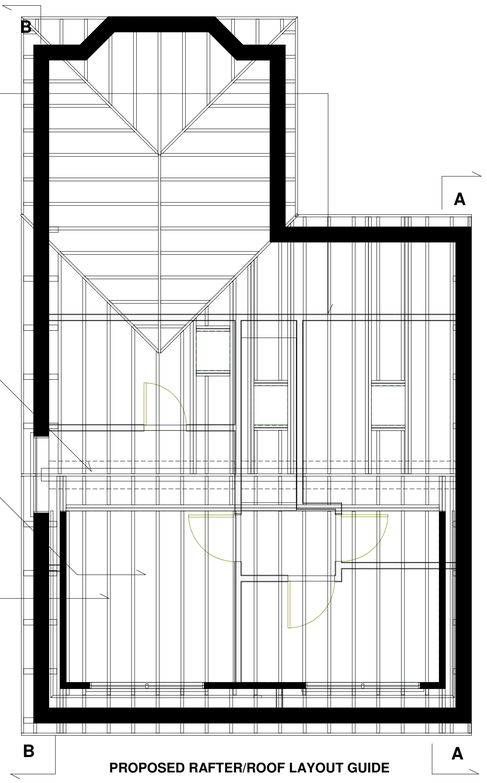
ADDITIONAL RAFTERS
Additional 100 x 75mm C 24 rafters to be placed between existing rafters and doubled up around velux window.

RIDGE BEAM/FLITCH BEAM
2x 300x100mm C24 graded timbers with 290x10mm steel plate between bolted together @ 450mm centres staggered top and botton and 2 extra at bearing points. Beam to bear on new timber frame gable as shown on seperate detail and onto existing gable on 100mm x (min) 600mm 10mm steel spreader plate.

DORMER ROOF JOISTS
150mm x 50mm C24 graded timber @400mm centres

DOUBLE RAFTERS
Rafters to be doubled up below Dormer cheeks

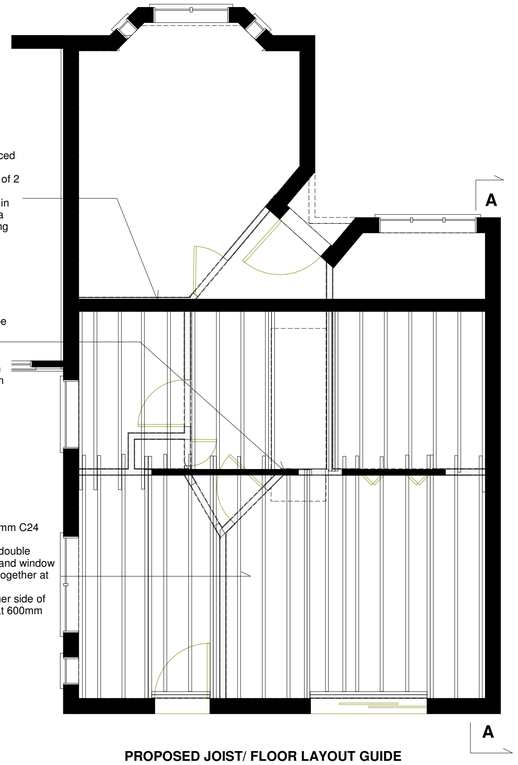



**PROPOSED RAFTER/ROOF LAYOUT GUIDE**

FLOOR BEAM
203x203x52 UC spliced (see seperate splice detail) on padstones of 2 x courses of class a engineering bricks min of 450mm long with a min of 100mm bearing

BEAMS
Beams accross french doors and hallway to be 152x89x16 UBs on padstones of 2 x courses of class A engineering bricks min 225mm long with a min of 100mm bearing

FLOOR JOISTS
Floor joists to be 200 x 50mm C24 timber @ 400mm centres.
Provide double joists and double trimers accross rear door and window opening as shown bolted together at 600mm centres.
Provide treble joists at either side of stair well bolted together at 600mm centres.

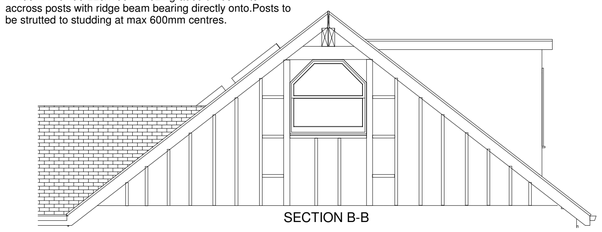



**PROPOSED JOIST/ FLOOR LAYOUT GUIDE**

UPGRADE OF EXISTING FLOOR/ CEILING
Ensure first floor achieves modified half-hour fire resistance.(Upgrade existing to ensure new beams receive half hour fire resistance.)
existing 1st floor/ceiling Joists to be 50mm minimum from chimney breasts. To upgrade to half hour fire resistance and provide adequate sound insulation lay minimum 150mm Rockwool insulating material or equivalent on chicken wire between joists and extended to eaves. Chicken wire to be fixed to the joists with nails or staples these should penetrate the joists side to a minimum depth of 20mm, in accordance with BRE-Digest 208 1988.

NEW FLOORS
Provide min 20mm t and g chipboard or timber board flooring. In areas such as kitchens, utility rooms and bathrooms flooring to be moisture resistant grade in accordance with BS7331:1990).
Identification marking must be laid upper most to allow easy identification.Joists spans over 2.5m to be strutted at mid span use 38 x 38mm herringbone strutting or 38mm solid strutting (at least 2/3 of joist depth). Provide lateral restraint where joists run parallel to walls. Floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps or other approved in compliance with BS EN 845-1 at max 2.0m centres, straps to be taken across minimum 3 no. joists. Straps to be built into walls. Provide 38mm wide x ¾ depth solid noggins between joists at strap positions.

SUPPORT Of RIDGE BEAM OVER WINDOW
provide 100x100mm c 24 grade timber posts either side of window. Provide 225x100mm c24 graded timber lintel accross posts with ridge beam bearing directly onto.Posts to be strutted to studding at max 600mm centres.



SECTION B-B

NEW GABLE DETAIL

NEW GABLE CONSTRUCTION
To achieve minimum U Value of 0.28W/m²K
Structure to engineer's details and calculations. Tiles hung vertically on 25 x 38mm preservative treated battens (vertical counter battens to be provided to ensure vented and drained cavity if required) fixed to breathable membrane (having a vapour resistance of not more than 0.6 MNs/g) and 12mm thick W.B.P external quality plywood sheathing (or other approved). Ply fixed to treated timber frame studs constructed using: 100mm x 50mm head and sole plates and vertical studs (with noggins) at 400mm centres or to structural engineer's details and calculations. Insulation to be 100mm Celotex GA4000 between studs plus 12.5mm Knauf wallboard over. Provide a vapour control layer fixed to internal face of insulation and finish with 3mm skim coat of finishing plaster.
All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally.
(Provide an additional 15mm pur insulation over studs to prevent cold bridging if required)

## GENERAL NOTES

BEAMS AND STRUCTURE
Engineer's Structural calculations and details have been provided for all beams, roof, lintels, joists, bearings, padstones and any other load bearing elements. New steel beams to be encased in 12.5mm Gyproc FireLine board with staggered joints.If below the upgraded floor fire protection.

ELECTRICAL WORKS
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, BSI, 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 the Council.

SMOKE DETECTION
Mains operated linked smoke alarm detection system to BS 5446 - 1:2000 and BS5839-6:2004 to at least a Grade D category LD3 standard to be mains powered with battery back up to be placed on each storey with an additional interlinked heat detector at ceiling level in kitchens if requried by BCO. Smoke alarms should be sited so that there is a smoke alarm in the circulation space on all levels/ storeys and within 7.5m of the door to every habitable room. If ceiling mounted they should be 300mm from the walls and light fittings. Where the kitchen area is not separated from the stairway or circulation space by a door, there should be an interlinked heat detector in the kitchen.

HEATING
Extend all heating and hot water services from existing and provide new TVRs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities by laws, Gas safety requirements and IEEE regulations.

BACKGROUND AND PURGE VENTILATION
Background ventilation - Controllable background ventilation via trickle vents to BS EN 13141-3 within the window frame to be provided to new habitable rooms at a rate of min 5000mm²; and to kitchens, bathrooms, WCs and utility rooms at a rate of 2500mm²
Purge ventilation - New windows/rooflights to have openable area in excess of 1/20th of the floor area, if the window opens more than 30° or 1/10th of the floor area if the window opens less than 30°
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.

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 manufactures instructions with rafters doubled up to sides and suitable flashings etc.

NEW WINDOWS
New 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.

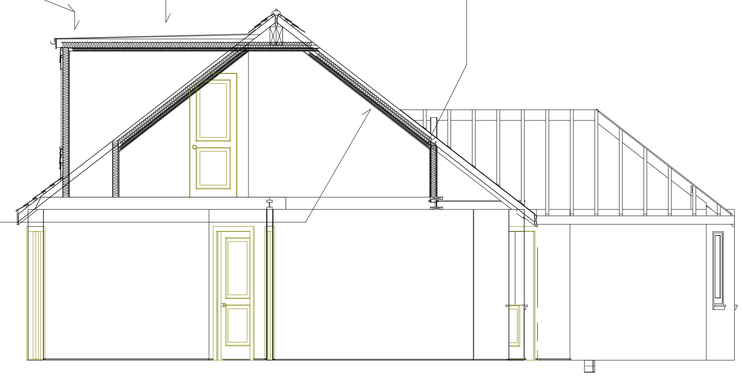
PARTY WALL ACT
The owner should they need to do so under the requirements of the Party Wall Act 1996 has a duty to serve a Party Structure Notice on any adjoining owner if the building work involves works on or to an existing Party Wall including:
• Support of beam
• Insertion of DPC through wall
• Raising of wall or cutting of projections
• Demolition and rebuilding
• Underpinning
• Insertion of lead flashings
• Excavations within 3 meters of an existing structure where the new foundations will go deeper than adjoining foundations, or within 6 meters 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.

DORMER CONSTRUCTION
To achieve minimum U Value of 0.28W/m²K
Structure to engineer's details and calculations. Tiles hung vertically on 25 x 38mm preservative treated battens (vertical counter battens to be provided to ensure vented and drained cavity if required) fixed to breathable membrane (having a vapour resistance of not more than 0.6 MNs/g) and 12mm thick W.B.P external quality plywood sheathing (or other approved). Ply fixed to treated timber frame studs constructed using: 100mm x 50mm head and sole plates and vertical studs (with noggins) at 400mm centres or to structural engineer's details and calculations. Insulation to be 100mm Celotex GA4000 between studs plus 12.5mm Knauf wallboard over. Provide a vapour control layer fixed to internal face of insulation and finish with 3mm skim coat of finishing plaster.
All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally. Dormer cheeks within 1m of the boundary to be lined externally with 12.5mm Supalux and 12.5mm Gyproc FireLine board internally to achieve 1/2 hour fire resistance from both sides. (Provide an additional 15mm pur insulation over studs to prevent cold bridging if required)

DORMER FLAT ROOF
(imposed load max 1.0 kN/m² - dead load max 0.75 kN/m²)
To achieve U value of 0.18 W/m²K
Ventilated flat roof to Structural Engineer's details, construction comprising of 12.5mm spa solar reflective chippings to achieve aa designated fire rating for surface spread of flame bedded in bitumen on three layer felt to BS 747 laid on 22mm exterior grade plywood on firrings to give a 1:40 fall, fixed to 50 x 150mm grade C24 timber joists at 400 centres max span 3.22m. Cross ventilation to be provided on opposing sides by a proprietary eaves ventilation strip equivalent to 25mm continuous with fly proof screen and ridge vents. Flat roof insulation is to be continuous with the wall insulation but stopped back to allow a 50mm air gap above the insulation for ventilation.
Insulation to be 100mm Celotex GA4000 between joists and 50mm Celotex PL4000 accross underside of joists.
Plasterboard with a vapour barrier under joists. Finish with a 3mm plaster skim. Provide restraint to flat roof by fixing using of 30 x 5 x 1000mm ms galvanised lateral restraint straps at maximum 2000mm centres fixed to 100 x 50mm wall plates and anchored to wall. Workmanship to comply to BS 8000:4.

STUD ASHLAR/DWARF WALL
To achieve minimum U Value of 0.28W/m²K
Construct stud wall using 100mm x 50mm head and sole plates and vertical studs (with noggins) at 400mm centres or to structural engineer's details and calculations. Insulation between and over studs; 60mm Celotex GA4000 between plus 37.5mm Celotex PL4000 insulated plasterboard with VCL.
Finish with 3mm skim coat of finishing plaster. All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally.

UPGRADE OF PITCHED ROOF
(imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)
Vented roof – pitch 22-45°
To achieve U-value 0.18 W/m²K
Existing roof structure to be assessed by a structural engineer and any alterations to be carried out in strict accordance with structural engineer's details and calculations which must be approved by building control before works commence on site. The existing roof condition must be checked and be free from defects as required by the Building Control Officer any defective coverings or felt to be replaced in accordance with manufacturer's details.
Roof construction - 47 x 100mm Grade C24 rafters at max 400mm centres max span 2.12m. Insulation to be 50mm Celotex GA4000 infilled between rafters and 70mm under rafters.
Provide a cavity of 25mm by fixing battens between plasterboard and under rafter insulation (recommended where insulation under rafters exceeds 50mm).
Maintain a 50mm air gap above insulation 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 or provide equivalent high and low level tile vents in accordance with manufactures details. Fix 12.5mm foil backed plasterboard (joints staggered) and 5mm skim coat of finishing plaster to the underside of all ceilings using galvanized plasterboard nails.



**SECTION A-A**

**IMPORTANT**
**Please take care to use M.20 HSFG bolts on splice junction of floor beam as shown on seperate sheet and structural engineers details.**

**Drawing to be read in conjunction with supplied notes, drawing ref:povey/10/04 and structural engineers calculations.**

**All measurements to be checked on site.**

MEANS OF ESCAPE
A protected escape stairway giving half hour fire resistance to be formed from the loft room/rooms and protected at all levels leading directly to an external door at ground level. All doors on to the stairway must be FD20 rated fire doors to BS 476-22:1987 (fitted with intumescent strips rebated around sides & top of door or frame if required by BCO). Where applicable, any glazing in fire doors to be half hour fire resisting and glazing in the walls forming the escape route enclosure to have 30 minutes fire resistance and be at least 1.1m above the floor level or stair pitch line. Any inner rooms to have escape windows with an unobstructed openable area of 450mm high x 450mm wide, minimum 0.33m sq, the bottom of the openable 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.

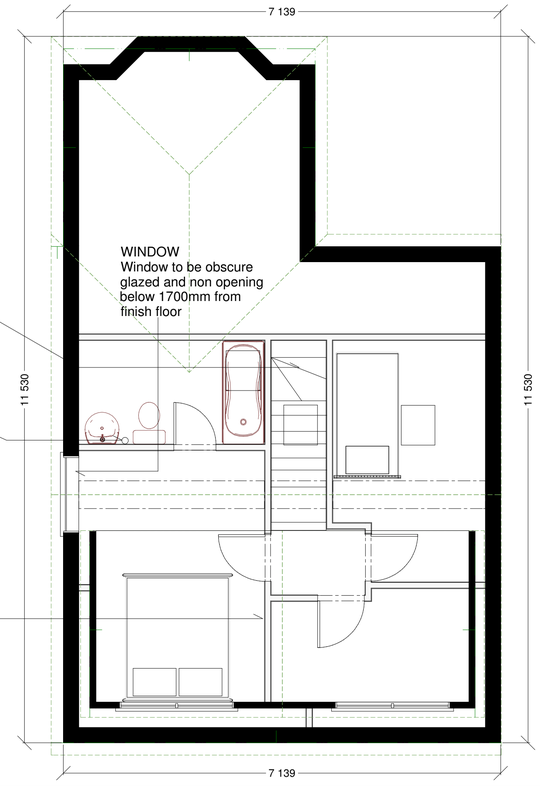
NOTE:- If all windows on 1st floor can finish no higher than 1100mm from floor level a protected escape route will not be neccessary.

NEW STAIRCASE
Dimensions to be checked and measured on site prior to fabrication of stairs. Timber stairs to comply with BS585 and with Part K of the Building Regulations. Max rise 220mm, min going 220mm. Two risers plus one going should be between 550 and 700mm. Tapered treads to have going in centre of tread at least the same as the going on the straight. Min 50mm going of tapered treads measured at narrow end. Pitch not to exceed 42 degrees. The width and length of every landing should be at least as great as the smallest width of the flight. Doors which swing across a landing at the bottom of a flight should leave a clear space of at least 400mm across the full width of the flight. Min 2.0m headroom measured vertically above pitch line of stairs and landings. However, if there is not enough space to achieve this height the headroom will be satisfactory if the height measured at the centre of the stair width is l.9 m reducing to 1.8m over one side of the stair. Handrail on staircase to be 900mm above the pitchline, handrail to be at least one side if stairs are less than 1m wide and on both sides if they are wider. Ensure a clear width between handrails of minimum 600mm. Balustrading designed to be unclimbable and should contain no space through which a 100mm sphere could pass.

ABOVE GROUND DRAINAGE
All new above ground drainage and plumbing to comply with BS.5572.1978 for sanitary pipework. All drainage to be in accordance with part H of the Building Regulations. Wastes 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)
Wash basin - 1.7m for 32mm pipe 4m for 40mm pipe
Bath/shower - 3m for 40mm pipe 4m for 50mm pipe
W/c - 6m for 100mm pipe for single WC
All branch pipes to connect to existing 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 within 200mm of the WC connection. Supply hot and cold water to all fittings as appropriate.

INTERNAL STUD PARTITIONS
100mm x 50mm softwood treated timbers studs at 400mm cts with 50 x 100mm head and sole plates and solid intermediate horizontal noggins at 1/3 height or 450mm c/cs. Provide min 10kg/m³ density acoustic soundproof quilt tightly packed (eg. 100mm Rockwool or Isowool mineral fibre sound insulation) in all voids the full depth of the stud. Walls faced throughout with 12.5mm plaster board with skim plaster finish. Taped and jointed complete with beads and stops.

SMOKE DETECTION
Mains operated linked smoke alarm detection system to BS 5446 - 1:2000 and BS5839-6:2004 to at least a Grade D category LD3 standard to be mains powered with battery back up to be placed on each storey with an additional interlinked heat detector at ceiling level in kitchens if requried by BCO. Smoke alarms should be sited so that there is a smoke alarm in the circulation space on all levels/ storeys and within 7.5m of the door to every habitable room. If ceiling mounted they should be 300mm from the walls and light fittings. Where the kitchen area is not separated from the stairway or circulation space by a door, there should be an interlinked heat detector in the kitchen.




| Sheet | Scale | Date | Project Title and Description | Drawing Title and Reference | Proposed Site Address | Client Name and Address | General Notes |
|---|---|---|---|---|---|---|---|
| A1 | 1:50 | 03/02/13 | Loft Conversion | Building Regulations Sections and Elevations | As Client Address | | All dimensions to be checked on site and not scaled from drawing. All drawings to be read in conjunction with supplied specification where applicable. No part of this drawing may be copied or re produced without written consent from 'P.J.H. Design' |

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