

## Repairs to the east sole plate at Merryvale House, Ashfield-cum-Thorpe, Suffolk.

Application Reference: DC/21/02026

We have been engaged to carry out repair works to the sole plate of Merryvale House so that the current owners can install a new shower. Mindful that the plate had been in poor condition for some years and keen to install the shower against sound fabric and avoid having to revisit the area at a later stage we made an initial assessment in 2020. The area in question was suffering from fungal and insect decay but only a small section was visible internally and with the building rendered externally it was difficult to quantify the extent of works.

Now that consent has been granted we have removed some sections of the cement render to further evaluate the condition in an attempt to define the scope of the works for planning purposes as well as for budgetary considerations.

A section of the thick cement-based render was cut from the main area of concern – the image below shows the condition as found with the remnants of plate in a very friable condition and effectively being held in place by the thick, rigid render covering.



The existing shower tray and plumbing can be seen to the right with areas of infill having dislocated and in some areas missing altogether. A section of the 20<sup>th</sup> century infill panel (cement-based) from when the frame was previously exposed is also visible above the rolled section of plate. Note also the condition of the stud at far right.

The stud to the right is in poor condition at tenon level but despite the numerous flight holes from emerging woodborers the stud is basically sound from above the shoulder cut.



Further to the right the plate at first appears sound BUT it is entirely hollow and in very poor condition. The air brick dates from when the frame had been exposed.

We decided to open up the render to a further extent and make some initial cuts into the right-hand section of sole plate to evaluate it better.



The inner 1/3 of the plate is sound which would allow the use of a patch to the outer face and the retention of most of this internal face. Sound tenons can be retained and the new patch would be housed to clasp them in place then fixed to the remaining timber with stainless steel coachscrews.





Further to the left we removed a smaller section of render – the plate in this area is more than half under the concrete floor and is in poor condition for at least the outer two thirds, possibly more. The upper face of the plate is shown as a red line. The elm storey post (see below) is in poor condition just above the plate – this post supports a large-section floor rail and carries considerable load. If we installed an entirely new sole plate at this point, to get *above* the concrete floor level our shoulder cut would be as indicated by the orange line above. This would then cut into more sound elm.



### Conclusions and suggestions for repairs.

The sole plates to the front elevation are mostly in poor condition with the cement-based render currently acting as a diaphragm and holding everything in place. Being adjacent to the main stack also gives some rigidity to this area – if this was located elsewhere, we would expect to see far more cracking and movement which in turn would cause more stresses to the adjacent framing causing joints to dislocate etc. It is clear that the first floor/storey post has continued downwards in relatively recent years so an intervention of some sort is absolutely in order.

The plate to the left side of the shower position and further along, under the storey post should be entirely replaced with new green oak. Where possible, mortice and tenon joinery will be retained but where tenons have decayed too much, simple stainless steel L-brackets will be coach-screwed between the stud and the sole plate. These will be within the infill area and not visible once the work is complete.

The original area of concern adjacent to the existing shower will have a short section of new oak sole plate but most of this area will retain the inner third (approx.) of plate with a new section of oak fixed in place with stainless steel coachscrews. These will be countersunk and fixed from the outside and not be visible once the render is repaired. Where the existing tenons are sound they will be retained and clasped into place by the new patch. If any are in poor condition, they will be cut flush to the upper face of the plate and a stainless steel L-bracket used as noted above.

Once the new timbers have been fitted, the plinth will be made good as necessary but it is in good condition and apart from some repointing with coarse mix from Anglia Lime it should be fully retained with only minor repairs needed.

Damaged infill panels of wattle and daub will be repaired with reconstituted daub, laid onto new wattles if necessary. Where panels are wholly missing we will fit sheep's wool and for any internal surfaces to be made good on a like-for-like basis, presumed sawn laths fixed to battens.

Although the existing render is thick, hard and cement-based, the current programme of works doesn't call for replacement in entirety. However, all making good to the lower section where we have cut render to allow tool access and fitting of new timbers will utilise ready-mixed [Thermalime](#) render from Anglia Lime laid on sawn larch laths which would be fixed to the frame with stainless ring shank nails.

As is entirely normal in such circumstances, some elements of the work are unknown until further opening up has been commenced. If anything is found to deviate from the principles of this schedule, we will report back to the local authority and advise them of our findings before carrying out anything markedly different from what has been agreed.

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