

Structural Survey and Conversion Method Statement for Plum Pudding Barn, Hoe Lane, Flansham, PO22 8NS

Physical condition of Building

The existing building (shown in the photograph below) is structurally sound, of permanent construction, and is eminently capable of conversion without any significant external alteration.



All footings are trench fill, W 0.6m, D 1.0m from external FFL

There is an additional central (spine) trench running down the length of the building W 0.6m x D 1.0m.

Cavity construction comprising of facing brickwork and internal blockwork formed to the outer perimeters to a height of 675mm. DPC is set at 150mm above external ground level.

The external oak clad wall above the brick cavity wall is formed of structural timber studs 125mm x 50mm with studs set at every 500mm (please see attached structural engineers' details) 1650mm to roof plate.

Roof plate and rafter detail as specified in structural engineers' details i.e. 200mm x 50mm rafter at 300mm centres

The stud wall is fitted with a breather membrane stapled to the outer face, with 25mm x 50mm treated batten, screwed to the stud uprights.

The outer finish is 240mm by 25mm to 10mm feather edge Oak boarding, nailed to the horizontal studs using 65mm galvanised nails.

Roof detail is as per the structural engineer's design attached in **Appendix A**.

Roof finish consists of one layer of breathable membrane, with 25mm x 50mm treated batten for the fixing of natural 20" x 10" slate, with the ridge finished using a clay half round ridge.

The inner support for the roof is a purpose designed goal post system (please see the structural engineer's details in **Appendix A**).



Photos of existing rafter detail.

Schedule of Works to convert building to a residential dwelling.

1. Form a new inner skin to the outer perimeter using 125mm x 50mm C16 timber studwork, from DPC to roof plate.
2. Fit telescopic vents to the back of the existing air bricks to provide airflow to the new suspended floor.
3. Infill new inner skin with 120mm Celotex or similar.
4. Plaster board the inner skin using 12.5mm foil backed plaster board.
5. Form window and door apertures to the inner and to the outer feather edged Oak cladding.
6. Supply and fit new purpose made Oak windows and doors, with double glazed units, and locking stays, providing trickle ventilation.
7. Close the cavities using 100mm cavity closures.
8. Plaster set finish the new plaster boarded inner skin.
9. Lay single skins of brickwork bedded directly onto the oversight with a sand and cement mortar. Sleeper walls are to be set at 1500mm centres.
10. Place 100mm x 50mm floor plates directly on to a new DPC which has been mortar bedded to the top of the new sleeper walls.
11. Cross joist the new sleeper walls with 125mm x 50mm C16 Joists set at 400mm centres, providing cross flow of air to the undersides of the floor.
12. Between each floor joist, cut and fit 120mm Celotex insulation or similar.
13. Overlay the newly suspended floor joists and the newly installed insulation, using a breathable vapor check barrier.
14. Cut and fit new 225mm x 30mm softwood floorboards to the new joists, close butt jointed and screwed.
15. Cut and fit new internal partitions in 100mm x 50mm, forming each room, infill with fibre glass Rockwall insulation.
16. Plaster board new partitions, using 12.5mm foil backed plaster board, plaster set finished.
17. Fit new door linings, architraves, and skirtings.
18. Cut and fit new internal window boards, and hang purpose made soft wood ledge and brace internal doors.
19. To the inner pitched roof, and pre-formed collars, infill 120mm Celotex insulation, providing a 25mm gap for cross flow of air to the underside of the breather membrane felt.
20. Plaster board the elevated ceilings using 12.5mm plaster board, and plaster set finish.
21. To replicate a period structure, Oak insets will be used in the partitions, along with several period Oak beams. Inset imperial brickwork panels will be built using traditional lime mortars. All non-structural.
22. During the proposed works as detailed above, the electrician and the plumbing, heating engineer, will carry out the first and the second fix of the interior, in strict accordance with current regulations.
23. On completion, the barn will be sympathetically decorated, using heritage colours. No decoration of the exterior is proposed, the new Oak doors and windows will oxidise naturally to match the existing Oak cladding.

Please note: Other than the works as detailed above, there will be no demolition, debris, or alteration of the existing structure. All work as proposed, is non-structural, and purely superficial in nature.