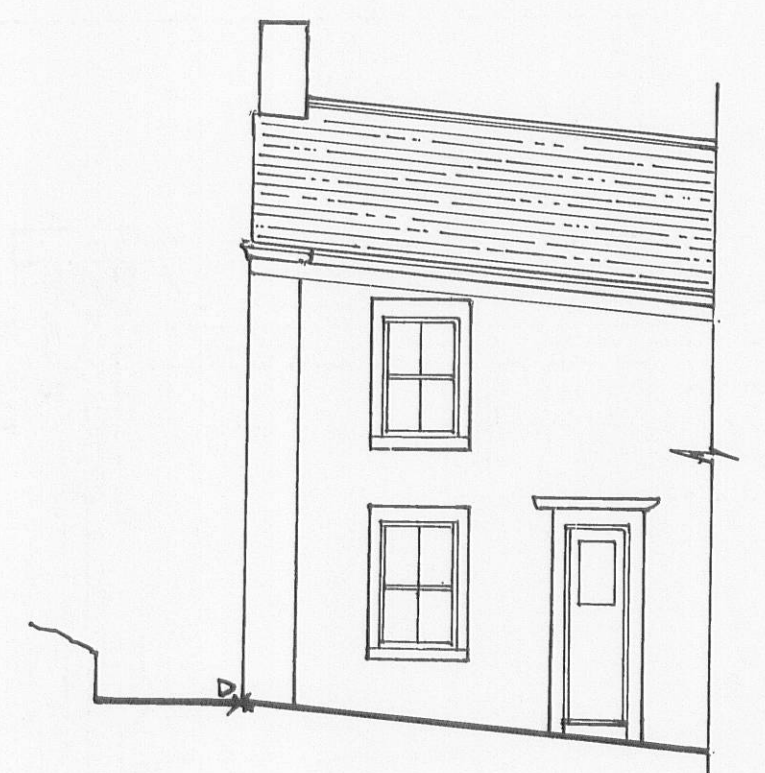
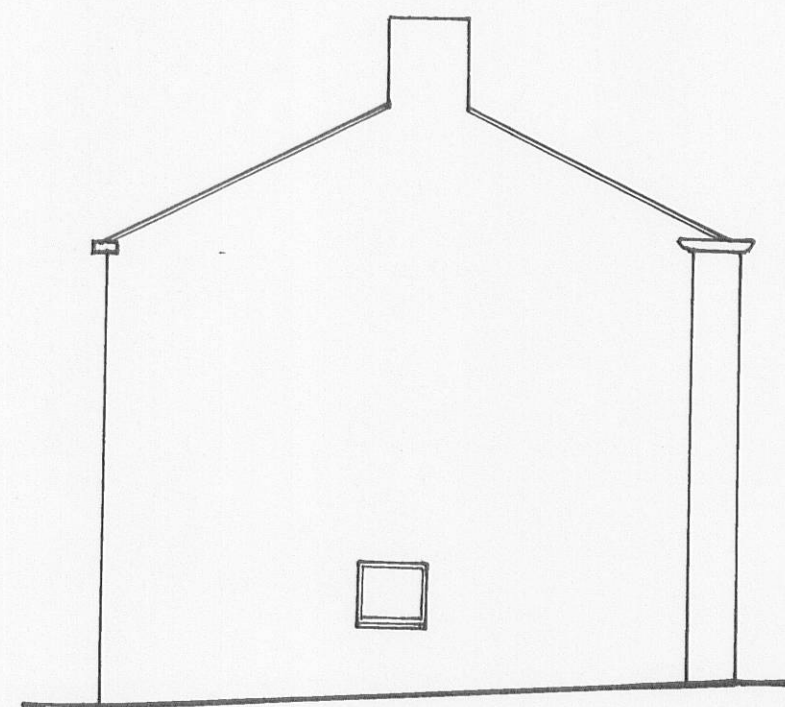




FRONT ELEVATION
EAST



PROPOSED FRONT ELEVATION
EAST



SIDE ELEVATION
SOUTH



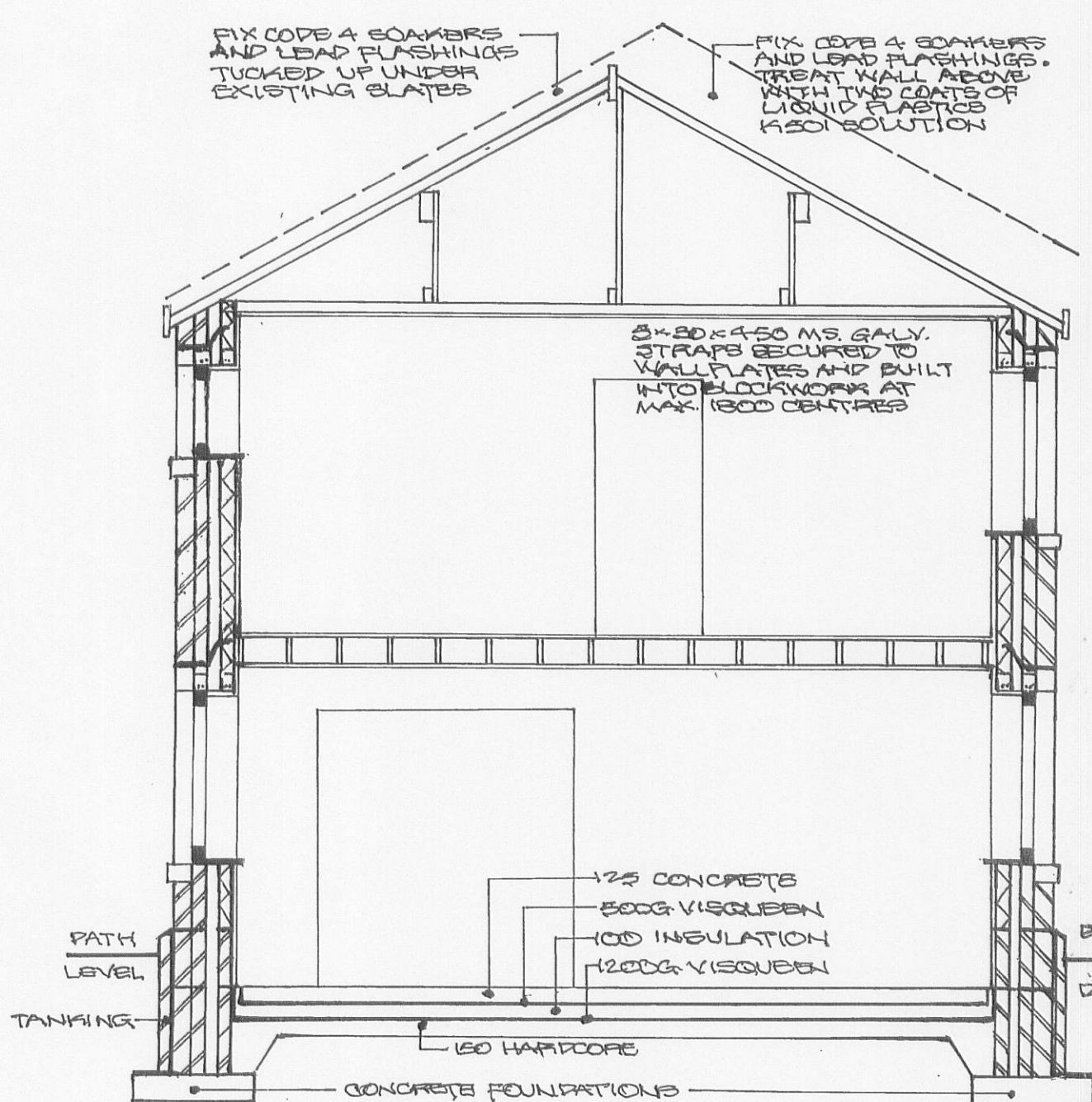
PROPOSED SIDE ELEVATION
SOUTH



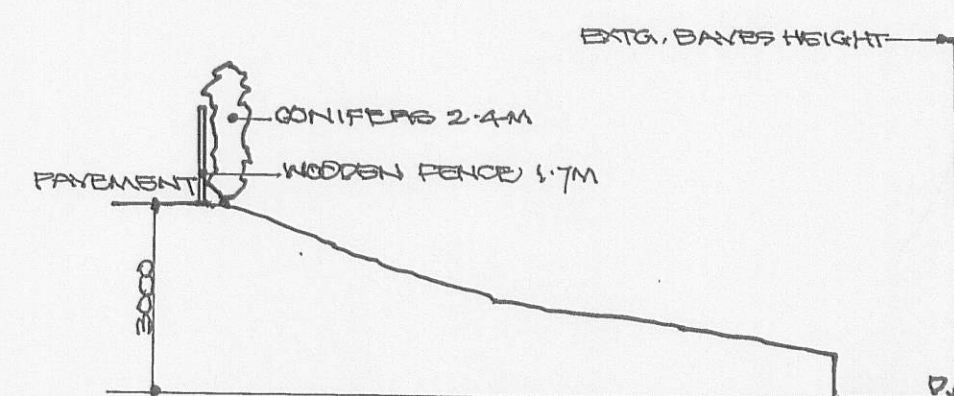
REAR ELEVATION
WEST



PROPOSED REAR ELEVATION
WEST



SECTION THROUGH XX



SECTION THROUGH SITE (1:125)

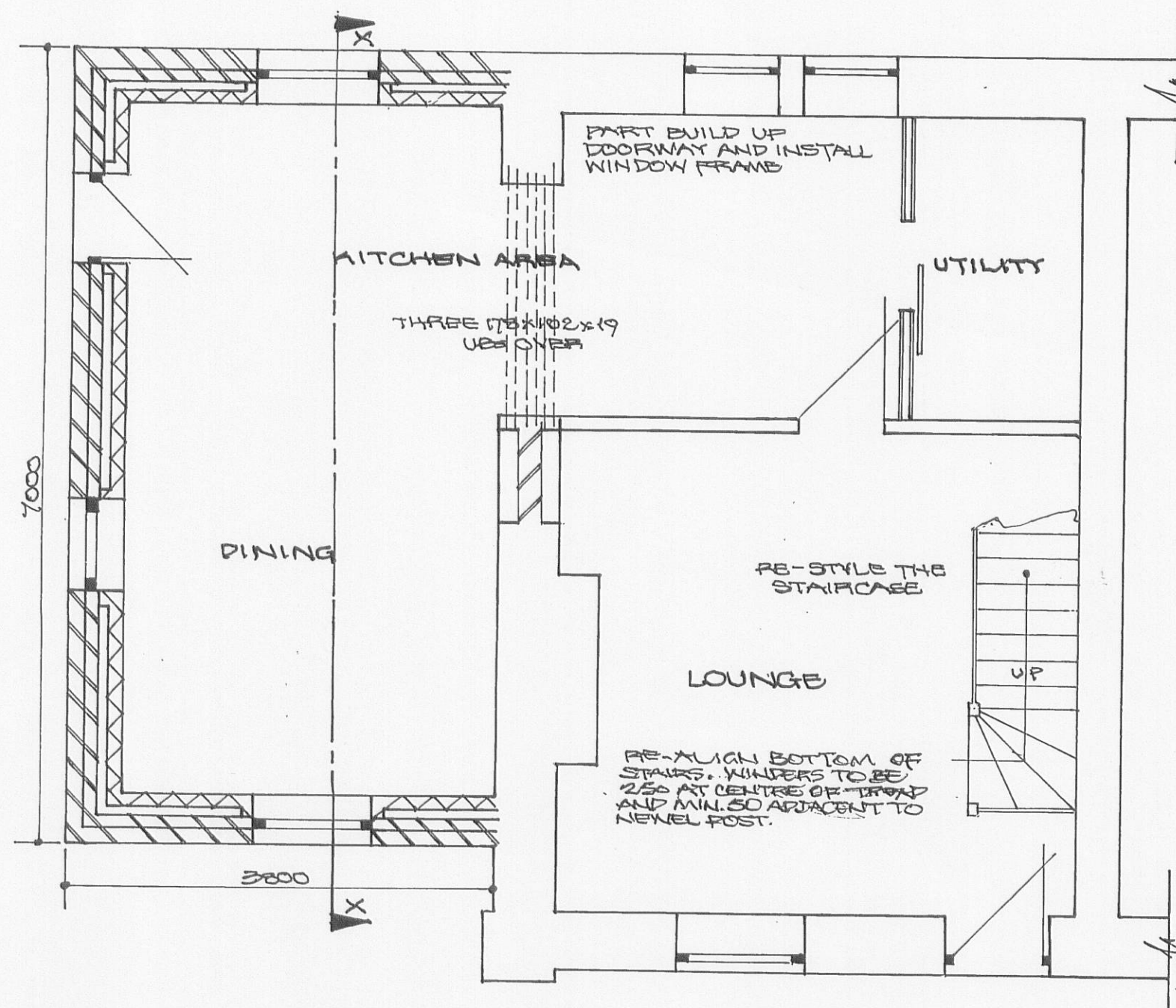
Beam Calculation (Span 7' 0")

Wall loading @ 50 lbs/sq.ft. = $7 \times 50 \times 11 = 1.72$ tons (including plaster) 2240
 New floor loading @ 45 lbs/sq.ft. = $7 \times 45 \times 5.5 = 0.77$ tons (including furniture) 2240
 Extg. roof loading @ 35 lbs/sq.ft. = $7 \times 35 \times 8 = 0.88$ tons (including snow) 2240
 New roof loading @ 35 lbs/sq.ft. + $7 \times 35 \times 5.5 = 0.60$ tons (including snow) 2240
 Max. Bending Moment = $7 \times 3.97 \times 12 = 41.69$ in/tons

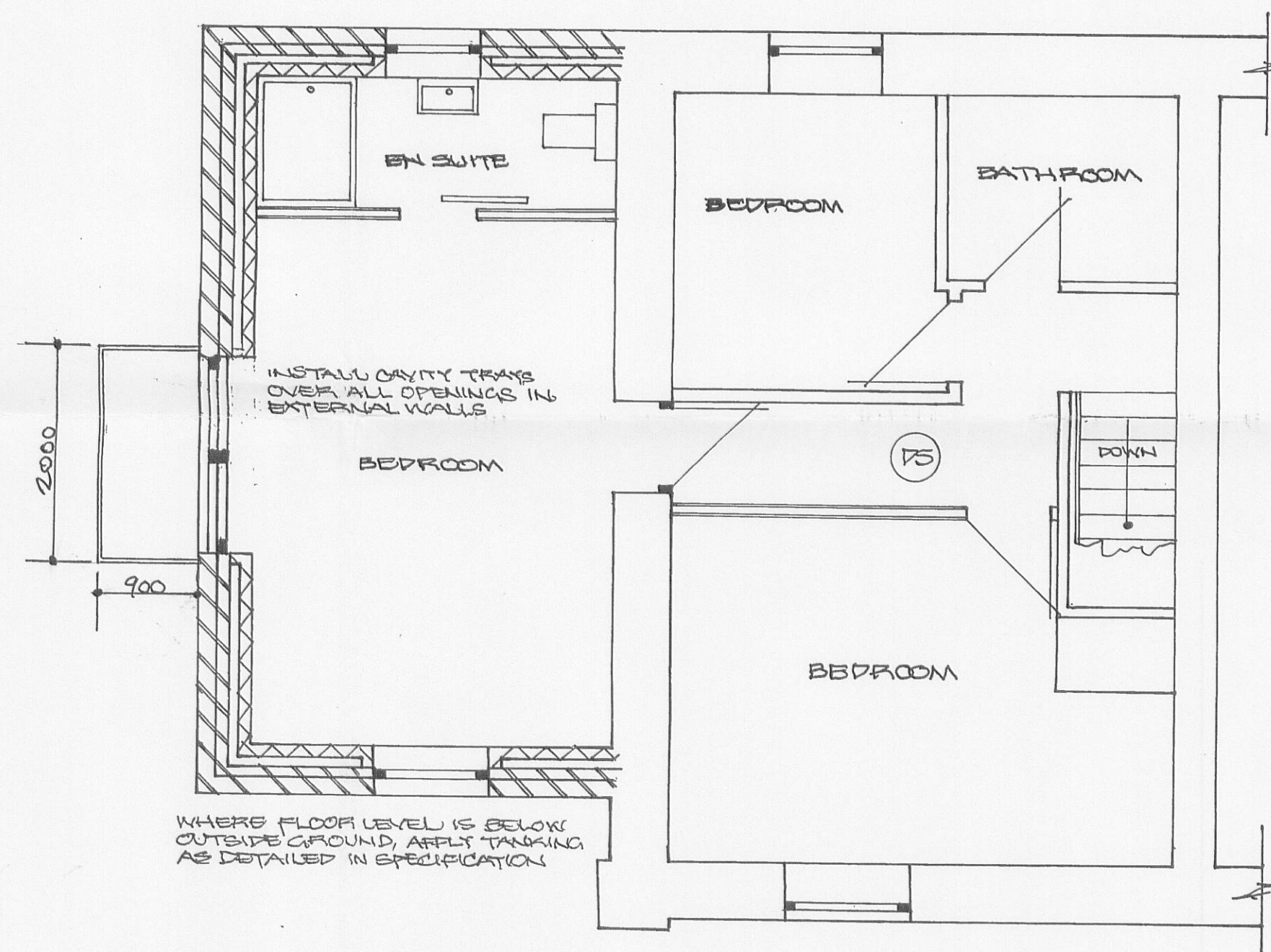
Try 7" x 4" x 16lbs RSJ Zxx 11.29
 Actual Bending Stress = $\frac{41.69}{11.29} = 3.69$ tons/sq.in.

Allowable Bending Stress = 10.7 tons/sq.in. OK
 (metric equivalent 178 x 102 x 19 universal beam)

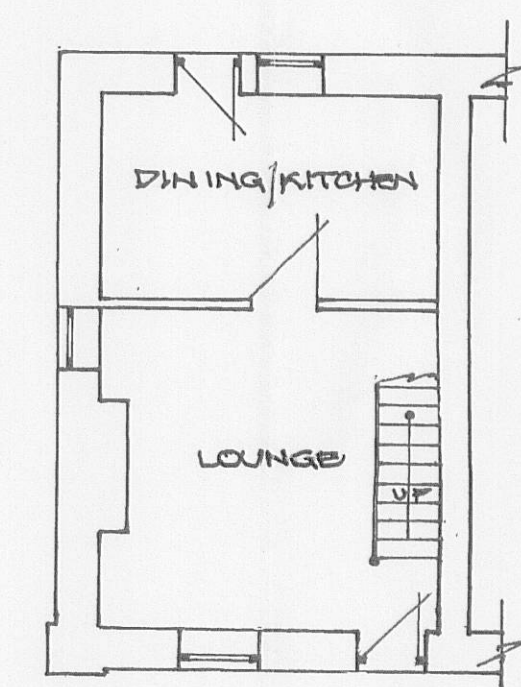
Beams to have min. 150 deep padstones under ends, be bolted together with spacers between and have min. 2000 headroom below.



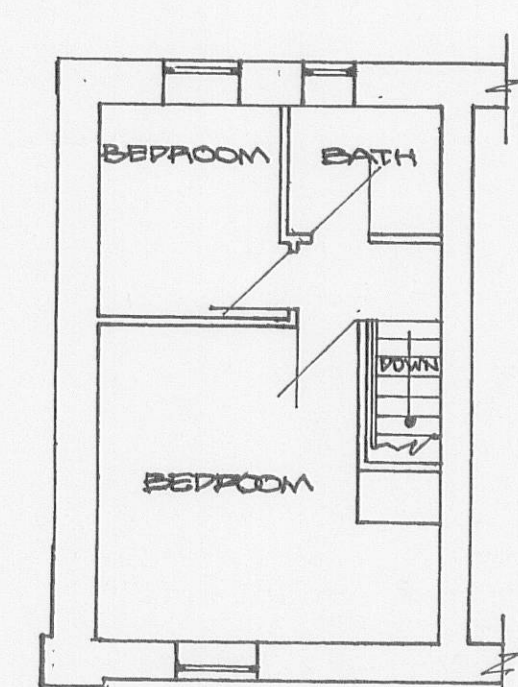
PROPOSED GROUND FLOOR PLAN



PROPOSED FIRST FLOOR PLAN



GROUND FLOOR PLAN.



FIRST FLOOR PLAN

Form balcony with steel framework with timber decking bolted to wall and supported at outer edge with 100 steel box section stanchions ragbolted to 750 square x 250 deep concrete bases. Handrails on balcony to be 1100 above deck. No space between spindles to exceed 100. Fabrication engineer to supply details prior to installation.

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Demolish existing shed and car port and cart away. Bulk excavate to a depth of 350 below the datum marked D. Save materials from retaining wall for future use. At the end of the project, re-build a retaining wall or grade back the ground at a suitable angle. Form a path around extension 1200 wide at level of datum D.

Excavate for foundations approx. 750 deep or until suitable sub-strata is reached. Lay 850 x 250 concrete strip foundations. Build cavity walls in concrete brickwork to ground level. Continue cavity wall to roof with 100 high density concrete blockwork externally and 100 Thermalite blockwork internally finished with two coats of Carlite browning and skim. Form cavity with 50 Celotex tuff-R CW standard insulation and 50 clear space. Outer wall to be faced with 150 on bed stonework built off 140 concrete blockwork and secured to blockwork with fishtail ties. Install stone heads, sills and jambs at openings in external walls backed with two 150 x 100 PCC lintels. Install bituthene tanking system with protective half brick wall.

New brick/block/stonework to be secured to existing with Truline Crocodile wall plates (or similar) having anchor ties at max. 225 centres. Stainless steel cavity ties to be spaced max. 750 horizontally and 450 vertically (min. 6 per m²). Install 150 x 100 PCC lintels over openings in each leaf with cavity trays over. DPC to be min 150 above finished ground level and vertical thermal DPC to sides of openings. Insulate all closures of cavity, including lintels, to prevent cold bridging. Ensure continuation of cavities.

Construct ground floor with 150 layer of well compacted and sand-blinded hardcore, 1200g visqueen membrane, 100 polystyrene slabs, 500 visqueen and 125 float finished concrete. 25 polystyrene strips and visqueen to be turned up at edges to top of floor. Turned up visqueen to be continuous with DPC.

First floor to be 200 x 50 joists at 400 centres covered with 22 water resistant flooring grade chipboard. Install 100 dense Rockwool insulation between joists with Gyproc 10 and skim below. End three joists both sides to be secured to front and rear walls with 5 x 30 mild steel straps at 1800 centres. Every other joist to be similarly strapped to both gable wall... Both floors to be continuous with existing.

Form roof with 100 x 75 wallplates, 250 x 100 purlins and 100 x 50 rafters at 400 centres. Cover with breathable sarking membrane, 50 x 25 battens and slates to match existing. End three rafters to be secured to gable blockwork with 5 x 30 mild steel straps at max. 1800 centres. Install patent eaves ventilation and eaves vents between feet of rafters. Form ceiling with 100 x 50 joists at 400 centres hung from ridge timber and purlins with 100 x 50 struts and 75 x 38 hangers. Install 100 Celotex between joists, Tri-so Super 10 stapled to underside, counter battens and 12.5 plasterboard and skim. Fix 250 x 25 fascia boards, 112 uPVC gutters and 62 rainwater pipes discharging into new back inlet gullies.

Install new hardwood window frames having an area min. $\frac{1}{10}$ th (and opening lights $\frac{1}{20}$ th) of floor area, fitted with double glazed units having low emission glass internally (Pilkington K or similar), min. 16 between panes and trickle vents in frames min. 16,000mm². Install new hardwood external door and frame. Any glazed less than 800 above floor level to be in toughened glass. Any glazed doors and side panels to doors to be similarly treated. Window and door are required to meet a U value of 1.8/energy band rating D.

32 basin and 38 shower wastes to be fitted with 75 deep re-seal traps and be saddle connected to 100 soil pipe which is to be connected to vent pipe in its existing position. Surface water drainage to be located on site, re-routed as necessary and new connections made into existing outfall. Any drains under extension to be excavated all round and encased in min. 150 weak concrete or pea gravel at discretion of Building Control with lintels over at passage through walls and 50 clearance all round packed with fibreglass quilt. All new drains and fittings to be in 100 uPVC underground system. All drain modifications to be to the satisfaction of the Local Authority.

Install extractor fans ducted to outside air, capable of intermittent operation and of extracting air at a min. rate of (a) kitchen and utility - 60 litres per second and (b) en suite - 15 litres per second. Extend heating and electrical systems to clients' requirements. New radiators to be fitted with thermostatic controls. Install smoke alarms wired to mains supply and having battery backup in position agreed with Building Control. Fix skirting boards throughout.

All electrical installation must be carried out by a competent person (a qualified electrician) and comply with Part P (P1 and P2) of the Building Regulations and BS 7671:2001 Chapter 13. The electrician must provide the customer with copies of design, inspection and test certificates with copies to the Local Authority before a completion certificate for the whole of the works is issued.

All dimensions are in millimetres unless otherwise stated.

Do not scale from the drawing.

All dimensions are to be checked on site.

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Erection of two storey extension on side (South) elevation

Scales 1:50 and 1:100