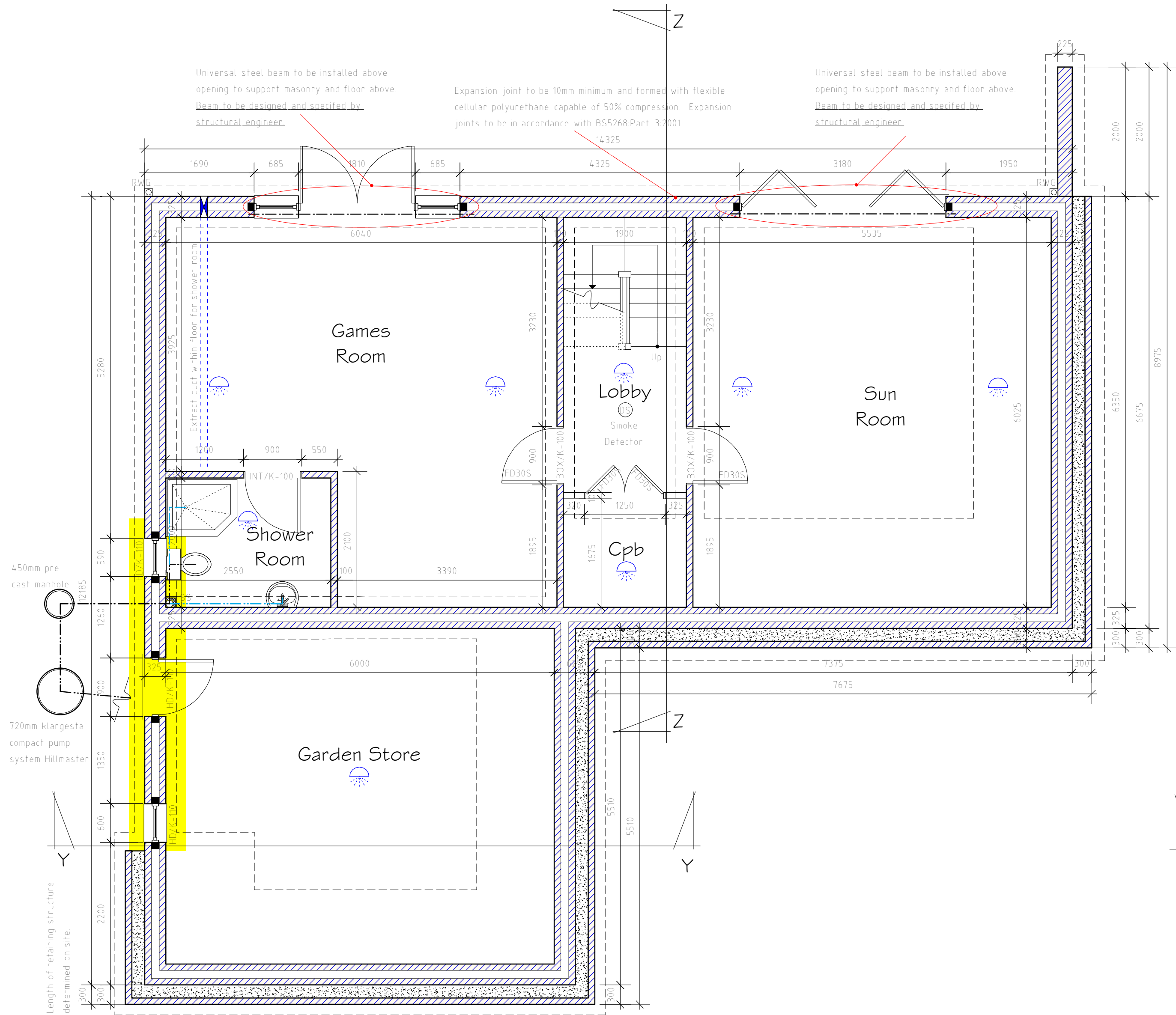




Lower Ground Floor Plan 1:50

SPRINKLER SYSTEM

Dwelling to be fitted with sprinkler system to specialist manufacturers details. Sprinkler system to be zoned to ensure system targets affected area. Fire sprinkler system to be in accordance with BS 9251:2014 (Fire sprinkler systems for domestic, residential and occupancies - code of practice). Installer to provide certification for installation of sprinkler system.

SANITATION, HOT WATER SAFETY & WATER EFFICIENCY (Approved Document G 2010)

The supply of water for domestic use and plumbing services shall comply with BS 6700:2009. In accordance with regulation 17k water consumption for the new dwelling shall not exceed 125 litres per person per day when calculated in accordance with 'The Water Efficiency Calculator for New Dwellings'. Thermostatically controlled hot water delivered to baths should not exceed 48°C.

PLUMBING

Wastes from wash hand basins, bath, showers and sinks to be 50mm minimum diameter uPVC pipe fitted with 75mm deep seal traps. WC wastes to be 110mm diameter uPVC PolyPipe. Wastes to connect into 110mm diameter uPVC SVP's and Short Stacks as indicated. Lower GF Shower room wastes to connect to new SVP, as indicated, which is to connect into new 450mm manhole and 720mm Klargesta compact pump system Hillmaster. Where drainage runs enter garden store from main dwelling, they are to be fitted with Intumescent Fire Collars to provide a minimum 60 minutes fire protection. All connections being made on bossed socket adapters. Short stack to terminate above flood level of any sanitary ware and be fitted with Durgoo air admittance valve. SVP's to terminate to anti pest terminal or have 75mm diameter flexible duct vent pipe fitted between roof rafters to follow roof slope and be fitted with tile vent terminal to ensure vent terminal is 900mm above head of window. Kitchen sink to connect into back inlet gully prior to connecting into foul water drainage. Any appliances within utility to connect to anti syphon traps prior to connecting into SVP.

FOUL DRAINAGE

All new drains are to be 110mm diameter uPVC drains laid in granular material at a fall of 1 in 40. Soil Vent Pipes (SVP) to have 600mm radius bend at base. Wastes to connect into pre-formed manholes/mini access chamber/720mm Klargesta compact pump system Hillmaster where applicable set on 150mm thick concrete base as indicated. Drains passing through walls are to be isolated from structure with 600mm long x 100mm wide x 150mm deep reinforced concrete lintels. Pipes to be haunched with sand / cement mortar. 450mm pre formed manholes/300mm mini access chambers to be fitted in strict accordance to manufacturers instructions. Waste to connect to mains drains as per drawing no: 7679/SK01 from Coopers Chartered Consulting Engineers. Invert and cover levels of manholes to be confirmed prior to commencement of any drainage works. Klargesta compact pump system Hillmaster (chamber type A) or similar pumping system is to be fitted to allow foul drainage to connect into higher level mains drainage. Chamber is 720mm in diameter being 790mm in height. Base to center of inlet is 340mm with the base to center of outlet 350mm. The inlet diameter is 100mm with the outlet fitting for MDPE pipe being 63mm. Klargesta to confirm pumping system specified is adequate for length of drainage run to manhole at higher ground level. Compact pumping system to be fitted in accordance with manufactures details and specifications.

SURFACE WATER DRAINAGE

Rainwater to be collected in half round uPVC guttering and round uPVC downpipes to clients discretion. Water to discharge to rainwater gullies and to be taken to rainwater harvester and geocellular soakaway systems as per drawing no 7679/SK01 from Coopers Chartered Consulting Engineers.

PHYSICAL INFRASTRUCTURE FOR HIGH SPEED ELECTRONIC COMMUNICATIONS NETWORKS (PART R BUILDING REGULATIONS)

Building work must be carried out so as to ensure that the building is equipped with a high-speed-ready in building physical infrastructure up to a network termination point for high speed electronic communications networks. Requirement R1 is to ensure that copper or fibre-optic cables or wireless devices capable of delivering broadband speeds of greater than 30Mbps can be installed in the future. A suitable position for at least 1 network termination point is to be identified by the contractor, suitable ducting should be provided to connect all such network termination points to an appropriate access point. Contractor to refer to PAS 2016 and manufacturer's specifications on the duct dimensions, bending radii etc, required to allow copper and fibre optic cables to be installed.

WINDOWS / DOORS / GLAZING

All windows are to comprise sealed double glazed units set within good quality uPVC frames. Sealed double glazed units are to achieve a minimum U-value of 14 W/m²K. Doors to achieve a U value of 14W/m²K. Opening areas of windows are to be equal to at least 5% of enclosed floor area with part of the opening set at 1750mm above floor level. Provide background ventilation to habitable rooms by means of 8000mm² controllable trickle ventilators set in head frame member of windows or locking mechanism that provides adequate background ventilation. Windows to bedrooms at first floor level to have opening lights of at least 0.33m² with a minimum clear opening of 750mm high x 450mm wide. Window sill is to be positioned to ensure that sill level is within 1100mm of floor level. Glazing in critical locations such as within 800mm of floor level to windows, within 1500mm of floor level to doors, and windows adjacent to doors is to consist of laminated toughened safety glass in accordance with BS 6206 and permanently marked. External doors to have a minimum clear opening of 775mm with door in open position.

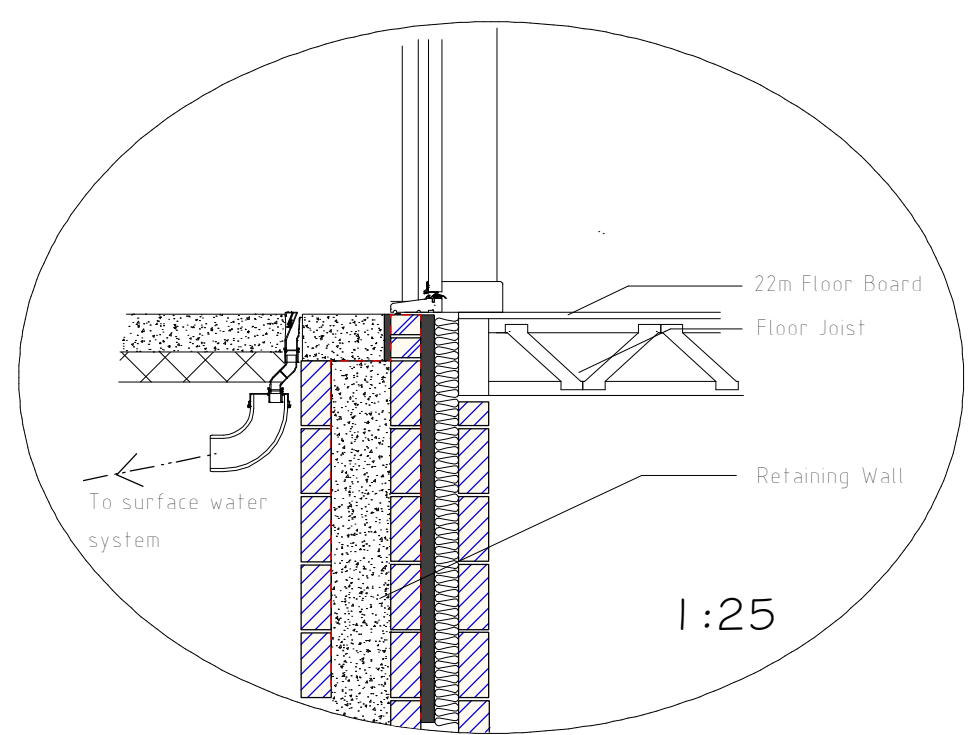
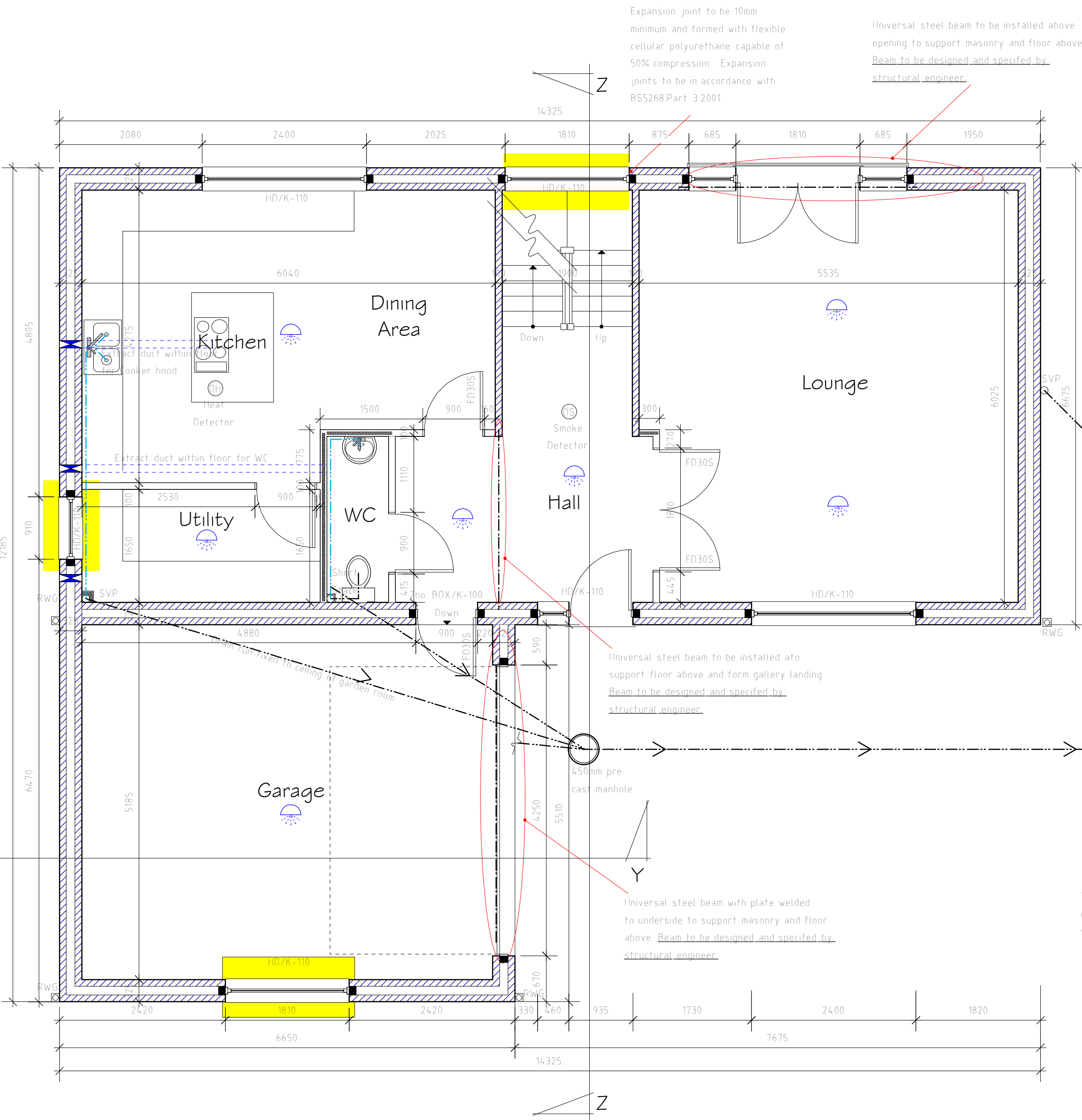
ELECTRICAL WORKS

All electrical works are to be completed by a competent person registered with an electrical self-certification scheme and to take full responsibility to ensure that new works are in compliance with BS7671:2001. On completion the client should receive certification signed by the designer, installer and person responsible for testing of the new electrical system. Ensure that electrical sockets and light switches are sited between 450mm and 1200mm above floor level. Avoid placing sockets back to back, stagger with 150mm minimum gap. Ensure cables to be sleeved where possible contact with polystyrene could occur.

HEATING

Dwelling to be heated by means of GAS fired condensing boiler such with a SEDBUK rating of at least 912% to power radiators, system fitted with time and temperature zone control system. No radiators to be fitted in positions which would reduce landings / walkways to less than 900mm wide. Ensure boiler will not discharge opposite boundaries where within 2.5m. Heating system installed by GAS SAFE registered engineer. Display Device to be installed indicating local time, current mains energy consumption and primary heating fuel consumption information.

Ground Floor Plan 1:50



DISABLED ACCESS

Provide ramped access, maximum gradient of 1 in 12 to entrance point of dwelling with 900mm deep level platform at top of slope. Allow for roll-over threshold to front door. Internal doors are to be of such a size so as to provide clear opening between stops of 800mm.

Drainage Key	
	50mm diameter drainage pipe
	110mm diameter drainage pipe
	Sprinkler head
	30 minute fire door fitted with self closing device and smoke seal
	Mechanical extract termination point

All dimensions are taken from brickwork/blockwork face and plasterboard face and to be checked on site prior to commencing work.

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DO NOT SCALE OFF DRAWING. If in doubt, ask

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A	09/22	Design Changes	E.M.J.
Rev	Date	Detail	Initial

Project:

Proposed new dwelling on land adj to Nant Cottage, Lower Road, Coedpoeth, LL11 3TP

Title: Lower & Ground Floor Plan

Scale: (A1) 1:50

Drawn By: D.J. Edwards

Date: April 2021

Drawing No: D111/009

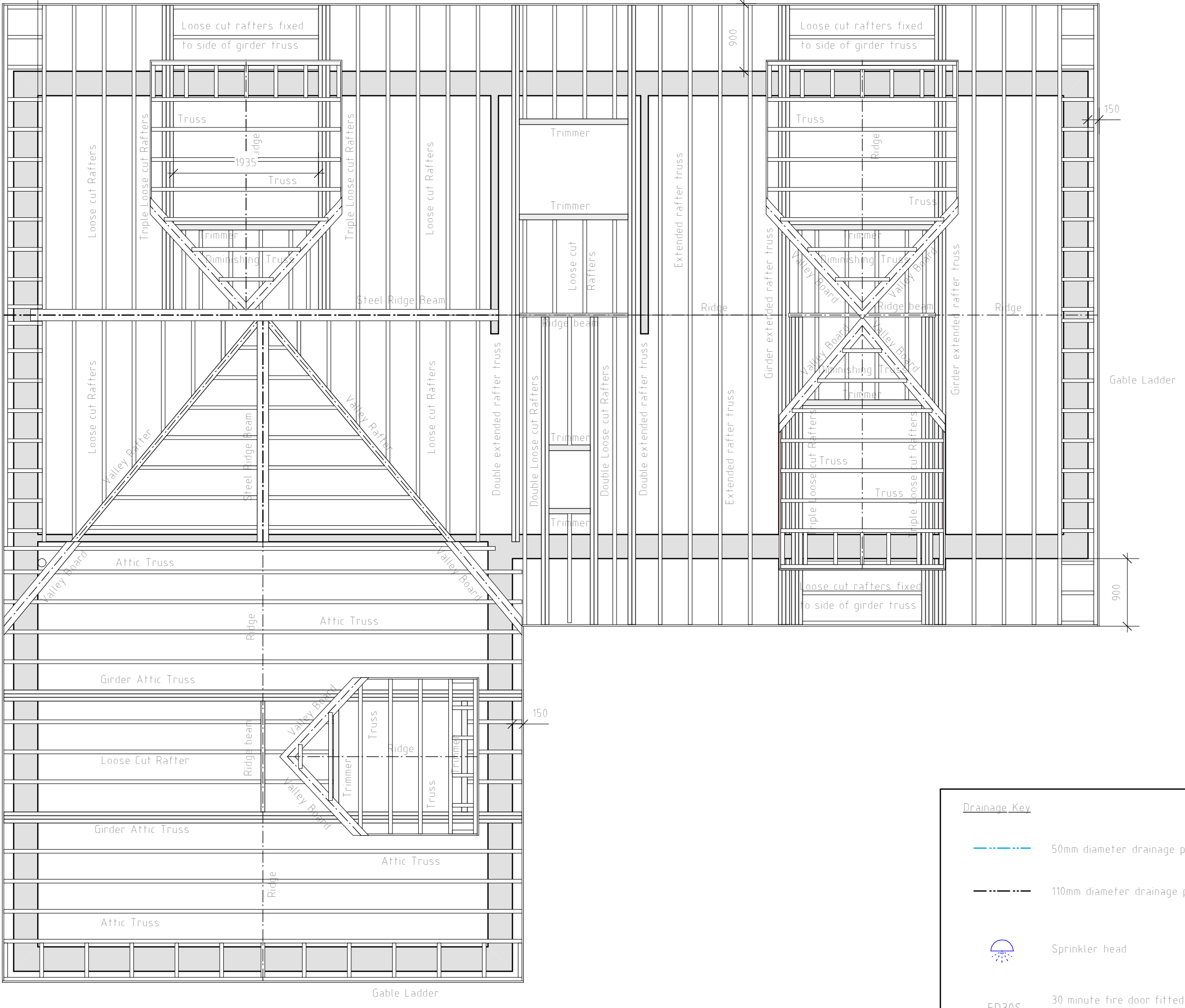
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Indicative Roof Plan 1:50

MAIN ROOF CONSTRUCTION
Roof coverings are to be natural slates to Local Authority approval. Slates to be fixed to 50mm x 25mm treated softwood battens over Tyvek Supro permeable underslating membrane or similar (Tyvek membrane to be draped Approximately 10 mm between the rafters for ventilation purposes) Tyvek to be laid on attic trusses/extended rafter roof trusses/loose cut rafters which are to be designed and manufactured by specialists in accordance with BS 5268:1995 and set at 400mm maximum centres unless otherwise specified by manufacturer. Trusses to be braced longitudinally between all unsupported node points and diagonally to underside of top chord of trusses. Bracing to be out of 100mm x 25mm sawn softwood double nailed at each fixing point. Trusses are to bear onto 100mm x 75mm softwood wallplates, they are to be fixed by means of galvanised mild steel truss clips. Wallplates are to be anchored to walls at 1800mm centres with 30mm x 6mm mild steel straps. Straps are to be of sufficient length to be fixed to masonry of supporting walls, fixings are to be screwed or plugged and screwed. Rafter depth and positioning of wallplates may vary following Truss Manufacturer's specification. Gable wall straps to be 1350mm long x 30mm x 6mm galvanised mild steel and positioned at rafter level at 1800mm centres. Allow for 150mm x 25mm valley boards lined with code 5 lead flashings, maximum length of flashing to be 2000mm, overlap of lead flashings to be 150mm where necessary. Alternatively use pre-formed fibreglass valleys. Manufacturer is to specify girder trusses, valley rafters, loose cut rafter sizes, ceiling joists, floor joists, trimmers, ridge beams & ridge boards where applicable. Allow for 100mm fibreglass quilt insulation to be between ceiling members with an additional 200mm layer laid across ceiling members to achieve a U-value of 0.13W/m²K. Where ceiling follows roof line, allow for 100mm thick Celotex GA4000 insulation between rafters ensuring 50mm air gap is provided with 60mm Celotex GA4000 fixed to underside prior to fixing 12.5mm thick plasterboard ceilings to achieve a minimum U-value of 0.15W/m²K. Contractor to fix 12.5mm thick plasterboard to underside of ceiling joists/rafter with nominal 3mm skim finish. Eaves carrier is to be provided to allow roof membrane to sag to provide adequate ventilation. Allow for doubling up of rafters to enable trimming around roof lights. Extended soffit to be formed with extended rafter section of truss/loose cut rafters and undercloaked with 19mm T&G Board. Allow for code 4 lead flashing at all roof/wall abutments, with cavity try above.

FIRST FLOOR CONSTRUCTION
Floor boarding is to comprise 22mm thick tongued and grooved Weyroc board on WS250 Wolf easi-joists manufactured to BS5268 set at 600 ctrs or 400 ctrs as specified by engineer. Floor joist layout plan and calculations to be submitted to Local Authority. All bracing, straps and fitting of joist system to be fitted in accordance with manufacturers instruction. Allow for doubled up joists below stud partitions running parallel to joists and at support points of bath/ showers where applicable. Ceiling above Garage, allow for 150mm of Celotex XR4000 is to be installed between floor joists to achieve a minimum U-value of 0.18W/m²K. Ceilings within Garage to be double boarded using 2 layers of 12.5mm plasterboard joints overlapped with 3mm nominal skim to provide 1/2hr minimum fire protection to habitable rooms above. Remaining ceilings are to comprise 12.5mm plasterboard (minimum mass per unit area of at least 10kg/m²) with 3mm nominal skim plaster finish. Provide single layer of 100mm thick mineral wool, minimum density 10kg/m³ to ensure passage of sound is minimised. All bracing, straps and fitting of joist system to be fitted in accordance with manufacturers instruction. Manufacturer to measure spans on site prior to manufacture of joists.

STUD FRAMED PARTITIONS
Stud framed partitions are to comprise 12.5mm thick plasterboard fixed to both sides of 75mm x 50mm softwood stud framing set at 400mm centres. Structural stud to have 19mm ply fixed to one side prior to fixing of plasterboard. Framework is to be formed on 75mm x 50mm softwood soleplate. Additional framing to be installed where required i.e. around openings. All joints in boards are to be filled and scrimmed prior to the application of skim plaster. Allow for absorbent layer of 25mm thick wire reinforced mineral wool quilt to be suspended in cavity of stud framing to walls as indicated on floor plans to resist the passage of sound. Plasterboard between habitable rooms to have a minimum mass per unit area of at least 10kg/m².

SEMI EXPOSED STUD PARTITIONS
Semi exposed stud partitions to comprise of 175mm x 50mm softwood stud framing set at 400mm centres. Framework is to be formed on 175mm x 50mm softwood soleplate/within truss structure. Internally fix 12.5mm thick foil backed plasterboard with nominal skim finish. Provide 165mm thick Celotex R Zero XR4000 insulation to cavity between studding to achieve a minimum U-value of 0.21W/m²K.

MECHANICAL VENTILATION
Provide mechanical ventilation to kitchen, utility, WC, shower room, en-suite and bathroom by means of Vent Axia or similar wall/ceiling mounted electrically operated fans extracting directly to external air to the following requirements:

Bathroom, en-suites & shower room - fans to extract at a rate of 15 litres per second, (type of fan to be in line extractor confirmed adequate by manufacturer) to be operated in conjunction with light switch with a 15 minute over run facility. Doors to be undercut by 10mm to allow adequate ventilation.
WC - fan to extract at a rate of 6 litres per second with 15 minute over run facility. Door to be undercut by 10mm to allow adequate ventilation.
Kitchen - cooker hood to extract at a rate of 30 litres per second.
Utility - Wall mounted fan to extract at a rate of 30 litres per second.
Vents to be covered with weather proof grilles at points of discharge to external air.

Drainage Key

- 50mm diameter drainage pipe
- 110mm diameter drainage pipe
- Sprinkler head
- FD30S 30 minute fire door fitted with self closing device and smoke seal
- Mechanical extract termination point

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Rev	Date	Detail	Initial

Project:
Proposed new dwelling on land adj to Nant Cottage, Lower Road, Coedpoeth, LL11 3TP

Title: First Floor, Roof Plan & Elevations	Scale: (A1) 1:50 & 1:100
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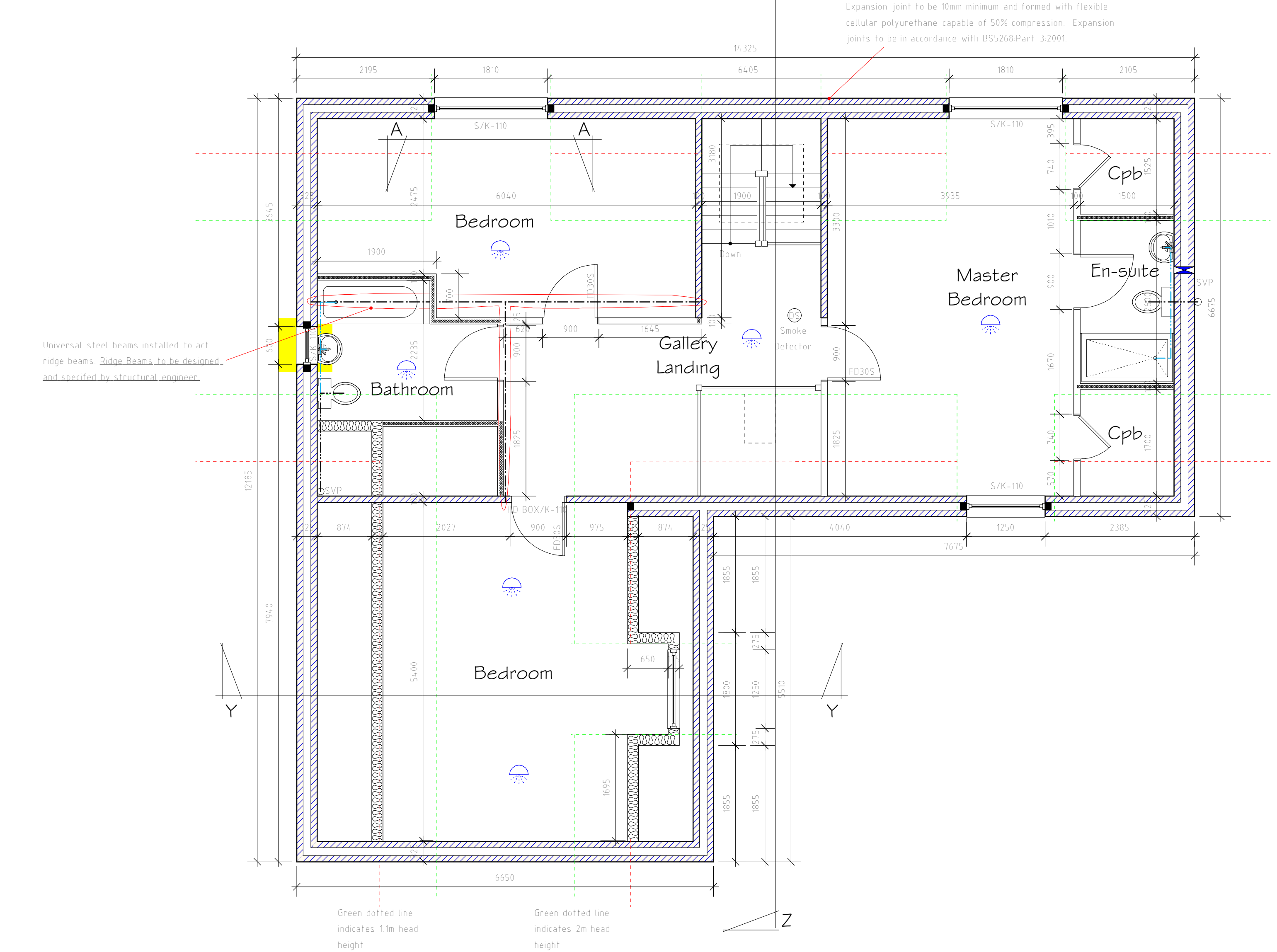
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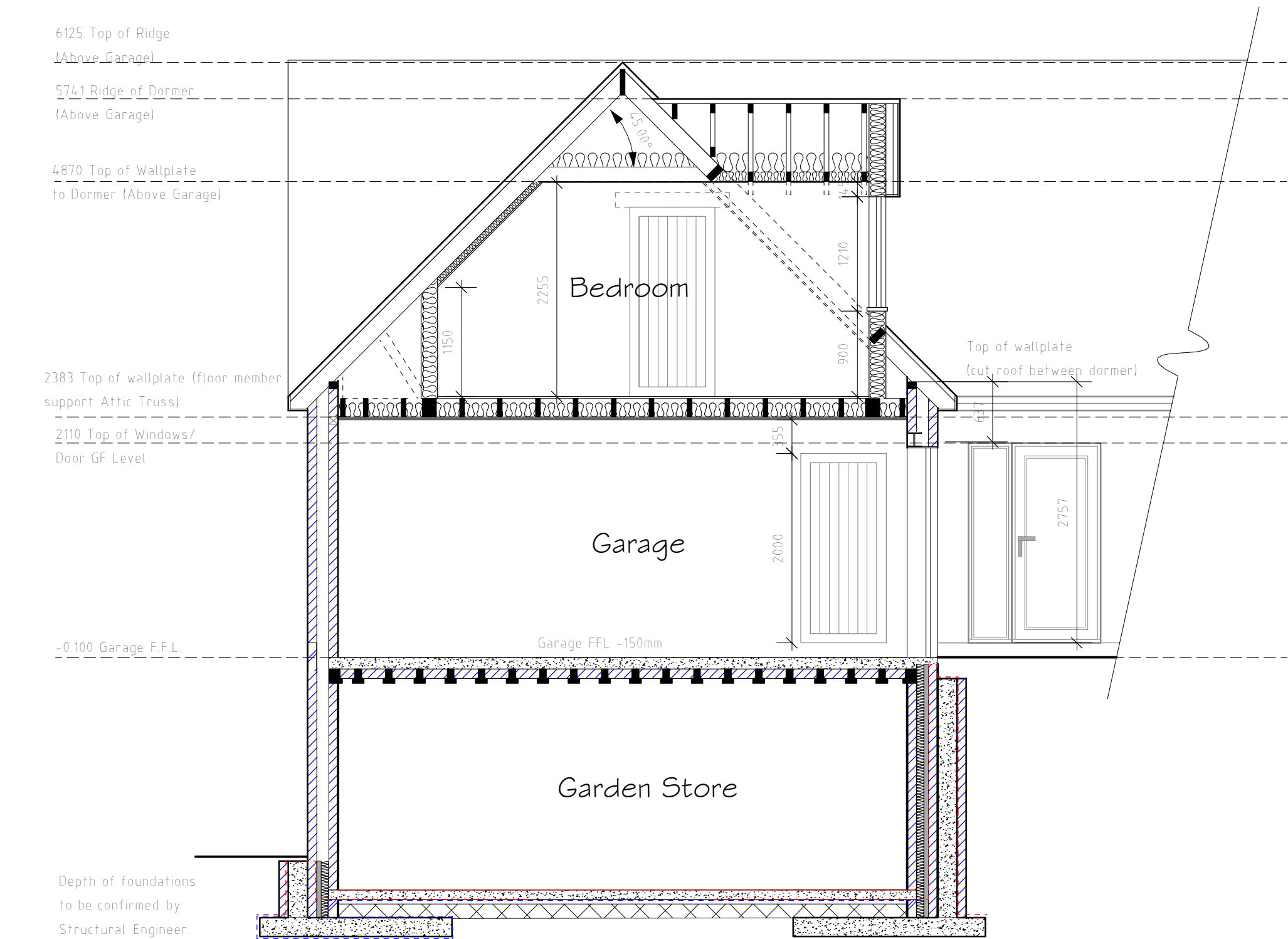
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First Floor Plan 1:50



Section Y-Y 1:50

ROOFLIGHTS WINDOWS

Rooflight windows to be 780mm x 1800mm top hung Velux or similar rooflights as indicated. Windows are to comprise sealed double glazed units with 16mm minimum air gap and Low-E (soft-coated). Rooflights to be fitted in strict accordance with manufacturer's instruction with recommended flashing kit to ensure weather tight construction. Windows to not exceed U-value of 1.6 W/m²K. Rooflights to be top hung within bedrooms to provide fire escape, contractor to construct step which is to be fixed to ensure rooflights are within 1100mm of step in accordance with building regulations.

ENGINEERED STEEL BEAMS

All engineered steel beams are to be installed in positions as indicated. Steel beams are to be protected from fire by means of 2 layers of 12.5mm thick plasterboard and nominal skim finish to provide 30 minutes fire protection. All works in relation to Steel Beams to be as per Structural Engineers specification

INTERNAL BLOCKWORK WALLS

Internal Blockwork walls to comprise 100mm Thermalite Medium Density Blockwork (7KN) with 12.5mm plasterboard fixed to both sides and 3mm nominal skim finish. Walls to be taken down to foundations where indicated on ground floor plan. Below DPC level use class B engineering brick for wall construction. All walls are to be constructed centrally on supporting foundations.

CAVITY WALL CONSTRUCTION

External cavity walls are to comprise of 100mm thick blockwork blockwork to be finished with K-render/timber cladding as indicated on elevations to local authority approval, 125mm wide cavity fully filled with 120mm thick dry therm 0.032-lambda, with an inner leaf of 100mm wide thermalite turbo block. At lower ground floor level 7KN block concrete block to be used on inner leaf. Internal face of blockwork to be finished 12.5mm thick plasterboard with 3mm thick nominal skim finish. Wall construction to achieve a minimum U-value of 0.21W/m²K. Provide insulated Keystone lintels or Universal Steel Beams (calculated by structural engineer) over openings as specified on plans. All lintels to have a minimum of 150mm end bearing length. Keystone lintels and Forticrete products can be supplied by Huws Gray (01978 264269). Provide stainless steel wall ties across cavity, ties are to be based on double triangle ties as per BR443. Wall ties set at 750mm horizontal and 450mm vertical staggered centres. Provide additional wall ties at 300mm vertical centres within 225mm of all openings and roof verges. All openings in cavity, ie, around window and door openings, are to be closed with Thermabate 125 insulated cavity closers to prevent thermal bridging. DPC to be installed in new cavity wall as indicated. Cavity trays to be lapped onto DPC with weep holes installed at 900mm centres to outer leaf of wall to ensure any moisture within cavity is dispersed of adequately.

Walls below DPC level and above finished ground level are to be constructed with facing brick, below ground level use class B engineering brick. Cavity insulation is to continue in 125mm cavity to prevent thermal bridging down. Below ground retaining wall formed as per Structural engineers calculations.

LOWER GROUND FLOOR CONSTRUCTION

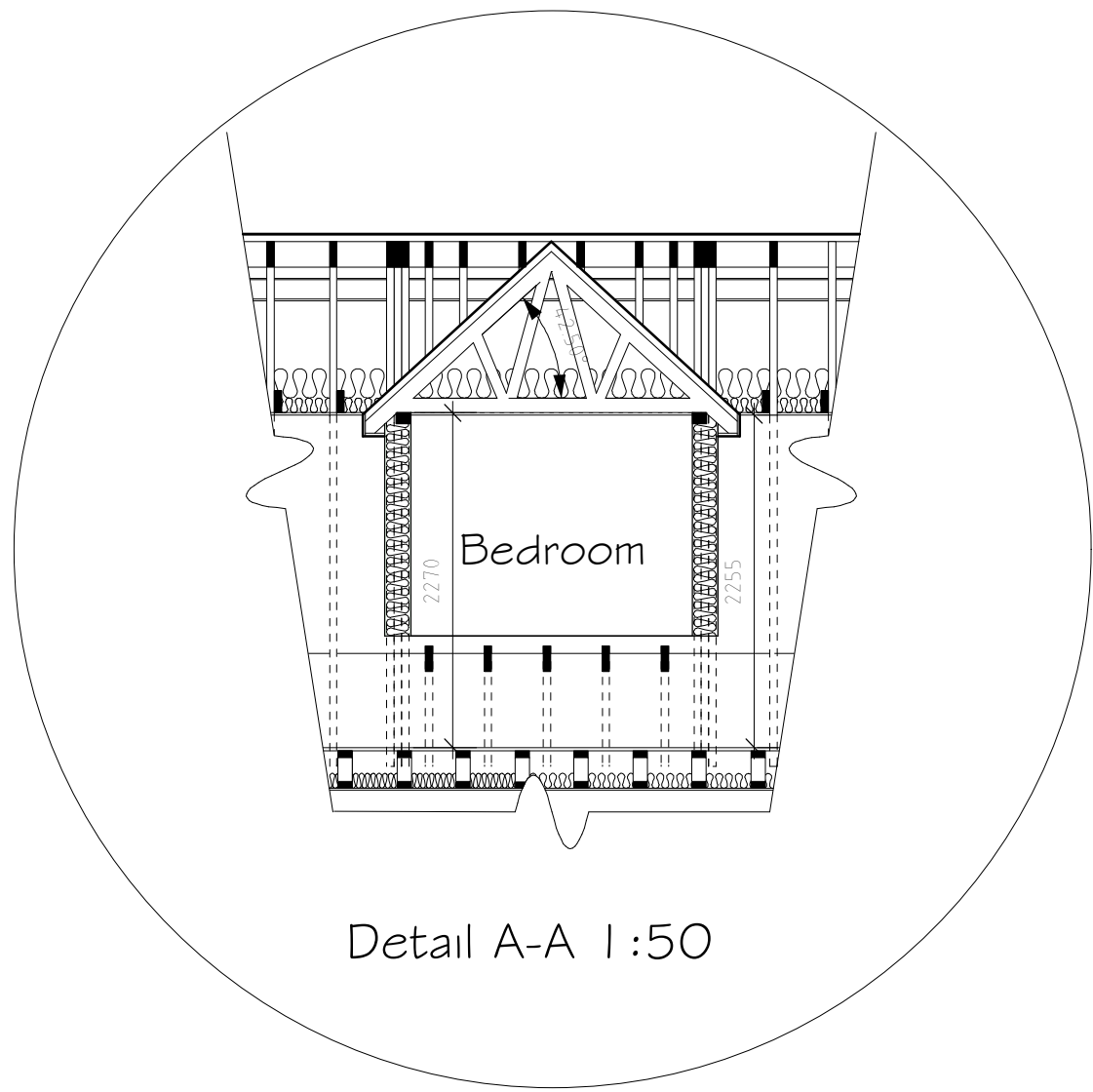
New ground floor construction to comprise of 100mm thick concrete slab which is to be continued over inner leaf of cavity wall. Allow 1000mm of A193 reinforcement mesh within slab perimeter with sufficient cover to prevent cracking. 200mm thick Celotex tuff-R GA4000 rigid polyisocyanurate foam insulation (to ensure U-value <0.09 W/m²K), with 1200G visqueen DPM below, all joints to have 300mm minimum overlap and be securely taped. DPM to link into RIW membrane within retaining wall to ensure sealed protection to occupants from Radon Gas and provide water tight finish to structure. 50mm sand blinding on 150mm minimum well consolidated hardcore. Contractor to provide cavity tray as indicated in sections bridging the two masonry courses to seal cavity ensuring the effective dispersal of moisture within the cavity. Garage floor to be formed without the installation of insulation. Structural engineer to confirm adequacy of suspended slab in relation to adjoining retaining structure.

RETAINING WALL

Retaining wall to be constructed in accordance with the structural engineers designs and specifications. Retaining wall structure to be 100mm blockwork (external skin) 200mm concrete core with steelwork within as specified by structural engineer, internal face of 100mm blockwork to have minimum unit strength of 7.3N/mm² laid in M6(a) mortar. External face of outer leaf to be covered with self adhesive RIW Sheetseal 226 system which is to be lapped with DPM as per manufacturers instructions. Tanking membrane to be protected by RIW protection board. Tanking system to be continued down internal face of outer leaf to be covered with self adhesive Sheetseal 226 system. Cavity to be filled with 40mm dry mortar mix against membrane with 85mm celotex to inner area of cavity, with inner leaf of 100mm blockwork. Allow for 150mm diameter perforated land drain to rear of retaining wall.

FOUNDATION CONSTRUCTION

Provide 650mm wide x 200mm deep concrete foundations below cavity walls. 450mm x 200mm deep concrete foundations below 100mm loadbearing walls as indicated on sections and floor plan. 600mm x 200mm foundations below 225mm thick solid blockwork wall as indicated to create private rear amenity. Retaining wall foundations to be calculated and specified by structural engineer. All foundations are to be cast onto suitable load bearing strata to the satisfaction of the Building Control Inspector. Foundations are to be cast in one pour to prevent joints in concrete. Concrete can be supplied by Huws Gray (01978 759516).



DORMER WINDOW CONSTRUCTION

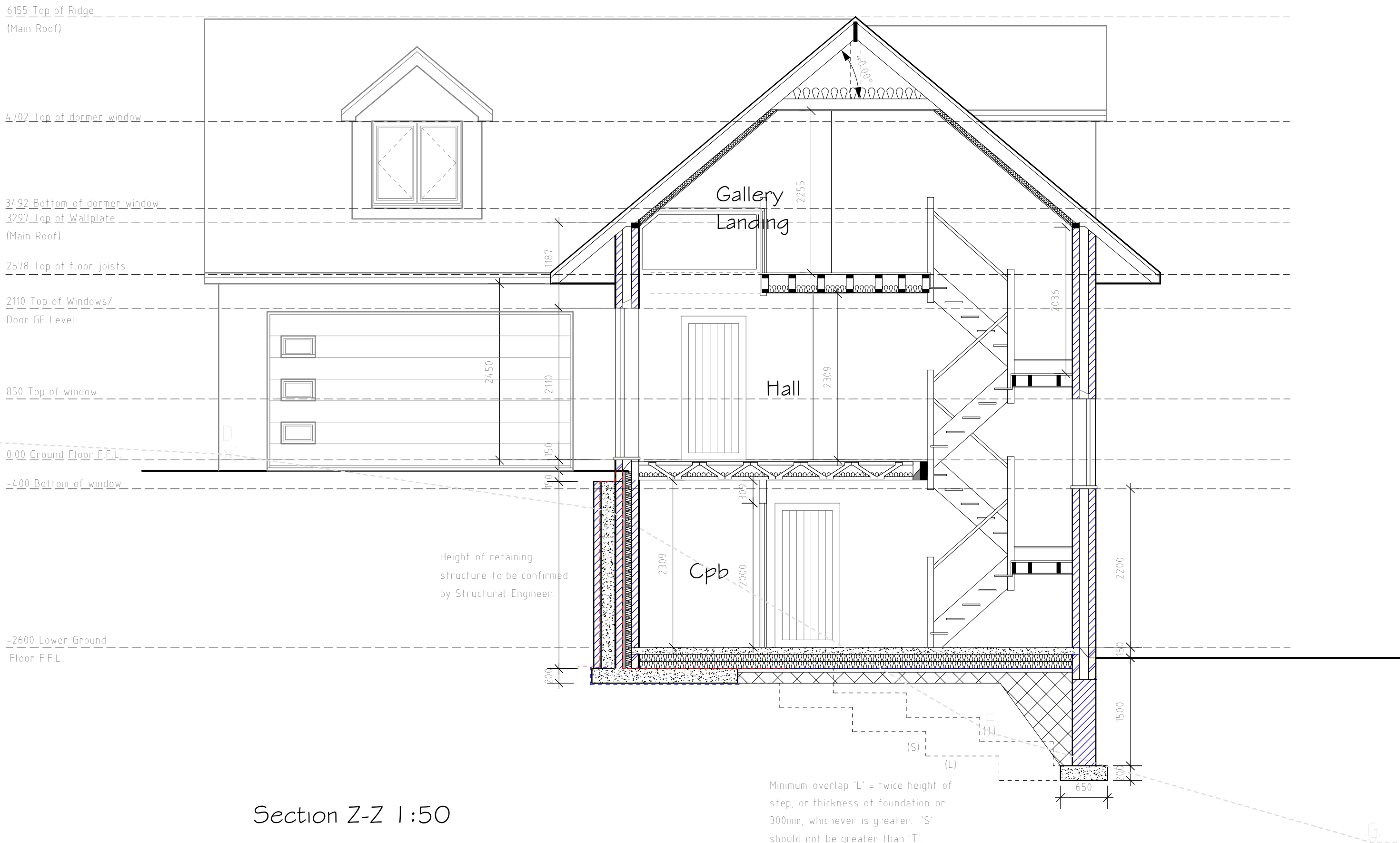
Dormer roof coverings to be as per main roof on roof trusses specified by manufacturer. Trusses are to be fixed as per main roof construction on 100mm x 75mm softwood wallplates over softwood stud framed dormer cheeks, softwood stud member is to be below each roof truss. Allow for 100mm fibreglass quilt insulation to be between ceiling member with an additional 200mm layer laid across ceiling members, 12.5mm thick plasterboard fixed to ceiling member of truss with nominal skim finish to achieve a minimum U-value of 0.13W/m²K. Rafter depth and positioning of wallplates may vary following Truss Manufacturer's specification. Side cheeks to be supported on tripped up trusses. Dormer cheeks to have rendered finish over 19mm thick external quality ply. Allow for 500G visqueen vapour barrier fixed to stud frame to be 175mm x 50mm softwood stud framing set at 400mm centres. Internally fix 12.5mm thick foil backed plasterboard with nominal skim finish. Provide 150mm thick Celotex R Zero XR4000 insulation to cavity between studding to achieve a minimum U-value of 0.21W/m²K. Allow for code 4 lead flashing at all roof/wall abutments.

STAIRCASES

Staircases to be purpose made in Hardwood to the designs indicated. LGF to GF Staircase total rise is to be 2600mm with 13 No. equal risers of 200mm. GF to FF staircase total rise is to be 2600mm 13 equal risers of 200mm. Staircases to comprise of 223mm open treads as indicated on floor plans. Angle of pitch to be 42° maximum. Flight to be 900mm wide measured between centre of handrail and wall. Quarter landings formed by installing 150mm x 50mm C16 floor joist spanning between loadbearing walls, 1 quarter landing to act as base to create second quarter landing above by building up of timber joists to form next step. Joists finished with 22mm floor boarding and undercoated with 12.5mm plaster and 3mm nominal skim finish. Treads are to be out of 30mm minimum thick softwood. Stringers are to be out of 330mm x 30mm minimum section hardwood. Provide handrail to flight and around landing set at 900mm above nosings, handrail to be fixed to wall. Balustrade supporting handrail at top of staircase is to be formed out of glass panels, positioned at intervals restricting the passage of a 100mm diameter ball. All dimensions to be checked on site prior to manufacture. Stairs to have 2000mm clear vertical headroom throughout.

JULIET BALCONY

Juliet balcony guarding is to be designed and fabricated by specialist manufacture and to be fixed to masonry wall. Balcony guarding to be 1100mm above floor level. Guarding to be able to withstand a horizontal uniformly distributed line load of 0.74KN/m and to comply with BS6206. Contractor to ensure that a 100mm diameter sphere cannot pass through any gaps within its construction. Specialist manufacturer to provide details to Local Authority Building Control.



Section Z-Z 1:50

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Rev	Date	Detail	Initial

Project:

Proposed new dwelling on land adj to Nant Cottage, Lower Road, Coedpoeth, LL11 3TP

Title:	Scale: (A1)
Sections	1:50

Drawn By:	Date:
D.J.Edwards	April 2021

Drawing No:	Sheet:
D111/009	3 of 3

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