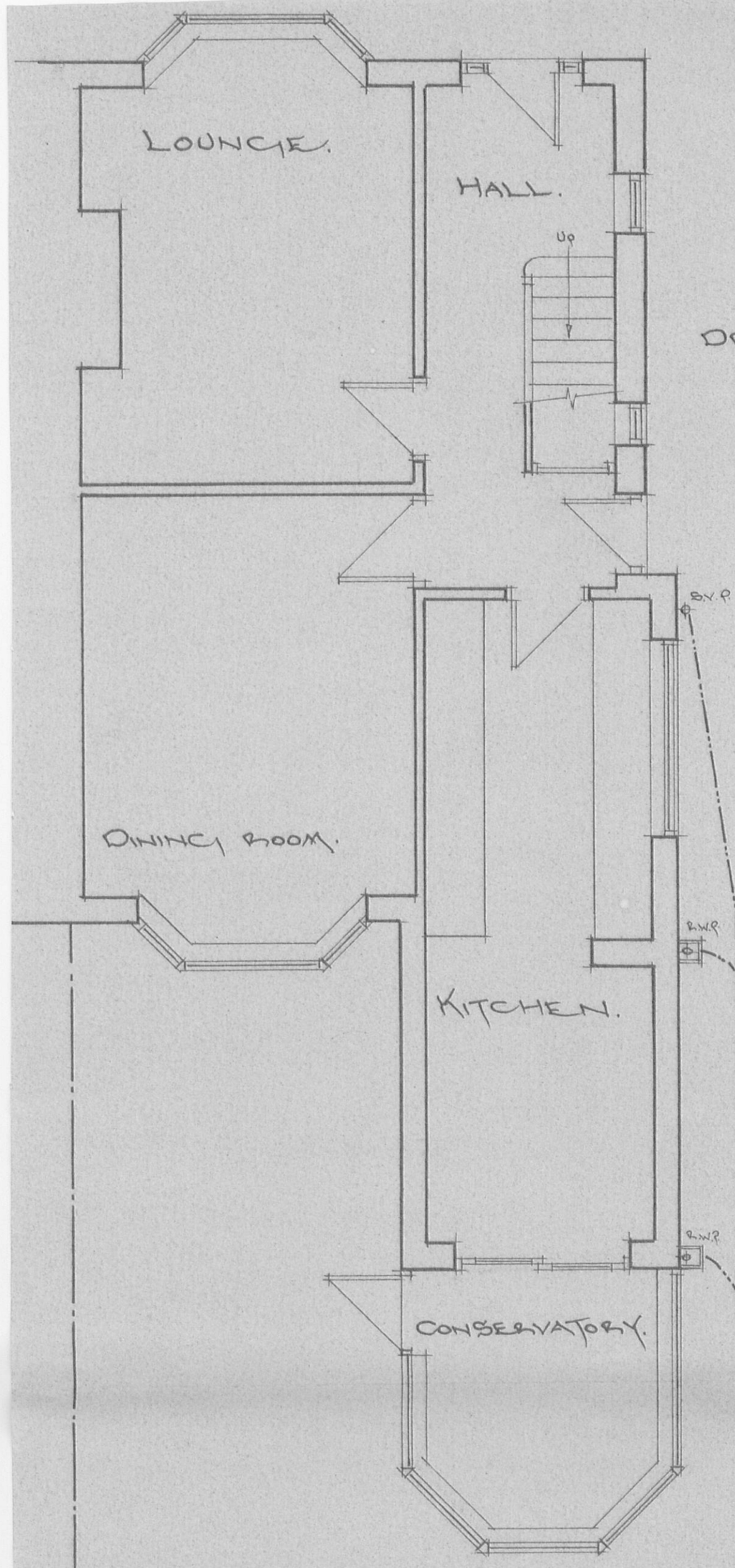
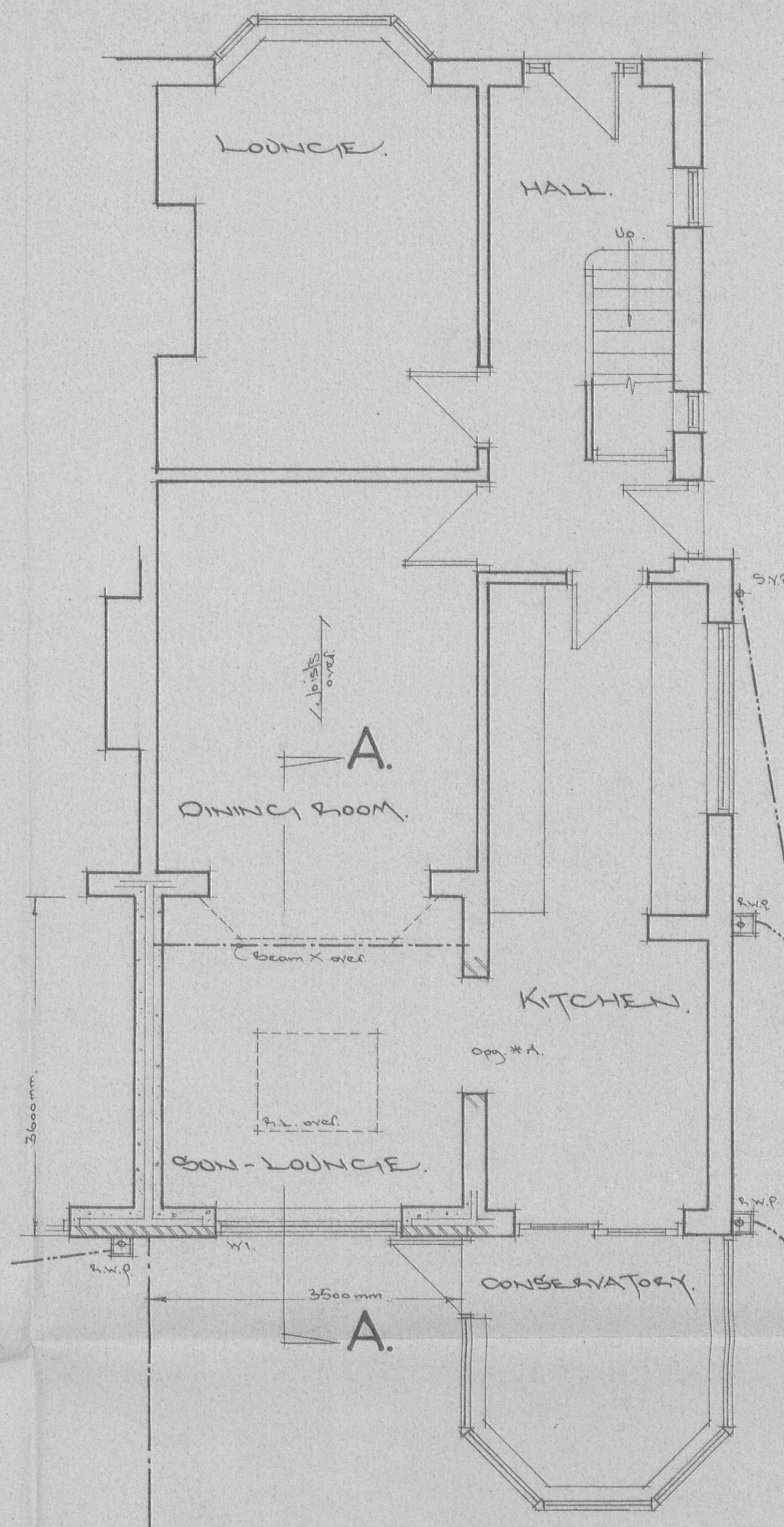


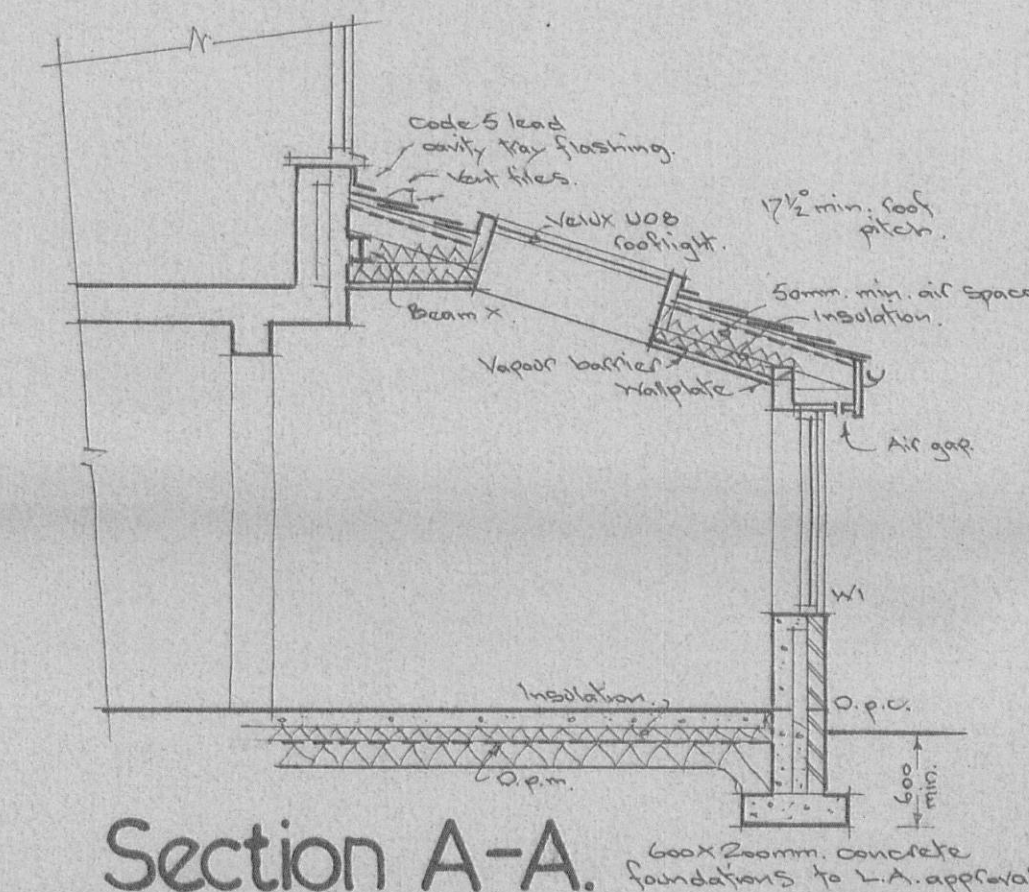


Existing plan. Scale 1:50.



Proposed plan.

Roof - Marley Modern Smooth Tiles with 100mm headlap on 50x25mm battens on reinforced breathable felt on 150x63mm rafters at 400mm centres (double rafters to each side of gablelight).  
Ceiling - 13mm plasterboard on 500 gauge Visqueen vapour barrier on 25mm Kingspan insulation to u/s of rafter plus 100mm Kingspan insulation between rafters.  
Rafter space to be ventilated via 25mm continuous eaves all gap & vent tiles to give equivalent area. Min air space over insulation 50mm.  
100x50mm wallplate strapped 100mm down wall with 30x5mm galv. m/s straps at 2000mm centres.  
Top of every alternate rafter to be strapped back to wall with 600mm long clanked 30x5mm galv. m/s straps. all to L.A. approval.  
Walls - External wall - 102mm brick outer leaf - 100mm cavity with 50mm Kingspan insulation fixed to 100mm Thermalite Torbo block inner leaf with lightweight plaster finish. S/S wall ties at 750mm horiz. x 450mm vert. centres.  
Party Wall - 240mm leaves of 100mm concrete block minimum density 1375 Kg/m<sup>3</sup> separated by 75mm cavity with rockwool fill. Plastered both sides with lightweight plaster (Min. mass 10Kg/m<sup>2</sup>).  
New & extg. walls well kept in & cavities made continuous. Cavity closed at top of wall & around all apcs by inner leaf on insulated d.p.c.  
Concrete cavity fill to ground level.  
Floor - 100mm concrete reinforced with 110° layer A142 mesh on isolating membrane on 100mm Kingspan insulation on 1200 gauge Visqueen d.p.m. on sand blinded hard-core fill. 25mm insulation turned up slab edge at external walls.  
O.p.m. lapped into wall d.p.c's.  
Ventilation to existing suspended floor to be maintained via 100mm Ø U.P.V.C. pipes periscope cavity ducts & 215x150mm air bricks to L.A. approval.  
All new windows to be double glazed with Argon filled Low E glass in frames from Fenestreg supplier all to achieve U value of 1.6W/m<sup>2</sup>K.  
Open lights to equal 1/20 floor area plus high level controllable trickle vents of 8000mm.  
Clamping shown \* to be approved safety glass.  
Lintels - W1. Galv. CN55C.



Section A-A.

Opening #2 - form 1200mm wide open lintel over with 240° 150x100mm reinforced concrete lintels

It is assumed that F.F. bay W2 is supported on cantilevered floor joists, however prior to removal of C.F. window frame works to be opened up to exposed construction in order to verify this assumption. Should this not be the case additional Beam X to be fitted to provide necessary support. All to L.A. approval.

All electrical work must meet the requirements of Building Regs Part P & should be designed, installed, tested & certified by persons competent to do so. Prior to completion the L.A. should be issued with the appropriate BS 7671 Electrical Installation Certificate.

All carpentry timber to be Grade C24.

Applicant to obtain adjoining owners consent to comply with Party Wall Act 1996.

Contractor to include for heating lighting & power to clients requirements.

All dimensions to be checked on site.

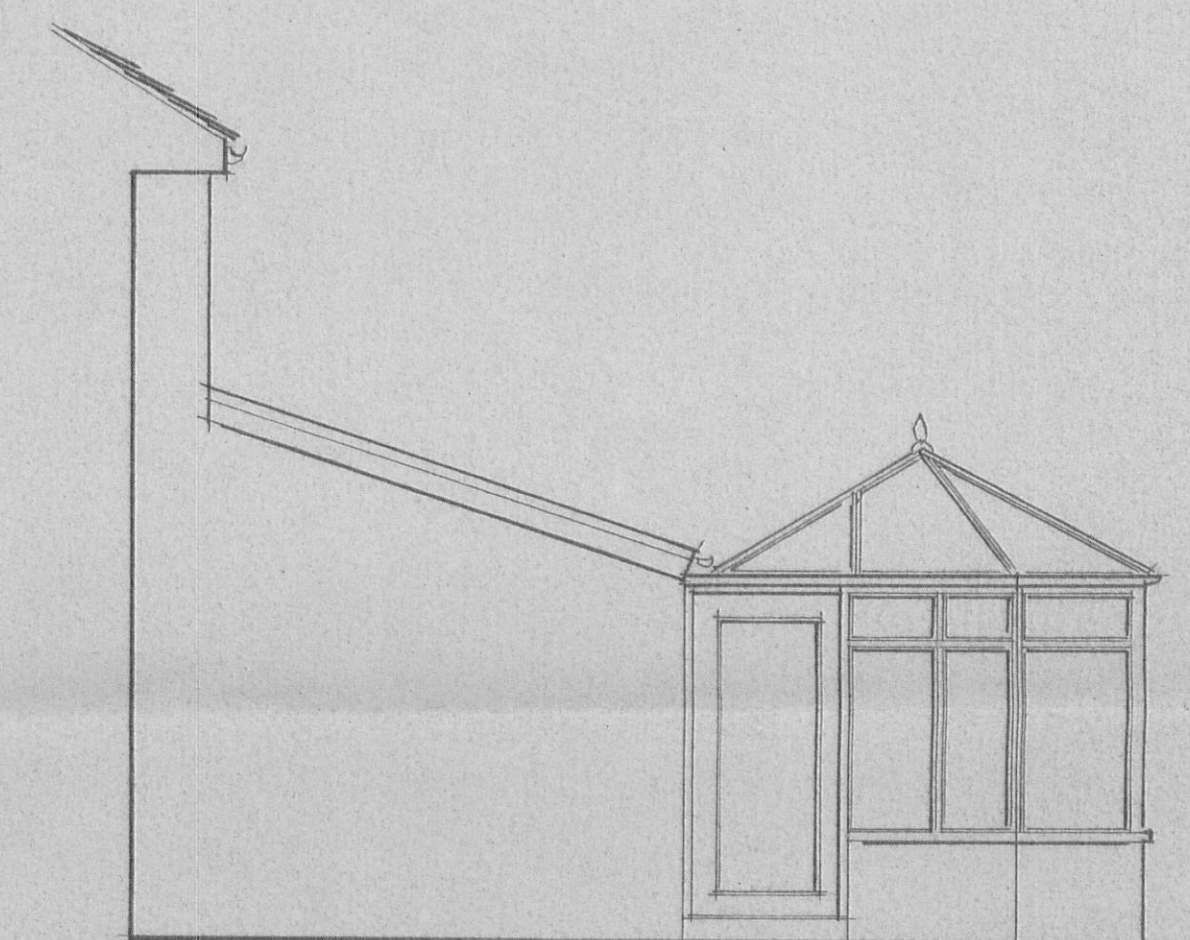
Beam X - Calc's.  
Span 3.5M. Load - roof -  $3/2 \times 1.8 = 2.7 \text{ kN/m}$ .  
Total U.O.L. =  $3.5 \times 2.7 = 9.45 \text{ kN}$ .  
Allowable def.  $\frac{3500}{360} = 9.73 \text{ mm}$ .

I reqd. =  $\frac{5 \times 9.45 \times 3.5^3 \times 10^4}{384 \times 2 \times 9.73} = 256.83 \text{ cm}^4$

Ty 178x102mm x 19Kg U.B. (I=1356cm<sup>4</sup> z=153cm<sup>3</sup>)  
B.M. =  $9.45 \times 3.5 = 4.14 \text{ kNm}$

P.c. = 100N/mm<sup>2</sup> f<sub>bc</sub> =  $\frac{4.14 \times 10^3}{155} = 27.06 \text{ N/mm}^2$

Use 178x102mm x 19Kg U.B.



Existing South west elevation.



North east elevation.



Existing South east elevation.



Proposed South east elevation.