

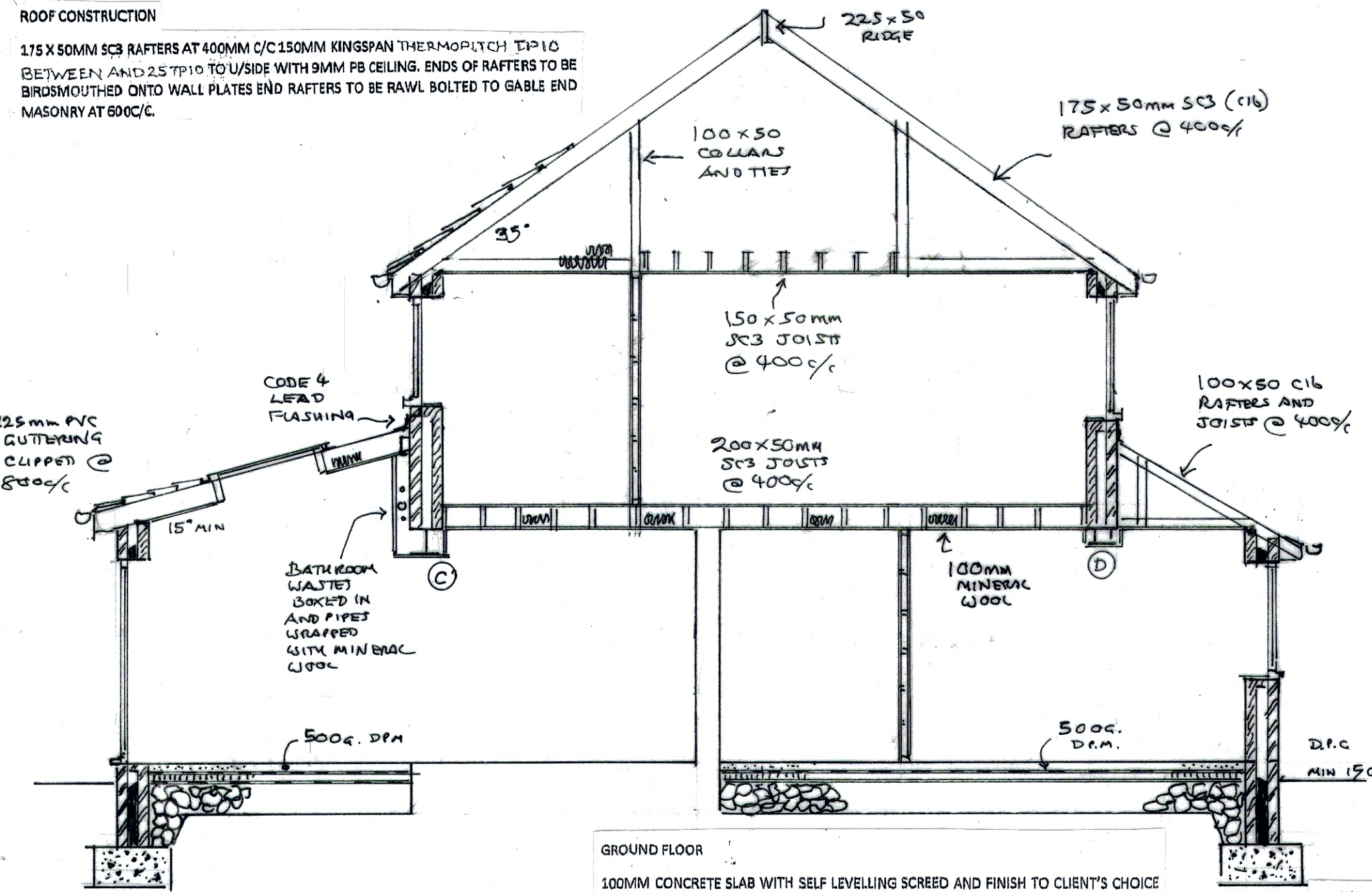
## SECTION 1:50

### ROOF CONSTRUCTION

175 X 50MM S3 RAFTERS AT 400MM C/C 150MM KINGSPAN THERMOPLUCH T1010 BETWEEN AND 25 T1010 TO U/SIDE WITH 9MM PB CEILING. ENDS OF RAFTERS TO BE BUSHMOUTHED ONTO WALL PLATES END RAFTERS TO BE RAWL BOLTED TO GABLE END MASONRY AT 500°C.

### ROOF COVERING

SELECTED MATCHING ROOF TILES/SLATES NAILED TO TREATED S.W. BATTENS WITH LAP TO SUIT ROOF PITCH IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS OVER 'TYVEK' BREATHABLE SARKING FELT LAID OVER RAFTERS AS SPECIFIED. 300MM FIBREGLASS QUILT INSULATION OVER AND BETWEEN JOISTS ON 9MM PB AND SKIM CEILING.



### STEEL CHECK

① 178 x 102mm R.S.S. SPAN 2600  
LOADS: B/WK 2.6 x 2.6 x 2.2 14.87  
FLOOR 1 1.5 x 2.6 x 2.5 9.75  
FLOOR 2 1.5 x 2.6 x 2.5 9.75  
W 34.37 KN

BM  $W/8 = 11.17$  KN/m  
 $Z_{p} M/pb = 68$  cm<sup>3</sup> [153]  
 $\sigma_p \frac{M}{p_b} = 7.2$  mm  
 $\sigma_a \frac{M}{p_b} = 7.98 = 2.8$  mm ✓  
384 EL

② 203 x 133mm 25kg/m UB SPAN 2600  
LOADS: FLOOR 1.5 x 2.6 x 2.5 9.75  
B/WK 3.6 x 2.6 x 2.2 20.6  
ROOF 2.5 x 3.0 x 2.0 15.0  
W 45.35 KN

BM  $W/8 = 14.74$  KN/m  
 $Z_{p} M/pb = 89$  cm<sup>3</sup> [232]  
 $\sigma_p \frac{M}{p_b} = 10.38 = 2.1$  mm ✓  
384 EL

TOTAL LOAD ON BOTH ULS:  $W_T = W + B/WK + FLOOR$   
 $= 45.35 + 20.6 + 11.38$   
 $= 77.33$  KN

③ 356 x 368mm 129kg/m UB SPAN 8500

LOADS: B/WK 2.6 x 8.5 x 4.4 = 97.24  
B/T ROOF 1.4 x 8.5 x 2.0 = 23.8  
ROOF 1.3 x 8.5 x 2.0 = 22.1  
W = 143.14 KN

POINT LOAD FROM A+B:  $P = 17.19 + 38.47$   
 $= 55.86$  KN

BM  $W/8 + P/4 = 152 + 119$   
 $= 271$  KN/m  
 $Z_{p} M/pb = 1641$  cm<sup>3</sup> [2264]  
 $\sigma_p \frac{M}{p_b} = 11.45 + 71.47 = 185.97 = 2.1$  mm ✓  
384 EL

④ 152 x 152mm 37kg/m SPAN 3600

LOADS: B/WK 2.6 x 3.6 x 2.2 20.4  
ROOF 2.2 x 3.6 x 2.0 15.84  
W 36.44 KN

BM  $W/8 = 16.4$  KN/m  
 $Z_{p} M/pb = 100$  cm<sup>3</sup> [272]  
 $\sigma_p \frac{M}{p_b} = 22.14 = 4.7$  mm ✓  
384 EL

⑤ BED ROOM WINDOW TO INCORPORATE SIDE HUNG SAME WITH A MINIMUM 450 X 780MM CLEAR OPENING FOR M.C.E.

REDLAND 'GRAVELEY' OR SIMILAR TO SUIT 15° PITCH

### WINDOWS

ALL NEW WINDOWS AND ROOF LIGHTS IN U.P.V.C OR H.W. FRAMES TO HAVE 20MM SEALED DOUBLE GLAZED UNITS INCORPORATING LOW EMISSIVITY 'K' GLASS TO ACHIEVE A MAXIMUM 1.4W/M<sup>2</sup> K VALUE.

### VENTILATION

ALL HABITABLE ROOMS TO HAVE AT LEAST 8000MM<sup>3</sup> BACKGROUND VENTILATION PROVIDED THROUGH TRICKLE VENTILATIONS BUILT INTO WINDOW FRAMES OR 2 NO 225 X 150MM AIR BRICKS WITH LOUVRED CONTROLLABLE PLASTER VENTS. AT LEAST 400MM<sup>3</sup> BACKGROUND VENTILATION TO BE PROVIDED TO KITCHENS, BATHROOMS AND UTILITY ROOMS. WINDOW FRAMES TO INCORPORATE OPENING VENTS EQUIVALENT TO AT LEAST 5% OF THE FLOOR AREA OF THE ROOM SERVED.

### FIRST FLOOR CONSTRUCTION

MOISTURE RESISTANT 21MM T&G BOARDING NAILED TO FLOOR JOISTS AS SPECIFIED WITH STRUTTING AT 1/2 SPAN 30 X 5 MM GALV. M.S. RESTRAINT STRAPS TO BE PROVIDED AT 1.8M CENTRES TO JOISTS PARALLEL TO WALLS FIXED TO AT LEAST 3 NO. JOISTS DOUBLE JOISTS TO BE BOLTED TOGETHER AT 600 C/C PLACED UNDER PARTITIONS FOR SUPPORT. 12MM PLASTERBOARD AND SKIM CEILING.

### WALL CONSTRUCTION

TWO COAT SAND CEMENT RENDER TO MATCH EXISTING ON 100MM CONCRETE BLOCKWORK OR SELECTED FACING BRICK OUTER LEAF 200MM CAVITY WITH DRYTHIE 32 ULTIMATE FULL FILL 100MM CELCON SOLAR BULK INNER LEAF WITH 32.5mm '4' PROTECTHERM VAL BOARD FOR 0.18U VALUE. STAINLESS STEEL CAVITY TIES TO BE PROVIDED AT 450 = 750MM CENTRES AND AT 300MM CENTRES AROUND ALL OPENINGS. INSULATED 'THERMABATE' OR SIMILAR CAVITY CLOSERS WITH INSULATED CATNIC OR I.G. PROPRIETARY GALV. STEEL UNTOLS TO BE PROVIDED OVER ALL CAVITY WALL OPENINGS WITH A MINIMUM 150MM END BEARING. TIMBER STUD PARTITIONS 75 X 50MM STUDDING WITH MINERAL WOOL INFILL AND 12MM PB AND SKIM BOTH SIDES.

### FOUNDATIONS

TWO LEAVES BRICKWORK BELOW D.P.C. LEVEL WITH CONCRETE CAVITY FILL UP TO 225MM BELOW D.P.C. LEVEL STRIP CONCRETE FOOTINGS MINIMUM 600MM X 200MM THICK AT LEAST 1000MM DEEP BEARING ON FIRM CLAY SUBSTRATA. OVERALL SIZE AND DEPTH TO SUIT GROUND CONDITIONS IN AGREEMENT WITH THE B.C.O./A.I.

2N° UPVC ACCESS CHAMBERS BED AND J U/SIDE 1/4 CONCRETE WITH STEEL COVER AND FRAME

2N° 152x152mm 37kg/m ULS BOLTED TOGETHER @ 600 C/C SPACED ON 450X150 R.C. SPREADERS

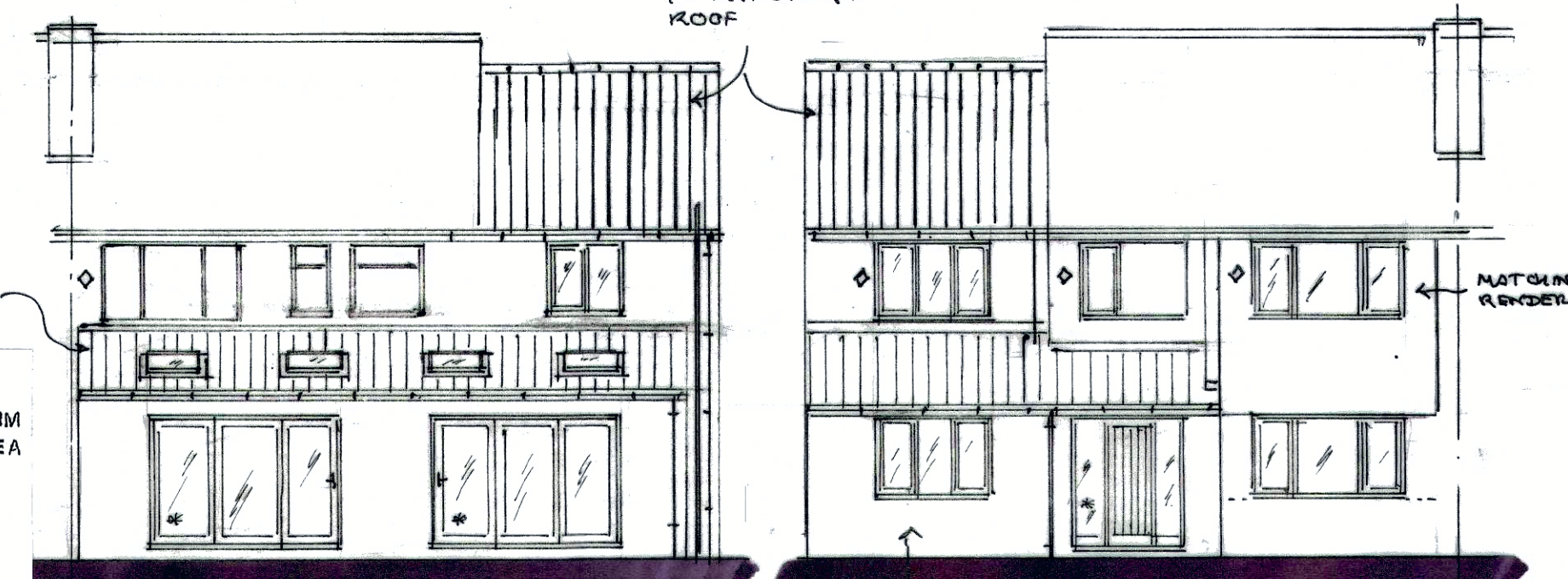
REDUCE OPENING WIDTH WITH MATCHING FRAME CONSTRUCTION AND RENDER FINISH 3/4 NEW FRAME TO JUNE

NOTE: ASSUMED COMBINED DRAINAGE SYSTEM AT FRONT

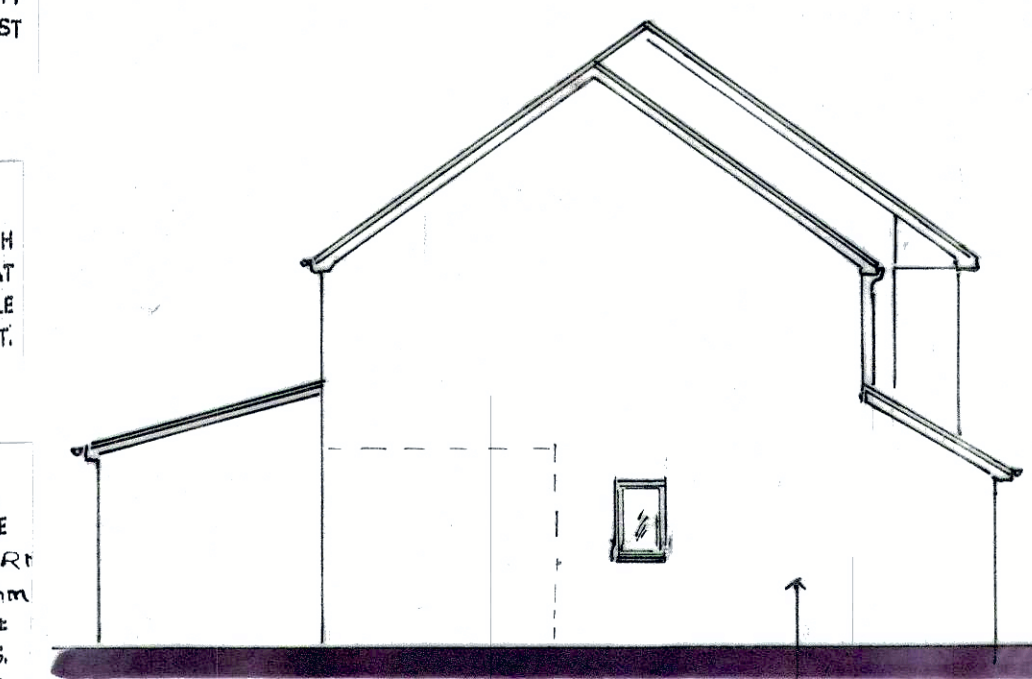
## FIRST FLOOR PLAN 1:50

## REAR ELEVATION 1:100

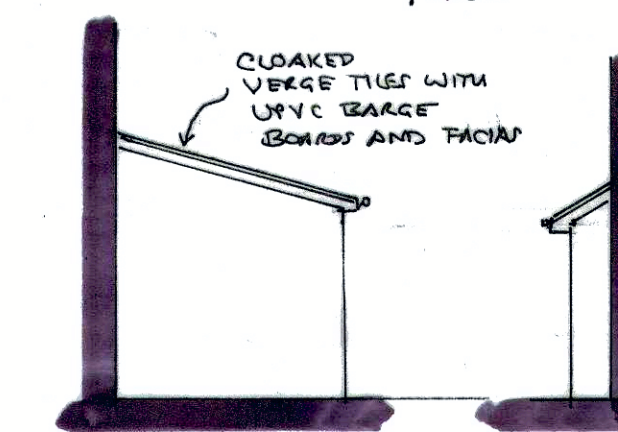
## FRONT ELEVATION 1:100



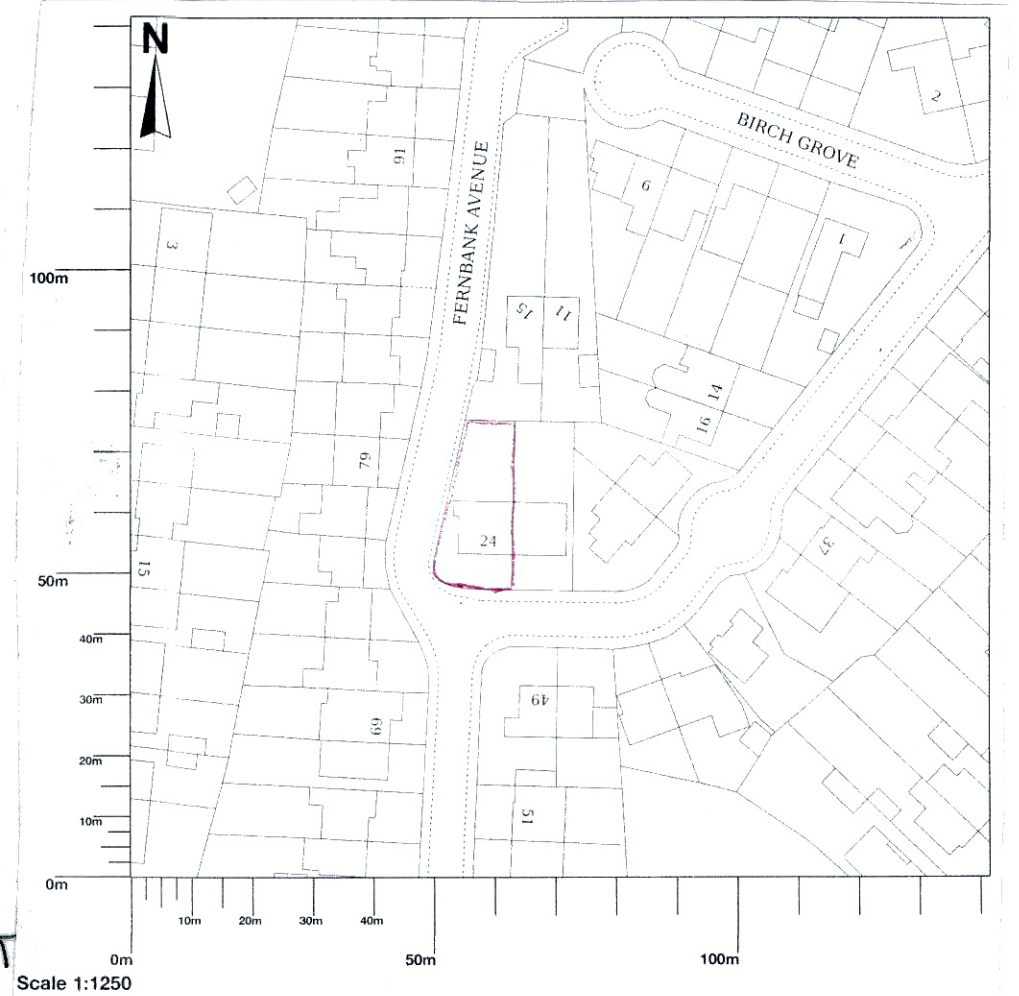
## SIDE ELEVATION 1:100



## SIDE VIEW AT REAR AT FRONT 1:100



## LOCATION PLAN



### MECHANICAL VENTILATION

ALL BATHROOMS AND SHOWER ROOMS TO BE FITTED WITH A MECHANICAL EXTRACT FAN CAPABLE OF AT LEAST 15 LITRES/SECOND EXTRACT RATE. KITCHENS TO HAVE EITHER A MECHANICAL EXTRACT FAN CAPABLE OF 60 LITRES/SECOND OR A COOKER HOOD CAPABLE OF 80L/s. MECHANICAL EXTRACT FANS SERVING WINDOWLESS BATHROOM/SHOWER ROOMS/W.C. CUBICLES TO PROVIDE AT LEAST 3 AIR CHANGES PER HOUR WITH A 15 MINUTE OVER RUN FACILITY.

### DRAINAGE

ALL NEW DRAINS TO BE LAID USING 100MM DIAMETER HEPSELE OR U.P.V.C. PIPES AT 1:40 MINIMUM SELF-CLEANING GRADIENT. DRAINS UNDER BUILDING AND WITHIN 1M OF FOUNDATIONS TO BE ENCASED IN CONCRETE SURROUND, DRAINS PASSING THROUGH FOUNDATIONS TO BE BRIDGED OVER WITH P.C.C. LINTOLS AND ROCKER PIPE USED EITHER SIDE OF WALL. 100MM DIAMETER S.V.P.'s TO RECEIVE UPPER FLOOR FITTINGS WITH WIRE BIRD CAGE TERMINAL AT LEAST 900MM ABOVE THE HIGHEST WINDOW VENT OPENING AND ABOVE ROOF LEVEL. ALL NEW SANITARY FITTINGS TO HAVE ANTI VAC TRAPS WITH WASTES CONNECTED SEPARATELY INTO SOIL STACKS. ALL WASTES TO BE MADE ACCESSIBLE.

### GENERAL NOTES

ALL DIMENSIONS INCLUDING ROOF PITCHES TO BE CHECKED BY CONTRACTOR BEFORE WORK COMMENCES. ALL WORK TO COMPLY WITH CURRENT BUILDING REGULATIONS AND CARREID OUT TO THE COMPLETE SATISFACTION OF THE DISTRICT B.C.O. ALL TIMBER TO BE TREATED WITH PRESERVATIVE. ALL NEW STEELWORK TO BE ENCASED IN 12M GYPSUM 'FIRELINE' BOARD FOR 30 MINUTES FIRE PROTECTION. ALL GALV. LINTOLS TO BE INSULATED AND ENCASED WITH 12MM PLASTERBOARD AND SKIMFOR 30 MINUTES FIRE PROTECTION. ALL ELECTRICAL WORK TO BE UNDERTAKEN BY NICEIC APPROVED CONTRACTOR WITH AN INSTALLATION CERTIFICATE TO BE PROVIDED ON COMPLETION. ALL NEW RADIATORS TO BE FITTED WITH THERMOSTATIC VALVES AND C.H. BOILERS TO BE REPLACED IF NECESSARY WITH CONDENSING TYPE BOILERS AND INSTALLED BY A CORGI REGISTERED CONTRACTOR. TOUGHENED OR LAMINATED SAFETY GLASS TO BE USED IN ALL CRITICAL LOCATIONS. ✱

### CLIENT

MR. D. VAUGHAN

### SCHEME

TWO STOREY EXTENSION AT SIDE AND SINGLE STOREY EXTENSION AT REAR WITH FRONT PORCH

### ADDRESS

24 FERNBANK AVENUE  
HUXTON  
KNOWSLEY  
L36 9UD

### DRAWING TITLE

PROPOSED

### NUMBER

DH 02

### REVISION

### DATE

JANUARY 2025

### SCALES

1:50

### 1:100

