

**CONSTRUCTION NOTES**

**Foundations**  
Foundations subject to Structural Engineer's detailed design and have been designed in accordance with submitted ground report as follows: 800mm x 200mm deep reinforced strip foundations at 800mm below finished ground level.

Any foundation with a 1000mm of drains is to be taken down to level to higher than the drain level.

Any drains under the building which pass through sub-structure walls are to be protected by being bridged with a 150mm RC pipe with a 150mm clearance on all sides to give minimum 50mm clearance all round. The pipe is to be built in with flexible joints as close as possible to the wall and connected to rockers per note more than 600mm long, all in accordance with Approved Document F1.

Any drains passing under a building are to be founded at least 100mm of granular material or other flexible filling around pipe, in accordance with manufacturer's instructions, unless drain is less than 100mm below finished ground level.

**Sub-structure Walls**  
External sub-structure walls are to be constructed in brick block or brickwork blockwork to at least the same thickness as the supported wall above. Allow for a minimum of 4 courses to approved facing brickwork below DPC level to the outer leaf.

Internal sub-structure walls are to be constructed in brick block or blockwork to at least the same thickness as the supported wall above.

Concrete cavity fill to with a 225mm of the lowest horizontal DPC level.

Horizontal DPC is to be BS 743, all external ground levels are to be a minimum of 150mm below DPC level.

**Ground Floor Construction**  
The ground floor slab is to be designed to accord with Structural Engineer's design and ground investigation report to cast over the floor masonry to form a 150mm reinforced suspended slab with mesh to Structural Engineer's drawings. 1200 gauge DPM is applied over slab topped up faced at sub-structure: 100mm brickwork over slab. In addition 70mm sand/cement screed over 2 layers of 40mm Rigid Japitec 70 insulation, returned at edges to prevent bridging, 1200 gauge DPM is applied under insulation to face of return insulation and applied to inner leaf of blockwork. Insulation and screed omitted from garage for steel reinforcement floor part.

**Raised Ground Level**  
Where the ground level is raised to form level across the brickwork outer leaf is to be protected from damp by a cavity tray with a 225mm sand above finished ground level. This detail is to be maintained where the min 150mm step up to DPC is compromised.

**External Walls**  
Walls are to be constructed in cavity wall construction consisting of either 100mm RL quality facing brick, or 100mm semi-dry reconstructed stone, 100mm clear cavity insulated with 50mm Kingspan Kooltherm K8 rigid insulation. Insulation need to be placed with proprietary insulation clips. 100mm lightweight 4M concrete block, finished internally with 9.5mm square edged plasterboard, and finished with adhesive coats, joints taped neatly ready to accept 3mm skin finish. 2 webs to be tied together with stainless steel vertical twist wall ties to BS 1243 in a 225mm offset at 900mm c/c horizontally and 75mm c/c vertically, to be caulked on completion.

All cavities to be closed about coverings with 100mm Thermacore cavity closers. Cavity closed at top of wall with 9mm Sui-pal board, mineral wool case. DPC set to min 150mm above adjacent ground level. External lines to be cast concrete voids closed with 10mm bricks, ready to accept mortar pointing and covered with BBA Agrement Certificate.

Internal leaf to have openings bridged with precast concrete reinforced lines with min 150mm end bearing. Subject to Structural Engineer's calculation and specifications.

**Wall and Roof Abutments**  
Where over level roofs abut the main house junction is to consist of cavity tray/stepped cavity tray min 150mm above junction with weepholes draining the tray protected cavity at 675 c/c. Junction weather proofed externally with min 150mm lead flashing/stepped flashing upstand.

**Intermediate Floor**  
First floor chamber to consist of 225 x 50 C16 structural floor joists at max 450 c/c. Joists built into external walls or added in to steelwork. Solid studs, where added into steel, and at mid span for joist spans of more than 2.5m and in span for joist spans of over 4.5m. Where joists run parallel to external wall, foot to be secured with 30 x 5 galv steel straps, notched over first three joists and 1mm board under leaf, screwed to block. Solid studs between joists in span position. Finish above with 22mm T & G softwood boards and underclaw with 12.5mm square edged plasterboard, and min 3mm skin finish. Insulate joist gap above and below party/corner with 100mm rock wool rollouts. Insulate joists above garage with 2 layers of 100mm rock wool rolls.

**Pitched Roof Construction**  
Natural slate triple lapped on 25 x 50 sw treated batten or sealed breasted roofing membrane (Tyvek/Kingspan Niverts) draped over 25 x 50 treated counter batten, fixed through 50mm Kingspan Kooltherm TPI0 insulation with task type fixings or similar approved in to attic trusses. Insulated between with 50mm Kingspan Kooltherm TPI0 to give overall U value of 0.18 W/m<sup>2</sup> K, underclaw with 12.5mm square edged plasterboard and 3mm skin finish.

Valleys are to be GRP as H&L cause 605.

All roof timbers to be treated as defined in 1.9 table 1 of Reg 7 of Approved Document A of the Building Regulations. Trussed rafter to comply with BS 5268 at 600mm c/c and are to be designed by truss manufacturers to comply with indicative truss layouts and to the structural Engineer's approval. Trusses are to be erected in accordance with the Truss Manufacturer's written instructions.

Longitudinal and diagonal wind bracing is to be in accordance with BS 5268 Part 3.

Trusses are to be fixed with truss clips to 100 x 75 mm softwood wall plates which are to be strapped down at 2m centres.

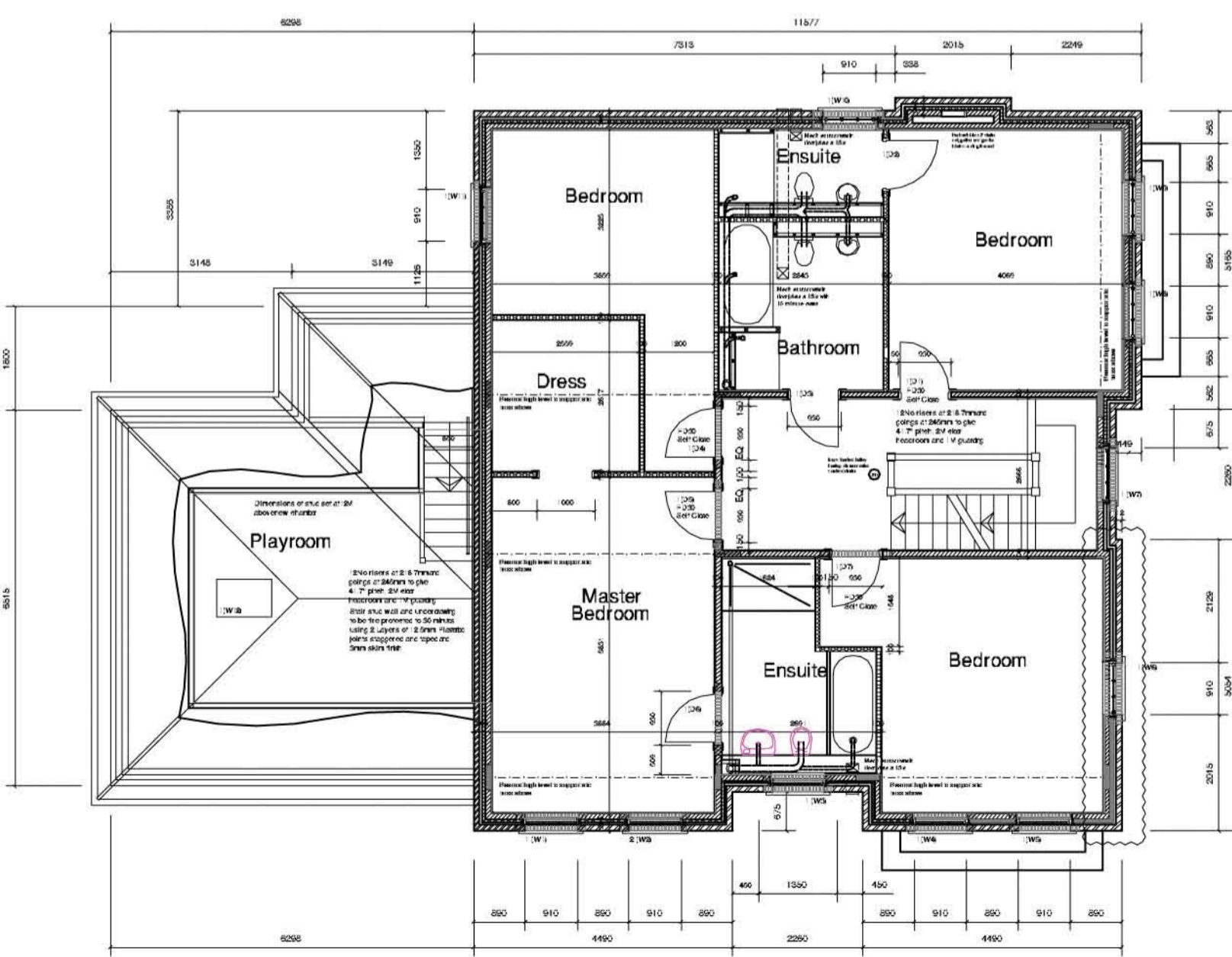
Lateral support to be provided to external walls and gables running parallel with trusses with galvanized steel straps of minimum cross section of 30 x 5mm to afford anchorage at not more than 2m c/c. Straps are to be at joist and rafter level and are to be fixed to at least 3 No. trusses/rafters.

**Flat Roof to Main Roof**  
Fabrication of attic trusses to be constructed using Sani-Fill Achieved Membrane on 1 layer of 100mm Kingspan Kooltherm TPI0 rigid insulation or Sani-vo (or similar) type weather felt laid on exterior quality plywood fixed through cut to face timber fixings to flat topped attic trusses. Junction of slate roof and sani fill roof finished with proprietary sani fill flashing piece.

**Structural Steelwork**  
All structural steel specified in accordance with Structural Engineer's design and calculations. Typically, steel to be on 440 x 215 x 100mm concrete castings. Where floor joists notch into steel, g/c to be maintained by solid studs. Leveling of steelwork to be backed with steel shims or slate. All steelwork to have 30mm fire protection by encasement in 2 layers of 12.5mm dense joint staggered and taped with 3mm skin finish.

**Internal Partitions**  
Internal stud partitions to be constructed of 1 No. layer of plasterboard (min mass per unit area of 10kg/m<sup>2</sup>) each side of 75mm x 50mm softwood studs. An acoustic layer of 10kg/m<sup>2</sup> mineral wool bats (min density 10kg/m<sup>3</sup>, min thickness 25mm) to be suspended in the cavity where shown, (and in accordance with Approved Document E).

**Ground Floor Plan**



**First Floor Plan**