

This drawing has been produced for Building Regulation approval.
No work to be commenced on-site unless all approvals are granted.
Do not scale off this drawing.
All dimensions to be checked on-site.

BUILDING REGULATIONS NOTES

THE WALL, OWNER
The owner, should they need to do so under the requirements of the Party Wall Act, 1996, has a duty to serve a Party Structure Notice on any adjoining owner if building work on, to or near an existing Party Wall involves any of the following:

- || Support of beam
- || Insertion of DPC through wall
- || Insertion of a new wall or building off projections
- || Demolition and rebuilding
- || Underpinning
- || Insertion of lead flashings
- || Excavations within 3 metres of an existing structure where the new foundations will go deeper than adjoining foundations.
- || Excavations within 6 metres of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.
- || A Party Wall Agreement is to be in place prior to start of works on site.

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.

MATERIALS AND WORKMANSHIP
All works are to be carried out in a workmanlike manner. All materials and workmanship must comply with Regulation 7 of the Building Regulations, all relevant British Standards, European Standards, Agreement Certificates, Product Certification of Schemes (Kite Marks) etc. Products conforming to a European technical standard or harmonised European product should have a CE marking.

BASIC RADON PROTECTION
Provide a 1200g (300 um) radon membrane under floor slab lapped 300mm double welled and taped with gas proof tape at joints and service entry points. Carry membrane over cavity and provide suitable cavity tray and weep holes.

SITE PREPARATION
Ground to be prepared for new works by removing all unsuitable material, vegetable matter and tree or shrub roots to a suitable depth to prevent future growth. Seal up, cap off, disconnect and remove existing redundant services as necessary. Seasonal precautions must also be taken to avoid danger to health and safety caused by contaminants and ground gases e.g. landfill gases, radon, vapours etc. on or in the ground covered, or to be covered by the building.

EXISTING STRUCTURE
Existing structure including foundations, beams, walls and lintels carrying new and altered loads are to be exposed and checked for adequacy prior to commencement of work and as required by the Building Control Officer.

BEAMS
Supply and install new structural elements such as new beams, roof structure, floor structure, bearings and padstones in line with the original design and engineering calculations and in accordance with BS 5950: Part 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 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LIMITS
– 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 300mm sized internal door openings. Lintels to have a minimum bearing of 300mm on each side. Any existing carrying additional loads are exposed and inspected at 8110. With a concrete strength of 50 or 40 N/mm² and incorporating steel strands to BS 5898 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.

STRAPPING FOR ROOF
Cable walls should be strapped to roofs at 2m centres. All external walls running parallel to roof rafters to be built into walls at max 2000mm centres and to be taken across minimum 3 rafters and screw fixed. Provide solid nogging 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 BS EN 845-1 at maximum 2m centres.

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

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 2010 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.

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.

FULL FILL CAVITY WALL
To achieve minimum U Value of 0.28W/m²K.
New cavity wall to comprise of 105mm facing brick to match existing. Full fill cavity with 100mm Rockwool Cavity insulation as manufacturer's detail. Inner leaf to be 100mm lightweight block, K value 0.16. (Acrete, Gaccon slab, Topblock (uplight standard). Internal finish to be 12.5mm plasterboard on dabs. Walls to be built with 1:1.6 cement mortar.

DPC
Provide horizontal strip polymer (lyload) damp proof course to both internal and external skins minimum 150mm above external ground level. New DPC to be made continuous with existing DPCs and with floor DPM. Vertical DPC to be installed at all reveals where cavity is closed.

WALL TIES
All walls constructed using stainless steel vertical twist type retaining wall ties built in at 750mm ctrs horizontally. 450mm vertically at reveals and 1200mm vertically between reveals. Ties to be suitable for cavity width and in accordance with BS 5528-6:1, 1996 and BS EN 845-1: 2003

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.

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 abut the existing walls, provide a movement joint with vertical DPC. All tied into existing construction with suitable proprietary stainless steel profiles.

CAVITY BARRIERS
30 minute fire resistant cavity barriers to be provided at all 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.

ROOF – LEANTO ROOF

To achieve min U-value required of 0.18 W/m²K.
Timber roof structure to be designed by an Engineer in accordance with NHBC Technical Requirement B5 Structural Design. Calculations to be based on BS EN 1995-1-1. Suitable roofing ties fixed to tile battens secured over breathable sarking felt to relevant BBA Certificate allowing the breather felt to sag at least 10mm over preservative-treated counter battens (min 38mm x 155mm). 47 x 175mm timber rafters strength class C24 at 400 c/c – span to engineer's details.Provide 120mm Quinn Therm PIR insulation boards between the rafters and 80mm Quinn Therm PIR insulation under the rafters. A vapour control layer should be provided to the underside of the rafters. Finish with 12.5mm plasterboard and skim.

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 ends. Provide 12.5mm plasterboard on dabs with skim plaster finish or 15mm lightweight plaster. 1000 x 30 x 5mm galvanized straps or other approved to BS EN 845-1 at 2m centres.
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INTERNAL STUO PARTITIONS
100mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 100mm head and sole plates and solid intermediate horizontal nogging at 1/3 height or 450mm. Provide min 10kg/m² density acoustic soundproof quilt tightly packed (eg. 100mm Rockwool or fexsol 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 nogging 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 to existing walls with 12.5mm plasterboard on dabs with skim plaster finish or 15mm lightweight plaster.

INTERNAL LOADEARING 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 15mm lightweight plaster.

ELECTRICAL
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, BS, 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 Building Control on completion.

INTERNAL LIGHTING
Provide emergency lighting fittings that only take lamps having a luminous efficiency greater than 45 lumens per circuit watt and a light output greater than 400 lmp lumens. Not less than three 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.

ESCAPE WINDOWS
Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms. Windows to have an unobstructed operable area of 450mm high x 450mm wide, minimum 0.33m sq. The bottom of the operable 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.

ROOF LIGHTS
Min U-value of 1.6 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 manufacturer's instructions with rafters doubled up to sides and suitable flashings etc.

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.

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 1.6 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.

NEW AND REPLACEMENT DOORS
New and replacement doors to achieve a U-Value of 1.80W/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.

PROOF 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.

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.

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: 2003.

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.

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 BS EN 12056-3:2000 for stormwater drainage. Pipes 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)
Bath/shower – 3m for 40mm pipe 3m for 40mm 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 trap within 200mm of the WC connection.
Supply hot and cold water to all fittings as appropriate.

SOIL AND VENT PIPE
Swp 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 SWP.

PIPEWORK THROUGH WALLS
All new pipework passes through external walls form rocker joints either side wall face of max length 600mm with flange new pipework passes through external walls form rocker joints either side wall face of max length 600mm with flange new pipework passes through external walls form rocker joints either side wall face of max length 600mm with flange. 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.

NOTES

GROUND FLOOR CONSTRUCTION DETAILS DEPENDENT ON EXISTING CONDITIONS:

OPTION 1:

TIMBER SUSPENDED FLOOR
Ground preparation –Remove top soil and vegetation, apply total weed killer and 150mm min thick sand blined hardcore, then either –
(i) Provide concrete ground cover of at least 100mm thick or
(ii) Prepare the ground to an even surface and lay a ground cover of concrete at least 50mm thick, on a 200mm min membrane at least 1200mm from the edges of the ground cover, and on a bed of 20mm of non hardening material. Floor construction – Provide 20mm thick DPM over the ground cover, then 100mm thick chipboard, grade type C4 to BS EN 312:2010 as required. Lay with staggered joints on 47mm x 220mm C24 grade softwood joist hangers built into new masonry walls or fixed to treated timber supported off proprietary galvanized joist hangers built into new masonry walls or fixed to treated timber wall plates resin bolted to walls at 600mm centres. If required, floor joists also to be supported on 100mm x 50mm treated wall plates and DPC fixed to masonry horeycombed sleeper walls built on thickened oversite concrete. Joists to be infilled with 140mm Rockwool Flexi supported on suitable netting. The top surface of the ground cover under the building shall be above the finished level of the adjoining ground. The underside of the wall joists are not to be less than 150mm above the top of the ground. The side of any wall plate is to be not less than 75mm above the top of the ground cover.
Ventilation of 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 horeycombed 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 the radon barrier.
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OPTION 2:

SOLID FLOOR INSULATION UNDER SLAB
To meet min U value required of 0.22 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 taped in with DPC in walls. Floor to be insulated over DPM with 75mm Kingspan Kooltherm 250 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 taped 150mm and sealed. Provide 100mm SI2 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 pipe to terminate at new 60mm 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.

INTERMEDIATE FLOORS
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 100mm Rockwool mineral fibre quilt insulation min 10kg/m² or equivalent between floor joists. Ceiling to be 12.5 Fire-line 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 100mm x 30mm x 5mm galvanised mild steel straps or other built over in compliance with BS EN 845-1 at 2.0m centres, straps to be taken across minimum 3 no. joists. Straps to be bolted into walls. Provide 38mm wide x 1 depth solid nogging between joists at strap positions.

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 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 overrun 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.

SMOKE DETECTION
Mains operated linked smoke alarm detection system to BS EN 14604 and BS5839-6:2013 to at least a Grade