

INITIAL STRUCTURAL REPORT:
The Biggin, Hitchin



26th February 2026

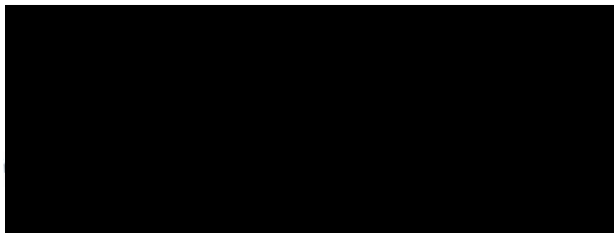
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Revision	Amendments	Prepared By	Checked	Date

1. Introduction

- 1.1. SeabrookGroves Ltd was appointed to undertake a structural appraisal of The Biggin, an alms house dating from circa late C16th early C17th and listed Grade 2* by Historic England, Listing No. 1102181.
- 1.2. The structural appraisal was comprised of a visual appraisal of the main building structure to understand the general condition and provide typical advice for rectifying defects. Several of the flats were inhabited and access into a few flats only was possible, therefore, assessment was predominantly restricted to external elevations.
- 1.3. The weather at the time of survey was dry and warm for the time of year, but followed a prolonged period of wet winter wither.
- 1.4. The visit took place on 9th February 2026.

2. Description

- 2.1. The Biggin was a former oak framed structure over two floors, built around a central courtyard and dating from circa late C16th.
- 2.2. The building was located on the south side of the market and for the purposes of this report, primary access into the central courtyard will be assumed to be through the north facing elevation with the river Hix running passed the western side of the building.
- 2.3. The central courtyard was accessible only through the doorways in the north and south elevations, and provided the only means of gaining access to the individual flats. Covered staircases, but fully open to the courtyard, provided access to first floor accommodation and also, via a first floor doorway and second stair flight, to the roof void.
- 2.4. The building was originally used as a priory: how much of this original construction is retained is unclear and it is believed that much repair and reconstruction took place in the Elizabethan period and further repair and modernisation in the 1960's, albeit repairs and alterations would have been ongoing throughout its life.
(Ref. Herts Memories: Hitchin. The Biggin, by Colin Wilson)
- 2.5. The current structure comprised much red brick masonry to replace or enhance areas of timber framing that had been lost or structurally impaired over the years through decay. Much of the red brick masonry is of historical interest in its own right and some may date back to Elizabethan times.
- 2.6. The internal courtyard was a fascinating space with the north and south doorways providing a passage straight through the western side of the courtyard covered by first floor accommodation, supported by small, oak moulded posts in the Tuscan style to form a cloister.
- 2.7. The general structural arrangement comprised a grid of posts and beams, which created two perimeter frames: one forming the perimeter of the courtyard; the other form the perimeter of the building footprint. Beams between these frames supported the infill structure to create ground and first floor rooms and a steeply pitched, plain tiled roof completed the construction.

3. Observations and Discussions

NORTH ELEVATION

- 3.1. The north elevation comprised a largely red brick construction over the full two-storeys of its eastern end culminating in a gable. Approximately two-thirds of the way along the elevation from the eastern side the structure reverted to two storey timber framing and contained the accessway into the inner courtyard. Further west of this doorway, the timber construction continued at first floor, but had been replaced with brick at ground floor.



View along the face of the north elevation

- 3.2. The brickwork was in a reasonable condition for its age, however, several bricks had become de-faced generally due to the natural softness of the hand-fired brick and harder surrounding mortars (the majority of the mortar present was a lime mortar, but there were areas of cementitious mortar). Lime mortars better protect the masonry against water induced erosion (freeze-thaw action or salt crystallisation) as they keep the masonry drier than cement based mortars, however the mortar still needs to be softer than the brick to provide greatest protection and it was probable that the lime mortar was too hard to suit all the variable hardnesses of brick in the façade. The cement mortars would certainly have held moisture in the brick and increased water induced erosion and damage.
- 3.3. All elevations were afflicted by the erosion of brick faces to a greater or lesser extent and it will not be specifically mentioned for each elevation hereafter, but would need to be the subject of a further survey and

schedule to determine what particular bricks required replacement or reversing.

- 3.4. All cement mortar (but also lime mortar in those joints around the defaced, softer bricks) should be raked back to remove the cement mortar (or taken back to 35mm from the masonry face in the case of existing lime mortar) and repointed in a softer, air lime mortar. This will protect the masonry from future erosion and in time, with repeated similar repairs, the entire façade will eventually have the correct mortar, which will preserve the bricks and keep the building envelope drier.
- 3.5. A suitable lime mortar would comprise 1 part lime putty to 2 parts well graded sharp sand, possibly with additional grit or shell to match the original mortar in colour and texture as best as possible. This mortar can be used for all masonry repairs as well as infilling gaps or recesses in timbers etc.
- 3.6. Before repointing, the surrounding masonry must be thoroughly wetted to ensure that the brick is almost saturated, but without visible water at the surface, and the lime mortar rammed hard and tight to the very back of the joint, filling the joint to a flush finish. The surface of the joint should then be tamped back using a churn brush to better compact the lime at the surface and expose the aggregate for improved weather resistance.
- 3.7. There was evidence of penny roll pointing in places and therefore, when the joints are still green, they should be incised with vertical and horizontal grooves to emulate the penny roll pointing.



Brick face erosion and signs of 'Penny Roll' pointing

- 3.8. Once repointed, the wall should be protected from sun and wind during curing to prevent it drying out too fast and possibly requiring occasional misting depending on weather conditions at the time.
- 3.9. Interestingly, the brick bonding was very erratic, which suggested numerous repairs and reconstructions. There were areas of 'English Bond' comprising alternate courses of headers and stretchers, 'English Garden Wall' Bond, comprising three courses of stretchers separated by a single course of headers and 'Flemish Bond', comprising alternate headers and stretchers in each course. Repairs should follow the general bond arrangement as removed for repair, and so each location would be slightly different, but representative of the construction 'as found'.
- 3.10. This observation again relates to other elevations around the building and will not be specifically mentioned hereafter.



English bond



Flemish Bond



English Garden Wall Bond

- 3.11. Window openings did not have lintols above them. In some locations a header course or rowlock course had been installed over the window openings providing some flat arching action, albeit probably still reliant on the timber window frame for ultimate support.

- 3.12. Other windows, however, merely had a continuation of stretchers above them, which provided almost no support for the masonry above and were entirely reliant on the timber window framing for support. In locations where this arrangement was observed, the masonry had dropped and the joints had been repointed, but were significantly wider than elsewhere to account for the movement.



Rowlock course forming a flat arch lintol



Continuation of stretcher course, dropped and supported by frame below

- 3.13. There was evidence of an historical crack at the eastern end of the façade at high level. This had been filled with a cement based mortar and further significant movement did not seem to have occurred, but there may be some slight opening of the joint at the higher level. Closer inspection is recommended from improved access both inside and outside to confirm that the crack is not progressive and the building has stabilised.



Previously cracked and filled masonry – Further review required

- 3.14. Cement mortar infilling around timbers had been used in many locations. On the north-east corner, the corner post had decayed at the base as a result of moisture trapped against the timber by the cement mortar infill. The base of the post was most affected as the end grain of the timber was more vulnerable to damp induced decay and gravity had concentrated moisture at the post base.



North-east corner post: Note algae/ moss growth indicating consistent dampness in the lower wall

- 3.15. At the western end of the elevation, brick masonry was only utilised at ground floor and timber framing was still present at first floor.
- 3.16. Rendered panels between the timbers was painted and it was difficult to tell if the render was lime or cement based and if the paint was breathable. The bed joint at the head of the masonry on which the floor plate was bedded was cementitious and there was rot in the floor plate as well as in some of the stud bases above.

- 3.17. Cement mortar packing was also present beside the main timber post immediately to the east of the entranceway to the courtyard beyond, but the accessible elements of this post appeared sound at the time of survey and the same observations applied as to the north-western corner post.
- 3.18. There was a general bulge in the two-storey masonry at the eastern side of the elevation, but it was not severe and probably due to the facade being poorly tied into the first-floor structure behind.
- 3.19. There was a more significant bulge in the ground floor masonry west of the access door and the stability of this panel should be further reviewed.



Bowing in the masonry west of the access into the courtyard

- 3.20. The timber framed panel above the masonry was buckling outwards slightly also. In part, this was likely due to there being no cross beam below the window opening such that the stud heads were reliant on the window framing to restrain them back to the posts each side. Such an arrangement created possible articulation in the wall at the base of the window.
- 3.21. There may also have been uneven decay on the wall plate sat on the masonry: should the outside of the plate decay, it can lead to rotation of the studs above that bear onto it.

- 3.22. Lastly, ground treatment along the façade comprised a flooring brick path taken tight up against the building. The path would have drained well on initial installation through the joints, however, the joints between the bricks had become silted up and drainage would have slowed considerably. The path was holding moisture against the side of the building as could be seen by the moss and algal growth in the path adjacent to the building façade and in the base of the building.



Excessive dampness causing moss and algae growth along the base of the wall

EAST ELEVATION

- 3.23. The east elevation comprised two gable ends on the north and south sides and a central roof eaves spanning between them.
- 3.24. The elevation was constructed from the traditional oak frame at first floor, with rendered panels between members. Brick elevations were present at ground floor, which was a later addition, and retained some of the exposed timber of the original frame embedded within it.



Eastern Elevation

- 3.25. A skirt of old tile dressed the base of the wall at the southern end and a brick drainage channel had been constructed along the length of the elevation, tight up to the building.
- 3.26. New oak wall plate sections had been installed along the façade. One such replacement was present over both the central and northern primary windows at ground floor. The repaired wall plate stopped short of the southern reveal of the central window opening and the repair did not extend onto either reveal of the northern window opening. The jointing between the infill and original oak could not be fully assessed to determine if a moment transfer between oak sections was achieved, but it was likely that in both locations the wall panel above was bearing onto the window frame and loads were not carried by the oak frame.



Oak repairs to the first floor plate stopping short of bearings

- 3.27. Timber posts had been cut back from the base due to historical decay and rested on the masonry. These posts had been flaunching with cement-based mortars and the base of the north-eastern corner post exhibited decay, as did the next adjacent principal post at the opposite side of the north gable.



West and east corner posts of northern gable, eastern elevation

- 3.28. A standard detail had been to introduce a roofing felt flashing over the top of the first-floor wall plate throughout the elevation, dressed up the sides of the studs. This felt flashing was well intentioned, but incorrectly applied and held damp against the timbers.
- 3.29. Additionally, some of the rendered panels may have comprised lime render, but some panels were expected to consist of a cement based render and all panels were painted. The cement render panels would encourage decay in the surrounding timber, but the paint finish, which was not breathable as determined from the manner in which it was peeling in places, would have encouraged the retention of water in the timbers regardless of the presence of lime mortar.



Roofing felt used to flash oak plate/ Peeling paint suggesting the paint finish is not breathable/ Render below the plate seems to have a cementitious base; above the plate the render may have a lime base.

- 3.30. There were isolated locations of decay in the first floor timbers and particularly in the wall plate and stud feet.
- 3.31. The southern end of the elevation retained a greater proportion of timber framing at ground floor with posts each side of the gable window openings and the south-east corner post all extending to the sole plate, or so it is believed.

- 3.32. The sole plate was exposed at the very southern end of the elevation but disappeared behind the tiled skirt below the window and was not visible thereafter.
- 3.33. The short length of sole plate visible, the base of the short studs below the window at ground floor and the base of the south-east corner post had all decayed. The south-east corner post had been repaired previously with a second timber planted onto the face of it, but this secondary timber had also decayed at its base.



Rot in the south-east corner post, stud bases and sole plate

- 3.34. The base of the building was very wet throughout the length of the elevation due to the drainage channel and brickwork holding moisture against the building and the drain, combined with the tiled skirt and areas of cement-based pointing were all holding water in the timbers and causing decay.



Excessive damp in the base of the eastern elevation and the drainage channel

SOUTH ELEVATION

- 3.35. The eastern side of the south elevation comprised masonry, which had been repointed in what appeared to be a lime mortar.
- 3.36. The base of the wall was damp as a result of the continuation of the drainage channel from the eastern elevation, which deviated south approximately halfway along the elevation to dispose of any running water away from the building.
- 3.37. The condition of the drainage channel meant that much water would escape and stay in the vicinity of the wall thus causing the damp.



Damp in the base of the south wall caused by the drainage channel

- 3.38. There was also efflorescence down the side of the chimneybreast at its junction with the main façade, and this was probably due to historical leakage of the gutter, which outfalls in this location. The downpipe and rainwater goods appeared sound at the time of survey, but required careful assessment and review once improved access is available.



Efflorescence along side of chimney – probably due to historical failure of the gutter and downpipe

- 3.39. Further to the west of the elevation, timber framing resumed, with a full height timber post and further masonry panel at ground floor level (timber framing above), leading to full height timber framing from the rear access door serving the internal courtyard to the western corner.
- 3.40. The base of the full height post mid-way along the elevation had been cut back (raised) probably due to previous decay, and now rested on a cement plinth. The post was either a replacement for the original post, or a facing fixed back to what remained of the original post, but the oak sounded hollow as high as could be accessed from the ground and so too did the first-floor plate that joined it and the base of the adjacent first floor stud.
- 3.41. This hollow sound indicated that the oak was hollow behind, either with the original timber having decayed still further and no longer integral to the facing, or the replacement timber itself had decayed.



*'Hollow' sounding replacement oak and decayed stud bases
Note the roof felt flashing detail used both top and bottom here.*

- 3.42. The base of the next two adjacent studs at their junction with the first floor plate were also decayed, as were sections of the plate.
- 3.43. A concrete plinth ran along the base of the western end of the wall and stud bases had decayed as a result.
- 3.44. The south-west corner of the building was inaccessible due to vegetation, but the timbers were likely to be decay in part through this area of the construction by nature of their position and dampness.



Concrete plinth and decayed stud bases

3.45. The original principal post and substantial haunch beside the rear access into the courtyard (now only present at ground floor) were heavily decayed, but were important historical details of the original construction.



Original post and haunch, severely decayed

- 3.46. The whole of the south elevation was heavily shaded by a hedgerow that was within circa 1.5m of the building and shaded the façade. This shading, along with the drain and hard standings that extended tight up to the building as well as the use of cement mortar in places and the previously mentioned (and poorly designed) roofing felt flashing over the timber wall plate would all increase dampness in the elevation and encourage decay.
- 3.47. Additionally, the rendered panels would also encourage dampness as they emulated those of the east elevation with some being cement render and with an impermeable paint finishes.

WEST ELEVATION

- 3.48. The west elevation consisted of brickwork at ground floor throughout, with the original timber frame and infilled rendered panels at first floor level; the only exception being the southernmost panel of render that extended down to a concrete skirt at ground level.



General view of west elevation, looking south

- 3.49. Full height posts at the southern end, each side of the full height rendered panel were partially obscured by vegetation, but the bases of these posts were decayed due to dampness held in the timber from the concrete skirt, the impermeable paint finish and, possibly, cement based render.



*Stud base behind downpipe, partially concealed.
Rot in the base of the stud above the concrete skirt.*

- 3.50. The west elevation was very damp. The hard standings did not abut the base of the wall along the elevation, instead, a flowerbed separated the walkway from the wall of the building. The flower bed would not drain quickly and would hold some moisture against the building, but did present an improvement over the hard standings and drainage channels present on the other elevations.
- 3.51. The same defective details like the roofing felt flashing over the first-floor wall plate and areas of cement pointing etc. were present in the façade, but the additional dampness was likely the result of the orientation of the wall, facing west and receiving the brunt of the weather. The south elevation, which was also quite wet would have received greater weather extremes as well, but was partially protected from the hedge line set circa 1.5m from the building.



Saturated wall base along the western elevation, Downpipe discharge unknown, roofing felt flashings over first-floor plate, probable cement based render and impermeable paints

- 3.52. It was also possible that the downpipes discharged into the ground rather than discharging into a sewer run, or extending further from the building to some form of soakaway or disposal system and some of the rainwater goods may have been leaking: the gutter was poorly maintained and poorly aligned in places.



Possible gutter deformity creating leaks

- 3.53. The timbers in this elevation were saturated in places, however decay did not appear to be as extensive as in other elevations and probably required only localised repair.

ROOF

- 3.54. The external roof shape appeared to be in a good general condition with no significant distortion of roof slopes and ridgelines.
- 3.55. From inside the roof it was clear that much of the roof had been replaced with modern timber rafters installed above the original rafters, and taking the load from both the tiles and snow/wind.
- 3.56. The original rafters predominantly supported the lime plaster and lath ceiling. The plasterwork extended along the underside for the rafters and across the base of ceiling collars and where existing rafters could be observed, their underside was blackened, presumably from wood smoke, which suggested both that the rafters were original and once part of an open and vaulted roof structure and that the lath and plaster ceiling was a later edition, possibly dating from the Victorian period when the roof void may have been use for accommodation.
- 3.57. Two louvred openings through the eastern gables would have significantly benefitted the roof void by allowing air circulation and additional ventilation by other means seemed to have kept the roof structure in a healthy structural condition.



Louvred panels in east facing gables help to ventilate the roof space

- 3.58. The greatest issue in the roof space was the very poor condition of the lath and plaster ceilings. Large sections of plaster had lost its key and was no longer tied to the laths, causing it to hang precariously in position. In this condition, typically, even on a Grade II* listed building, the areas of unsupported plaster would be removed to prevent it failing in an uncontrolled manner.

- 3.59. In this instance, the plaster was covered in annotations from various visitors and occupants that goes back generations. The oldest known annotation could not be determined from the time available on site, but it may be considered a loss if the ceiling failed or was demolished and this local record of visitors, albeit domestic, was lost.
- 3.60. Keeping the ceiling in position would take a very long period of careful specialist work, creating new armatures secured at regular centres to the underside of the ceiling and tied back to laths above and a secondary coat of protective render on mesh to secure the back of the plaster and with the ceiling cosmetically repaired at the locations of the armatures. This would be an expensive process and should be weighed against the use of funding for possibly more critical items such as the water management around the building and timber frame repairs.
- 3.61. Alternatively, panels of ceiling could be carefully cut out and framed in somehow to preserve them and make them available to view, either kept on location in the roof void or held by a local museum or library.
- 3.62. The retention of the ceiling is something that needs to be discussed with the Local Authority Conservation Officer as it is, on the one hand, an interesting piece of local history, but on the other hand, a later addition to the building and in very poor condition: the importance of the annotation needs to be assessed by a suitable party to understand whether or not it needs to be retained in some fashion for posterity.

THE COURTYARD

- 3.63. The courtyard was a particular feature of the building with the cloister along the western side.



South and north sides of the cloister respectively

- 3.64. The timber columns of the colonnade forming the eastern side of the cloister were in relatively good condition and had been repaired and stabilised with replaced oak bearing plates and timber filler sculpted into the head sections in places.
- 3.65. While the repairs were not the most elegant, particularly the use of the timber filler, they did appear structurally sound and were not too visually intrusive.
- 3.66. One interesting feature was a raking cut to form a pocket in the side of the central post above the cloister. This was almost certainly introduced to provide a 'jacking' point, such that a robust and slightly overlong timber strut could be located into the pocket at an angle to the ground. As the base of the strut was driven sideways, towards the pocket, the structure above would be lifted, taking load off the ground floor elements for repair: an early form of Acrow Prop.



Timber filler to pack out the column heads



Pocket to provide means of temporary propping for repairs.

- 3.67. Generally the courtyard was in a relatively good structural condition, but it was very damp, particularly at high level on the south-west facing corner that received the worst of the weather.



South-west facing corner with damp and vegetation on tiled slopes

- 3.68. Extensive damp could also be seen at the base of the north facing elevation behind the down pipe at low-level and at high-level on the tiled shoulder of the chimney breast: the former probably due to poor disposal of rainwater from the base of the downpipe or a faulty downpipe that leaked; the latter due to discharge from the adjacent roof by-passing the upstanding lead deflector that was attempting to redirect the flow into the gutter.



Damp in the north facing elevation within the courtyard

INTERNAL AREAS

- 3.69. Limited access was available and only a couple of flats were accessed during the survey: most notable was Flat 6 on the south-west corner.
- 3.70. The flat was a first floor flat, partly over-sailing the cloister, and the floor of the principal room sloped very significantly towards the courtyard, which suggested that the beam of the colonnade below had dropped or was failing in some way.
- 3.71. The condition of the colonnade and beam arrangement seemed sound from a visual review, however, the beam extended beyond the courtyard to bear onto the post at the western reveal of the doorway through the south elevation that served the courtyard.
- 3.72. These supporting elements, as previously described, seemed to contain significant decay and if this support condition had dropped, it would explain the slope in the floor above.

- 3.73. Various partitions in the flats that were accessed were of a modern construction and were not load bearing.
- 3.74. The internal timber structure generally appeared to be in good condition from the limited members observed, but in Flat 6, the beam adjacent the main chimneybreast did seem to have decay in both its top and bottom.



Slight decay in the top and bottom of a principal beam in Flat 6

- 3.75. The decayed timber in Flat 6 was a substantial member and the decay unlikely to have significantly affected its strength, but it did represent the importance of assessing all timbers when possible to determine their condition.
- 3.76. Decay only ever occurs in the presence of moisture and this beam must have experienced high moisture level at the top and bottom for rot to begin. The cause of this moisture may have been a defect in the chimneybreast or from internal condensation over a long period: the room in which the damp manifested had been a shower room I believe.

4. Recommendations

- 4.1. With any building, but particularly a timber framed building, the greatest cause of damage and decay is moisture and thus the most important repair works are those that control water and remove it from the building structure.
- 4.2. The roof finishes and roof structure appeared to be relatively sound, so a complete review of the rainwater goods (gutters, outlets, hoppers and downpipes) should be undertaken with enhancement and repairs introduced to ensure:
 - water is collected efficiently off the roof slopes,
 - gutters do no back up or over-flow,
 - gutters discharge efficiently into the down pipes,
 - downpipes are watertight without open or leaking joints
 - downpipes discharge into a system that takes water away from the base of the building structure.
- 4.3. Further to the control of moisture, hard standings around the building should be separated/ cut back from the base of the building and a French drain installed to keep the ground adjacent the structure dry.
- 4.4. The French drain would typically comprise a shingle trench with slotted land drainage pipe in the base, all of which to be wrapped in a permeable non-woven geotextile such as 'Terram 1000' or 'Ecotex 07'. The land drains and shingle would create a full bund around the building perimeter and have a positive discharge point away from any building structures.
- 4.5. Where the building has a skirt of upstanding tiles (east elevation) or concrete (south and west elevations), the skirt should be removed and the base of the walls repaired using a lime mortar and replacement or reversed bricks. The newly installed French drain will take moisture away from the building and removal of the 'skirt' detailing will allow the low level masonry to ventilate and dry.
- 4.6. Lastly, with respect to drainage works, all drains should be cctv surveyed to check for damage and/ or blockages and repairs undertaken as found necessary to ensure all drains are watertight, free flowing and positively discharge water away from the building. One particular area to consider would be the courtyard that was served by gullies.
- 4.7. The courtyard area is contained and there is no other means of removing water from the courtyard without the gullies working efficiently. Finishes, where they are not historical, should direct water to gully positions and

be dressed to achieve that if possible. Where historical finishes are present and cannot be disturbed, it may be necessary to install some additional gullies at low points and run their discharge into the existing pipework to avoid damaging historical material.

- 4.8. The foregoing measures are not highly involved or difficult and will help to keep both the top and the base of the building dry: they should be included in the first phase of any refurbishment programme.
- 4.9. The next element of work would be to undertake repairs for the timber frame. A schedule of timber repairs should be drawn up, but to do this, full access to all areas of the building are required, including opening up of floor voids and removal of finishes to expose timbers.
- 4.10. This timber survey probably needs to be undertaken either during the initial refurbishment contract period or as part of an enabling works package, where the skills are available both for undertaking sensitive opening up works and for temporary weathering or closing off the investigations in the short term until appropriate repairs are completed.
- 4.11. Timber works will likely involve the piecing in of new sections of oak, either as total replacement for a section of compromised timber, or to partially reinstate the timber section as circumstances require. Post and stud bases may need to be raised and re-bedded onto masonry at a higher level, but in sections where the timber frame is fully present, rotten post and stud ends will be replaced with new oak, scarfed onto the existing timbers.
- 4.12. Part of the timber repairs will be to rectify those previous repairs where new lengths of plate rely on window frames for support, or where articulation of the building envelope has arisen from discontinuity of the framing at window locations etc.
- 4.13. A critical part of the timber repairs will be the removal of cementitious material around all the timbers, whether repaired or otherwise. Without removing the cementitious material from around the timber and replacing it with lime, the new timbers will begin to decay, which must be avoided.
- 4.14. The roofing felt flashings should also be removed from around the timbers. The felt does not allow the timber to vent and release moisture and holds moisture against the timber: it was a poor detail that should be reversed.

- 4.15. Provided the oak is in relatively good condition and laid in a suitable lime mortar (as described previously), it requires no other treatment to avoid damp induced decay, by either beetle or fungal attack.
- 4.16. The lime mortar acts like a poultice, drawing moisture away from the timber and releasing it to the air and is sufficient for maintaining the timber in good condition.
- 4.17. The timber repairs are important and should be addressed as soon as budgets allow.
- 4.18. The cementitious mortar and render is damaging to the brickwork as well as the timbers, but so too is the impermeable paint finishes, which also hold moisture in the building structure and counteract any benefit that may be provided by any lime mortars and renders.
- 4.19. Removal of cementitious render panels from the timber framing and the removal of impermeable paint finishes from any lime rendered panels will be of great benefit for the structure.
- 4.20. Lime washes should be utilised to replace the paints currently present on the building surfaces and a haired lime mortar should be introduced in place of cement render panels, possibly on new laths, but subject to the condition of the underlying materials.
- 4.21. The replacement of cement rendered panels and impermeable paints can follow the timber repairs and should be completed as soon as practicable, thereafter, but as budgets allow.
- 4.22. Finally, all cement mortar should be removed from the building and the building should be repointed in lime mortar. This is a difficult and prolonged exercise and one must take care not to cause damage to the masonry during the removal of the cement mortar.
- 4.23. If the extant mortar is very well adhered to the brick, it may not be possible to remove it without causing damage to the brick in which case, such areas of masonry should be left and allowed to gently degrade over time until the bond has decayed somewhat and the cement mortar can be removed.

- 4.24. Where possible, however, lime mortars should replace cement based mortars and during the process damaged bricks can be locally cut out, cleaned and either reversed and reinstated (thus presenting the original fire skin of the brick to the outside and burying the sifter decayed section of the brick within the wall) or the bricks should be replaced with new or salvaged brick to match the original.
- 4.25. Sourcing the appropriate brick will be very difficult and the author would suggest approaching 'H G Matthews' or another brick specialist to help arrive at the best brick replacement possible (handmade and wood fired and sized to match the existing). This brick will need to be agreed with the Local Authority Conservation Officer as an acceptable replacement option where needed and it is suggested that a pre-order of 500 bricks is made before the contract period (under a letter of intent) to ensure the bricks are available when this element of work begins. Spare bricks can be stored for future repairs if all the bricks are not utilised.
- 4.26. Finally, the lime repairs cannot be undertaken in cold weather where freezing temperatures may arise during curing. Typically, lime work is undertaken from the end of March to the beginning of October, albeit this period can sometimes be extended subject to weather conditions at the time. This restriction on the use of lime mortars and the availability of appropriate builders that have the skills to undertake the work may affect programming of the works and should be considered in the overall contract.