



FRONT ELEVATION



SIDE ELEVATION (east)

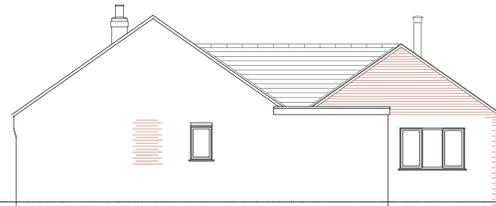


REAR ELEVATION

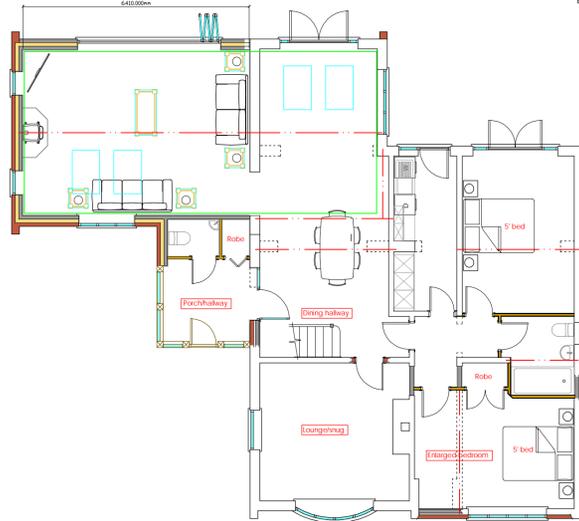


SIDE ELEVATION (west)

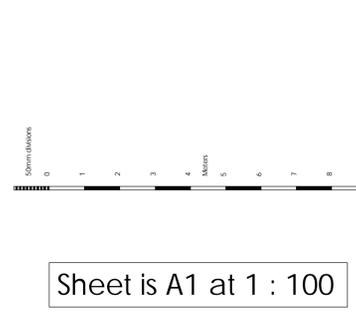
EXISTING 1 : 100



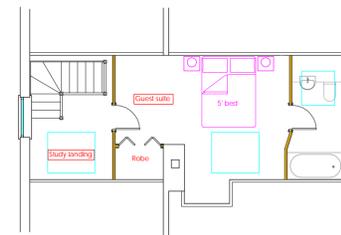
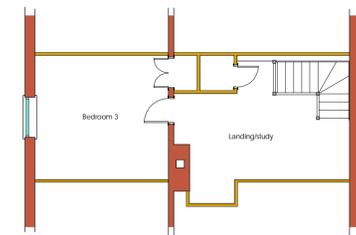
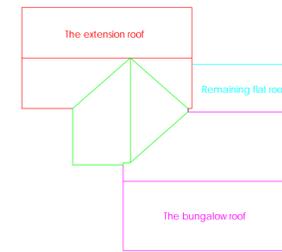
PROPOSED 1 : 100



GROUND FLOOR



Sheet is A1 at 1 : 100



FIRST FLOOR

EXISTING 1 : 100

PROPOSED 1 : 100

EXISTING 1 : 100

PROPOSED 1 : 100

D	Reinstate snug/attic chimney breast, alter gable end windows to original style.	17.11.2014
C	Add 1 metre to length, add gable end windows, remove snug/attic chimney breast.	9.11.2014
B	Further layout alterations and a reduction in the overall scope of the scheme.	23.10.2014
A	Various layout alterations	16.9.2014
REV	DESCRIPTION	DATE

CLIENT
[Redacted]

PROPOSAL
Side extension to a bungalow, dormer in front elevation roof.

DRAWING TITLE
Existing and proposed floor plans and elevations

SCALE 1 : 100 DATE 1.9.2014 DRAWN BY PDD

DRAWING REFERENCE 15/519 REVISION



Copyright © Peter Davis 2012. This drawing may not be lent, copied, re-sold or copied without the permission of the author.



QUICK REFERENCE

See notes at right for a more detailed specification.

Masonry nibs removed or cut back. Existing lintel removed, (it is possibly in a single length), and replaced with UB5 a longer 178mm x 102mm x 19kg universal beam lintel. Beam will be clad on the three exposed sides with 15mm Knauf FireShield plaster board and 3mm skim coat for 30 minute fire protection.

Window removed and the cavity wall below neatly cut and taken down. Existing lintel can remain. New French door set and side screens will achieve a whole frame/doors/glazing aggregated U value of 1.80W/m2K, or better. Safety glazing throughout to BS6206.

Window removed and the cavity wall below neatly cut and taken down. Existing lintel can remain. New door will achieve a whole frame/door/glazing aggregated U value of 1.80W/m2K, or better. The attached flag window will achieve a whole frame/light/glazing U value of 1.60W/m2K, or better. Safety glazing throughout.

Existing bathroom sanitary ware stripped out of this area. Hot, cold and waste pipe plumbing and the electrical installation altered to suit the requirements of the utility room.

Raise insulated cavity masonry off existing walls and UB3, a 152mm x 89mm x 16kg universal beam. Best cavity width possible off existing cavity wall, form a 100mm cavity where inner leaf is on UB3. Knauf Ditherm Cavity Slab 34 to cavity. Thermatite Shield inner leaf. Install appropriate insulated cavity lintel above window if none present. 150mm end bearings and 30 min fire protection.

215mm square brickwork corner pier off a 600mm square x 150mm thick pad foundation. Brickwork toothed and bonded to existing on the running return.

UB2 is a 178mm x 102mm x 19kg universal beam. Its purpose is to carry a wall plate across the dining hallway to receive the roof rafters. Wall plate bolted to top flange on alternate sides of the web at 600mm centres with M10 coach bolts. 15mm Knauf FireShield for 30 minute fire protection.

780mm x 1400mm centre pivot roof windows will achieve a whole frame/light/glazing aggregated U value of 1.60W/m2K, or better. Install in complete accordance with the manufacturers instructions.

French doors remain unchanged.

Flat roof removed from the area shown hatched green, ready to be replaced by the vaulted pitched roof.

Masonry nibs and any lintel supporting the flat roof structures removed.

Raise an internal gable to carry the roof ridge beam and provide a wall between the lounge and kitchen. Use two leaves of Thermatite Shield, or similar, blockwork tied together with cavity wall ties. Change to 7 Newton blocks for the top four courses. The gable can continue over the double door opening into the lounge on suitable lintel(s), or that section could be done in stud work. Use existing lintel(s) if present and suitable or Catnic BS1010 standard duty box lintels with 150mm end bearings or 140mm deep pre-stressed concrete lintels.

600mm x 200mm strip concrete foundation founded on good load bearing ground. Foundation centred below wall.

Folding doorset of the clients choice will achieve a whole door/frame/glazing U aggregated U value of 1.80W/m2K, or better. Safety glazing throughout. Catnic CX90/100 extra heavy duty lintel above the opening with 150mm minimum end bearings and 30 minute fire protection.

Nibs removed and a longer lintel installed to carry the original bungalow roof eaves over the dining hallway. UB4 is a 178mm x 102mm x 19kg universal beam, provide thirty minute fire protection.

Form cloakroom and hanging space within hallway with stud partition built off the concrete sub floor before the floor is screeded. Use 63mm x 38mm csk or 75mm x 50mm sawn carcassing with 12.5mm plaster board and skim both sides and 75mm Rockwool Flexi acoustic to voids.

780mm x 1400mm centre pivot roof windows will achieve a whole frame/light/glazing aggregated U value of 1.60W/m2K, or better. Install in complete accordance with the manufacturers instructions.

Windows will achieve a whole frame/light/glazing U value of 1.60W/m2K, or better. Catnic CG90/100 lintel above with minimum 150mm end bearings and 30 minute fire protection. Safety glazing to gable windows.

Wood burning or multi-fuel stove of the clients choice on a structural hearth raised above the general level of the surrounding floor. Products of combustion will discharge through an insulated twin walled flue of the internal diameter specified by the stove manufacturer.

Insulated cavity wall with outer leaf of rendered 100mm Thermatite Shield blockwork. Gable and front elevations have an outer leaf of facing brickwork. 100mm cavity filled with Knauf Ditherm Cavity Slab 34 insulation. Inner leaf 100mm Thermatite Shield finished with dabbed on 12.5mm plaster board and 3mm skim coat. U value achieved is 0.20W/m2K for the wall with brickwork outer leaf, better for the wall with two leaves of Thermatite.

Window removed and the opening reformed to receive a bespoke internal door frame with side screen. New lintels above, use Catnic BS100 standard duty box lintels with 150mm min end bearings and 30 minute fire protection or 140mm deep pre-stressed concrete lintels.

Bespoke double glazed green oak frame to the hallway. Roof rafters will bear directly on the head beam, the front half gable wall will be built off a Catnic CG70/100 lintel bearing in the bungalow wall and on the oak corner post. UB1 254mm x 146mm x 43kg universal beam ridge beam. See detail at right for the way to support the rafters against the ridge beam.

All new roofs are clad in plain concrete double lap single camber tiles. 150mm x 50mm C16 rafters at 400mm centres with double rafters each side of each roof window. 100mm Celotex GA4000 between the rafters. Clad the underside of the rafters with 12mm shuttering plywood to create a rigid plate. Fix 35mm Celotex IB4000 below the plywood and finish with 12.5mm plaster board and skim for a U value of 0.18W/m2K, or better.

Folding doorset of the clients choice will achieve a whole door/frame/glazing U aggregated U value of 1.80W/m2K, or better. Safety glazing throughout. Catnic CX90/100 extra heavy duty lintel above the opening with 150mm minimum end bearings and 30 minute fire protection.

Infill roof between the rear slope of the roof of the existing bungalow and the front slope of the extension roof from 150mm x 50mm C16 rafters at 400mm centres. Small section of new ceiling structure above the porch/hallway and cloakroom from 150mm x 50mm C16 joists at 400mm centres supported on the oak frame at one end and in hangers against a wall runner on the bungalow wall at the other end.

This floor will have a hot water under floor heating system installed within the floor screed. 75mm fibre glass reinforced 1 : 4 cement/sharp sand screed laid over the u/fc system. System placed on a lightweight polythene anti contamination membrane laid over 75mm Celotex GA4000 rigid insulation. Insulation placed on a tamped level 125mm C25 concrete slab placed on a 1200gauge Visqueen or similar DPM. DPM laid over 150mm of mechanically compacted hardcore. U value achieved is 0.20W/m2K.

Masonry wall removed and the loads above carried over on a Catnic BS100 pressed steel box lintel. Construct stud partitions off the floor to delineate the new bathroom and cupboard. 63mm x 38mm CLS studs, rails and noggins at 400mm/1200mm centres. 12.5mm plaster board and 3mm skim both sides, except in shower areas where tile boarder is more appropriate. 760mm doors to bathroom and bedroom 2 x 533mm doors to cupboard.

Staircase removed from this area. (see existing floor plan on sheet 1). Infill the opening in the floor with like sized joists, floor deck and ceiling finish.

Window removed and the opening infilled with like construction. New brickwork toothed and bonded to existing.

GENERAL

Storage, handling and fixing of all materials is to be in strict accordance with the instructions/comments of the manufacturers. All work to be carried out in accordance with the Building Regulations, British Standard Codes of Practice and British Board of Agreement Certificates in force at the time of construction. All work to be inspected at the appropriate time and to be to the approval of the Local Authority Building Control Department.

Great effort is made to ensure the fullest information relating to the project is presented and that it is complete, consistent and error free - but mistakes can occur. The contractor is to read and take account of all information presented in the drawings) and any associated documents, (steelwork calculations, insulation calculations, etc.) and any errors, omissions or inconsistencies are to be brought to the attention of the author.

Methods of construction are not described in 'nail by nail' detail, it is expected that competent, conscientious contractors are aware of common methods and will implement them properly or if in doubt will seek further information or advice. There is a wealth of manufacturers information on usage and methods for their materials available on the web at the touch of a smart phone or tablet keypad.

If the client or contractor choose to commence work before this specification has been checked and granted building regulations approval then they do so at their own risk.

The Party Wall Act 1964 places a legal duty on the owners of buildings to inform all adjoining neighbours if they intend to carry out building works covered by the act. Details of the requirements of the act can be found in an explanatory booklet here.

http://www.planningportal.gov.uk/uploads/br/BB_partywall_explain_booklet.pdf

STRIP FOUNDATIONS

C25 strip concrete foundations 600mm wide x 200mm thick, (cavity walls), 450mm wide x 200mm thick, (single leaf masonry walls), founded on good load bearing ground at least 750mm below finished ground level if on sand or 900mm if on clay. The concrete forming the foundation is to be continuous, ideally placed in a single pour. If it is absolutely necessary to cast foundation in more than one pour then the separate parts should be joined by five one meter long pieces of M12 high tensile reinforcing bar with half the length of each piece cast into the first pour. Masonry is to be positioned centrally on the foundation unless stated otherwise. Foundation to be founded at or below the invert of any drain within one meter. Steps in foundations should be no greater than the foundation thickness and the overlap of the concrete between levels should be twice the height of the step, or the thickness of the foundation, or a maximum of 300mm, whichever is the greater. If the new foundation is being cast next to an existing foundation, an extension for example, and the foundation types are the same then the foundations should unite where they abut each other. On occasions local site conditions, for example trees close by, may require a modification of the normal foundation structure. Advice on alternative foundation structures to overcome local site conditions, for example extra depth of excavation or trench fill concrete, should be sought from the BCO or other suitably qualified person. Instructions and alternative specifications given should be carefully implemented. No concrete is to be poured into foundation excavations until they have been inspected and approved by the controlling authority, for example the IABCO or the NHBC inspector.

FOUNDATION MASONRY (cavity walling)

275mm/300mm (depending on cavity width for the wall above ground level) Thermatite trench blocks laid in 6 : 1 sand cement mortar. Construction to change to an outer leaf of facing brickwork and inner leaf of common brick/blockwork before ground level is reached. No common brickwork or blockwork is to show above ground level outside. Any cavity above the top course of trench block is to be filled with weak mix concrete up to finished ground level. Concrete to be struck off to a slope towards the outer leaf. selected excavation spoil to backfill the trench outside the foundation masonry, only use hardcore backfill inside. Any drains crossed by the foundation masonry are to be bridged by reinforced concrete lintels with at least 50mm between the underside of the lintel and the crown of the drain. Voids between the drain and masonry to be packed with compressible siltant to prevent entry of gas and the opening in the masonry each side covered with a rigid plate to prevent the entry of fill or vermin, see ADH1 Diagram 7.

FOUNDATION MASONRY (solid walling)

Hollow or solid heavy concrete blockwork of the same width dimension as the wall above ground level will be laid in 6 : 1 sand cement mortar. If the wall is one that will be visible outside then construction to change to facing brickwork before ground level is reached. No common brickwork or blockwork is to show above ground level outside.

CONCRETE FLOOR STRUCTURE (insulated)

Floor P/A is 0.77 and the construction described below achieves a U_v = 0.20W/m2K.

75mm fibre glass reinforced 4 : 1 sand/cement screed lapped and trowelled to a smooth, level and flat finish over the under floor heating pipework and to run through level beams with adjacent floors unless stated otherwise. 125mm C25 concrete tamped to level over a lightweight 250/500 gauge anti contamination membrane laid over 75mm Celotex GA4000 rigid insulation with 20mm Celotex T Break edge insulation against external walls. All joints between the insulation slabs are to be taped with Idendol felt tape or with duct tape. (Protect the insulation and vapour control layer from damage during pouring of the concrete slab). Insulation set on a 1200 gauge Visqueen, or similar DPM. DPM to unite with the DPC in new wall constructions and to run up existing walls at least to finished floor level. DPM to be laid over 150mm of sand bedded mechanically consolidated sulphate free hardcore. If required it is to be compacted in layers not exceeding 150mm of hardcore. If ground conditions dictate that more than 600mm of hardcore is required consideration should be given to an alternative floor construction. Maintain cross ventilation to any adjacent suspended timber ground floors. Any suspended floor ventilation air bricks are to be ducted out through the solid floor structure with pipe(s) of equivalent cross sectional area to the air bricks they are supplying. Provide telescopic ducting up the new cavities if required.

ABOVE GROUND MASONRY (cavity walling)

The wall construction described below achieves a U_v = 0.25W/m2K

102mm facing brickwork outer leaf laid in 1 : 6 sand cement mortar. To rendered areas the outer leaf will be 100mm Plasmor Fibrolite, or similar, finished with a through coloured textured render, such as K Rend. 100mm cavity with stainless steel cavity ties at 450mm vertical centres, 750mm horizontal centres and at every block course around reveals. Ensure ties are suitable for use in a 100mm cavity. 100mm Knauf Ditherm Cavity Slab 34 full fill insulation to the wall cavities, cavities closed with Thermabatt, or similar, insulated DPC at reveals. 100mm Thermatite Shield aerated lightweight concrete blockwork inner leaf. Polythene DPC to both leaves at a minimum of 150mm above finished ground level and to unite with DPCs in the existing building. Catnic combined classic or CG style insulated open backed lintels over all openings unless a different special specification for certain lintels exists elsewhere on the drawing. (Note the requirement for the extra heavy duty Catnic CX90/100 lintel, or similar, above the folding doorset). All lintels to have a minimum 150mm end bearing unless a different special specification for certain lintels exists elsewhere on the drawing. 12.7mm dot and dab plasterboard and 3mm skim for the internal finish. If existing and new foundation types are the same then running abutments are to be toothed and bonded together, otherwise they are to be made with Catnic, or similar, stainless steel wall starters to allow a movement joint. Right angled brickwork abutments and all blockwork abutments are to be made with Catnic, or similar, stainless steel wall starters. In all instances cavities are to be kept continuous.

INTERNAL WALLS (blockwork)

Any solid hollow heavy, medium or light weight concrete blockwork laid with a 1 : 6 cement/sand mortar mix and finished both sides with 12.5mm plasterboard and 3mm skim coat. DPC as best as site conditions will allow 150mm above finished ground level and to unite with adjacent DPCs and floor DPMs. 75mm pre-stressed concrete lintels above openings that are non load bearing. 140mm pre-stressed concrete lintels or Catnic, or similar, steel box or angle lintels above load bearing openings.

INTERNAL WALLS (stud partition)

75mm x 50mm sawn carcassing or 63mm x 38mm CLS base rails, head rails, stud and noggins at 400mm vertical centres and 1200mm horizontal centres. 12.5mm plasterboard and 3mm skim both sides. Partitions that form part of a fire resistant enclosure should be finished with 12.5mm Knauf FireShield plaster board and 3mm skim on both sides. Partitions that are required to resist the passage of sound between the spaces on each side, (between rest accommodation rooms, between accommodation rooms and bathroom rooms for instance - but not mandatory between a bedroom and its own en-suite facilities), should have the voids filled with a dense acoustic quilt insulation with a minimum mass of 10kg/m3, such as Rockwool Flexi, and be faced both sides with plasterboard with a minimum mass of 10kg/m2.

WINDOWS, ROOF WINDOWS & EXTERNAL DOORS

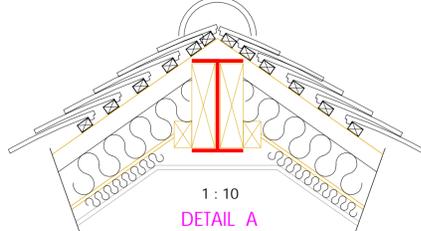
All glazing to BS6206 and ADN.

uPVC windows to clients choice of the size and style shown on the drawing. All windows combined are to have opening lights of at least 5% of the floor area of the room in which they are located. (Doors count towards this 5% requirement). Windows will achieve a whole frame/light/glazing U value of 1.60W/m2K, or better. Glazing in critical locations, that is within 800mm of the floor or within 300mm of the side of a doorway, (see ADN Section 1 Diagram 1), should break safely if it breaks, (laminated), be robust, (laminated or toughened), or in small panes, or be permanently protected. Windows that are in a room requiring a secondary means of escape, that is any first floor accommodation room or any room that can only be accessed through another room), will have a clear opening area of at least 0.33 square metres with a minimum height and width of 450mm and with the lower edge of the opening area no more than 1100mm above the floor. The window providing the means of escape should allow the escaping person to reach a place free from danger from fire.

uPVC/aluminium/timber doors to clients style choice of the size shown on the drawing. Doors will achieve a whole door/frame/glazing U value of 1.80W/m2K, or better. All glazing in doors or in side screens within 300mm of the edge of the door will break safely if it breaks, (laminated), be robust, (laminated or toughened), or in small panes, or be permanently protected. Doors will be draught striped and fitted with robust locks.

Roof windows achieve a whole frame/light/glazing U value of 1.60W/m2K. Windows will be installed in complete accordance with the manufacturers instructions and will incorporate installation accessories where appropriate. (In the event that Velux roof windows are installed that includes items such as underfelt collars, insulation collars, and vapour barriers). Contractors are to ensure that all small cavities between the roof construction and the roof window frames are insulated, no cold bridges.

All windows and doors are to be installed and sealed in accordance with the manufacturers instructions and if appropriate using proper ancillary materials such as proprietary flashing kits. French doors will, ideally, be fitted with effective friction stays or hooks so that they can be secured against blowing shut and causing injury.



254mm x 146mm x 43kg universal beam ridge beam carries the new roof above the existing kitchen and proposed lounge extension. It will be concealed as much as possible within the structure. Fix timber runners into both webs of the beam with M10 coach bolts at 800mm centres. Use large square plate washers against the timber runners bear on the top face of the bottom flange of the beam. Glue and screw 75mm x 50mm runners to the bottom of the web runners as shown, use 75mm 12 gauge screws at 200mm centres. Bridsroom the rafters over the 75mm x 50mm runners and carefully skew screw to ensure using 100mm 10 gauge screws. Drill pilot holes in the rafters to receive the screws and secure the screws do the split the timber they are anchored into.

Fix a triangular timber fillet to the top flange of the beam to receive the top battens.

Gable cavity masonry built off a Catnic CG70/100 lintel bearing on the oak corner post of the hallway glazed wall at the outer end and in the wall of the bungalow at the inner end. Wall will have an 85mm cavity filled with Knauf Ditherm Cavity Slab 34 and an inner leaf of 100mm Thermatite Shield.

DUO PITCHED VAULTED ROOF STRUCTURE - (main roof over lounge/kitchen)

Structure

75mm x 100mm wall plates bedded on and secured down with 1200mm x 25mm x 3mm galvanised steel straps fixed to the masonry at 1800mm centres with plugs and 50mm 10 gauge screws. 254mm x 146mm x 43kg universal beam ridge beam will bear on 140mm deep x 100mm wide x 450mm long C30 concrete padstones. Provide full depth timber runners secured into each side of the beam web with M10 coach bolts at 800mm centres. Thereon will be in contact with the top face of the bottom flange of the beam and 50mm square steel plate washers will be used under the bolt head and nuts securing the runners. Flush with the bottom edge of the web runners glue and screw a further 75mm x 50mm runner to the beam web runner on each side. Use 75mm 12 gauge screws at 200mm centres. (See large scale detail A below). The wall plates and the ridge beam runners will extend across the gable wall cavities so that a rafter can be installed in the cavity to support the battens out to the dry verge. (No gable ladder or external gable rafter on this roof). Fix 150mm x 50mm C16 rafters at 400mm centres with double rafters each side of each roof window. Rafters will be birdsmouthed over supports. Ensure there is a rafter installed in each gable cavity to enable the tie bolts to be supported and nailed as per the verge as possible.

Restraint

Provide restraint to gable masonry with 1500mm x 30mm x 5mm L shaped galvanised steel straps at 1800mm centres hooked over the inner leaf of masonry and secured to the underside of at least three rafters. Notch the rafters to accept the straps and fix noggins between the rafters and between the last rafter and the masonry. After installing the between rafters insulation fix 12mm plywood to the underside of the joists with 40mm ring shank nails at 200mm centres and with board joints staggered.

Insulations

Place 100mm Celotex GA400 rigid insulation boards between the rafters. Boards will be a snug fit, will be restrained from penetrating above the bottom edge of the joists to maintain a 50mm air gap above, (use Celotex insulation clips), and will unite with the cavity wall insulations. Fix the plywood detail under 'restraint' above. Over the plywood fix 55mm Celotex IB4000 rigid insulation with board joints staggered and tightly butted together. Seal all board joints with Idendol, or similar, self adhesive foil tape to complete the vapour barrier. Fix 12.5mm plaster board and finish with 3mm skim coat.

The client should be discouraged from installing lighting that requires openings in the ceiling boards and insulation. They allow the escape of vapour laden warm air to the cold side of the structure with the associated risk of condensation problems. If they are insistent the openings should be kept to the minimum necessary to allow the lighting unit(s) to be installed safely without any risk of them causing a fire. If in ceiling lighting units are installed then they should be fitted with intumescent hoods and Celotex FR4000 (fire resistant) insulation products would be more appropriate than XR4000 or GA4000 (general application) category insulation products.

DUO PITCHED ROOF STRUCTURE - (infill roof above dining hallway and over porch)

See SECTION BB on sheet 3

Structure

Fix a pair of 250mm x 25mm timber lay boards over the front rafters of the new roof structure above the kitchen/lounge and a single lay board over the rear rafters of the existing bungalow roof above the dining hallway. Provide a 225mm 38mm timber ridge board between the two roof slopes. Fix 150mm x 50mm C16 rafters at 400mm centres between the ridge board and lay boards with some of the rafters extending out to form the mansard pitched roof slope above the porch/cloakroom. The extended rafters will either bear directly on the oak frame or on a softwood wall plate fixed on top of the oak frame. The five longest rafters in the centre section of the roof will be tied together part way up their span with 100mm x 50mm C16 ties spliced or coach bolted to the rafters. Above the porch/cloakroom provide a conventional level ceiling structure of 125mm x 50mm at 400mm centres bearing at one end on the oak frame, or a wall plate fixed on the oak frame and at the other supported in nail on gable steel hangers fixed to a wall runner bolted to the gable masonry of the existing bungalow.

Restraint

Provide restraint from the roof structure to the half gable above the porch door as described for the main vaulted roof construction above.

Insulations

Most of the insulation for this roof construction is within the slope of the new vaulted roof construction described above or in the slope of the existing bungalow roof construction. Above the porch and cloakroom insulate between the ceiling joists with 170mm Knauf Loft Roll quilt insulation and across the joists with 100mm Knauf Loft Roll quilt insulation.

Sheet 2

REV	DESCRIPTION	DATE
CLIENT		
PROPOSAL	Side extension to a bungalow, internal alterations.	
DRAWING TITLE	Part floor plan, section, detail, construction notes.	
SCALE	DATE	DRAWN BY
1 : 50	1.9.2014	PDD
DRAWING REFERENCE	REVISION	
15/519 Sheet 2		

Peter Davis
Architectural Services & Planning Consultancy

Copyright © Peter Davis 2012. This drawing may not be lent, copied, re-used or copied without the permission of the author.



QUICK REFERENCE

See notes at right for a more detailed specification.

This is the attic space of the original bungalow. It has already been converted to accommodation. There are further alterations to this earlier conversion proposed, principally relocating the staircase to the opposite end of the building, installing larger roof windows and internal layout alterations by the removal of some stud walls and construction of others. See more details below.

Infill pitched roof structure between the front elevation roof slope of the lounge extension roof and the rear slope of the roof of the original bungalow. 250mm x 25mm layboards laid over both roof slopes receive the feet of 150mm x 50mm C16 rafters at 400mm centres. Provide 100mm x 50mm C16 ties bolted to the longest central rafters to control roof spread. Secure with 10mm coach bolts. 50mm square plate washers and anti rotation star washers between the two members. Roof covering is plain concrete double lap single camber roof tiles on 25mm x 38mm lamed battens secured through a vapour permeable membrane with 45mm galv nails.

All new roofs are clad in plain concrete double lap single camber tiles. 150mm x 50mm C16 rafters at 400mm centres with double rafters each side of each roof window. 100mm Celotex GA4000 between the rafters. Clad the underside of the rafters with 12mm shuttering plywood to create a rigid plate. Fix 35mm Celotex IB4000 below the plywood and finish with 12.5mm plaster board and skim for a U value of 0.18W/m2K, or better.

780mm x 1400mm centre pivot roof windows will achieve a whole frame/light/glazing aggregated U value of 1.60W/m2K, or better. Install in complete accordance with the manufacturers instructions.

Take down the eaves brickwork between the lintel and the flat roof to allow the rafters of the new pitched roof to pass through. Existing lintel and French door set to remain.

Flat roof structure to be removed.

Existing kitchen window to remain.

Masonry ribs to be removed.

UB2 is a 178mm x 102mm x 19kg universal beam. Its purpose is to carry a wall plate across the dining hallway to receive the roof rafters. Wall plate bolted to top flange on alternate sides of the web at 600mm centres with M10 coach bolts. 15mm Knauf Fireshield for 30 minute fire protection.

Small section of ceiling between UB2 and UB4 can be at the level of the bottom flange of the beams or up between the beams bearing on the wall plates. Use 100mm x 50mm joists at 400mm centres. 170mm x 100mm Knauf Loft Roll quilt laid between and across the joists. 12.5mm plaster board and 3mm skim.

Nibs removed and a longer lintel installed to carry the original bungalow roof eaves over the dining hallway. UB4 is a 178mm x 102mm x 19kg universal beam, provide thirty minute fire protection.

Trim out the floor to receive the relocated new staircase. Use timber that is twice the section of the existing joist, (or two of the same section bolted together), and make the right angled timber junctions with nail on galv steel hangers.

New winder staircase in materials and style of the clients choice. Pitch will not exceed 42 degrees. Guarding and handrail to all exposed edges of the flight and attic floor will be at least 900mm above the floor/ceiling line and will be constructed in a manner that will not allow the passage of a 100mm diameter sphere and is not easily climbed by children.

Remove the existing door and casing and infill the opening with the construction, or with stud partition. Finish both sides to match existing surfaces and fit matching skirting boards.

Remove the staircase and infill the floor with like construction. Construct a stud wall from 63mm x 38mm CLS or 75mm x 50mm sawn carcassing to create the bathroom. Acoustic insulation to wall cavity is optional. Relocate the existing 980mm x 780mm roof window into a new opening centred on the new bathroom. (Top hung perhaps more appropriate in this situation, although it would also be sensible to re-use one of the centre pivot roof windows coming out of the existing roof. Install sanitary ware of the clients choice to the extent shown, (bath, basin, WC and possibly built in furniture).

Remove structures, (masonry and stud partition), shown as dashed lines and make good to any affected surfaces or unfinished surfaces within the cupboards. The central heating boiler is in the larger cupboard and is to be removed and reinstalled in a location of the clients choice. The age and capability of the existing boiler is to be assessed and the client advised on whether a new boiler is required.

Trim out the floor to receive the relocated new staircase. Use timber that is twice the section of the existing joist, (or two of the same section bolted together), and make the right angled timber junctions with nail on galv steel hangers. New winder staircase in materials and style of the clients choice. Pitch will not exceed 42 degrees. Guarding and handrail to all exposed edges of the flight and attic floor will be at least 900mm above the floor/ceiling line and will be constructed in a manner that will not allow the passage of a 100mm diameter sphere and is not easily climbed by children.

Partition as described for the bathroom to form the wall between the bedroom and study/landing and to form the wardrobe.

Remove the existing roof windows and re-trim the roof to receive two larger top hung roof windows 940mm wide x 1400mm long. Double rafters between the purlin and ridge board each side of each window with trimmed rafters carried in nail on galvanised steel hangers. Windows installed in complete accordance with the manufacturers instructions. Make good to all roof coverings, insulations, vapour barriers and surfaces as required.

ELECTRICAL INSTALLATION

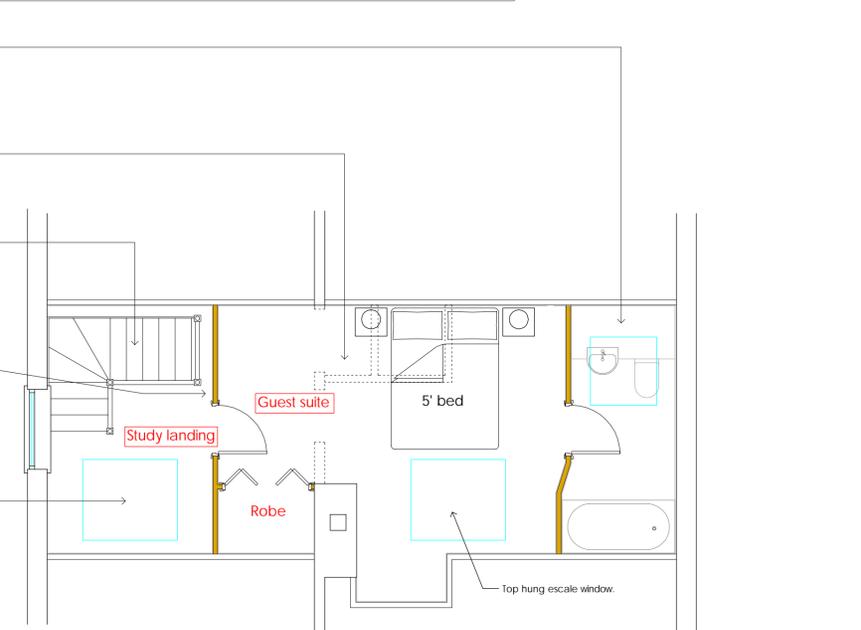
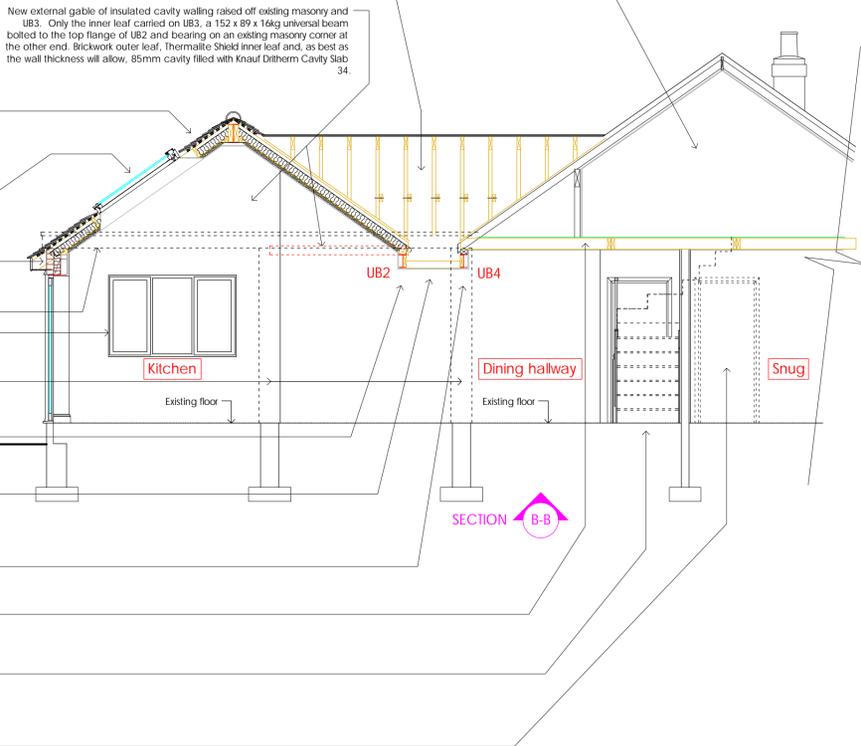
Power and lighting is to be altered and extended to suit the clients requirements. All electrical work to be designed, installed, inspected and tested by qualified electrician(s) or a competent person, examples of whose past work have been inspected, tested and approved by one of the competent person scheme members. Members include: National Inspection Council for Electrical Installation Contracting (NICEIC), The Electrical Contractors Association (ECA), The Electrical Installation Self Assessment Scheme (EIECSA).

Fixed internal lighting

In the areas affected by the building work provide low energy light fittings that number not less than 75% of all the light fittings in the main dwelling spaces, (excluding infrequently accessed spaces such as cupboards and wardrobes). Low energy light fittings should have lamps with a luminous efficacy greater than 45 lamp lumens per circuit-watt and a total output greater than 400 lamp lumens. Light fittings where supplied power is less than 5 circuit-watts are excluded from the overall count of the total number of light fittings.

Fixed external lighting

Fittings will have the following characteristics:-
Either..... light fittings will have a lamp capacity not greater than 100 lamp-watts per fitting and all lamps will be automatically controlled to switch off when the area it becomes unoccupied or daylight becomes sufficient.
Or..... light fittings will have a lamp efficacy greater than 45 lumens per circuit-watt and all lamps automatically controlled to switch off when daylight is sufficient and all light fittings manually controllable.



ELECTRICAL INSTALLATION (cont'd)

Smoke alarms

Provide two interlinked mains powered smoke alarms with battery back up in the locations shown on the proposed floor plan on Sheet 1.

The client should be discouraged from installing lighting that requires openings in the ceiling boards and insulation of a vaulted roof construction. They allow the escape of vapour laden warm air to the cold side of the structure with the associated risk of condensation problems. If they are insistent the openings should be kept to the minimum possible. Lighting units installed in confined structure also present a fire risk. They should be fitted with intrinsically safe and Celotex FR4000 (fire resistant) insulation products would be more appropriate than GA4000 or IB4000 (general application and thermal break) category insulation products.

SURFACE FINISHES

12.7mm dot and dab plasterboard with 3mm skim finish to masonry walls. 12.7mm plasterboard and 3mm skim to ceilings. Double boarding ceilings as a quick means of repair or refurbishment should be avoided, it can overload the supporting structure.

Internal door, door architraves and skirting boards to match those in the existing dwelling or to clients choice.

CENTRAL HEATING

The central heating is to be altered/extended to suit the clients requirements for the altered and extended building. Radiators are to be fitted with thermostatic valves. The contractor is to ensure the heating and domestic hot water systems are controlled with appropriate time controls, thermostats and interlocks to allow efficient and economical operation. Pipes in cold areas to be lagged to minimise heat loss and prevent freezing.

The new lounge is to have hot water under floor central heating.

PLAIN TILE ROOF COVERING, VERGES, VALLIES & ABUTMENTS

Roof covering of plain concrete double lap single camber roof tiles to match the existing as best as possible. Roof tiles and ridge tiles will be installed in complete accordance with the manufacturers instructions and BS5534 effective from February 2015, which requires all tiles, ridge tiles and hip tiles to be mechanically fixed.

Tiles will be fixed to 25mm x 38mm lamed battens secured to the rafters through a vapour permeable slaters membrane with 65mm galv steel batten nails. The battens will be fixed to a rafter installed in each gable cavity to ensure they are supported as near to the verge as possible. The slaters membrane will be draped between the rafters, not pulled taut. Use tile and a half at verges, into valleys where required and at abutments with roof windows.

Form verges to match those on the bungalow, that is a cut verge formed over a non asbestos verger strip bedded onto the neatly cut gable brickwork. Bed and mechanically fix the verge tiles onto a 4:1 mortar mix containing a water proofer, mechanically fix each tile and point neatly.

Form ridge coverings to match those on the bungalow, that is half round concrete ridge tiles bedded onto a 4:1 mortar mix containing a water proofer, mechanically fix each ridge tile and point neatly.

Form the valley linings with code 4 lead in lengths not exceeding 1800mm. Fix each length of lining at the top only using either copper or stainless steel nails. Lengths will overlap by at least 150mm and the linings will project up beneath the tiles by 100mm. Bed the valley abutment tiles into a 4:1 mortar mix containing a water proofer, mechanically fix and point neatly.

Install the roof windows using all necessary ancillary materials such as the correct flashing kits and underfelt kits.

MULTI-FUEL APPLIANCE

The multi-fuel or wood burning stove is to be installed in accordance with the manufacturers instructions and is to comply with all aspects of Approved Document J that apply to the type of appliance installed.

In particular:-

There must be sufficient air admitted to the building to enable proper combustion of the fuel and the satisfactory operation of the flue. The manufacturers recommendations for the type, size and location of the air supply openings must be implemented or if no guidance is given should comply with the recommendations made in ADJ Section 2.

A constructional hearth should be made of a robust, non combustible material such as concrete a minimum of 840mm square and 125mm thick, including the thickness of any non combustible floor surface. It must be capable of supporting the weight of the appliance and flue. If the flue is not supported by other means, the appliance must rest on a combustible surface that extends 150mm beyond each side of the appliance and 300mm beyond the front of the appliance. The edge of the hearth should be clearly marked, a requirement most easily achieved by raising it above the general floor level. See ADJ Section 2 paragraphs 2.23 to 2.28. Depending on the proximity of the hearth to surrounding walls and the position of the appliance upon the hearth the wall behind the appliance/hearth needs to be protected from the heat generated by the appliance as described in ADJ Section 2 diagram 2.14.

The products of combustion must be safely discharged to open air via a suitable flue. The manufacturers recommendations for the type and size of flue should be observed but ideally the flue will be an insulated twin walled type such as Dinak DW insulated twin walled flue, or similar. Twin walled flues are much cooler and hence safer in open situations such as that proposed in this installation. Because they are cool externally Dinak DW twin walled flues can pass within 50mm of combustible material, (such as penetrating floor or roof structures). With the correct wall brackets also supplied by Dinak the flue is self supporting and does not load the appliance or the hearth.

Because of its cool outer surface, particularly by the time it has reached roof level, a Dinak DW flue can be flashed with a traditional lead collar although Dinak also provide alternative high temperature flashing coats if required.

The flue should terminate at least 1000mm above the weathering surface of the roof and at least 2300mm measured horizontally from the weathering surface of the roof. Consideration should be given to providing stayed support if the roof slope dictates an excessive projection of the flue above the roof line. The flue should be fitted, as a minimum, with a rain cap, but if necessary with a more elaborate cowl that will encourage draw and resist back-draw.

VENTILATION

Purge (rapid) ventilation - is to be provided to new rooms by window and/or door openings which total at least 5% of the floor area of the room.

Background/whole building ventilation - to be provided by trickle ventilators to window/door heads providing an equivalent ventilation area of at least 8000 sq mm.

Mechanical extract ventilation - to be provided to:-

the kitchen at 30 litres/sec minimum intermittent extract rate if adjacent to a hob or 60 litres/sec if located elsewhere.

the bathroom at 15 litres/sec minimum intermittent extract rate and 8 litres/sec continuous extract rate.

utility room at 30 litres/sec minimum intermittent extract rate and 8 litres/sec continuous extract rate.

sanitary accommodation at 6 litres/sec.

INSULATIONS SUMMARY

Thermal

Solid floor - 75mm Celotex GA4000 with 20mm Celotex IB4000 edge insulation, UV = 0.20W/m2K

Walls - 100mm Knauf Ditherm Cavity Slab 34 with Thermalite Shield inner leaf, UV = 0.25W/m2K

Vaulted roofs - 100mm Celotex GA4000 between rafters and 35mm Celotex IB4000 beneath rafters, UV = 0.18W/m2K

Loft spaces - 100mm + 270mm Knauf Loft Roll between and across the ceiling joists, UV = 0.16W/m2K

Acoustic

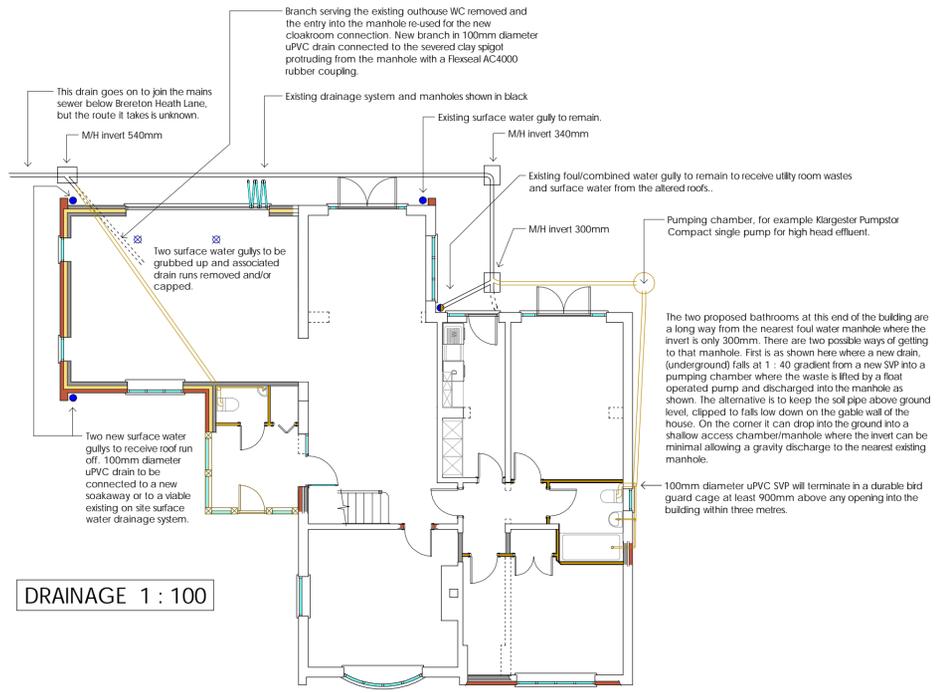
Partitions - 75mm Rockwool Flexi where appropriate or if required elsewhere.

Chamber floors - 100mm Rockwool Flexi where appropriate and possible.

WASTE WATER

WC's will discharge through 100mm diameter uPVC pipework. Horizontal runs will be set to 1 : 40 falls, as best as site conditions will allow, and will be retained with appropriate clips at intervals of about 900mm. Vertical sections will be clipped at no greater than 1500mm intervals and at the base will discharge to a drainage rest bend. Bossed entries into soil and vent pipes will be made with regard to the limitations on positioning set out in Approved Document H Section 1 - Sanitary pipework.

Kitchen/utility room sinks and appliances and bathroom baths and shower trays will discharge via 76mm deep seal anti vac traps to 40mm diameter solvent waste or push fit wastes. Bathroom basins and bidets smaller than 32mm diameter wastes. The wastes will be laid and securely supported or clipped to falls of 1 : 40-60 to promote good flow and prevent ponding in the pipes. If wastes are combined then the waste downstream of the junction will be 50mm diameter. If wastes discharge to a gully then they will do so below the grating.



DRAINAGE 1 : 100

UNDERGROUND DRAINAGE

Generally new or modified drainage will be 100mm diameter uPVC pipe by Osma, Hepworth or similar and will, as best as site conditions allow, be laid to a 1 : 40 - 80 gradient. New connections into existing drainage of a different type should be made with the appropriate flexible adaptors, for example Hepworth AC4000. All drainage to be easily accessible for the purpose of clearing blockages and adequate access points in the form of rodding eyes, access gullies/bends/branches, inspection chambers or manholes are to be provided. Access points should be provided at or near the crown of a drain run, at a change of direction or a change of gradient. The type and size of access points should be appropriate to the invert of the drain at the point it is giving access, see ADH1 tables 11 and 12. Drains penetrating masonry are to be bridged with reinforced concrete lintels with at least 50mm between the underside of the lintel and the crown of the drain. Voids between the drain and the masonry are to be packed with compressible sealant to prevent entry of gas and the opening in the masonry each side covered with a rigid plate to prevent the entry of fill or vermin, see ADH1 Diagram 7. uPVC pipes are to be bedded on 100mm minimum of granular material of 5 - 10mm diameter with the bedding coming up each side of the pipe and finishing level with the crown of the pipe. The excavation should be backfilled with selected fill the first 100mm of which, (nearest to the crown of the pipe), should not contain any stones larger than 40mm. Drains may be run beneath a building if at least 100mm of granular or other flexible fill is provided beneath, at each side and over the pipe. Where the crown of the pipe is within 300mm of the underside of a slab or within 600mm of finished ground level in a domestic environment special protection should be provided as per ADH1 Diagram 11. See ADH1 2-41 to 2-45 for complete details on the bedding, backfilling and protection of drains. Drainage installations and alterations must be left open until inspected and approved by the controlling authority.

SOAKAWAYS

For preference surface water drainage will be connected to a soakaway or some other infiltration system. If that is not possible, or practical, surface water can be discharged to a watercourse if one is accessible. The final option is to discharge to a sewer. A soakaway should not be constructed within five meters of any building or road. In ground where the water table reaches the bottom of the soakaway, or where the presence of any contamination in the run off could result in the pollution of groundwater source or resource. Percolation tests should be carried out to determine the capacity of the soil, (do not use soakaways in clay), as described in ADH2 paragraphs 1.34 to 1.38. Soakaways should be filled with clean broken brick or 20mm gravel to a 150mm above the level of the incoming drain pipe. The surface of the soakaway drainage medium should be covered with a geo-textile membrane or geotext to prevent contamination and the surface finish restored.

GUTTERING

Provide guttering and down spouts to match those on the existing building to run to the existing and/or new surface water gullies shown on the ground floor plan or drainage layout plan. In the event that it has been determined that the existing gutter style/size is inadequate for the altered/extended building install gutters as specified on the drawing. Short sections of gutter, up to three meters can be fixed level but longer runs should have a slight fall to the closest outlet.

Sheet 3

REV	DESCRIPTION	DATE
CLIENT		
PROPOSAL	Side extension to a bungalow, internal alterations.	
DRAWING TITLE	Part floor plan, section, construction notes.	
SCALE	DATE	DRAWN BY
1 : 100 & 1 : 50	1.9.2014	PDD
DRAWING REFERENCE	REVISION	
15/519 Sheet3		



Copyright © Peter Davis 2012. This drawing may not be lent, copied, re-sold or copied without the permission of the author.

