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GROUND FLOOR

Existing slab to be investigated to identify make good and load bearing capacity. Where new footings required, carefully break out slab and excavate to minimum 1m below external ground level. New walls to be located centrally on new 450 x 285 continuous conc. strip footings. (Assumed ground bearing capacity to 150 kN/m²). Slab to be filled back to new walls after backfilling hardcore in 150 mm well rammed layers. Slab to be levelled using Lutex screed and Visqueen 1000g placed over latex and dressed up walls by 150 mm and into brickwork by 75 mm. Kingspan aerasol-min-panel 150 mm insulation over Visqueen with perimeter upland insulation to achieve minimum thermal resistance of 0.75 m²K/W. Floor finish to be 75 mm sand/cement screed.

U value to be 0.85 W/m²K or better

FIRST FLOOR.

FIRST FLOOR:
First floor joists to be supported off steel beams (see later) and existing perimeter walls. Clean out all existing joist sockets in brick walls, check existing wall plate for soundness and replace as necessary. Install new floor of 280

x47x C16 joists at centres determined by existing supports, (<460mm). Max spans 2.1m and fix to wall plates with galv. clips. Carefully plane brick work around joist heads using a 100mm square plane. Floor finish to be 95mm flooring grade t.e.g chipboard. Fit herringbone strutting at mid spans of 282mm s.w. Overall thickness of floor to be 100mm or greater. Fix floor to up joists with 100mm walling and point loads at joists. Fix 500x50 SW cross runners under joists at 400mm centres with neoprene as appropriate to carry 1/15m plaster board ceilings. Incorporate 100mm mineral wool of density 150kg/m³ between floor joists. Use 100x100x10mm walling @ 900 x 63 x C16 brass screws bolted together. Any notching of joists must not exceed 1/8th depth of joist and must not be nearer to supports than 0.07x span. Holes must not be bored in floor joists. All floor joist strutting should be an centre line of joist and should be 3x diameter apart and between 0.25 x 0.4 x span from supports.

GROUND FLOOR | PARTITION BLOCKWORK

To be lightweight 100mm concrete blocks

FIRST FLOOR STUD WALLS

To be constructed using 50 mm x 75 mm planed studs, plates and noggins. Studs at 400 mm max. c.c.s. Min mass per unit 10 kg/m² 75 mm. Dritherm filled between studs, Cyproc wall board 10 fixed both sides and skimmed. + Dritherm 32

ROOF / 1ST FLOOR CEILING

Existing roof (truss) structure to be checked for rot & insect infestation, and remedied accordingly, where no/just fixing clips present provide and fix 150 x 75 x 75 x 4 galv angles each side of each truss. Bolt thru truss and screw down to wallplate. Provide and fix 1,000 L x 30 x 25 galv ties at 2m centres bent over and screwed to wallplate and screwed 6no. times to brickwork.

Strip roof e re-roof using Tyvek Sopro-felt and new battens, allowing fixing eaves ventilators giving equivalent of 10mm continuous vented eaves. Provide 60x50 noggin as necessary and fit plasterboard + skim ceilings. Day 250mm. Fibreglass insulation, 1st layer 100mm thick laid between ceiling rafters & 150mm second layer overlaid at 50% first.

Allow for new roof space (insulated) access and for re-forming existing maintenance access to flat roof.

N.B. See below for note regarding provision to be made for roosting bats in south west end of barn.

EXTERNAL WALLS

All walls to be checked for integrity and repointed / repaired as required. All scars to internal face to be filled in with brickwork masonry proud of main face removed.
60mm Celotex G15000 to be filled to insulation face of walls with taped joints.
50 x 25 x 5 w. battens to be fixed through insulation boards and screwed into brickwork. Walls to be finished with 125mm wall-board fixed to battens with approved plasterboard nails and skimmed and painted. All internal doors to be similarly treated but with 60mm Celotex G15000.

WINDOWS AND DOORS

Existing windows to be stripped down, overhauled and rebuilt/repainted.
4 no. new windows & screen timber, windows to match existing. Screen only to have double glazed units to provide U value of 1.8 W/m²K or better. Windows are to give ventilation equal to min 50% floor area. Doors with 50% or more glass to give U value 2.0 W/m²K. Casements/sashes to give escape of minimum 0.33 m² in habitable rooms.
Mashtie painting to be provided to full perimeter of

every window and door-frame internally, and externally

STAIRS (SEE NOTE BELOW)

Handrails to be min 900mm / max. 1100mm high above stair pitch line. Headroom above stair to be min 2m above pitch line. Gaps within balustrade not to allow passage of 100mm sphere. Landings to be no less than width of stair.

DRAINAGE

10 x 10 PVC pipes to BS 16600 with flexible joints to be laid to falls to tie in with existing drainage. Inspection chambers to be constructed in 305 mm Class B engineering bricks in cement mortar on 150 conc base. Covers to be non-ventilating and key exposed. All drains to be made to suit the building to be encased in 150 pea gravel and where passing through walls to have pea gravel surround extending 500 mm on each side of wall with lintol over and with rigid steel pattress either side of wall and 50 mm past extremities of hole in wall. All hand basins to have 33 mm int. dia wastes baths and kitchen sink to have 38 mm int. dia wastes. All wastes connected to soil stack to 75 mm dia. All wastes to be 9 x 9 SVP to half way at terminal, and to terminate 750 mm above window/cloak openings within 3 m.

VENTILATION

Minimum 5000mm² background ventilation required to living room and bedrooms and 4500mm² to kitchen, cloaks and ensuites, all provided by controllable window ventilators. Rapid ventilation to kitchen, provided via hob extractor at 30L/sec and to ensuites/cloaks via wall fans at 15L/sec rate. Extracts serving ensuites and cloaks to have 15min over-run facility. Door to ensuites/cloaks to have 10min air gaps under.

SMOKE ALARMS

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Smoke alarms to be mains fed and are to be positioned as indicated on plan.
Alarms are to be fitted in accordance with manufacturers instructions and BS 5816: Pt 1. Detectors to be minimum of 300mm (12") away from light fittings and maximum 7m from kitchen door, and living room door and 3m from bedroom doors.

HEATING

Existing system to be extended into new annexe, on separate zone controls. Program to be included to allow separate timing of

BAT ROOSTING PROVISION

On line showing on First Floor Plan form, partition wall across roof space to demark bat roosting area. Fit additional studs between ceiling and roof rafters. Studs to be at 600mm max. esp. Clad bat side of partition with 18mm ext. quality ply and bond all joints. Provide timbers over ceiling rafters to allow staggered laying of 850mm fibre/glass insulation. To both edges of roof build in bat access slots/tiles leaving Tyvek felt as shown on sketch above. Slots not to be opposite each other.

heating in annex. All radiators to have thermostatic radiator valves with bypass in system.
Hot water to be provided via boiler in main house to hot water cylinder with time controlled immersion heater.
Cylinder to have jacket of 30kg m³ foam min 35mm thick.
All pipe work between boiler and cylinder to be insulated in accordance with BS 5422:2001

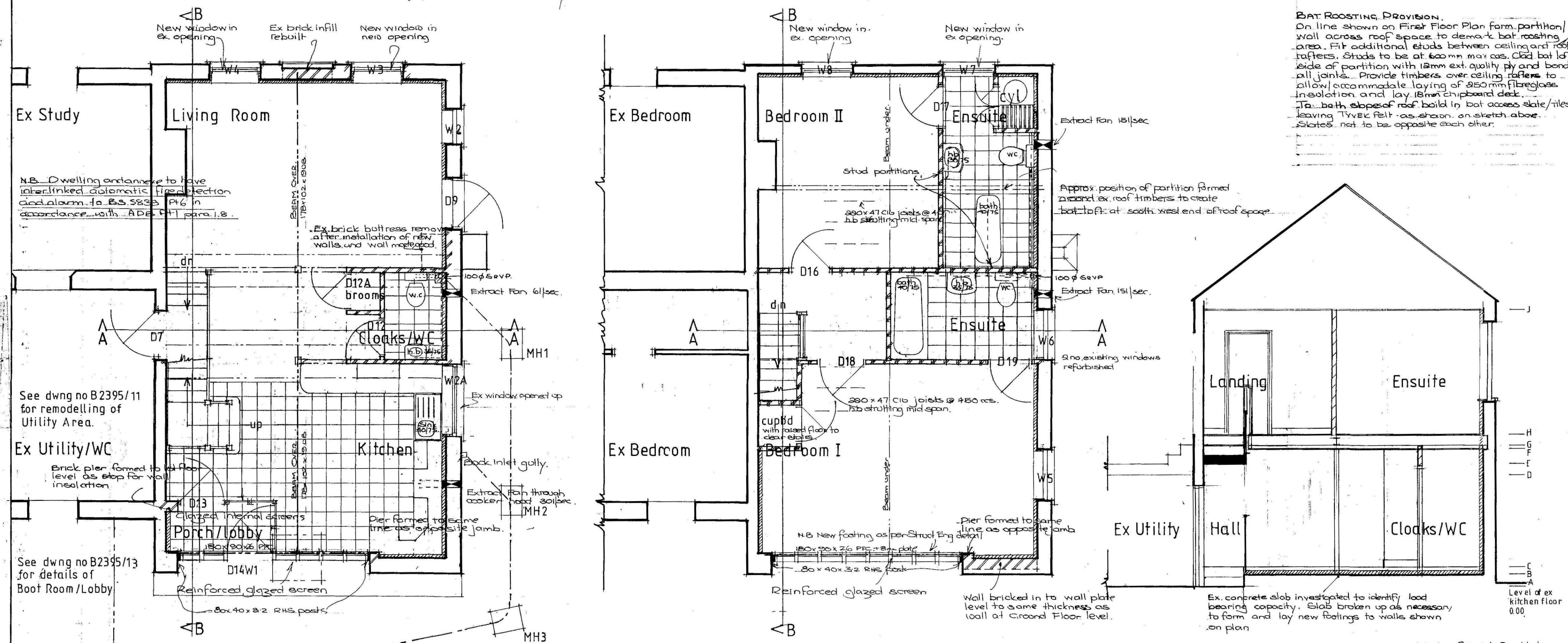
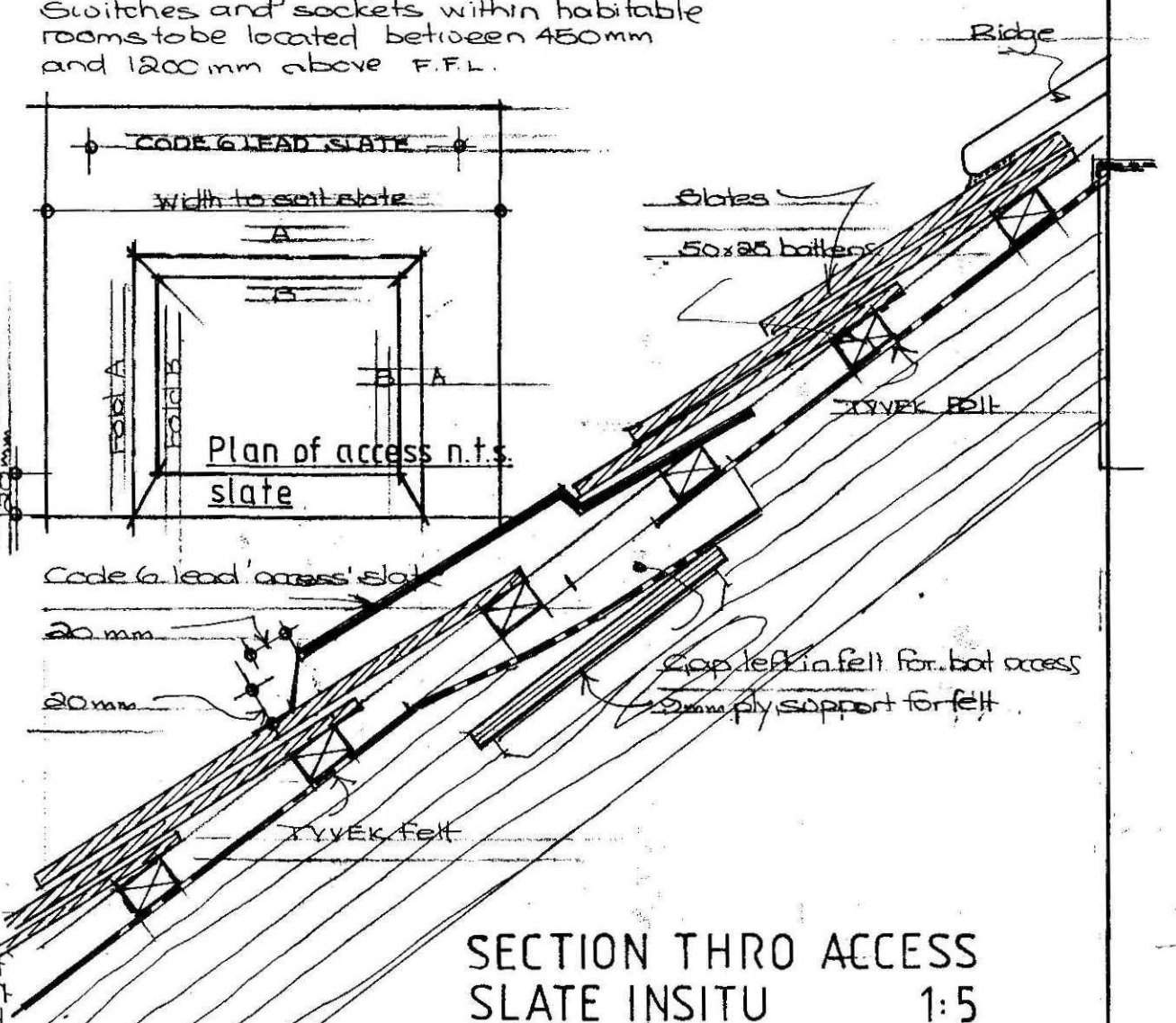
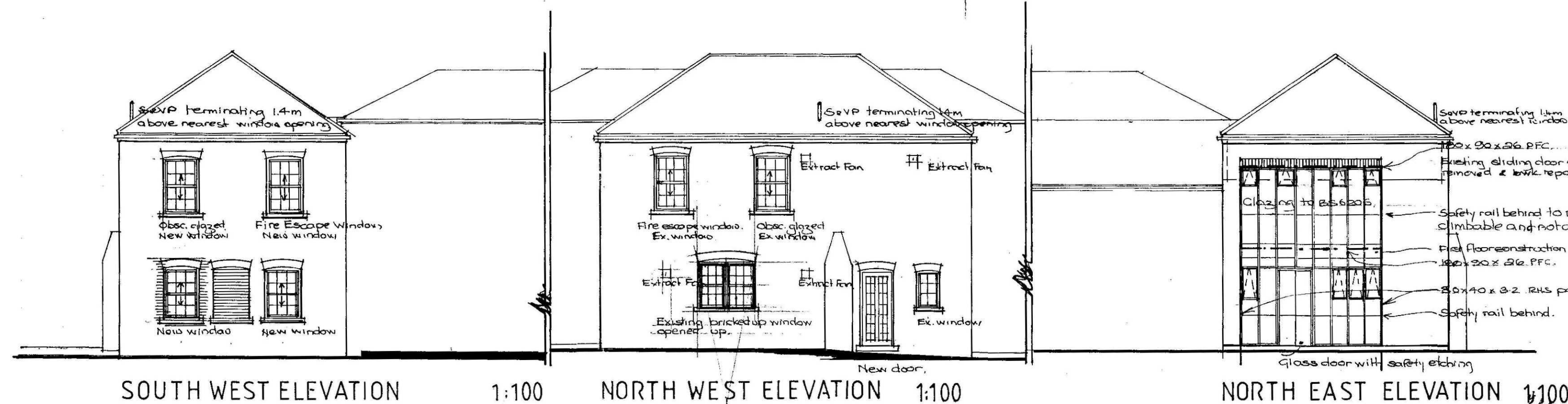
LIGHTING

One in three internal habitable rooms to have energy efficient lighting points. Such fittings to only take lamps having luminous efficacy of greater than 40 lumens per watt. i.e. fluorescent or compact fluorescent lamps (i.e. not tungsten with bayonet or Edison screw bases)

External lighting to have effective controls i.e. extinguish when adequate daylight.

ELECTRICAL

Electrical
All electrical work is required to meet the requirements of BS Regs ADP and must be designed, installed, inspected and tested by competent personnel (ie an appropriate BS 7671 certificate must be issued by a competent engineer).
Switches and sockets within habitable rooms to be located between 450mm and 1200 mm above F.F.L.



NEW STAIRCASE

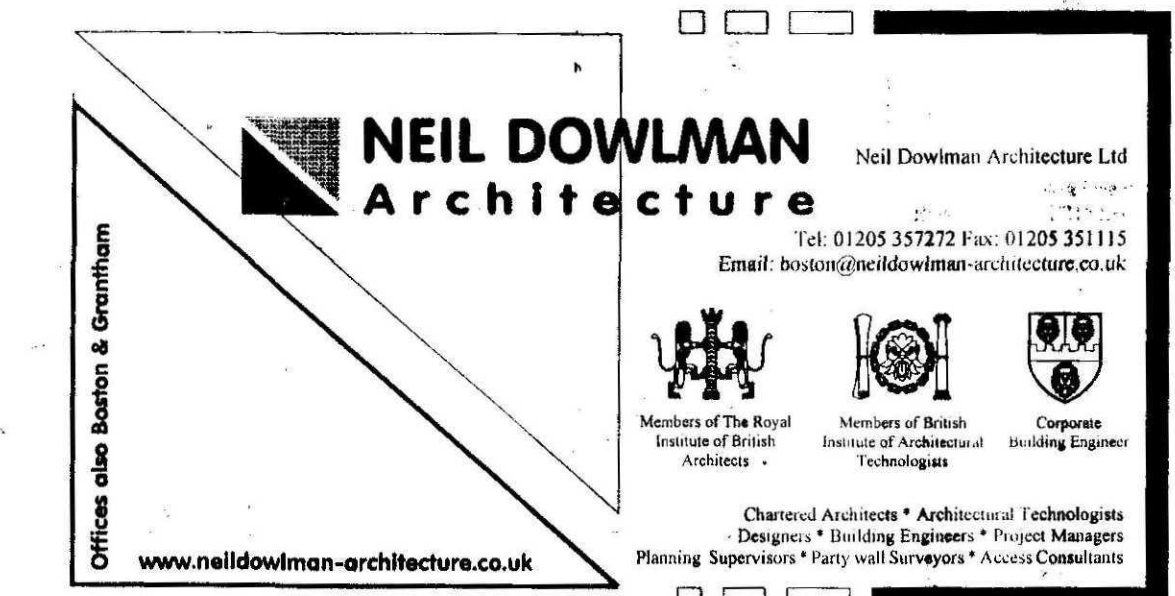
See calculation on 82395/16

12 NOV 2010

Ref: 0942-10

HEIGHT REFERENCE: Kitchen floor level = 9.000 DATUM.

A	Ground level	+ 0.075	above kitchen floor	=	0.075
B	Barn-slab level	+ 0.180	"	Ground level	= 0.255
C	New barn-slab	+ 0.150	"	Ex barn slab level	= 0.405
D	Ceiling kitchen	+ 8.210	"	Kitchen Floor	= 8.910
E	Ex First Floor level	+ 8.375	"	"	= 2.375
F	U/s Ex wall plate	+ 8.595	"	"	= 0.650
G	Tap of wall plate	+ 0.075	"	U/s Wall plate	= 2.925
H	Need First Floor level	+ 0.245	"	Top of wall plate	= 3.170
J	U/s roof floors	+ 5.430	"	Ex barn slab level	= 5.685



Client	Scale
Mr. & Mrs. R. Smith	1:50 + 1:100
Project	Date
	01/03/2010
	Drawn by:
Proposed Alterations & Extensions	GAR
Curlew Lodge, Guys Head Road	
Sutton Bridge	Drawing No.
	B2395/10
Title	Revision

Working Drawing I
Barn Conversion to Annexe ABC