SURVEYING BUILDING DESIGN

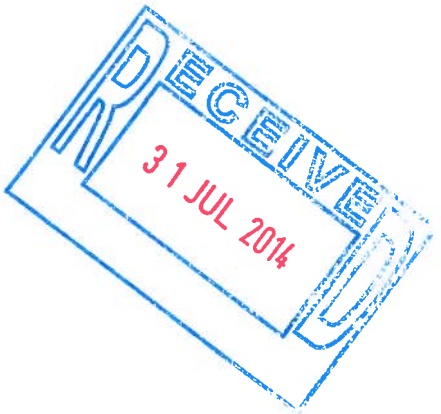
Proposed:
Single & Two Storey Extension

At:
6, Badgers Brook Rise,
Ystradowen

For:
Mr. R.Chilcott

General Building Specification

1400924 FUL



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1. Roof/s:

Two storey:
Concrete tile/slate to match existing roof on untearable roofing felt to B.S.747on 25 x 50mm sawn softwood battens at centres to match tiles on 47 x 125mm C24 rafters at 400mm centres. Rafters notched and birds mouthed over 50 x 100mm wall plates bedded and strapped onto new walls with galvanised m/s holding down straps at 900mm centres.
47 x 120mm C24 ceiling joists/ties at 400mm centres, fixed to feet of rafters.170mm quilt insulation layed between ceiling joists with 120mm quilt layed across joists (total 290mm), 12.5mm plasterboard and skimmed finish to new ceilings, giving a U-value of 0.16w/m2k to the roof construction.
Roof space ventilated by a 25mm continuous strip vent to new soffits, with fly-proof mesh over, in conjunction with 2no. high level ridge vents, giving a 'thro-flow'of air through the new roof structure.
225 x 25mm lay-boards forming valleys where new roof meets existing with code 5 lead work lapped with roofing felt min.200mm forming watertight valley/s

Alternatively:

Install roof covering as above, over pre-stressed C24 trusses at 600mm centres layed and braced to manufacturers recommendation. Lateral restraint straps at 1.200m centres layed across 3no. trusses, over 50 x 100mm wall plates bedded and strapped onto new walls with galvanised m/s holding down straps at 900mm centres. 170mm quilt insulation layed between ceiling joists with 120mm quilt layed across joists (total 290mm). 12.5mm plasterboard and skimmed finish to new ceilings, giving a U-value of 0.16w/m2k to the roof construction. Roof space ventilated by a 25mm continuous strip vent to new soffits, with fly proof mesh over, in conjunction with 2no.high level ridge vents, giving a 'thro-flow'of air through new roof structure.

Single storey:
Concrete interlocking tiles/slate to suit pitch of roof, colour to match main roof, on untearable, breathable roofing felt to B.S.747 on 25 x 50mm sawn softwood battens at centres to match tiles/slate, on 47 x 150mm C24 rafters at 400mm centres notched and birds-mouthed over 50 x 100mm wall plates, bedded and strapped onto new walls with galvanised m/s holding down straps at 900mm centres. Rafters BAT clipped and nailed to new wall plates. Wall plate shot-fired into steel section over large window spans, where applicable.
47 x 150mm C24 bearer rawlbolted to the existing structure at 900mm centres, where mono-pitched roof is adopted, rafters hung off galvanized m/s Simpson strong-tie joist hangers at 400mm centres.
Central pitched façade in 47 x 100mm C24 rafters with 225 x 25mm lay boards, with diminishing rafters cut to suit. Code 5 lead lapped min.200mm with roofing felt, forming a watertight valley, as above.

If new roof pitch does not meet the pitch criteria for the proposed slate/tiled finish, rafters should be decked out in 20mm marine plywood, felted and counter-battened prior to laying surface tile or slated finish.

Roof insulated using 100mm Celotex GA4100 between the rafters, with a further 45mm Celotex PL4000 beneath the rafter, 12.5mm plasterboard fixed across the face of the rafter and skimmed finish to new ceilings, giving a U-value of 0.16w/m2k to the roof construction.

Flat ceiling section insulated, (if applicable), using 170mm quilt between ceiling joists, with 120mm quilt across the joists,(total 290mm).Roof space ventilated by a 25mm continuous strip vent to new soffits, with fly-proof mesh over, in conjunction with 2no.high level tile/ridge vents, giving a thro-flow of air through the new roof structure.

Install cavity trays/soakers with code5 lead flashings to all new roof/s terminating against the existing house structure, or new dormer cheek/s.

Velux roof-lights installed to new/existing roof structure, fitted and flashed to manufacturers instruction, rafters/trimmers doubled to Velux openings in the roof structure.

(See drg.no.4of 4 for sectional details of all proposed roof/s).

2. Foundation:

700 x 225mm strip foundation, (C15P mix), taken a minimum of 750mm below ground level, or to where suitable bearing strata is achieved. All new foundations to be stepped below invert level of adjacent drainage lines and existing/adjacent house foundations, internal load bearing walls constructed off 500 x 200mm strip foundations, (as above).

Eccentrally loaded foundation to boundary, where applicable to be 600mm2, (as above).

Existing foundation beneath the garage structure is to be exposed and checked for suitability prior to erecting the proposed first floor structure over.

On investigation/excavation, and if ground conditions determine, structural engineers calculations and detail of designed foundations will be supplied to the relevant inspecting body.

3. **Sub-Structure:**

2no.skins of 100mm dense concrete blockwork below ground level with facing brick plinth, where applicable, to outer leaf, to damp-proof course level.115mm cavity filled to within 200mm of damp-proof course with lean-mix concrete. Horizontal damp-proof course minimum 150mm above finished external ground level. Install polythene gas impervious tray damp-proof course below horizontal damp-proof course, lapped with damp-proof course/damp-proof membrane as a barrier against the ingress of radon gas into the property.

4. **Ground Floor:**

50mm sand/cement screed layed to match existing floor levels on 100mm dense concrete slab, (C15P mix), layed over 1200gauge polythene damp-proof membrane, above and below the insulation layer, lapped with horizontal damp-proof course, over 75mm under floor insulation by Celotex or similar, over 150mm well consolidated and blinded hardcore, giving a U-value of 0.25w/m2k to the ground floor construction.

Alternatively install suspended timber ground floor, (if suspended floor system exists in the property):
25mm tongue and groove weyroc sheeting, water resistant to bathroom areas, over C24 floor joists to suit at 400mm centres, trebbled under stud walls, (or joists to match existing floor levels), nogged at maximum 2.00m centres with solid 47 x 145mm noggin, or herringbone strutting to suit.
New floors layed to match existing suspended timber floor levels, new joists built into new and existing wall structures.
Batten in 75mm Kingspan foil backed under floor system, to achieve U-value as indicated above. Extend existing air brick system to allow flow of air, naturally ventilating the existing and new sub-floor voids.

5. **Cavity walls:**

315mm cavity walls consisting 100mm dense concrete block work, internally, 50mm cavity, 65mm Celotex insulation batts pinned to inner skin of cavity wall with specialist retaining clips. Stainless steel wall ties at 450mm vertically, 700mm horizontally, doubled at reveals.100mm dense concrete block work, or facing brick outer leaf, 2no.coats render and set finish externally, (if block work adopted), render and skimmed finish internally, giving a U-value of 0.27w/m2k to the cavity wall construction.

100 x 75mm, 150 x 100mm reinforced concrete lintels over new openings in the cavity walls with vertical, horizontal and tray damp-proof courses to all new openings.

Alternatively, install specialist lintels by Catnic, IG, or similar, to suit.
Or: See attached structural engineers details and calculations.

6. **First Floor:**

25mm tongue and groove weyroc sheeting, water resistant to bathroom areas, over 47x145mm C24 floor joists at 400mm centres, or joists layed to match existing floors if larger sections exist, nogged at maximum 2.00m centres with solid 47 x 145mm noggin, or herrinbone strutting to suit. 12.5mm plasterboard and skimmed finish to new ceilings.

Floor void suitably insulated with 150mm of Rockwool lagging to achieve insulation against the passage of sound to a level not exeeding 40decibels.

7. **Drainage:**

(See Plan for new and existing drainage layouts):

Foul water drainage above ground to comply with Approved Document H.1 and B.S.5572, with 40mm diameter waste/s from baths, sinks and showers, 75mm deep sealed traps fitted to all new appliances served by the soil and vent pipe.100mm diameter waste/s and from w/c,s, all discharging into the existing foul sewer/ cesspool via suitably trapped and roddable gullies and existing/new soil and vent pipe/s. (See proposed plan).
New manhole, (where applicable), constructed over main foul water line in 103mm semi engineering brick of 225mm concrete slab, (C15P mix), suitable 4ton cast cover, all benched to Local Authority approval, or install pre-formed plastic chambers by Osma or similar.

Surface water off new roof to discharge into existing sewer via suitable trapped roddable gullies. Rainwater goods 75mm diameter, ½ round gutters and downpipes to match existing, connected to existing rainwater goods off main roof, (See proposed plan).
Or, into soakaway designed to B.R.E.digest 365 1991, sited 5.00m from the building.

All new drainage lines to be 100mm diameter under ground pipe, layed to falls of 1:40. All pipework running under the building to be exposed and protected in 150mm lean- mix concrete. Drains to be suitably lintelled over where passing through new walls.

All new plumbing to comply with C.P. 304.

8. Heating and Ventilation:

Upgrade and extend the existing heating system to cover the new areas, or install new condensing boiler, fitted and certified by a registered Gas Safe engineer, flued to the requirements of Approved Document J, Building Regulations 2000. All new windows serving habitable rooms to be upvc double glazed units, glazed to B.S.6206, all fitted with with low emmisity Kglass, with safety glazing to critical locations, openings equal to 1/20th floor area of the room/s served for ventilation purposes, fitted with trickle vents as background ventilation 8,000 mm2 .

Mechanical extract fitted to the following rooms:-

Bathroom/s:	15 litres/second.
Kitchen:	60 litres/second.
Utility:	30 litres/second

All to be capable of above extraction rates with a minimum 15 minute overrun facility.

9. Fire Protection:

All internal finishes to have Class O spread of flame rating.

All new steelwork to be given 30minute fire rating, encased in 2no. layers of 12.5mm Gyproc plasterboard with taped and skimmed finish.

Installation of self contained smoke detectors to circulation areas, (marked DS on the proposed plans), to B.S5446.1.2000, independently wired to a separate circuit and fitted with battery backup, interlinked detectors between storeys.

10. General:

All works to comply with current Building Regulations, Town and Country Planning Act, together with allied legislation and good Building Practice.

All dimensions to be checked on site by the appointed contractor during construction. Do not scale from approved plans.

All steelwork to be designed by chartered structural engineer, details and calculations to be provided in support of the attached plans and specification/s.

For internal alterations refer to the attached plans.

All electrical work carried out to the requirements of Approved Document P Building Regulations 2000, and certified by an N.I.C.E.I.C. registered contractor.

All new gas installations carried out and certified by a registered Gas Safe engineer, and certified on completion of the works.

On site changes to the approved design to be reported to the designer for approval prior to altered works being carried out.

All works to be kept within the boundaries of the site.

This specification does not include for works, or notification that may be required under the Party Wall Act.

This general building specification is to be read in conjunction with the attached detailed plans, and structural engineers calculations and details, where applicable.