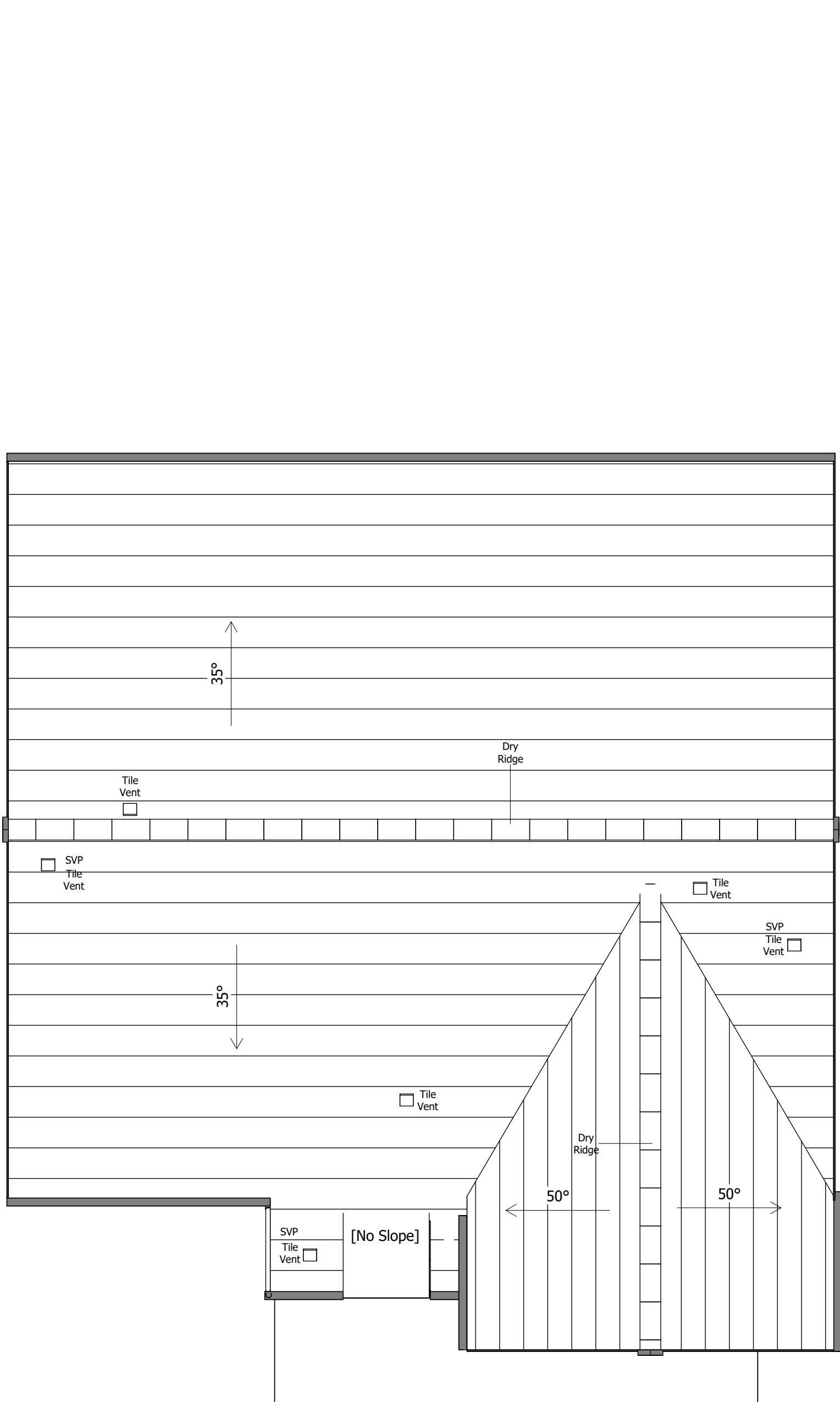
Ground Floor
28dB R(w+Tr) Glazing & 32dB D(n, e, w) Trickle or Wall Vent (to habitable rooms only)

First Floor
28dB R(w+Tr) Glazing & 32dB D(n, e, w) Trickle or Wall Vent (to habitable rooms only)



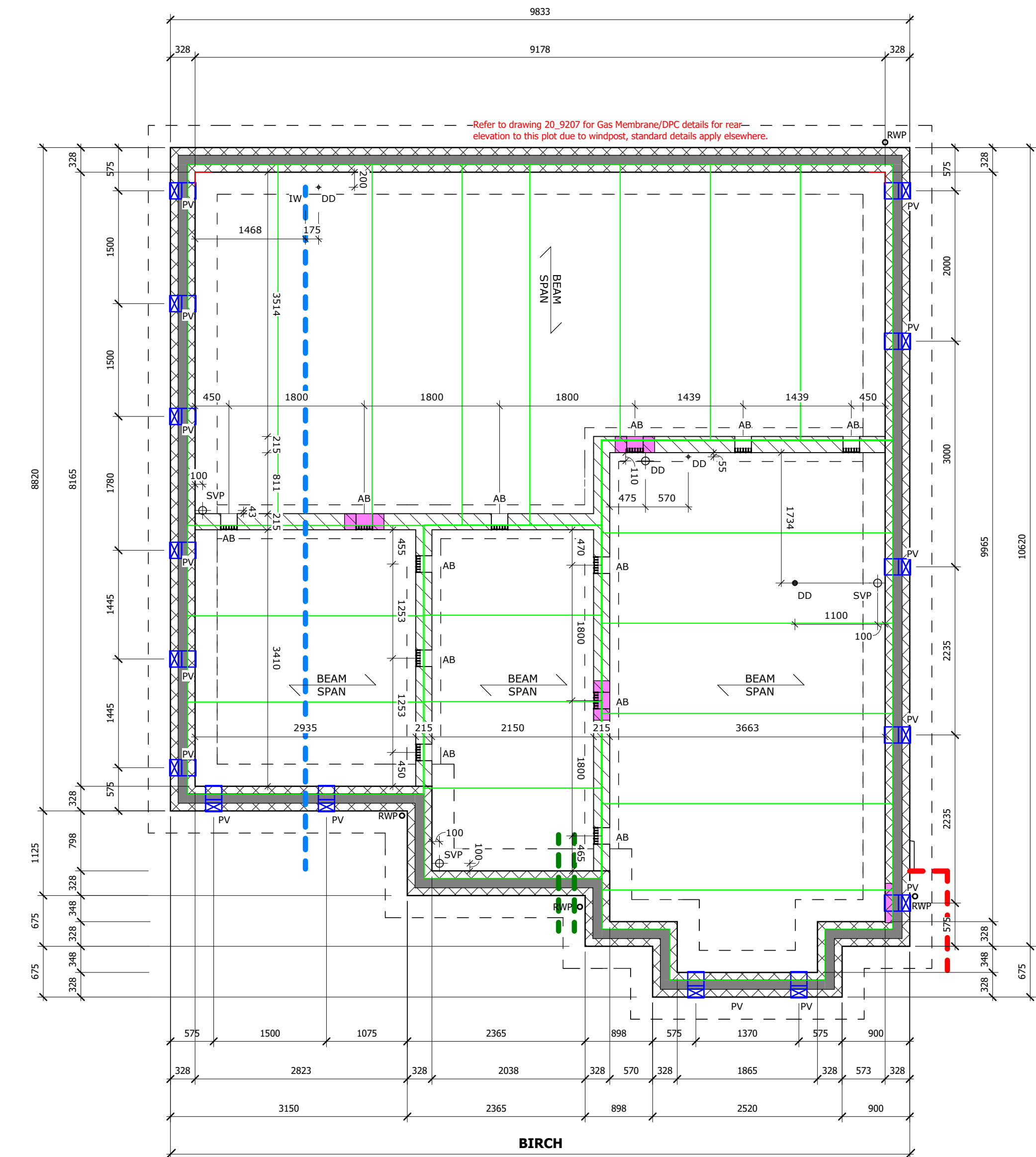
Ground Floor Plan

1 : 50



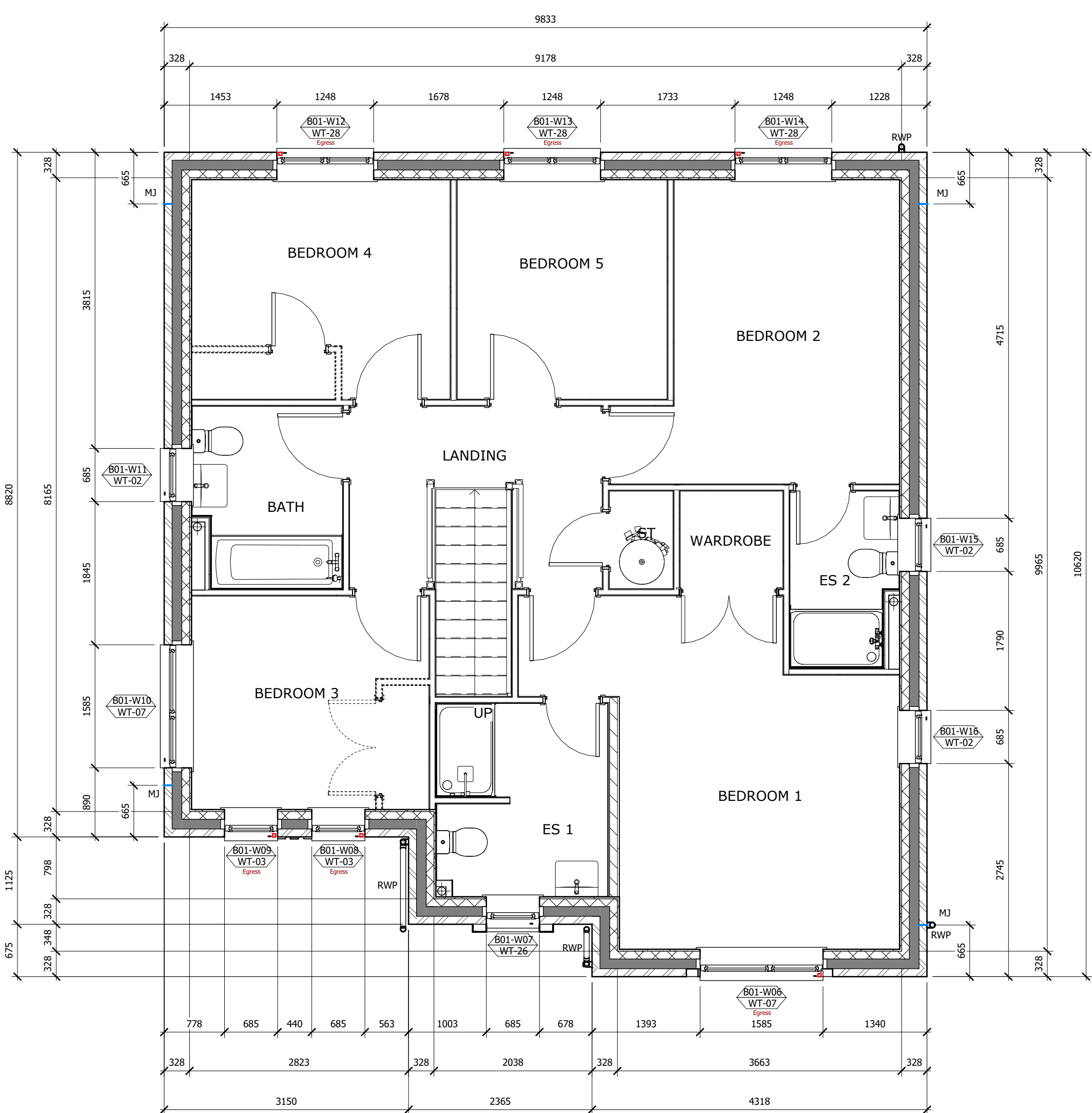
Roof Plan

1 : 50



Substructure Plan

1 : 50



First Floor Plan

1 : 50

Wall Legend			
Below FFL External Cavity Wall: - 102.5mm brick outer leaf - 125mm cavity fully filled with insulation. - 100mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork.			
Above FFL External Cavity Wall: - 102.5mm brick outer leaf - 125mm cavity fully filled with insulation. - 100mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork. - 12.5mm plasterboard on date with skim finish.			
Below FFL Separating Cavity Wall: Robust Detail: E-002-36 - 100mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork. - 100mm cavity fully filled with insulation. - 100mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork.			
Above FFL Separating Cavity Wall: Robust Detail: E-003-36 - 12.5mm plasterboard on date with skim finish. - 100mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork. - 100mm cavity fully filled with insulation. - 100mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork. - 12.5mm plasterboard on date with skim finish.			
Sleeper Wall: - 215mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork.			
Load Bearing Internal Wall: - 12.5mm plasterboard on date with skim finish. - 100mm thick 7.3n/m ² Standard Plasmap Aglite Ultima blockwork. - 12.5mm plasterboard on date with skim finish.			
Key			
Air Bricks	Perimeter Cavity	RC Intel over atrick adjacent to Neapen corner joint	
Vent Area Lo-Lo Carbon AGH dREV C with rigid ducts within floor	Vent Area Lo-Lo Carbon AGH dREV C with rigid ducts within floor	Vent Area Lo-Lo Carbon AGH dREV C with rigid ducts within floor	
Rain Water Downpipe	SVP & Direct to Drain Connections	Incoming Water Entry Point	
Electric Meter Box Location	Floor Span Direction (adapted to sub-structure design drawings)	30 minute Integrity & 15 minute Insulation Vertical Heavy Wall Cavity Barrier	
Movement Joint Location - (Engineers drawing takes precedence)	ASAP Heat Exchanger. (No to be located a maximum 1m from plot boundary)	Structural Studwork, refer to engineers drawings and specification (Engineers drawings take precedence)	
Incoming Water	Telecoms	Electricity	
General Notes			
(a) be used in conjunction with the structural engineering information: - All masonry below DPC to be in accordance with BS EN 771. - Brickwork to be durability designation F2, F3 to BS EN 998-2:2016. - Specification for mortar for masonry, Part 2: Masonry mortar. - All substructure blockwork to be in accordance with BS EN 1996-2:2006. - Eurocode 6 - Design of masonry structures - Part 2: Design considerations, selection of materials and execution of masonry and FRAC technical standards. - Blockwork to be Plasmap Aglite Ultima. - Maximum requirements of below FFL blockwork to not be less than 1500mm ² or 7.3n/m ² . - Maximum requirements of above FFL blockwork to not be less than 7.3n/m ² . - Lign mix (W8) to be used in accordance with standards; at least 225mm below DPC level. - For details of suspended floor see structural engineers design / specialist design. - Refer to structural engineers drawing for foundation information. Provide underground ducts as required for water, electric & gas services. - Foundation widths / type are indicative only. Refer to Structural Engineer's foundation design for detailed information. - Movement Joints are structural items and details / placing to be provided by Structural Engineer. - All substructure lintels to be 100 x 75mm pre-stressed concrete lintels. Location to be co-ordinated with individual plot drainage. - Ensure a full block is used under the lintel bearing in accordance with the HBRC guideline Clause 6.1.12 along with a minimum bearing for the length of 150mm up to 1.2m spans and 150mm over 1.2m spans. - Refer to Structural Engineer's Foundation design for detailed information. - Refer to Structural Engineer's Foundation design for detailed information. - Refer to Structural Engineer's Foundation design for detailed information. - Voids should be ventilated by openings providing not less than 1500mm ² per metre run of external wall of 1500mm ² of floor area, which shall be provided in the form of an opening area. Ventilation openings should be provided on at least two opposite sides, where this is not possible, effective cross-ventilation from opposite sides should be provided by a combination of opening and air ducts. Ventilators should be spaced at not more than 2m centres and within 500mm of each end of any wall. - 1200mm wide access ramp at max. 1:12 up to 900x1200mm level landing with a max. slope of 1:40 fall from flush door threshold. - All extract fans to be system 3 efflux fans.			
Risks			
Lifting Hazard	Risk of Falling	Risk of Collapse	
Risk of Falling Object	Consideration for High Level Access	Risk of Explosion	

P7	14.06.24	DW	AH	Substructure Updated
P8	12.05.24	DW	AH	Drawings added to internal masonry to set out openings
P9	02.05.24	DW	AH	Drawings added to internal blockwork added.
P4	25.04.24	DW	AH	Drawings coordinated with 3rd party and engineers information.
P1	01.03.23	KR	DW	Wall Legend and spec of other updated.
P2	01.09.23	KR	DW	Updated to suit client comments.
P1	02.06.23	KR	DW	Floor plans added to sheets. Additional information added to substructure plans.

Rev.	Date	Drawn	Checked	Description
------	------	-------	---------	-------------

S0 Work In Progress

Hollin Gate, Littleborough

GA Block Plans - Plot 1
Block 1

Location:
Hollingworth Road
Littleborough

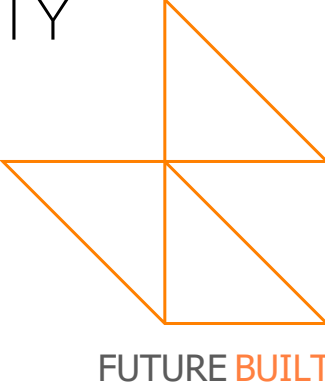
Clients:
Countrywide Partnerships

UPRS	Originator	Date	Level	Type	Role	Serial/Number	Revision
HOLL-WBA-XX-XX-DR-A-20_2001							P7

Date	Drawn	Checked	Scale	Int Job No
Nov 22	MI	DW	1 : 50	4046-001

NATSON BATTY
ARCHITECTS

Shires House, Shires Road
Guiseley, Leeds LS20 8EU
Leeds Loughborough
T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com



Note: Do not Scale from this drawing. All dimensions to be checked on site

Window Schedule (Block 30)							
Mark	Type Mark	STRUCTURAL		Egress Window	Safety Glazing	Obscure Glazing	Comments
		Width	Height				
L00 - Ground Floor							

Glazing and Trickle Vent Requirements

Ground Floor
28dB R(w+Ctr) Glazing & 32dB D(n.e.w) Trickle or Wall Vent (to habitable rooms only)

First Floor
28dB R(w+Ctr) Glazing & 32dB D(n, e, w) Trickle or Wall Vent (to habitable rooms only)

Plot Mechanical Ventilation Requirements - Vent Axia Cool Box System

For detail system design refer to VENT AXIA

Key

- Air Bricks
- Periscope Cavity Wall Vents
- RC Initial over adjacent to NBR corner joint
- Went Air-Li-Carbon NBR dHVC with rigid ducts with roof vent
- Went Air-Li-Carbon NBR dHVC (with rigid ducts with floor to roof the vent)
- Rain Water Downpipe
- SVP & Drain to Drain Connections
- Increasing Water Entry Point
- Electric Meter Box Location

Movement Joint Locations - (Engineers drawings takes precedence)

ASHP Heat Exchanger, (to be located a minimum 1m from plot boundary)

30 minute Integrity & 15 minutes Insulation Vertical Resistant Li-Cavity Barrier
Structural Subgroup, refer to Engineers drawings and specification (where drawings takes precedence)

Increasing Water Entry Point

Telecoms

Electricity

General Note

[illegible]

Risks

Lifting Hazard	Risk of Falling	Risk of Collapse
Risk of Falling Object	Consideration for High Level Access	Risk of Explosion



P8	14.06.24	DW	AH	Substructure Updated
P7	13.05.24	DW	AH	Drms added to internal masonry to set out openings
P6	02.05.24	DW	AH	Drms to internal blockwork added.
P5	25.04.24	DW	AH	Drawings coordinated with 3rd party and engineers information.
P4	17.01.24	DW	JT	Vent Area Coal Box System schedule
P3	10.10.23	KK	DW	Wall Legend and spec of dMew updated
P2	01.09.23	KK	DW	Updated to suit client comments
P1	02.06.23	MI	DW	Floor plans added to sheets. Additional information added

Rev	Date	Drawn	Checked	Description
S0				Work In Progress

Hollin Gate, Littleborough

GA Block Plans - Plot 11
Block 30

Location:
Hollingworth Road
Littleborough

Client:
Countryside Partnerships

UPRN	Originator	Zone	Level	Type	Role	Series/Number	Revision:
HOLL-WBA-XX-XX-DR-A-20_2011							P8
Date:	Drawn:	Checked:	Scale:	Int. Job No:			
Nov 22	MI	DW	1 : 50	4046-001			

WATSON BATTY
ARCHITECTS

Shires House, Shires Road
Guiseley, Leeds LS20 8EU
Leeds | Loughborough
T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com

Note: Do not Scale from this drawing. All dimensions to be checked on site

Wall Legend

Below RF, External Cavity Wall:

- 12.5mm thick concrete on slab with slim finish
- 100mm thick fully filled with insulation
- 12.5mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork

Below RF, Cavity Wall:

- 12.5mm thick concrete on slab with slim finish
- 100mm stone core cavity
- 12.5mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 12.5mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork

Below RF, Separating Cavity Wall - Robust Detail, E03H-36:

- 12.5mm thick concrete on slab with slim finish
- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 12.5mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork

Above RF, Separating Cavity Wall - Robust Detail, E03H-36:

- 12.5mm thick concrete on slab with slim finish
- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 12.5mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork

Below RF, Cavity Wall with Slim Finish:

- 12.5mm thick concrete on slab with slim finish
- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 12.5mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork

Steeper Wall:

- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork

Load Bearing Internal Wall:

- 12.5mm thick concrete on slab with slim finish
- 100mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork
- 12.5mm thick 7.3mm³ Standard Normapla Aglite Ultra blockwork

First Floor
28dB R(w+Ctr) Glazing & 32dB D(n, e, w) Trickle or Wall Vent (to habitable rooms only)

BED 1 - 20 l/s
BED 2 - 20 l/s

BED 3 - 20 l/s
BED 4 - 20 l/s

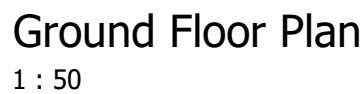
For detail system design refer to VENT AXIA.

Key

- Air Bricks
- Vent Air Lo-Carbon NBR dHVC with rigid ducts
- Rain Water Downpipe
- Electric Meter Box Location
- Movement Joint Locations - (Engineers drawings take precedence)
- ASPH Exchanger, (can be located a minimum 1m from plot boundary)
- Periscope Cavity Wall Vents
- Vent Air Lo-Carbon NBR dHVC with rigid ducts within floor void
- SVP & Direct to Drain Connections
- RC lintel over airbrick, adjacent to Nuegan corner joint
- Vent Air Lo-Carbon NBR dHVC with rigid ducts within roof to roof (vert)
- Incoming Water Entry Pipe
- Floor Span Direction (subject to sub-structure design drawings)
- 30 minute Integrity & 15 minutes Integrity Vertical Membrane Wall Cavity Barrier
- Structural Studwork, refer to engineers drawings and specification (Engineers drawings take precedence)
- Incoming Water
- Telecoms
- Electricity

[illegible]

-	Lifting Hazard	-	Risk of Falling	-	Risk of Collapse
-	Risk of Falling Object	-	Consideration for High Level Access	-	Risk of Explosion



Rev:	Date:	Drawn:	Checked:	Description:

Hollin Gate, Littleborough

GA Block Plans - Plot 13
Block 28

Location:
Hollingworth Road
Littleborough

Client:
Countryside Partnerships

HOLL-WBA-XX-XX-DR-A-20_2013 **P9**

Date: **Nov 22** Drawn: **MI** Checked: **DW** Scale: **8A0** Int Job No: **4046-001**

**WATSON BATTY
ARCHITECTS**

Shires House, Shires Road
Guisley, Leeds LS20 8EU
Leeds | Loughborough

T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com



Note: Do not Scale from this drawing. All dimensions to be checked on site.

[illegible]

Note: Do not Scale from this drawing. All dimensions to be checked on site

External Door Schedule (Block 14)						
Door Ref	Type Mark	STRUCTURAL		Door Panel - Colour	Required Clear Width	Comments
		Width	Height			
B14-ED01	EDT-04	1023	2110	Dark Grey		

Window Schedule (Block 14)

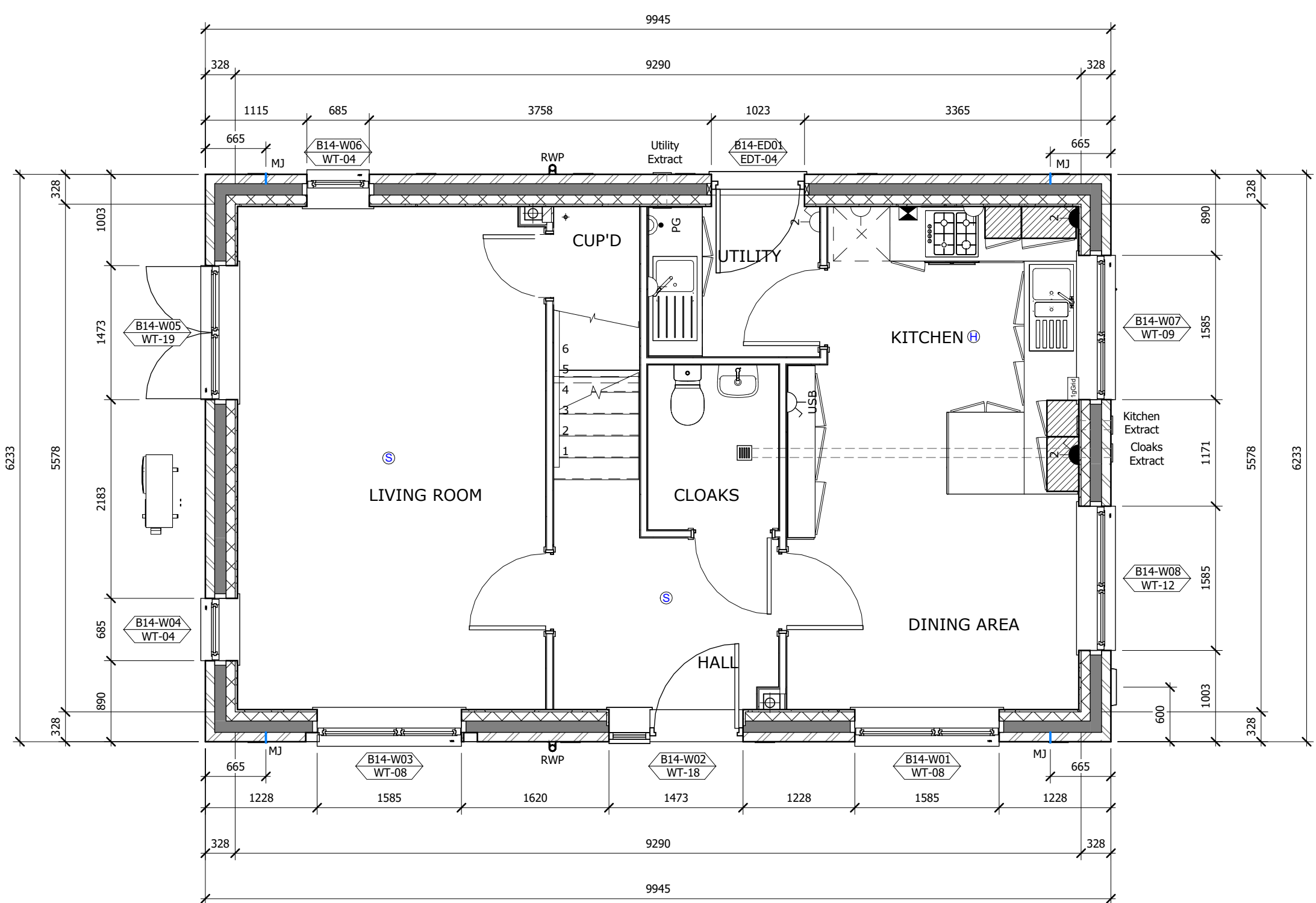
Unit	Threat	STRUCTURAL	Aggress	Safety	Obvious		Comments
	Threat	Weak	Incapac	Window	Glassing		
U1 - Ground Floor							
B1-A-W01	UT-08	1585	1550	No	Yes	No	
B1-A-W02	UT-18	1473	1110	No	Yes	No	
B1-A-W03	UT-08	1550	1510	No	Yes	No	
B1-A-W04	UT-08	1585	1550	No	Yes	No	
B1-A-W05	UT-19	1473	1110	No	Yes	No	
B1-A-W06	UT-08	1585	1550	No	Yes	No	
B1-A-W07	UT-09	1585	1560	No	No	No	
B1-A-W08	UT-12	1585	1550	No	No	No	
U1 - First Floor							
B1-A-W09	UT-02	685	1210	No	No	Yes	
B1-A-W10	UT-02	685	1210	No	No	Yes	
B1-A-W11	UT-02	685	1210	No	No	Yes	
B1-A-W12	UT-02	685	1210	No	No	No	
B1-A-W13	UT-02	685	1210	No	Yes	Yes	
B1-A-W14	UT-02	685	1210	No	No	No	
B1-A-W15	UT-02	685	1210	No	No	Yes	
B1-A-W16	UT-11	1585	1550	No	No	No	
B1-A-W17	UT-03	685	1360	Yes	No	No	
B1-A-W18	UT-03	685	1360	Yes	No	No	

Glazing and Trickle Vent Requirements

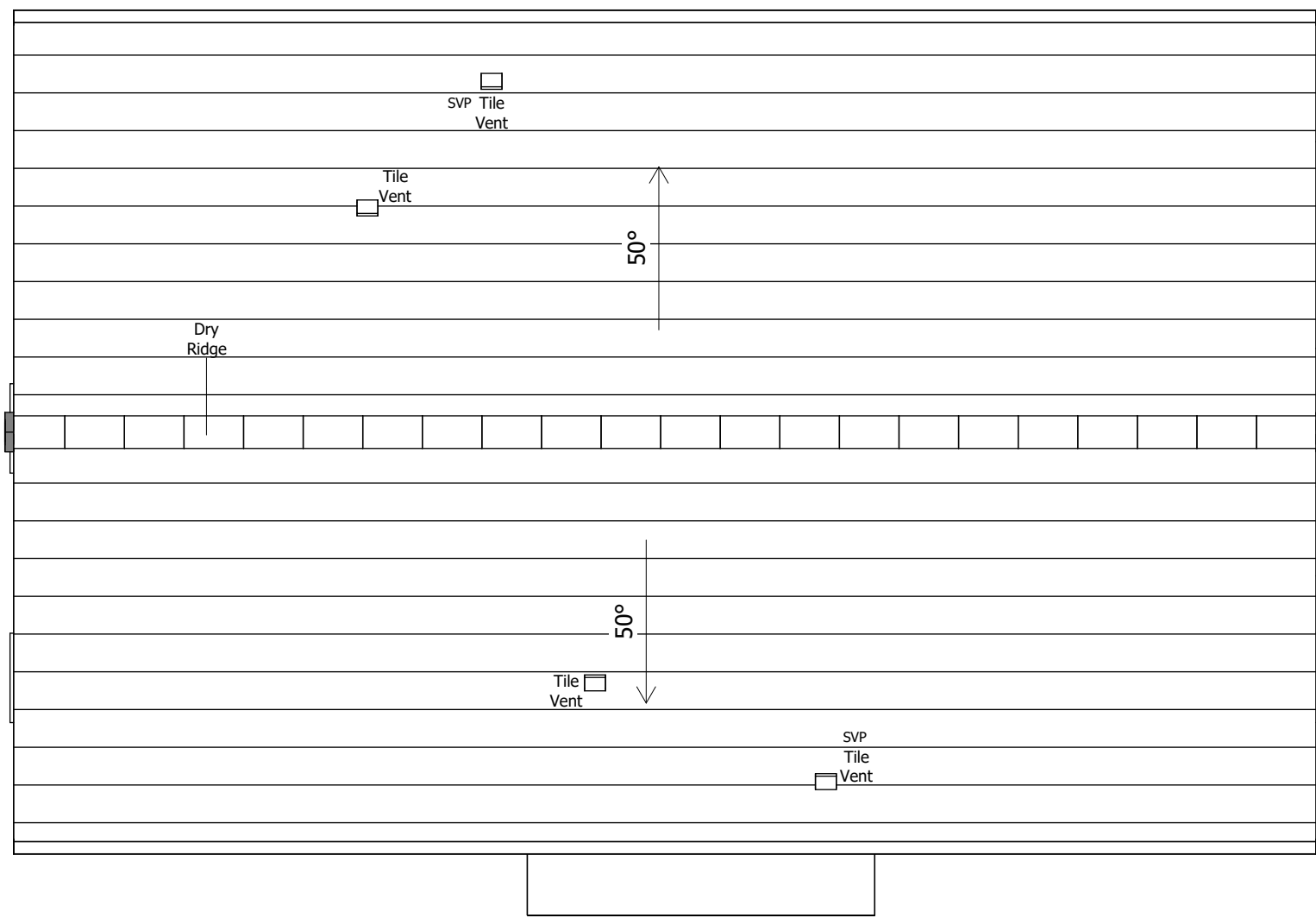
Ground Floor
28dB R(w+Ctr) Glazing & 32dB D(n, e, w) Trickle or Wall Vent (to habitable rooms only)

First Floor
28dB R(w+Ctr) Glazing & 32dB D(n, e, w) Trickle or Wall Vent (to habitable rooms only)

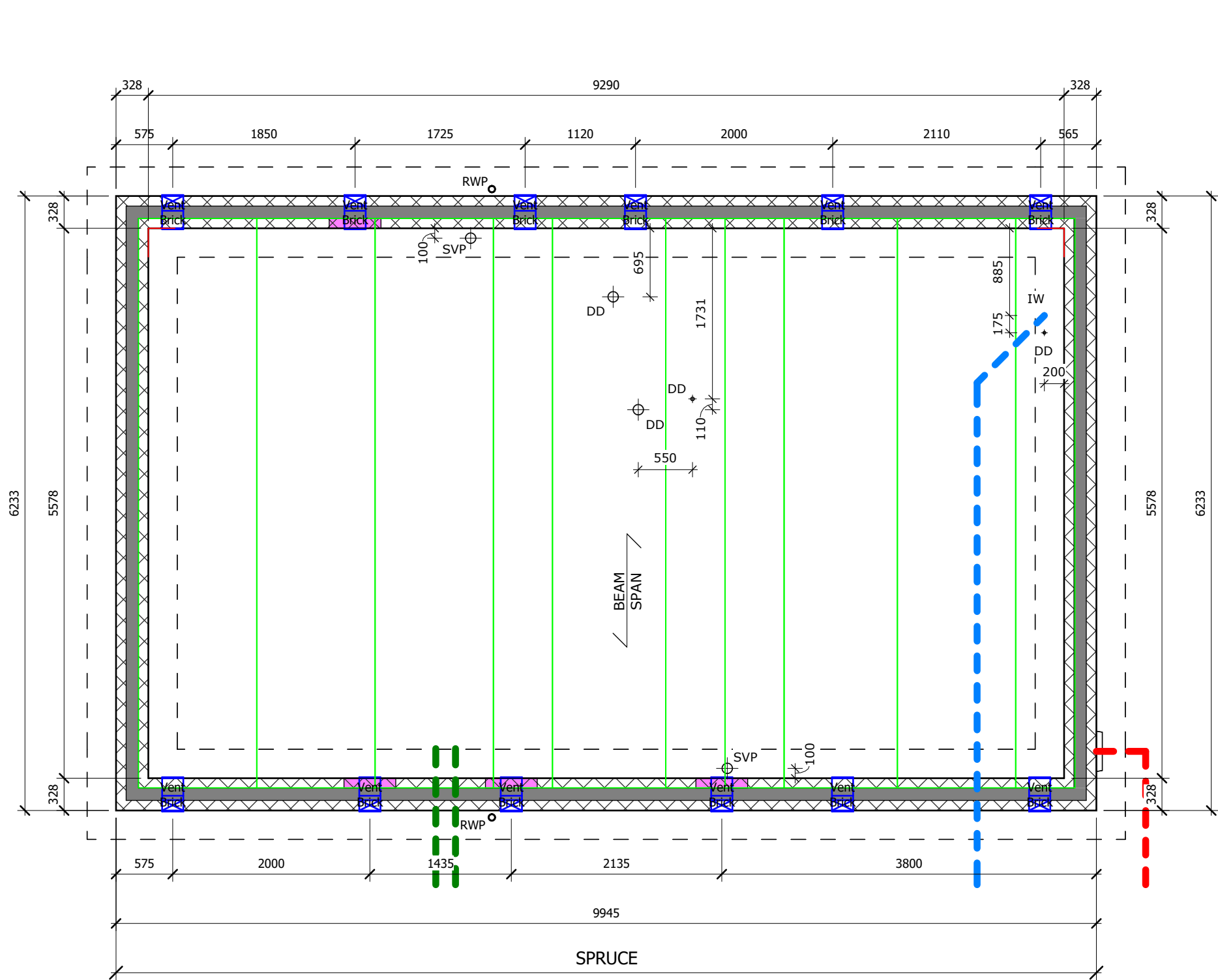
Plot Mechanical Ventilation Requirements - Vent Axia Cool Box System
BED 1 - 30 l/s
For detail system design refer to VENT AXIA.



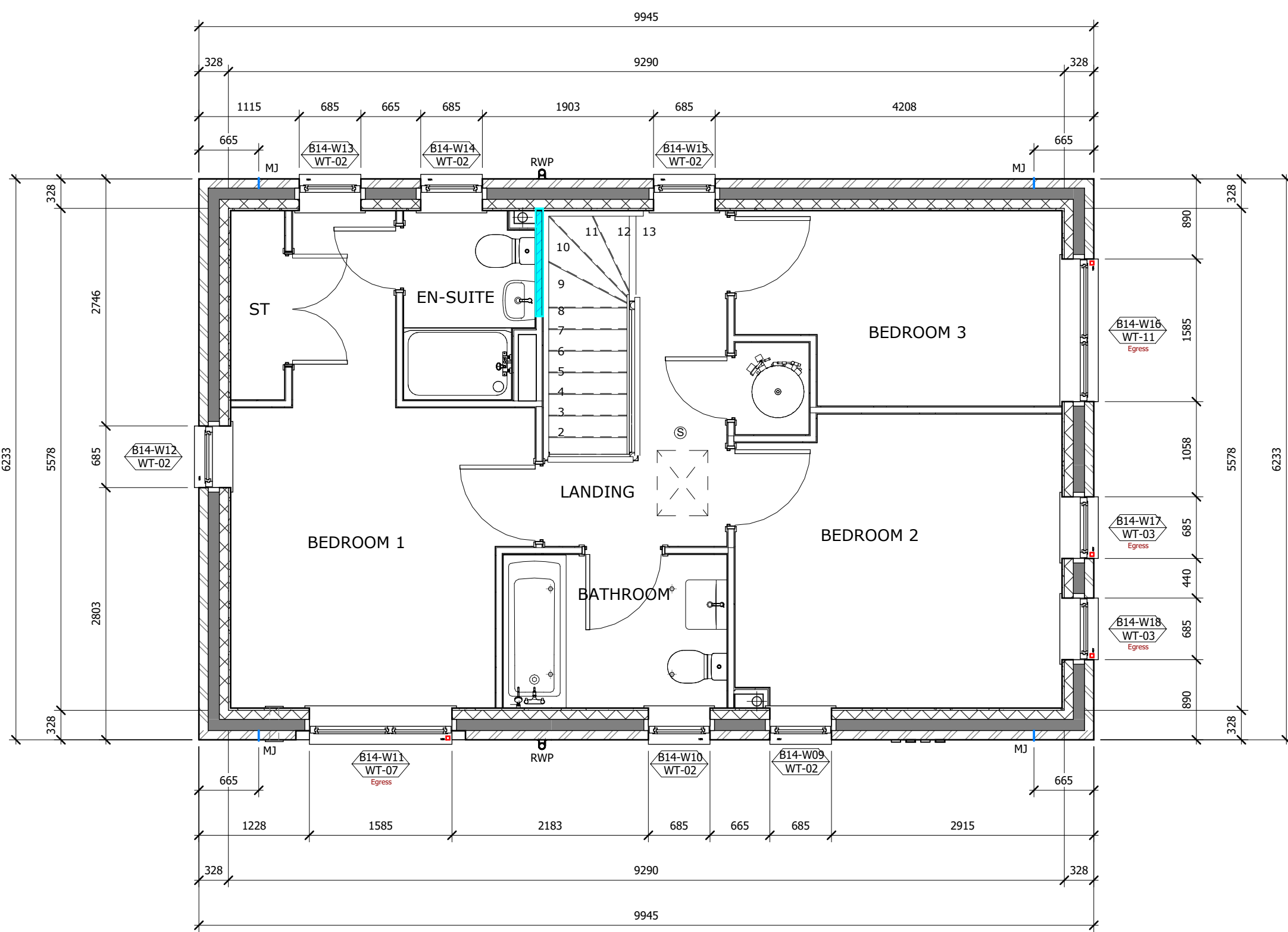
Ground Floor Plan
1 : 50



Roof Plan
1 : 50



Substructure Plan

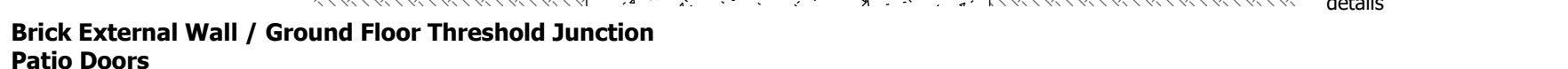
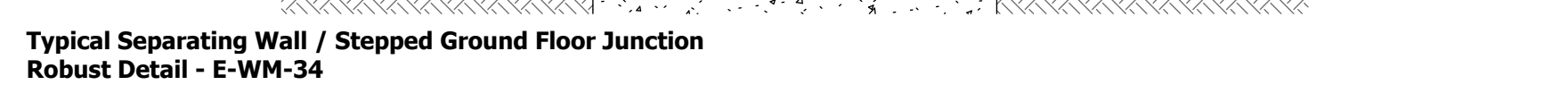


First Floor Plan
1 : 50

[illegible]

P5	14.06.24	DW	AH	Substructure updated
P5	23.04.24	DW	AH	Drawing coordinated with 3rd party and engineers' information.
P5	23.04.24	DW	IT	Well aware Civil Box System schedule
P2	10.12.23	KJ	AW	Well aware and up to date comments.
P2	10.12.23	KJ	DW	Well aware and up to date comments.
P1	02.06.23	NE	AW	These plans added to scheme. Additional information added to substructure plans.

New:	☐	Drawn:	☒	Description:	
S0 Work In Progress					
Hollin Gate, Littleborough					
GA Block Plans - Plot 43					
Block 14					
Location: Hollingworth Road Littleborough					
Client: Countryside Properties					
Reference: HOLL-WBA-XX-XX-DR-A-20_2038					
Rev: Nov 22	Drawn: DM	Checked: DM	Scale: 1:50	Issued On: 4046-001	P6
WATSON BATTY ARCHITECTS Shires House, Shires Road Gusleyfield, Leeds LS20 8EU Leeds Loughborough					
T: 01943 876 665 E: enquiries@watsonbatty.com W: www.watsonbatty.com					



DPC & Cavity Tray Requirements

Flexible (plastic or rubber) DPC used as a cavity tray must meet the requirements of BS EN 14909 and have a third-party certification that confirms their suitability for use as a cavity tray.

Order:	Date:	Drawn:	Checked:	Description:
Stability:				
S0	Work In Progress			

Assembly Details - Brick - Sheet 1

Location:
Hollingworth Road
Littleborough

UPRN	Originator	Zone	Level	Type	Role	Series/Number	Revision:
HOLL-WBA-XX-XX-DR-A-20_9001							P5
Date:	Drawn:	Checked:	Scale:	Int Job No:			
May 23	WMB	RJ	As indicated	4046-001			

Shires House, Shires Road
Thirsk, Leeds LS20 8EU
Leeds | Loughborough

T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com



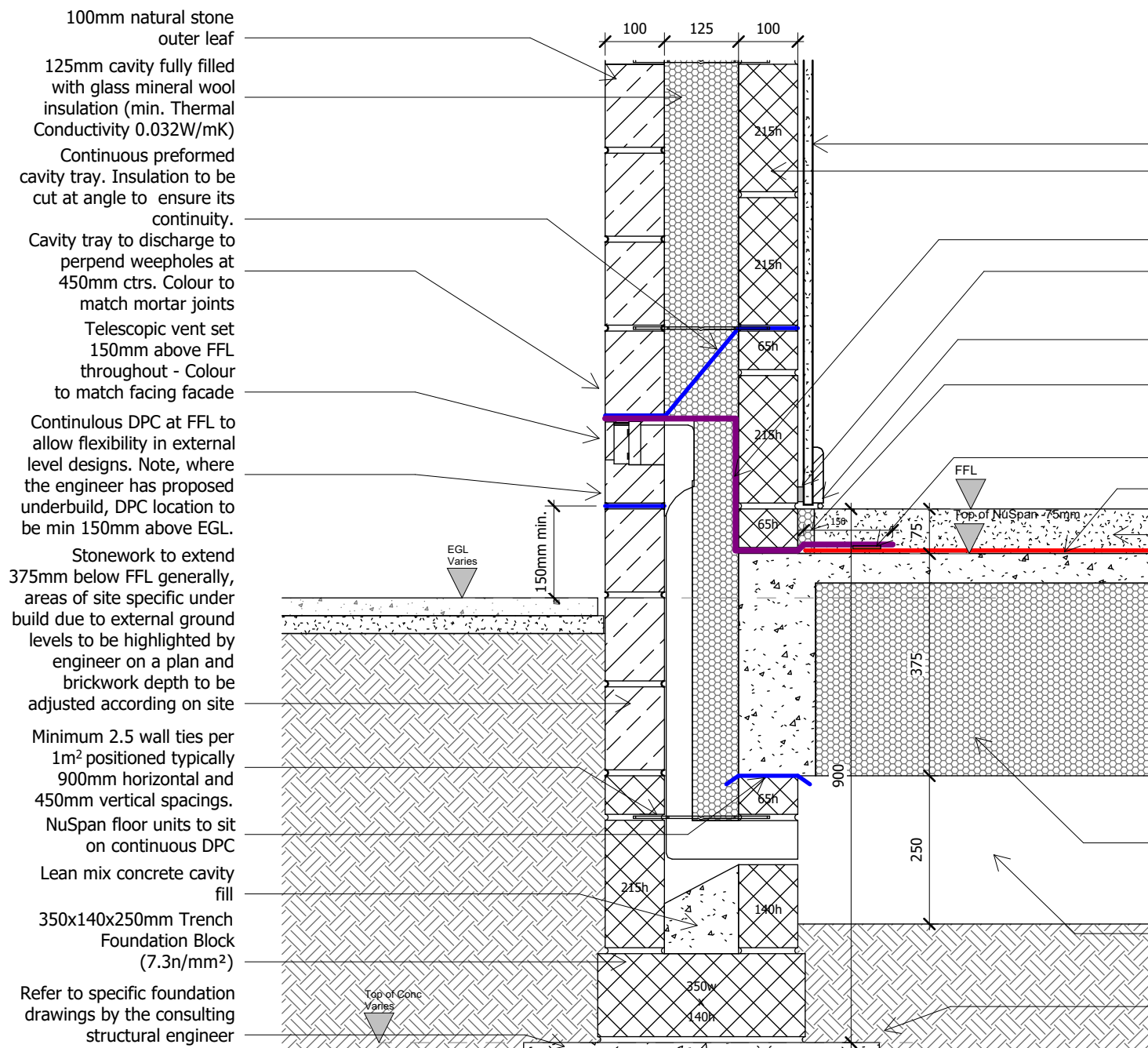
FUTURE BUILT



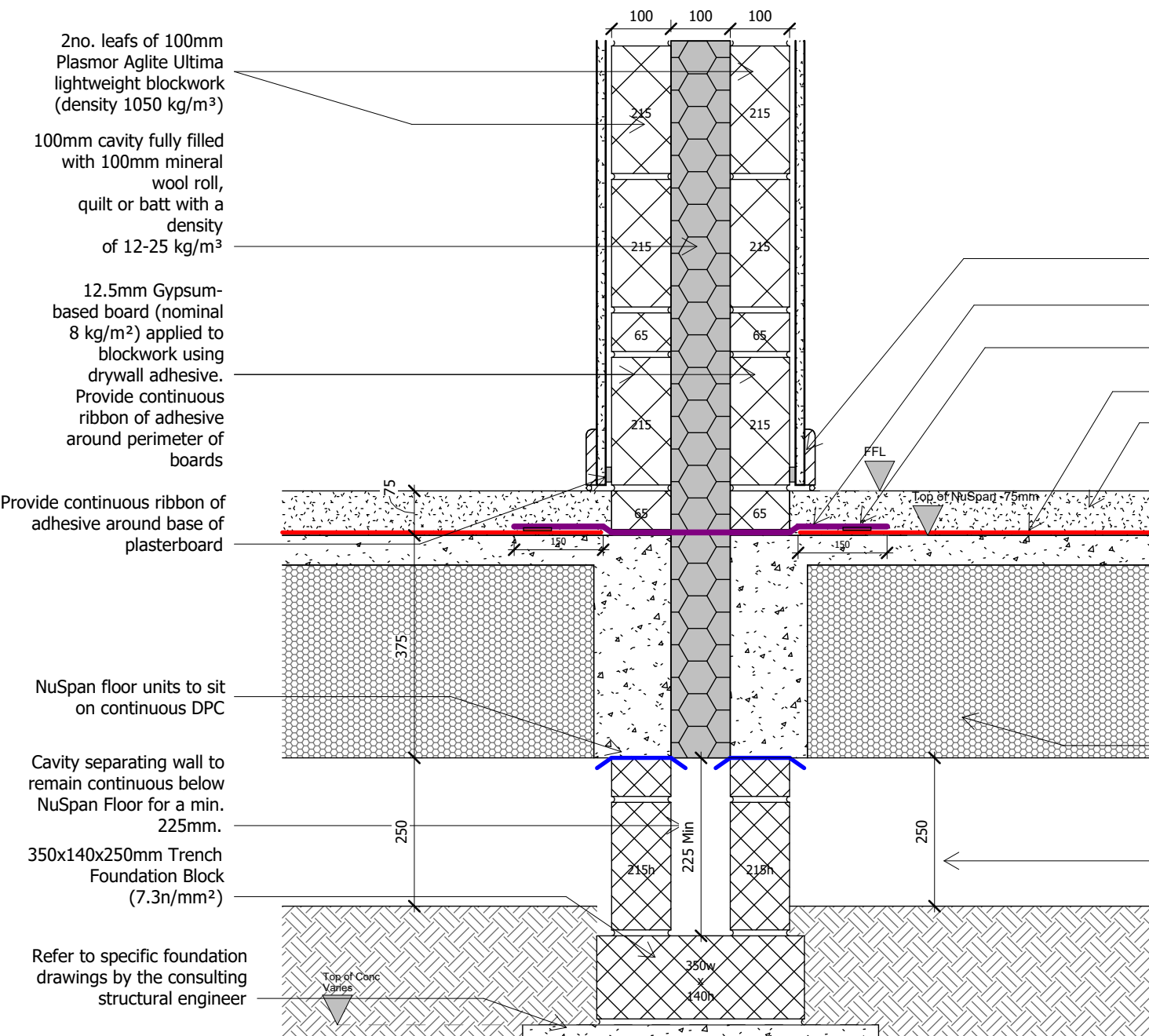
Separating Wall / Ground Floor Junction Robust Detail E-WM-34



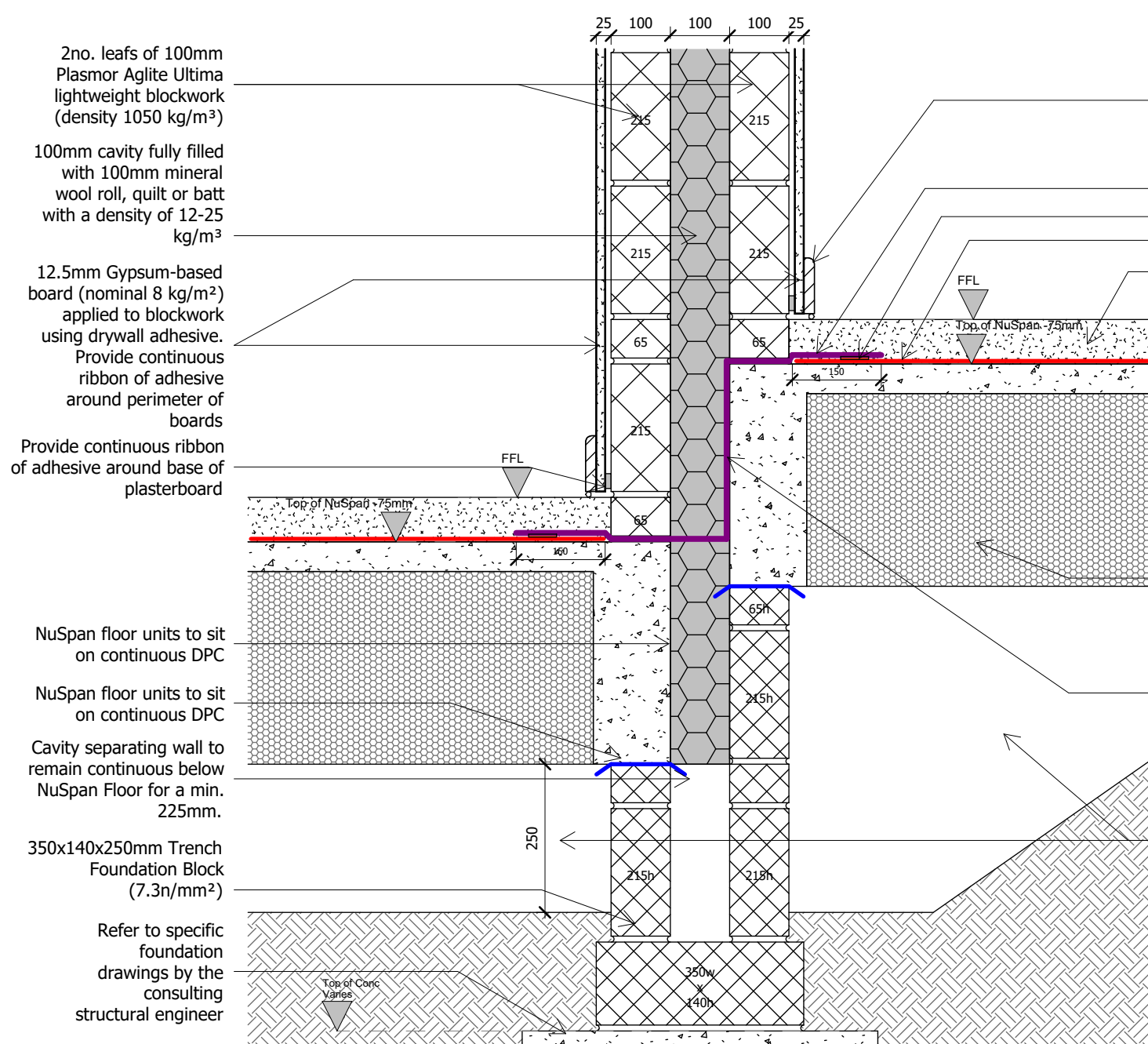
Note: Do not Scale from this drawing. All dimensions to be checked on site



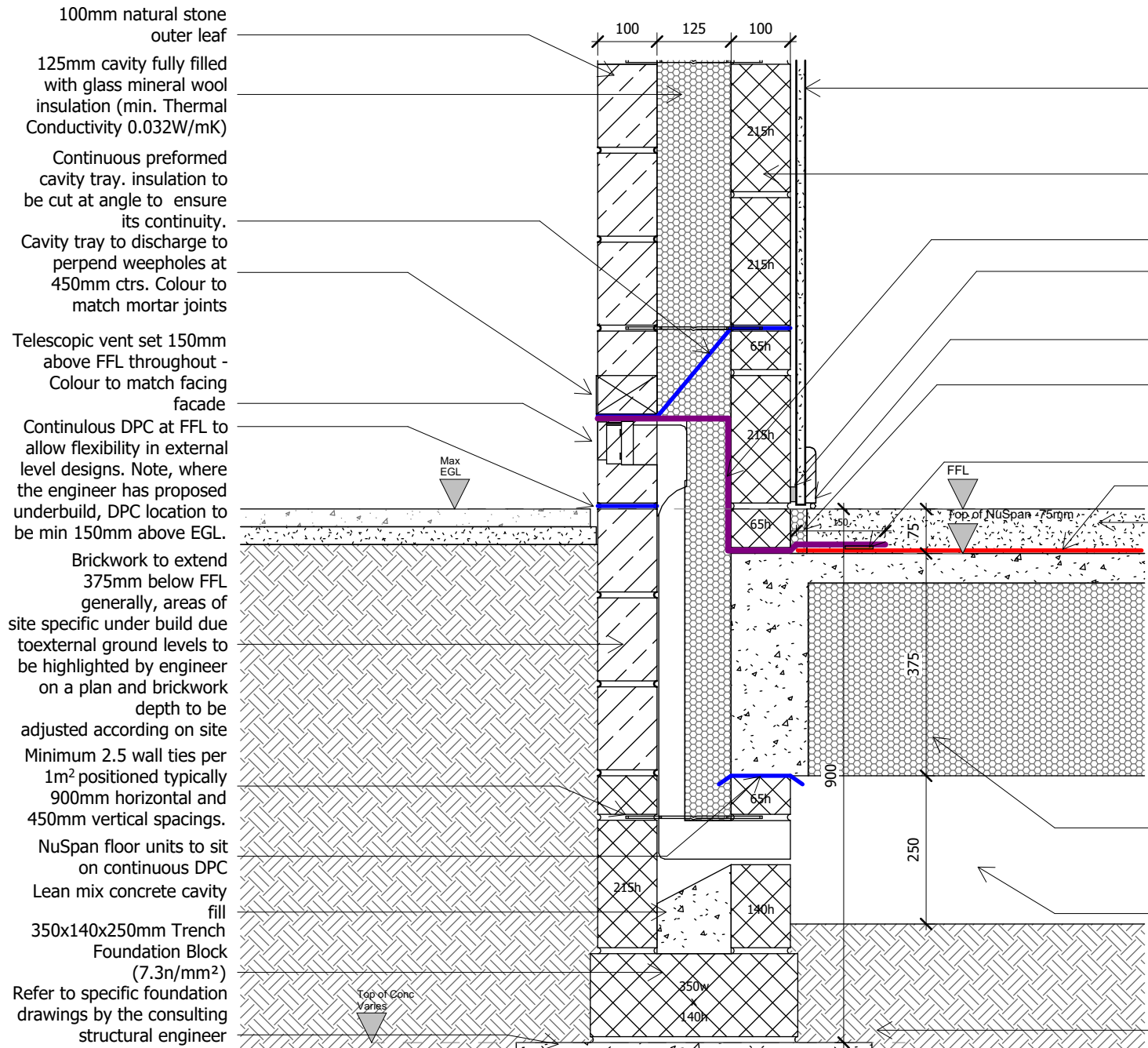
Stone External Wall / Ground Floor Junction
External Ground Level -150



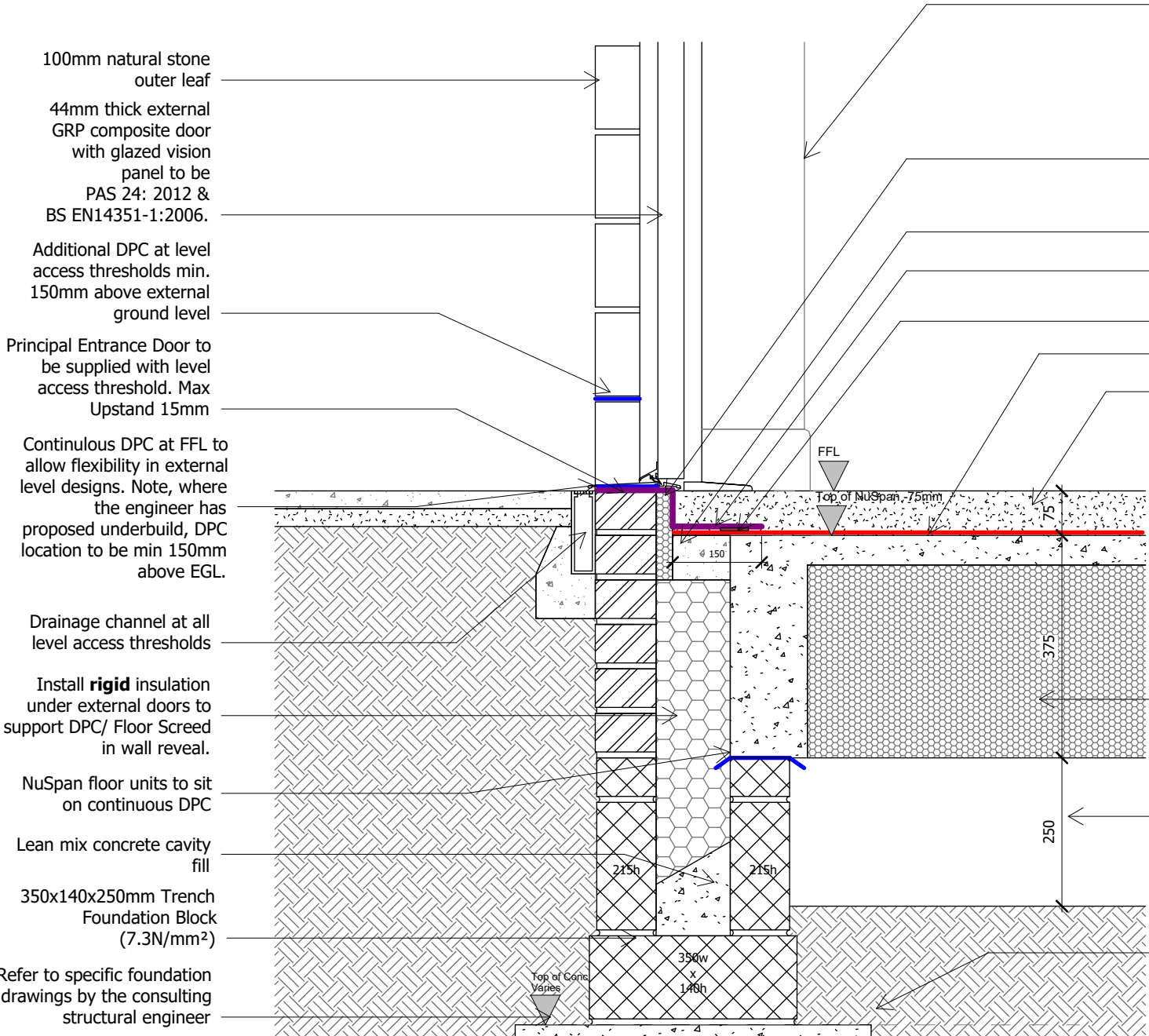
Separating Wall / Ground Floor Junction
Robust Detail E-WM-34



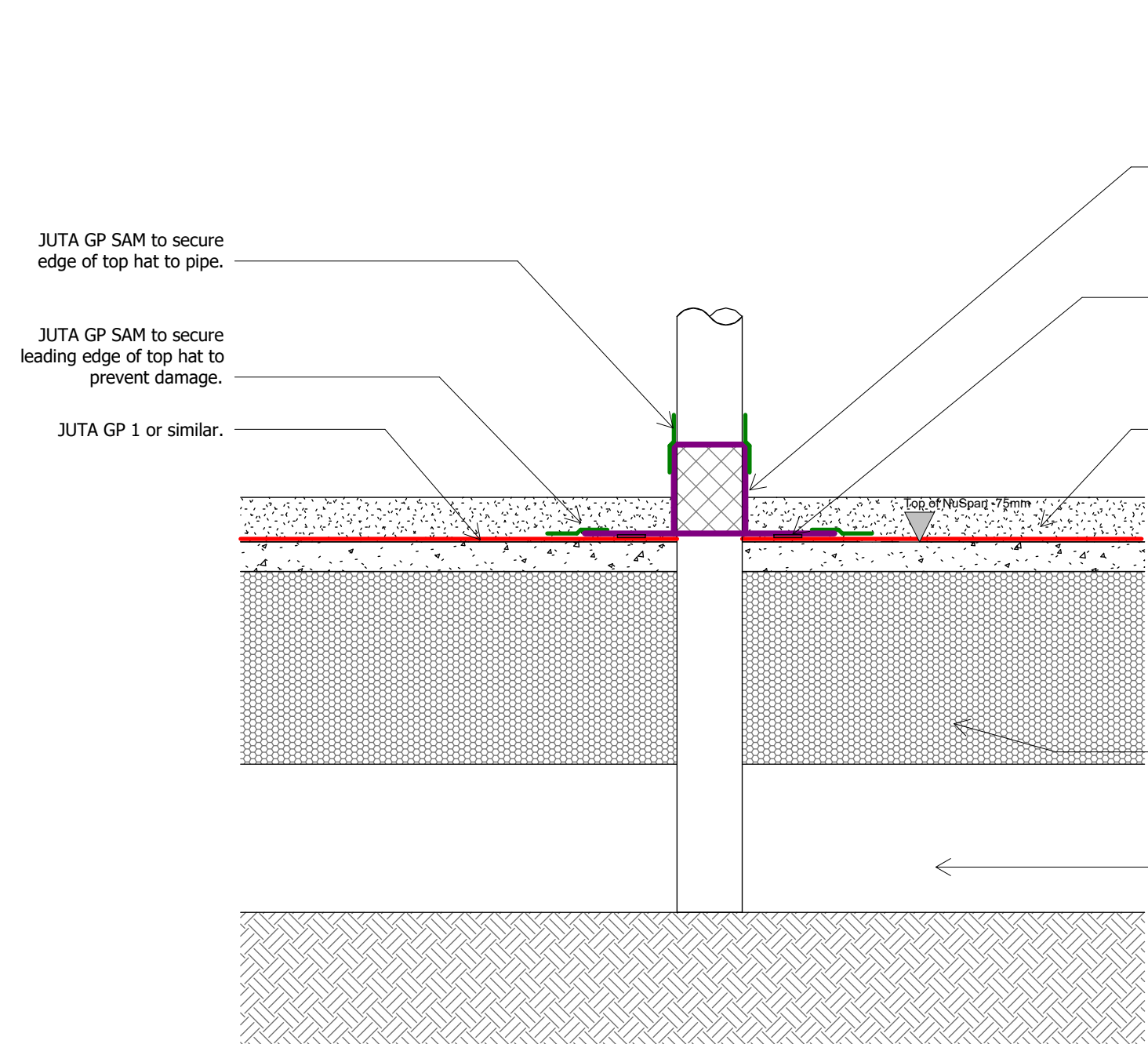
Typical Separating Wall / Stepped Ground Floor Junction
Robust Detail - E-WM-34



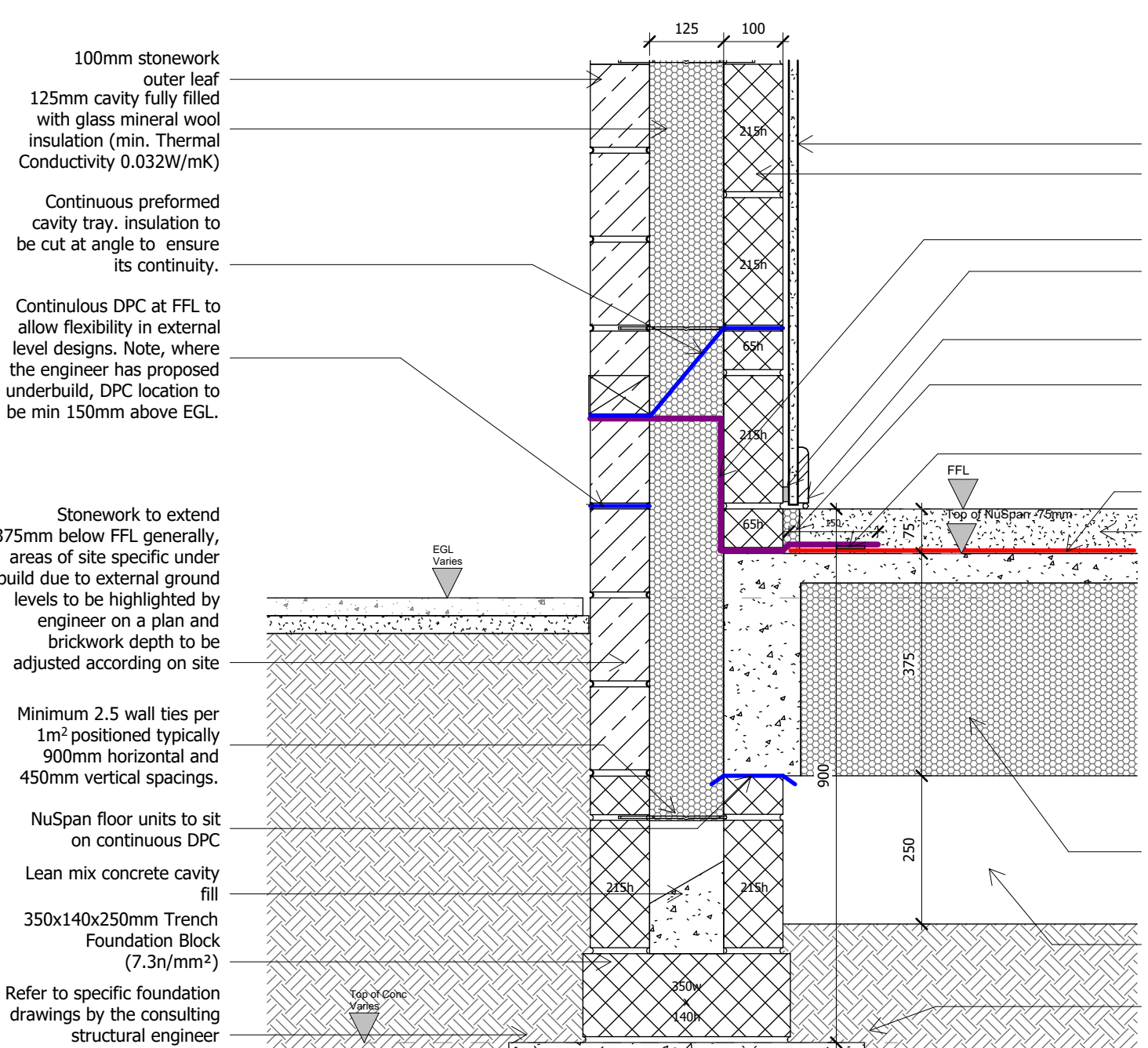
Stone External Wall / Ground Floor Junction
Max External Ground Level



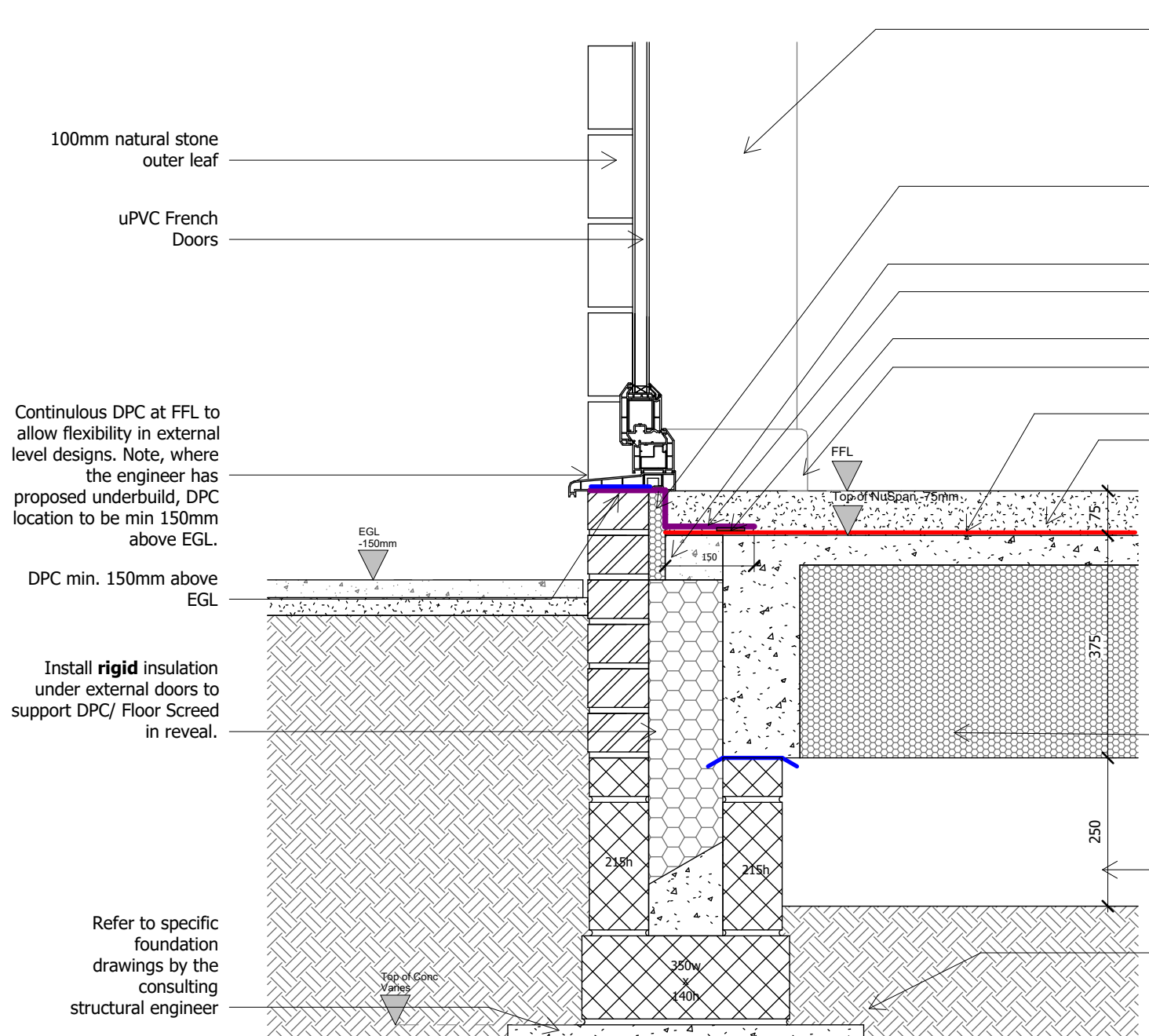
Brick External Wall / Ground Floor Threshold Junction
Level Access Principle Entrance Doors



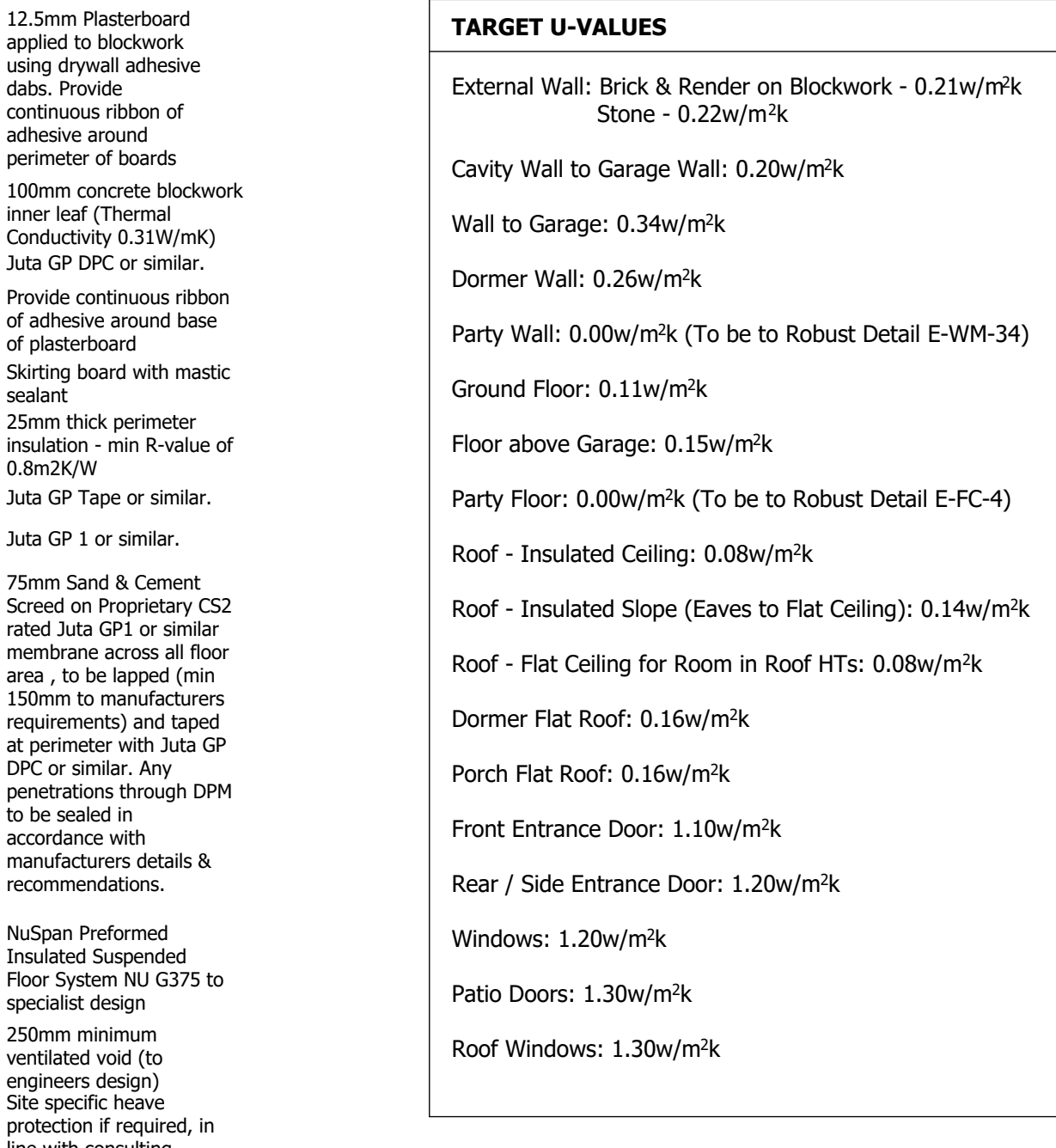
Service Penetration Ground Floor



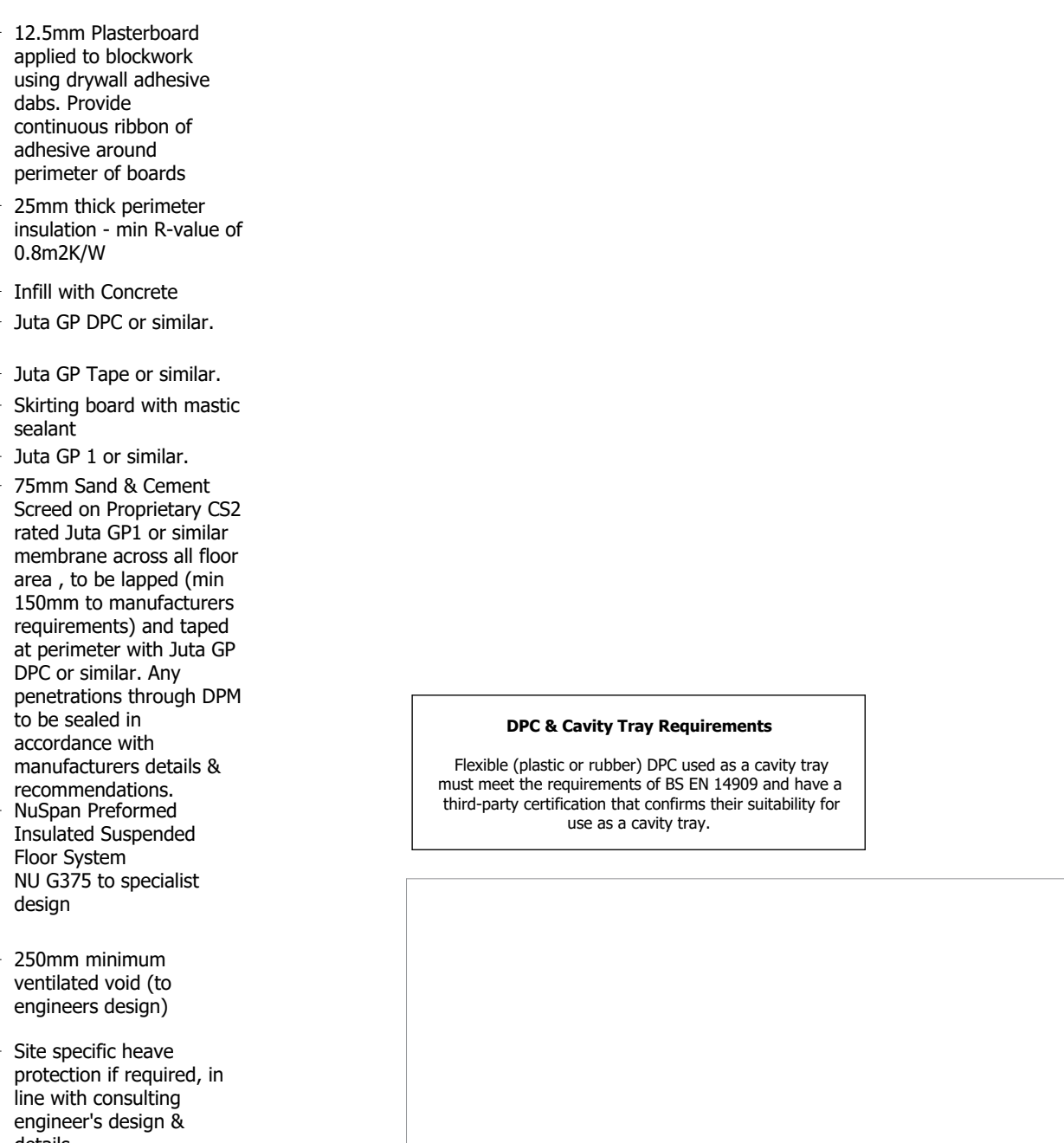
Stone External Wall / Ground Floor Junction
External Ground Level -150



Brick External Wall / Ground Floor Threshold Junction
Patio Doors



Stone External Wall / Ground Floor Junction
External Ground Level -150



Brick External Wall / Ground Floor Threshold Junction
Patio Doors

TARGET U-VALUES
External Wall: Brick & Render on Blockwork - 0.21w/m²k Stone - 0.22w/m²k
Cavity Wall to Garage Wall: 0.20w/m²k
Wall to Garage: 0.34w/m²k
Dormer Wall: 0.26w/m²k
Party Wall: 0.00w/m²k (To be to Robust Detail E-WM-34)
Ground Floor: 0.11w/m²k
Floor above Garage: 0.15w/m²k
Party Floor: 0.00w/m²k (To be to Robust Detail E-FC-4)
Roof - Insulated Ceiling: 0.08w/m²k
Roof - Insulated Slope (Eaves to Flat Ceiling): 0.14w/m²k
Roof - Flat Ceiling for Room in Roof HTs: 0.08w/m²k
Dormer Flat Roof: 0.16w/m²k
Porch Flat Roof: 0.16w/m²k
Front Entrance Door: 1.10w/m²k
Rear / Side Entrance Door: 1.20w/m²k
Windows: 1.20w/m²k
Patio Doors: 1.30w/m²k
Roof Windows: 1.30w/m²k

DPC & Cavity Tray Requirements
Flexible (plastic or rubber) DPC used as a cavity tray must meet the requirements of BS EN 14989 and have a third-party certification that confirms their suitability for use as a cavity tray.

P4	13.06.24	DW	AH	Updated membrane ref.
P3	17.11.23	DW	AH	Revised following client comments
P2	08.11.23	DW	AH	TOC-FFL updated to 900mm
P1	09.10.23	DW	AH	Revised following client comments

Rev:	Date:	Drawn:	Checked:	Description:
S0				Work In Progress

Hollin Gate, Littleborough

Assembly Details - Stone - Sheet 1

Location:
Hollingworth Road
Littleborough

Client:
Countryside Partnerships

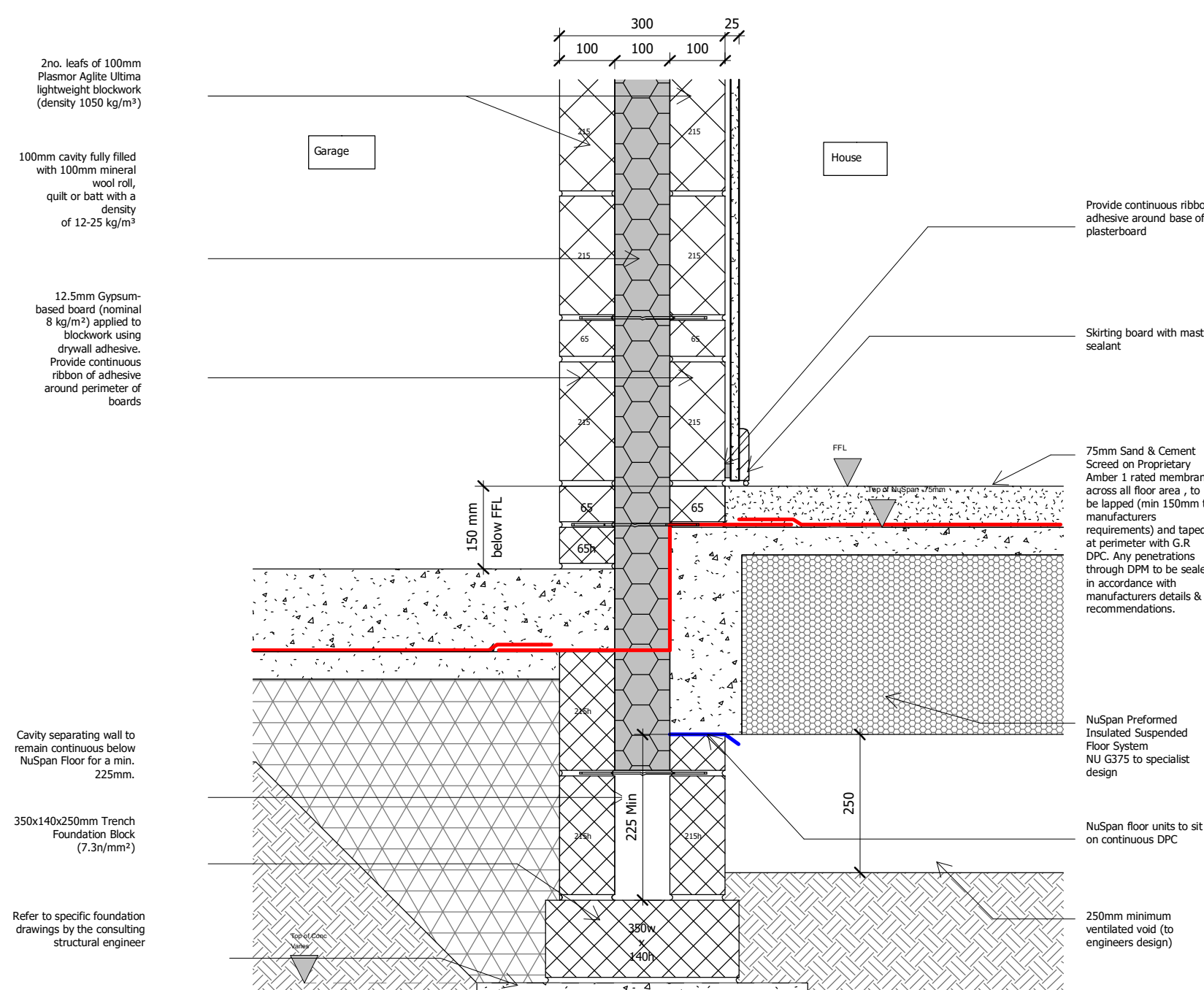
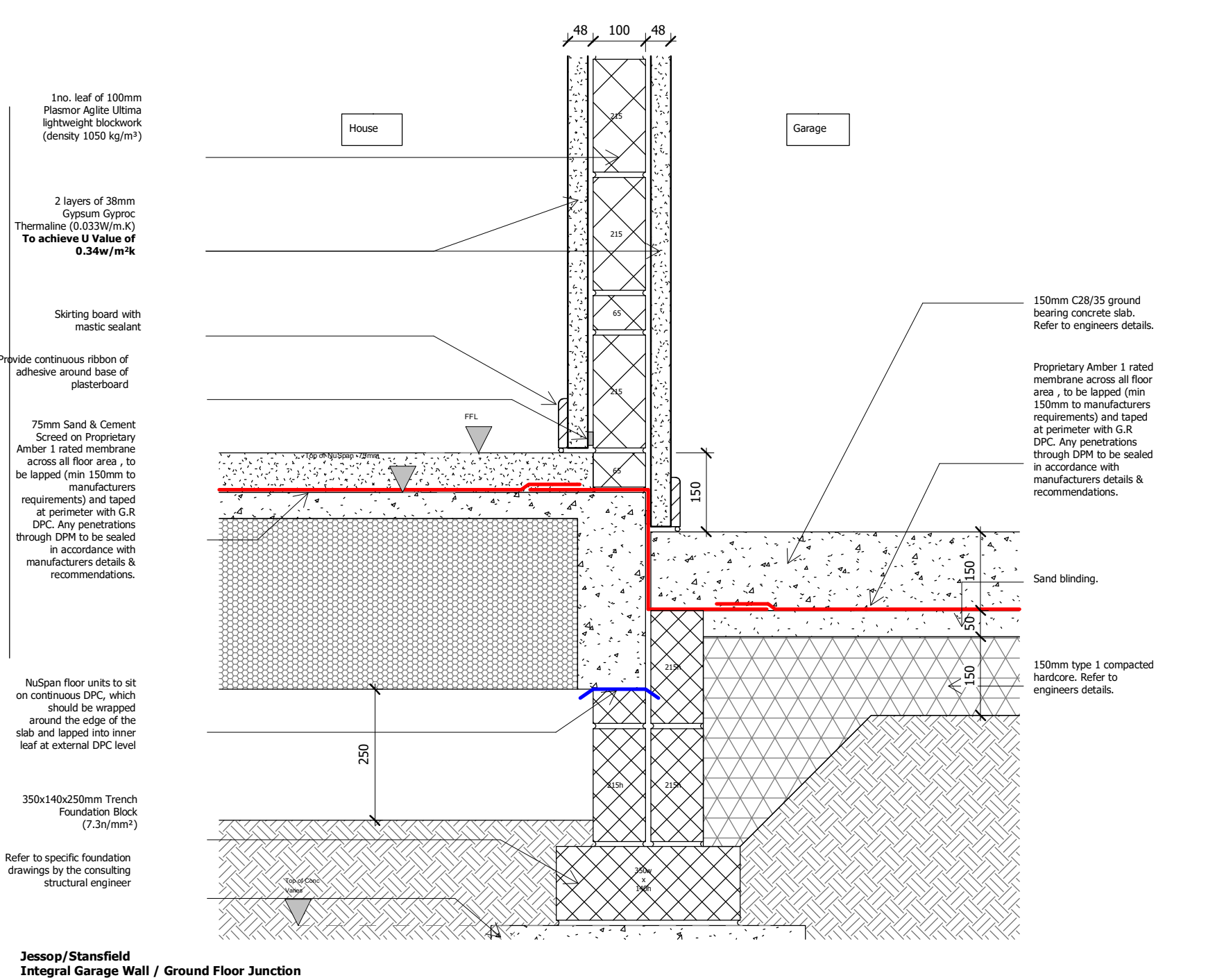
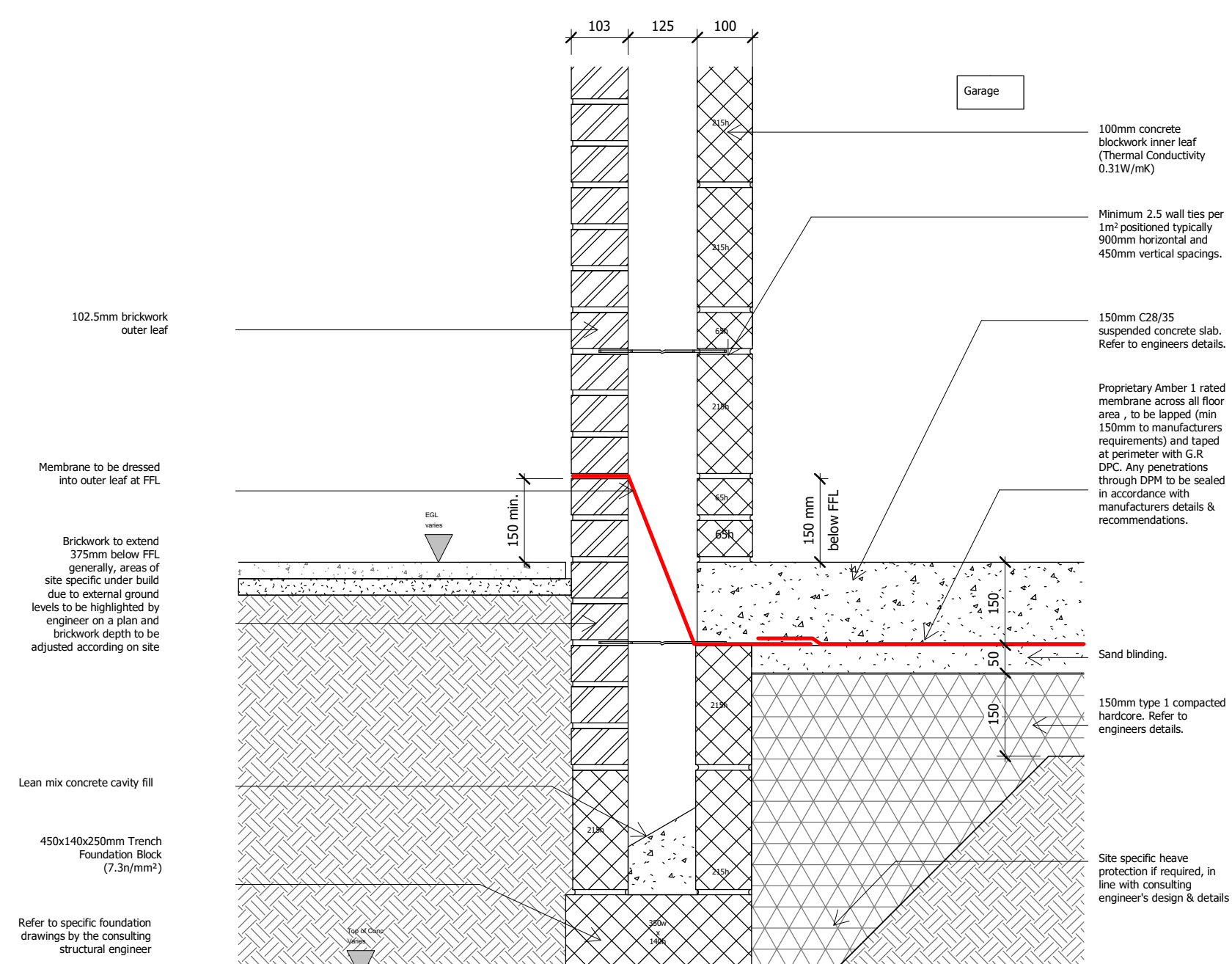
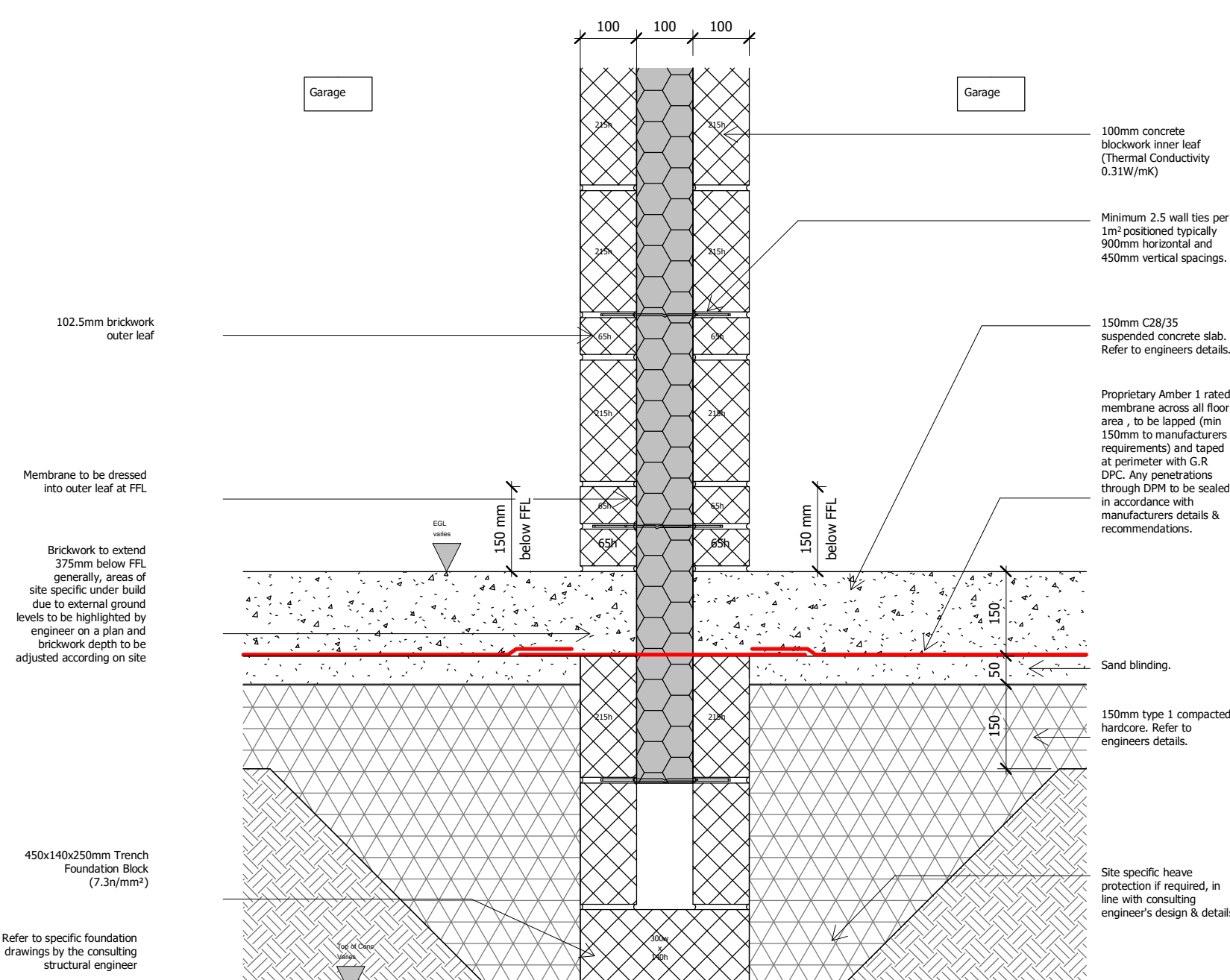
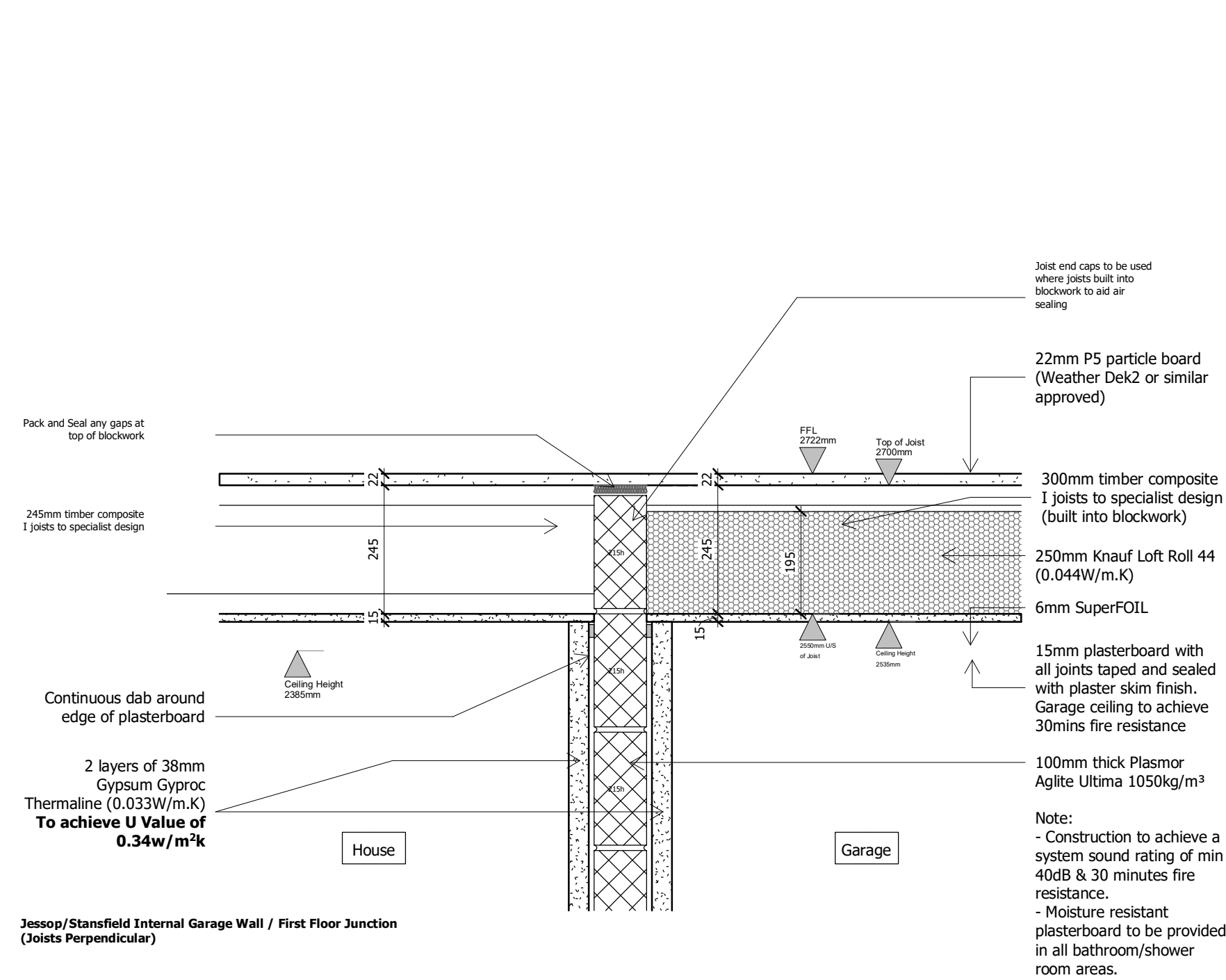
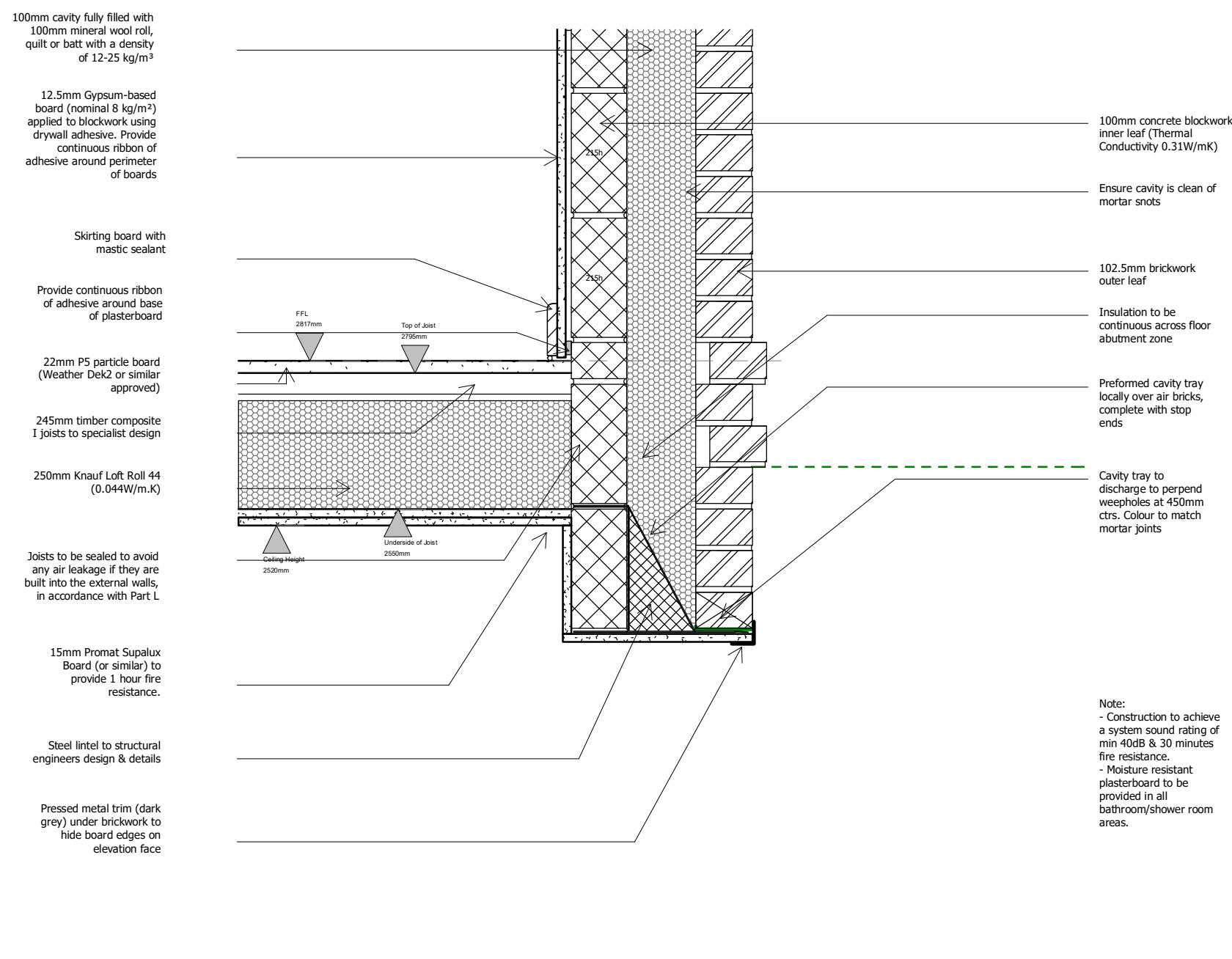
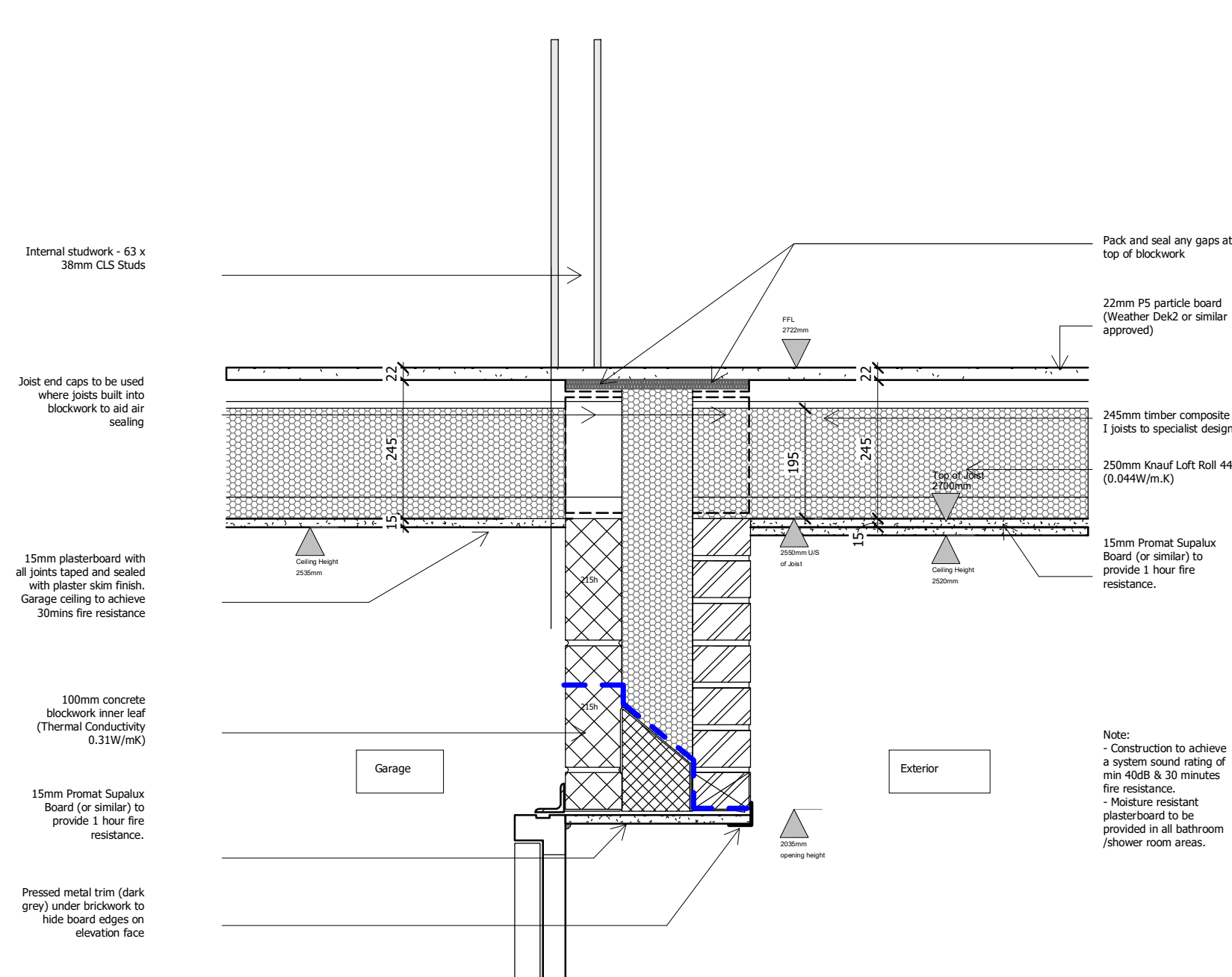
UPRN	Originator	Zone	Level	Type	Rate	Series/Number	Revision:
HOLL-WBA-XX-XX-DR-A-20_9101							P4
Date:	Drawn:	Checked:	Scale:	Int Job No:			
May 23	WMB	RJ	As indicated	4046-001			

WATSON BATTY
ARCHITECTS

Shires House, Shires Road
Guiseley, Leeds LS20 8EU
Leeds | Loughborough
T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com

FUTURE BUILT

Note: Do not Scale from this drawing. All dimensions to be checked on site



TARGET U-VALUES

External Wall: Brick & Render on Blockwork -	0.21w/m ² k
Stone -	0.22w/m ² k
Cavity Wall to Garage Wall:	0.20w/m ² k
Wall to Garage:	0.34w/m ² k
Dormer Wall:	0.26w/m ² k
Party Wall:	0.00w/m ² k (To be to Robust Detail E-WM-34)
Ground Floor:	0.11w/m ² k
Floor above Garage:	0.15w/m ² k
Party Floor:	0.00w/m ² k (To be to Robust Detail E-FC-4)
Roof - Insulated Ceiling:	0.08w/m ² k
Roof - Insulated Slope (Eaves to Flat Ceiling):	0.14w/m ² k
Roof - Flat Ceiling for Room in Roof HTs:	0.08w/m ² k
Dormer Flat Roof:	0.16w/m ² k
Porch Flat Roof:	0.16w/m ² k
Front Entrance Door:	1.10w/m ² k
Rear / Side Entrance Door:	1.20w/m ² k
Windows:	1.20w/m ² k
Patio Doors:	1.30w/m ² k
Roof Windows:	1.30w/m ² k

DPC & Cavity Tray Requirements

Flexible (plastic or rubber) DPC used as a cavity tray must meet the requirements of BS EN 14909 and have a third-party certification that confirms their suitability for use as a cavity tray.

17.11.23 DW AH Initial issue.

Date:	Drawn:	Checked:	Description:
17.11.23	DW	AH	Initial issue.

ollin Gate, Littleborough

Feature Assembly Details - Sheet 1

Location:
Collingworth Road
Littleborough

ent:
ountryside Partnership

UPRN	Originator	Zone	Level	Type	Role	Series/Number	Revision:
OLL-WBA-XX-XX-DR-A-20_9201							P1
Date:	Drawn:	Checked:	Scale: @A1		Int Job No:		
02/28/23	WMB	RJ	As indicated		4046-001		

NATSON BATTY
ARCHITECTS

Shires House, Shires Road
Hawthorncliffe, Leeds LS20 8EU
Leeds | Loughborough

T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com

FUTURE BUILT

Note: Do not Scale from this drawing. All dimensions to be checked on site



TARGET U-VALUES

External Wall: Brick & Render on Blockwork : 0.21w/m ² k Stone : 0.22w/m ² k
Cavity Wall to Garage Wall: 0.20w/m ² k
Wall to Garage: 0.34w/m ² k
Dormer Wall: 0.26w/m ² k
Party Wall: 0.00w/m ² k (To be to Robust Detail E-WM-34)
Ground Floor: 0.11w/m ² k
Floor above Garage: 0.15w/m ² k
Party Floor: 0.00w/m ² k (To be to Robust Detail E-FC-4)
Roof - Insulated Ceiling: 0.08w/m ² k
Roof - Insulated Slope (Eaves to Flat Ceiling): 0.14w/m ² k
Roof - Flat Ceiling for Room in Roof HTs: 0.08w/m ² k
Dormer Flat Roof: 0.16w/m ² k
Porch Flat Roof: 0.16w/m ² k
Front Entrance Door: 1.10w/m ² k
Rear / Side Entrance Door: 1.20w/m ² k
Windows: 1.20w/m ² k
Patio Doors: 1.30w/m ² k
Roof Windows: 1.30w/m ² k

DPC & Cavity Tray Requirements

Flexible (plastic or rubber) DPC used as a cavity tray must meet the requirements of BS EN 14909 and have a third-party certification that confirms their suitability for use as a cavity tray.

13.06.24	DW	AH	Updated membrane ref.
07.06.24	DW	AH	Initial Issue.

Date:	Drawn:	Checked:	Description:
ability:	S0 Work In Progress		

Hollin Gate, Littleborough

Feature Assembly Details - Sheet 7

Location: **Collingworth Road
Littleborough**

Client: **Countryside Partnerships**

URN	Originator	Zone	Level	Type	Role	Series/Number	Revision
HOLL-WBA-XX-XX-DR-A-20_9207							P2
Date:	Drawn:		Checked:		Scale: @A1		Int. Job No:
jun 24	DW		RJ		As indicated		4046-001

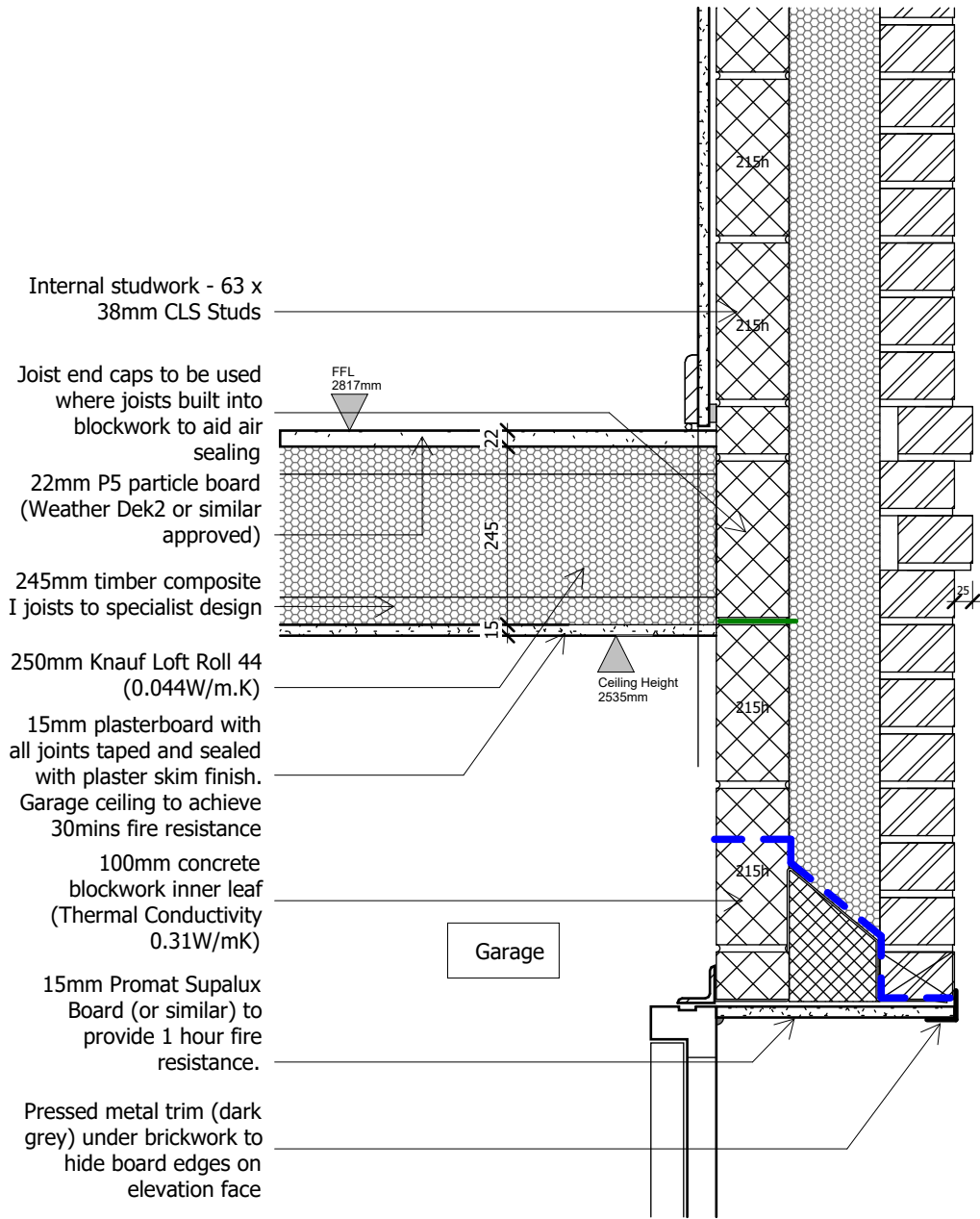
WATSON BATTY
4RCHITECTS

Shires House, Shires Road
Knaresborough, Leeds LS20 8EU
Leeds • Loughborough

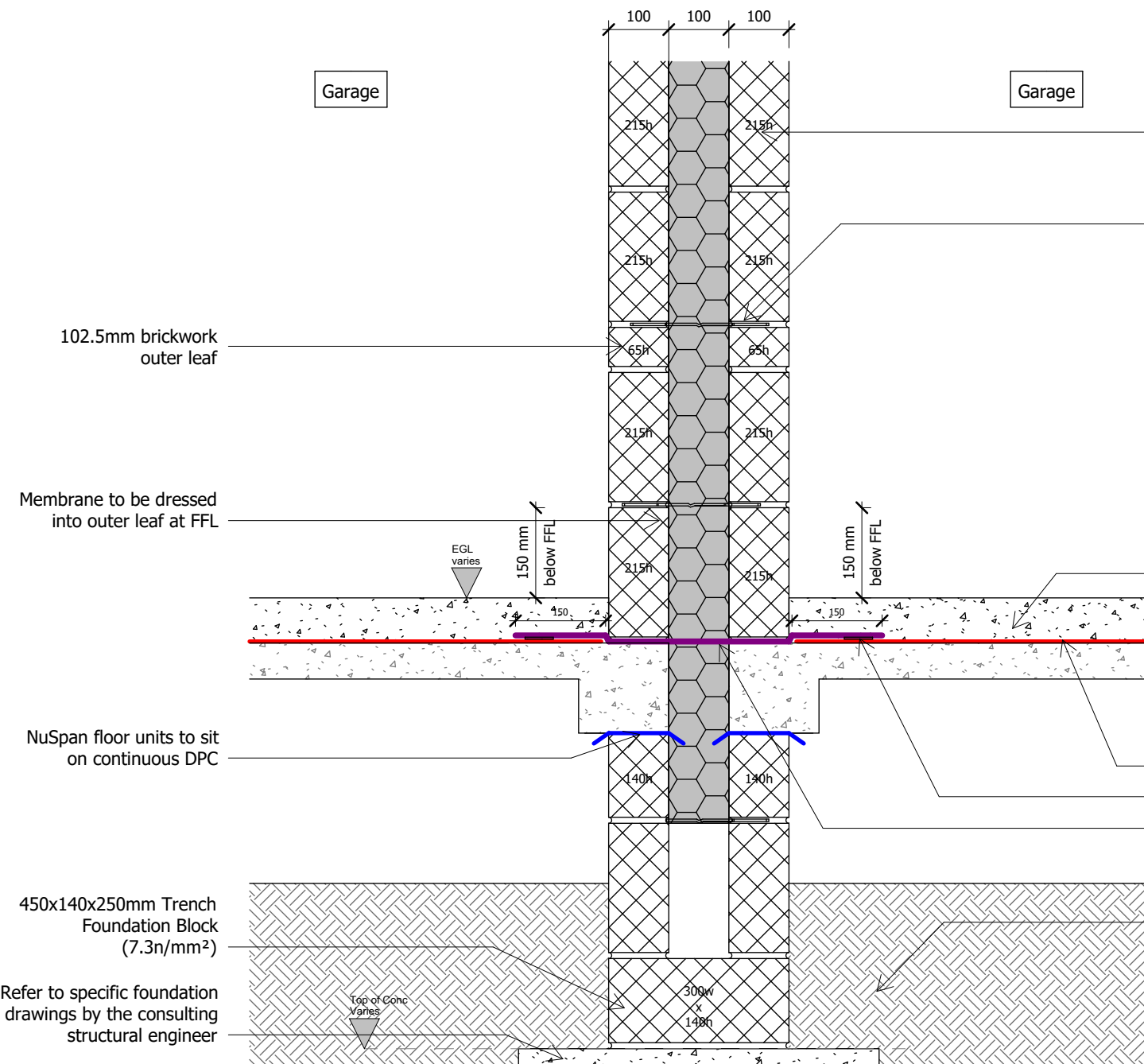
T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com



FUTURE BUILT

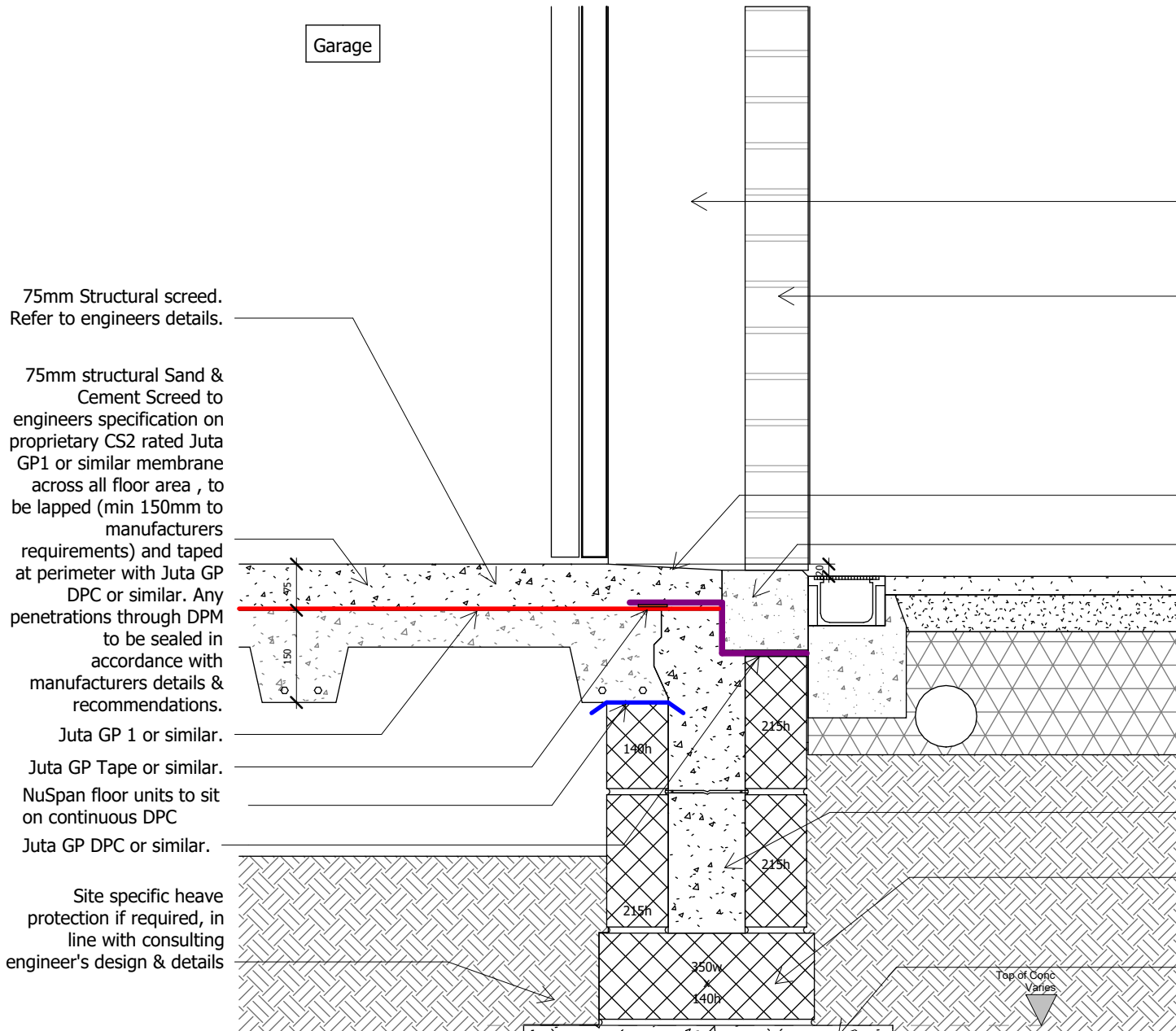


Stansfield Garage Wall / First Floor Junction
(Joists Perpendicular)

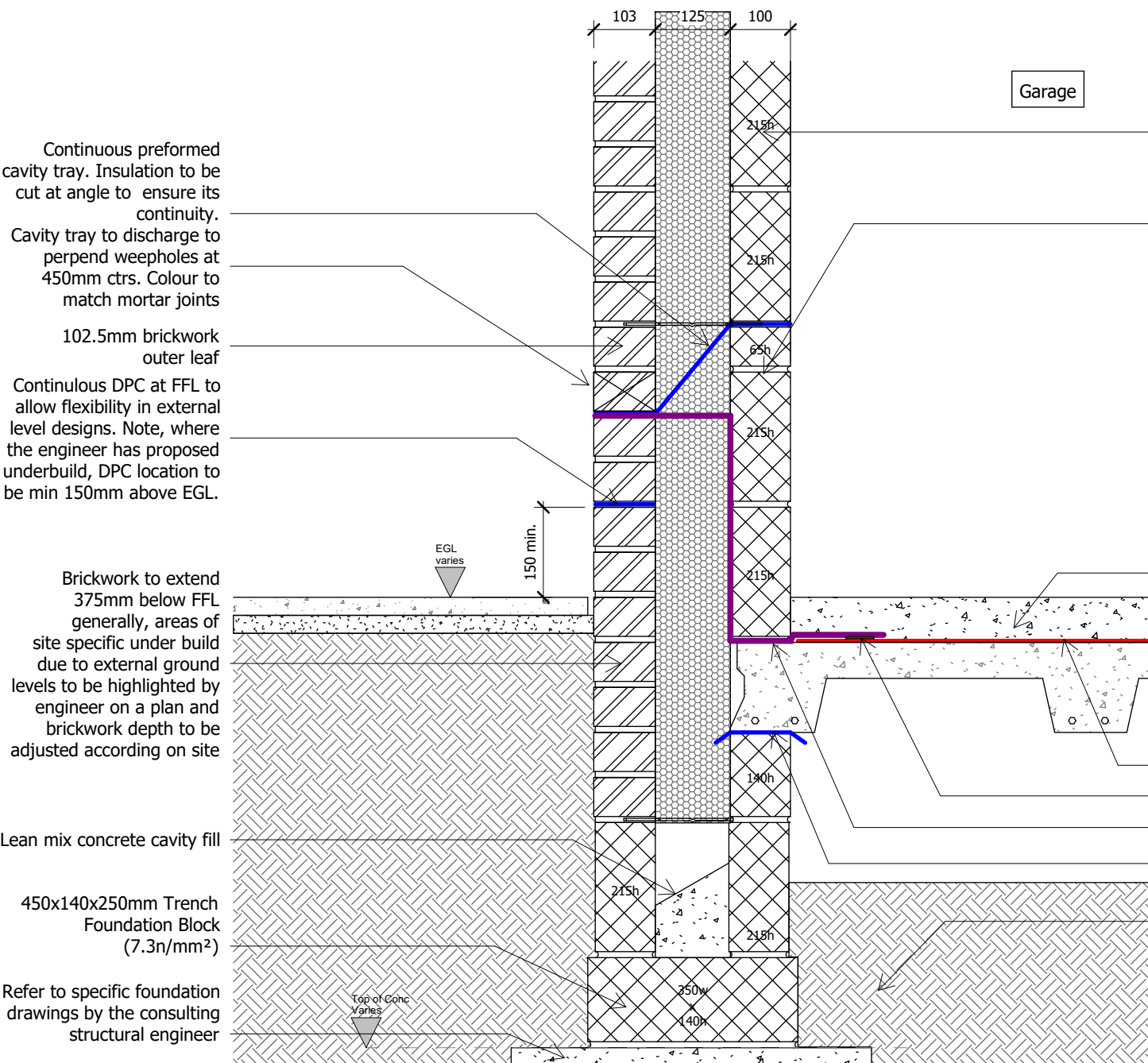


Seperating Wall Stansfield
Integral Garage Adjacent Pair - Robust Detail E-WM-34

Note:
- Construction to achieve a system sound rating of min 40dB & 30 minutes fire resistance.
- Moisture resistant plasterboard to be provided in all bathroom /shower room areas.



Stansfield Brick External Wall Adjacent to Garage Threshold
Integral Garage



Stansfield Brick External Wall Adjacent to Garage Threshold
Integral Garage

Cloaking over cavity and blockwork to match garage door frame
102.5mm brickwork outer leaf

Fall on screed to threshold block
Precast threshold block

Lean mix concrete cavity fill
450x140x250mm Trench Foundation Block (7.3n/mm²)

Refer to specific foundation drawings by the consulting structural engineer

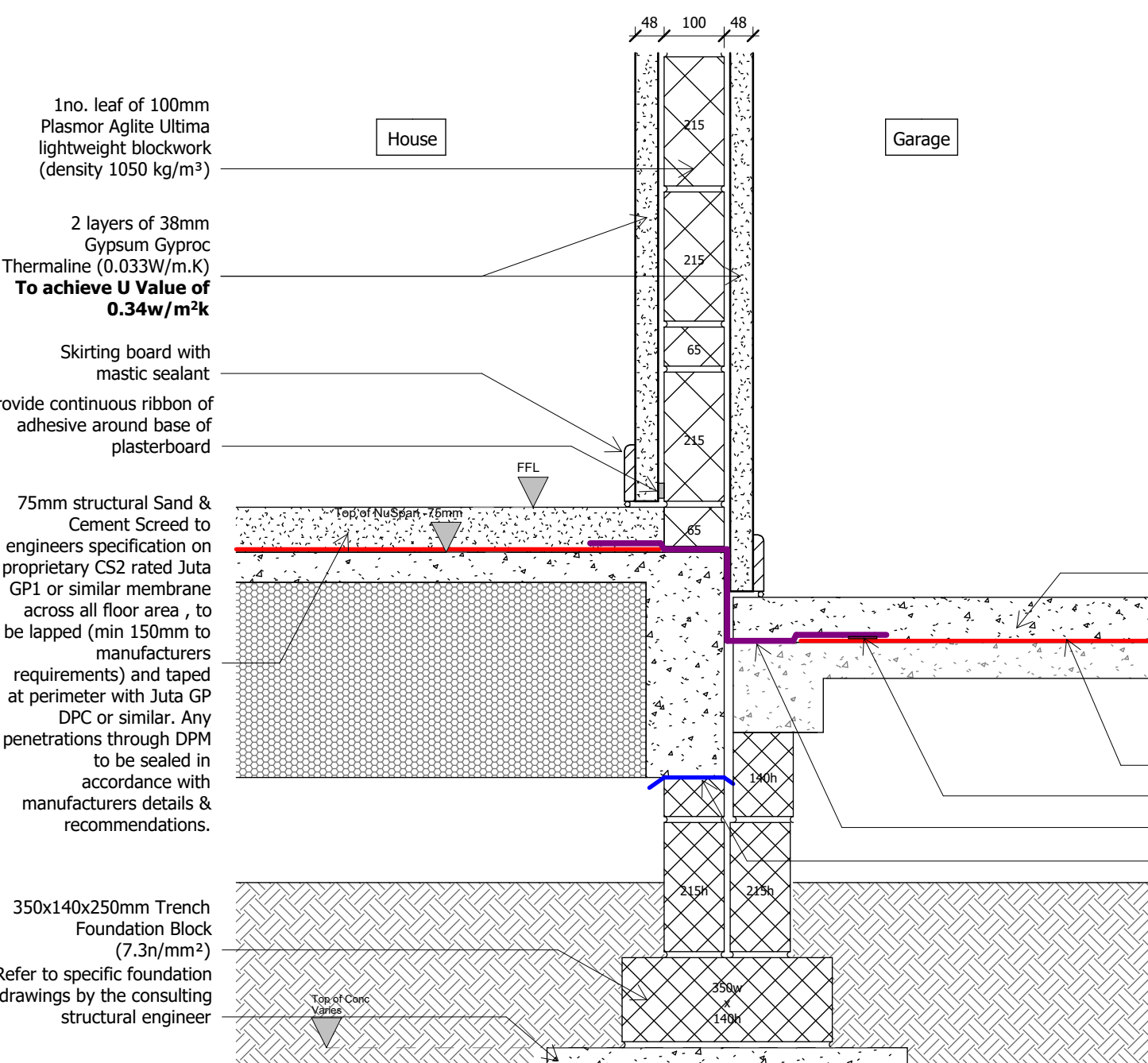
Pack and Seal any gaps at top of blockwork

245mm timber composite joists to specialist design

Continuous dab around edge of plasterboard

2 layers of 38mm Gypsum Gyproc Thermaline (0.033W/m.K)
To achieve U Value of 0.34w/m²k

Stansfield Internal Garage Wall / First Floor Junction
(Joists Perpendicular)



Stansfield
Integral Garage Wall / Ground Floor Junction

Joist end caps to be used where joists built into blockwork to aid air sealing
22mm P5 particle board (Weather Dek2 or similar approved)

300mm timber composite joists to specialist design (built into blockwork)

250mm Knauf Loft Roll 44 (0.044W/m.K)

6mm SuperFOIL

15mm plasterboard with all joints taped and sealed with plaster skim finish
Garage ceiling to achieve 30mins fire resistance

100mm thick Plasmor Aglite Ultima 1050kg/m³

Note:
- Construction to achieve a system sound rating of min 40dB & 30 minutes fire resistance.
- Moisture resistant plasterboard to be provided in all bathroom/shower room areas.

TARGET U-VALUES

External Wall: Brick & Render on Blockwork - 0.21w/m²k
Stone - 0.22w/m²k

Cavity Wall to Garage Wall: 0.20w/m²k

Wall to Garage: 0.34w/m²k

Dormer Wall: 0.26w/m²k

Party Wall: 0.00w/m²k (To be to Robust Detail E-WM-34)

Ground Floor: 0.11w/m²k

Floor above Garage: 0.15w/m²k

Party Floor: 0.00w/m²k (To be to Robust Detail E-FC-4)

Roof - Insulated Ceiling: 0.08w/m²k

Roof - Insulated Slope (Eaves to Flat Ceiling): 0.14w/m²k

Roof - Flat Ceiling for Room in Roof HTs: 0.08w/m²k

Dormer Flat Roof: 0.16w/m²k

Porch Flat Roof: 0.16w/m²k

Front Entrance Door: 1.10w/m²k

Rear / Side Entrance Door: 1.20w/m²k

Windows: 1.20w/m²k

Patio Doors: 1.30w/m²k

Roof Windows: 1.30w/m²k

DPC & Cavity Tray Requirements

Flexible (plastic or rubber) DPC used as a cavity tray must meet the requirements of BS EN 14909 and have a third-party certification that confirms their suitability for use as a cavity tray.

P1 13.06.24 DW AH Initial issue.

Rev: Date: Drawn: Checked: Description:

S0 Work In Progress

Hollin Gate, Littleborough

Feature Assembly Details - Sheet 8

Location:
Hollingworth Road
Littleborough

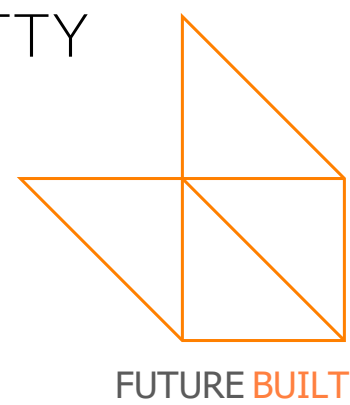
Client:
Countryside Partnerships

UPRN Originator Zone Level Type Role Series/Number Revision:
HOLL-WBA-XX-XX-DR-A-20_9208 P1
Date: Drawn: Checked: Scale: 0A1 Int Job No:
02/28/23 WMB RJ As indicated 4046-001

NATSON BATTY
ARCHITECTS

Shires House, Shires Road
Guiseley, Leeds LS20 8EU
Leeds | Loughborough

T: 01943 876 665
E: enquiries@watsonbatty.com
W: www.watsonbatty.com



FUTURE BUILT

Note: Do not Scale from this drawing. All dimensions to be checked on site