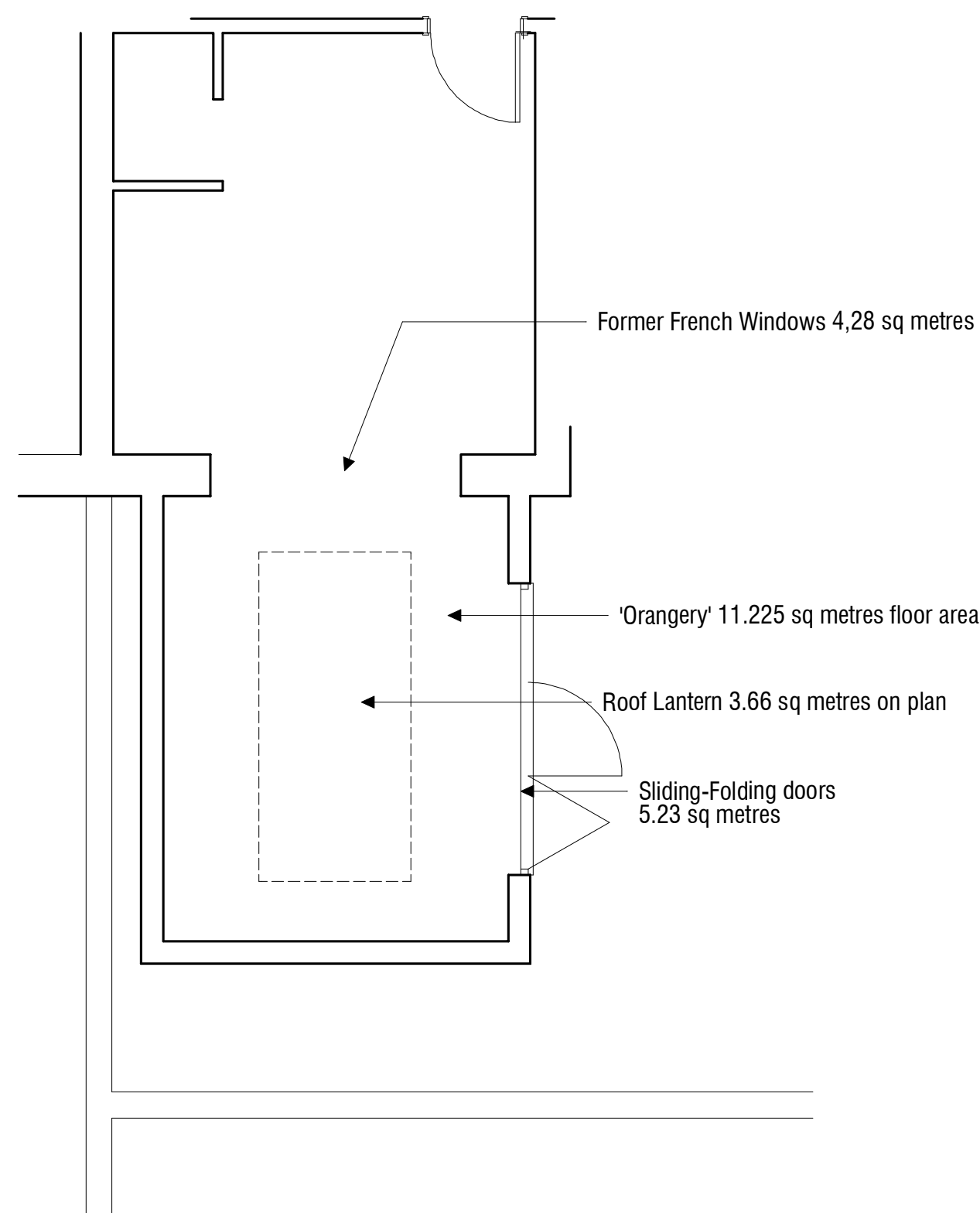




Permissible Glazed Area without compensating measures:
 $4.28 + (11.225 / 4) = 7.086$ sq metres

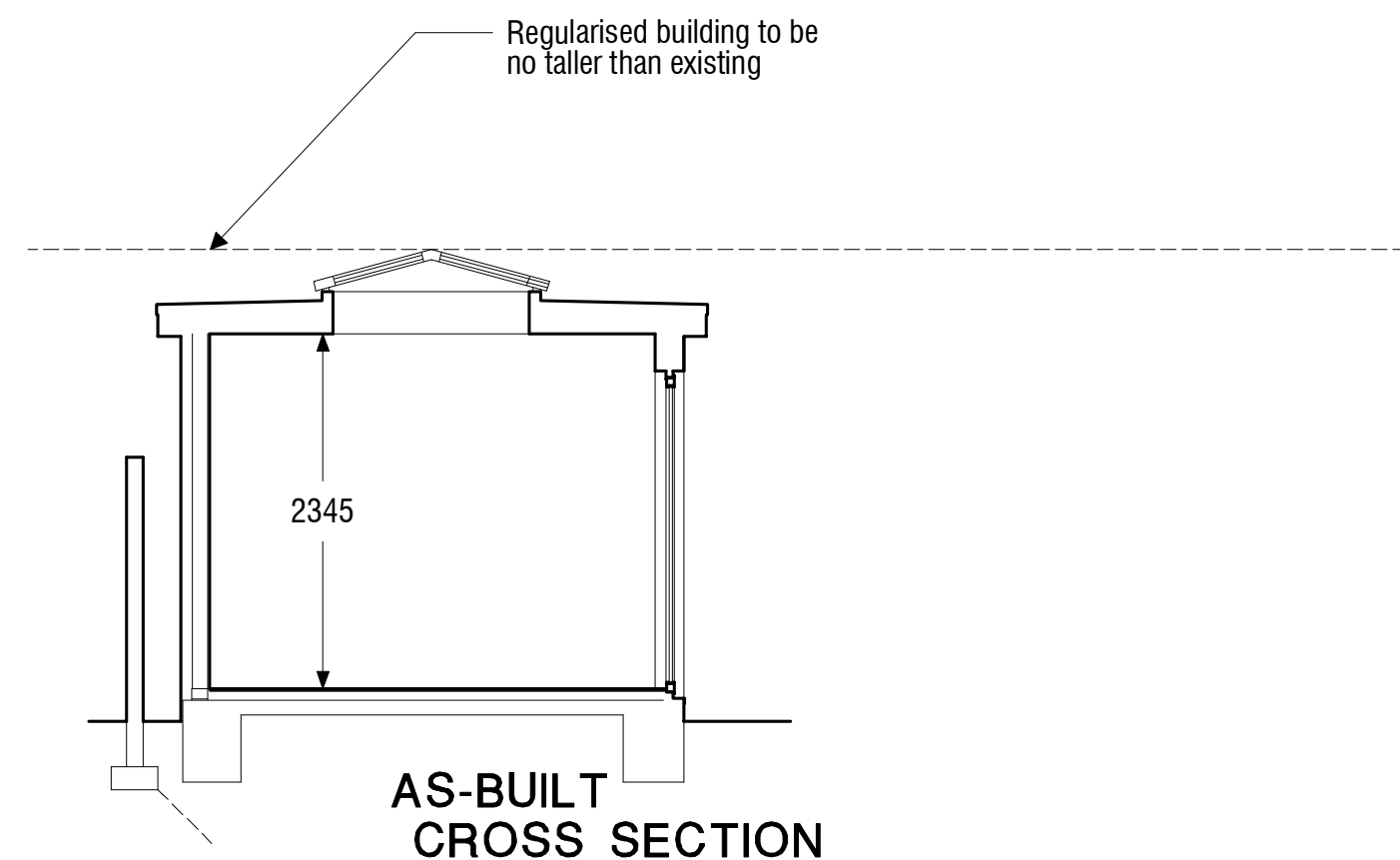
Glazing as installed = 8.91 sq metres

Reduction required = 1.82 sq metres
 e.g., reduce length of roof lantern by 1.39 metres

or increase insulation to compensate

GROUND FLOOR PLAN Extension as built 2017 (deemed Planning Consent granted)

1/50 scale



To be addressed:
 Foundations must comply with Regulations.
 Suitable-height upstand to be provided for Roof Lantern, normally 150mm.
 U-Value of Roof to be 0.18 or better
 U-Value of walls to be 0.28 or better
 U-Value of floor to be 0.22 or better
 Laminate flooring surface to be below top of door cill, and to be sealed.
 Amount of glazing to be reduced, or insulation to be improved (calculations would be required).
 Render not to bridge DPC.
 Trickle Ventilation to be provided.
 Ventilation likely to be required in wall (and roof if not warm-roof) construction to remove condensation

If existing roof light and S/F doors are re-used, then insulation will have to be increased (requires calculation) which may possibly be achievable by using thicker ceiling and wall insulated linings, but special nails / screws must be used, and the ceiling height and / or room width will reduce. Alternatively deeper joists and / or studs could be used with more insulation between, but this will also reduce the room size marginally.

Available Options:
 Foundations:
 Either Conventional Mass Concrete Strip taking account of any trees
 or Reinforced Concrete Raft (requires Engineer's Design, but less digging)

Roof Insulation:
 Either Warm Roof with majority of Insulation above Joists, and some between (advantage: no ventilation required disadvantage: thicker construction, lower ceiling)
 Or 'Cold' roof with insulation at ceiling level (advantage: slightly thinner construction, but requires above-insulation ventilation and under-joist insulation, so ceiling height will be less than existing either way)
 Ceiling Height assumes overall height of building must not increase for Planning and Neighbour-Relations reasons.

Wall Insulation:
 U-Value of 0.18 can be achieved using either 100mm Mineral Fibre or 60mm Celotex, but in both cases a insulated inner lining is required (reducing room width by 50mm / 2 inches) and Mineral Fibre requires an additional unvented airspace increasing wall thickness by 50mm
 Manufacturer specifies ventilation between insulation and outer cladding / render.
 100mm studwork works with either scheme, but care needed to ensure insulation is not thicker than studs, or plasterboard is likely to pop off (so CLS may not be suitable)
 The advantage of Mineral Fibre is, apart from being cheaper, it keeps noise out better.

Floor Insulation:
 Perimeter / Area = $10.56 / 11.225$
 = 0.94. To provide U value of 0.22.
 80mm Celotex or 100mm expanded Polystyrene is required (underfloor ducts to be retained and kept operational to ventilate existing original floor voids)

48 Shaftesbury Road, Rustington: Regularisation of Construction to comply with Regulations