TONY ROWLAND ARCHITECTURAL SERVICES

I believe that the best way to achieve the continuation of the first floor roof structure above the existing single storey lean to is to replace the existing purlins with new purlins to span the full width of the extended room. The size of the purlins will need to be specified by the structural engineer.

A ceiling structure should be formed above the level of the purlins using 50 x 100mm C16 grade treated softwood joists set at 450mm centres. There should be 100mm fibre glass quilt fitted between the joists with a further 170mm laid across the top of the joists.

It may be necessary to replace the existing rafters above RF2 with 50 x 150mm C16 grade treated softwood rafters set at 450mm centres with treated softwood battens above one layer of tyvek permeable roofing felt. The roof is to be finished using clay tiles to match those on the existing roof. Suitable ridge tiles to be used, to match those on the existing house.

The existing single storey section of RG3 is to be raised to the height of the rest of the house. This will involve removing the existing lean to roof structure and taking down the existing end gable wall.

This would allow for the use of 90mm rigid foam insulation between the rafters with a further 45mm rigid foam insulation below the rafters. The use of new deeper rafters would allow for the provision of a suitable air gap between the top of the insulation and the underside of the tiles.

New guttering to match the profile used on the existing house, unless the clients specify that all of the existing guttering is to be renewed.

The new sections of masonry which will raise the existing single storey structure up to the two storeys is to be constructed above the existing masonry. The width of the cavity within this wall will be dependent upon the width of the existing masonry.

Suitable lead flashing to be used at the junction of the bay roof with the external masonry wall. Lead flashing to be laid in accordance with LSA guidelines.

The lean to roof over the bay in RG1 is to be constructed using 50 x 100mm C16 grade treated softwood rafters set at 450mm centres. The rafters should be fixed to a plate which is securely fixed to the new masonry wall. The roof finish should consist of treated softwood battens above one layer of tyvek permeable roofing felt. The roof is to be finished using clay tiles to match those on the existing roof. A brick dentilled eaves detail is proposed at the eaves of the bay.

WF1 - new window to be constructed within the new gable wall using a catnic CGE90/100 or similar lintel with a brick relieving arch to the brick outer face.

It is assumed that there is an existing beam below the line of the first floor gable wall, and this will need to be inspected during the course of the works to assess what exists. Assuming that the existing beam is suitable then the first floor structure for the new section of the first floor will be constructed using floor joist of a suitable depth (either 50 x 100mm or deeper if required) to span from the existing beam to the external wall at 450mm centres.

The intention is to insert a new ceiling at a height to match the existing ceiling within RG3.

WG2 & 3 - I have suggested replacing the existing flat soldier course heads above these windows with brick relieving arches.

A skirting board is to be fitted throughout the new work and the material and profile of this should be confirmed with the client.

Refer to structural engineers drawings if required for confirmation of all lintels and for information about bearings.

The 50 x 100mm ceiling joists which form the ceiling within the bay are to have 100mm glass fibre quilt laid between the joists with a further 170mm glass fibre quilt laid across the top.

The external walls of the new work is to have an inner skin of suitable 100mm blockwork, with an outer skin of suitable brickwork, with 50mm cellotex rigid foam insulation set within the 100mm cavity between.

Catnic BW4/225 or similar cavity ties to be spaced at 450mm vertical and 750mm horizontal spacings to give a density of 2.47 ties per square metre.

Allow for the use of a 25mm rigid foam edging strip to the perimeter of the floor slab.

Dpm to be set at minimum 150mm above external ground level.

The wall is to be built up to just below ground level in two skins of 100mm blockwork. The cavity is to be filled up to 225mm below the level of the dpc.

The new work is to be constructed above a 600 x 200mm mass concrete strip footing which is to be set at a minimum depth of 1000mm (to building control approval).

The builder is to confirm with Building Control whether a basic radon barrier is required prior to commencement.

Ground floor construction to consist of a suitable floor finish which is to be agreed with the client, above 100mm concrete slab above 90mm rigid foam insulation above a 'Visqueen Super' dpm, above 150mm sand blinded hardcore.

All new work is to be carried out in accordance with the 'Robust Construction details'.

Sockets and switches are to be located between 450 and 1200mm above finished floor level.

WG1 - create new window opening within the new work using a catnic CG90/100 or similar lintel above

New windows are to have a U value of 1.6. These are to consist of 2 layers of 4mm glass with a 16mm argon filled gap between, with a soft low E coating.

New windows to be set back 40mm from the outer face of the wall and the windows are to have projecting cills.

18mm hardwood cills to be fitted to new windows.

SCALE 1:20

PROPOSED SECTION E

CROSSWAYS, No.11 FRODESLEY, SHROPSHIRE.

CDX1+16