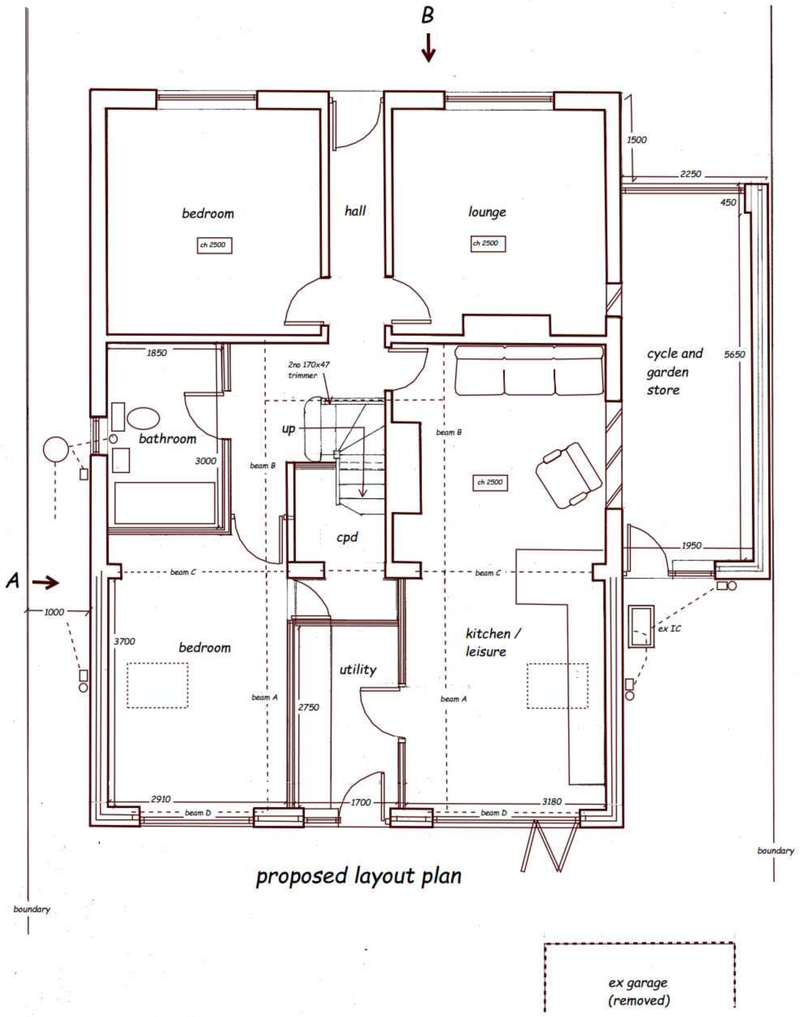
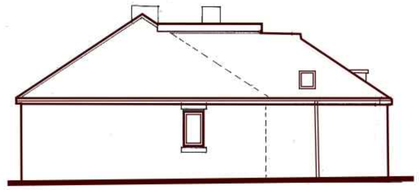


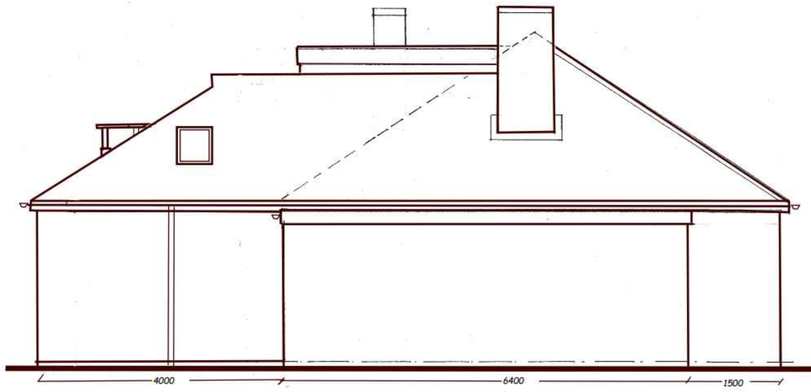
proposed layout plan

proposed rear elevation

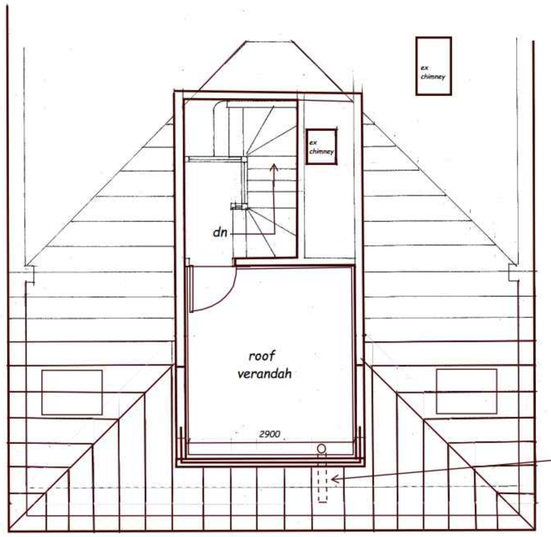


proposed side elevation

proposed front elevation

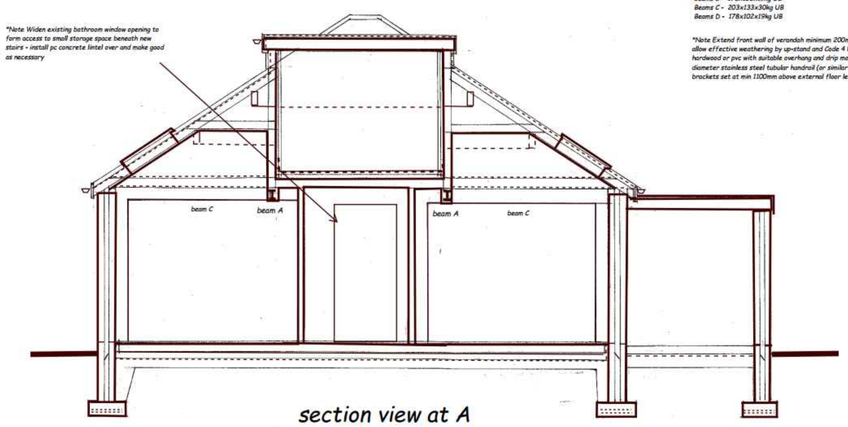


proposed side elevation

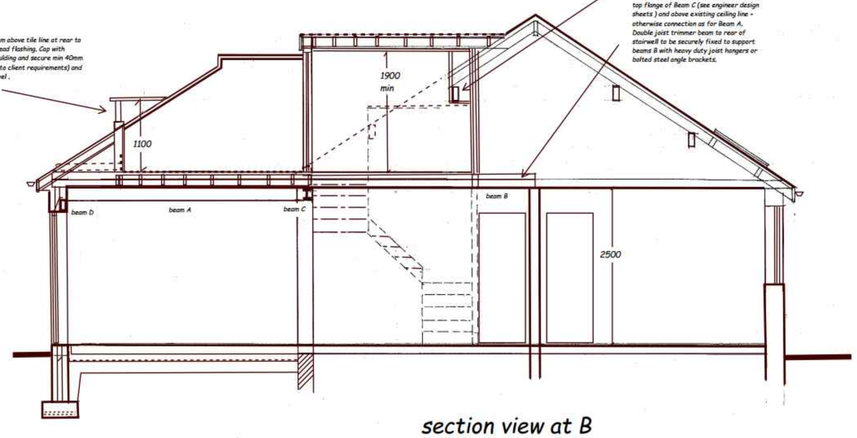


proposed roof layout plan at rear

*External floor finish laid to 1:60 falls with rainwater discharge through impervious duct fully sealed to roof space and discharging over Code 4 lead cover flash and soaker to external gutter as main roof.



section view at A



section view at B

*Note Examine existing ventilation to bungalow roof space and if necessary install continuous eaves vents and flyscreen equal to 25mm pp or install roof tile ventilators positioned and fixed to manufacturer specification.

*Note Widen existing bathroom window opening to form access to small storage space beneath new stairs - install pc concrete lintel over and make good as necessary

*Structural work
Carefully prop and needle existing roof structure to form new openings shown.
Install steel universal beams to engineer design seated on concrete spreader pad stones ensuring minimum disturbance to existing walls. Encase beams in gyproc fireline board to achieve min. 30 minutes fire resistance.
Make good all disturbance and remove rubble from site.
Refer to Engineers Design Sheets for full Beam, Connection and Pad Stone spec.
Beam Schedule (Grade S355 steel)
Beams A - 203x133x30kg UB
Beams B - 178x102x19kg UB
Beams C - 203x133x30kg UB
Beams D - 178x102x19kg UB

*Note Extend front wall of verandah minimum 200mm above tile line at rear to allow effective weathering by up-stand and Code 4 lead flashing. Cap with hardwood or pvc with suitable overhang and drip moulding and secure min 40mm diameter stainless steel tubular handrail (or similar to client requirements) and brackets set at min 1100mm above external floor level .

*retain existing purlin ring in situ and encase in plasterboard on sw framework where exposed in new structure

*If possible position Beam B to bear on to top flange of Beam C (see engineer design sheets) and above existing ceiling line - otherwise connection as for Beam A. Double joist trimmer beam to rear of stairwell to be securely fixed to support beams B with heavy duty joist hangers or bolted steel angle brackets.

*Fenestration:
Install high performance aluminium double glazed folding doors at rear shown max 1.40 w/m2 k U-Value
Total window and door opening casements to represent minimum 5% of adjacent floor as natural vent plus min 10000mm2 trickle ventilators to head of frame.
Ensure that all doors and critical window areas are fitted with laminated or toughened safety glazing compliant with current BSi(En)12150.
*high performance velux type rooflights installed to manufacturer spec, using double joint trimmers etc, as required. (U-Value 1.3 w/m2k).
*Escape Window:
Where required provide opening casements to habitable rooms capable of safe egress in emergency i.e. min 0.33m2 clear opening (say 800x450mm) set within 1100mm of internal floor level.

*New Ground Floor :
Floor finish to client requirement on min 60mm screed or power float finish to 100mm concrete slab on 1200g dpm over Celotex GA 4000 (75mm) insulation board turned up in 25mm thickness at floor perimeter to avoid cold bridge.Lay further dpm over well blinded 150mm min, compacted natural stone sulphate free hardcore.
*U-Value max 0.22 w/m2k P/A ratio = 0,90
* Note If necessary extend 100mm pvc pipe ducts under new floor to maintain ventilation to existing suspended timber floor with suitable air brick terminals fitted with fly screen.

*Verandah Floor :
Approved impervious tile or similar finish suitable for bonding to single ply membrane by specialist contractor dressed over sw fillets and carried up min 300mm behind wall cladding on min 18mm ext ply deck laid to fall 1:60 across 170 x47mm sw C16 joists at 400mm max centres with Celotex FR5000 (120mm) insulation between joists allowing for min 50mm clear cross ventilation under deck . Under draw ceiling with Celotex GD5040 (52.5mm) insulation incorporating 12.5mm plasterboard laminate and vapour check.
Note: This or similar construction to achieve max 0.18 w/m2k U-Value.

*Electrical Work:
All notifiable electrical work to be carried out by a suitably qualified contractor registered with an approved national body. A formal completion certificate to be issued in compliance with current Part P building regulations and to satisfaction of local authority surveyor
Note: all lighting to be low energy type to client spec.
*Note install sockets to extension area to requirements of client and provide co-axial and satellite parts if needed.
*Install a mains operated inter-linked smoke alarm system with battery back up to circulation areas and critical locations in compliance with BS5839 and to satisfaction of local authority surveyor.

*Foundation Detail:
600x225mm concrete strip foundation at depth to to suit site conditions and to satisfactory bearing strata to approval of inspecting authority.Reinforce throughout with 2 no layers B503 steel mesh.

*Stairs
Construct new purpose made sw flight within new stairwells as shown viz: equal risers plus equal treads to achieve max. 42 degrees pitch.
*note ensure equal goingd at centre line of tapered treads with min 50mm going at newel. No openings in flight or guarding to exceed 100mm diameter, handrail set at 900mm to pitch line with 100mm high balustrade guarding at landing areas. Ensure continuous 2000mm headroom throughout flight (min 1900mm to upper landing if restricted by ceiling etc.).

*Drainage
Expose existing drainage lines at rear and grub up any obsolete or defective pipework and replace as required with new 100mm pvc drainage set to fall min 1:40 and connect to existing system on granular bed and surround ensuring full protection and support over any pipes passing beneath extension foot print.
New Bath wastes discharging to accessible, trapped gulley . Internal plumbing to satisfy BS5572 with 75mm deep seal traps as required. Wc and whb to discharge to 100mm stub stack fitted with Durgo or similar air admittance valve positioned above flood level of fittings with new external access chamber as shown and drain branch to existing system as above
*PVC rainwater goods and gutter to connect to existing property down pipe and gulley shown or discharge to new approved garden soakaway chambers sited minimum 6000mm from buildings and constructed in honeycomb brick / block min 1000mm cube and subject to monitored percolation test to satisfaction of inspecting authority..

* Heating
Any extended space heating to be to the full requirements of a suitably qualified heating engineer and assessment of existing heating system, Install thermostatic control valves as necessary.

*Ventilation
natural ventilation from opening casements plus install mechanical extract fan to kitchen area set to achieve min 60 litres/sec extract rate (30 litres/sec if over cooker hood).
Similarly Utility Room 30 litres/sec and Bathroom 15 litres/sec

*General specification
*Preliminary Works
Examine existing roof frame closely to verify purlin positions shown on plan. Ensure adequate support to structural roof members during and after construction works.
Prepare existing kitchen addition and detached sectional garage at rear for demolition and plan extension programme to ensure minimum disturbance and exposure to rear living space, remove all rubble from site to approved tip facility.
Examine and expose as necessary existing drainage lines and inverts etc to assess location.

*Walls (External):
Selected concrete brick / block with high quality waterproofed render finish to match existing, min 100mm cavity enclosing Dritherm 32 insulation fill to manufacturer specification and internal leaf of 100mm load bearing thermal blockwork (eggi Celcon Solar) faced internally with plasterboard on treated battens or cement dabs.
*Note render to be terminated at dpc with approved bell mouth drip, Faced engineering quality brick showing below dpc line.
Cavity walls to be closed at periphery with Thermabate or similar approved cavity closures to avoid cold bridging.
This or similar construction to achieve max 0.28 w/m2 k U-Value
*Note: new walling to be effectively bonded to existing structure to satisfaction of inspecting authority surveyor and wall ties to be stainless steel suitable for 100mm cavity width and compliant with DD140.
*Install catnic or similar lintels over openings to manufacturer spec, ensuring min 150mm end bearings.

*Internal Walls (non load bearing)
100x47 sw timber stud faced on 100x75mm sole plate and dpc faced with plasterboard incorporating vapour check and enclosing 100mm dense rockwool insulation.

*Verandah Side Wall Construction
Construct timber frame off 100x75mm sole plate bolted to top flanges (M16 bolts at 600mm ctrs) of Beams A shown - externally faced to verandah with v-joint lapped upvc cladding to match tile colour on treated 25mm sw battens on to breathable membrane over 18mm external ply cladding to 100x50mm sw stud frame (studs at max 400mm centres) enclosing Celotex GA 4000 (60m) insulation board to manufacturer specification maintaining minimum 40mm cavity and internal lining of 18mm plywood to receive Celotex PL4000 (37.5mm) insulation board incorporating 12.5mm plasterboard laminate and vapour control layer to internal roof face (ensure vapour sealant to all joints and edges as required.
*Tiled roof finish to terminate at head of wall frame with mono-pitch ridge tile fixed robustly to manufacturer specification and suitably flashed if required with Code 4 lead work. Similarly sloping tile ends to be secured and trimmed with dry verge and capping to manufacturer specification.
*this or similar construction to achieve min 0.28 w/m2K U-Value
Flat roof and verandah floor joists to be anchored to supporting frame with galvanised ms straps at 800mm max centres

*Main Tiled Roof
Selected plain tiles to match existing (strip existing tiles for re-use if fit for purpose on treated battens on approved breathable membrane over 170x47mm sw C16 rafters at 400mm centres birds-mouthed and screwed through truss type steel clips to continuous 100x75mm sw wall plate anchored to supporting wall by galvanised ms straps at max. 2000mm centres.
100x47mm sw C16 ceiling ties at 400mm centres bolted to rafters using M16 bolts and dog tooth connector washers and supported off galv ms joist hangers from pole plate secured to timber frame.
225x47 hip members securely anchored at head to verandah wall panel frame and with 100x75mm dragon tie cross brace at base firmly strapped to supporting wall with galvanised ms anchor straps.
* NOTE Pitched ceilings to have Celotex FR5000 (120mm) insulation board between rafters ensuring min 25mm air gap behind roof membrane and under-draw with Celotex PL 4000 (37.5mm) insulation backed plasterboard incorporating vapour check membrane all to manufacturer specification.
*Note insulation to extend full length of rafters.
Note: This or similar construction to achieve max 0.18 w/m2k U-Value.

*Roof (flat)
Approved single ply membrane by specialist contractor on min 18mm ext ply deck laid to fall 1:60 across 170 x47mm sw C16 joists at 400mm max centres with Celotex FR5000 (120mm) insulation between joists allowing for min 50mm clear cross ventilation under deck linked to continuous 20mm air gap at soffit fitted with fly screen, Under draw ceiling with Celotex GD5040 (52.5mm) insulation incorporating 12.5mm plasterboard laminate and vapour check.
Joists to be anchored to supporting walls with galv ms straps at 800mm max centres.
Note: This or similar construction to achieve max 0.18 w/m2k U-Value.
*Note ensure that roof membrane is carried behind existing tiles to ridge line minimum 300mm on rigid ply base screwed to rafters .

*Note This drawing has been prepared for submission to the local authority for necessary statutory approvals. Nominated contractor to verify all dimensions either written or scaled together with drainage lines and inverts etc, prior to commencement of formal construction work on this site. All works to be carried out with full agreement of adjoining neighbours and any disturbance to boundary line to be made good to satisfaction of all parties.

Proposed Rear Extension, Store and Roof Verandah at Medina, Cheddleton Heath Road, Cheddleton, Staffs.

Scale 1-50 + 1:100 Dwg MCHR 1b proposals Jan 2017

Geoff Rouane MRICS.MCABE.
Chartered Building Surveyor
Tel 07946517767
Email: geoffrouane@btinternet.com

RICS