

JETTY BEAM PROPOSAL

Revision 0

Job No. 26632

The Manor House
Westgate
Great Walsingham
Norfolk
NR22 6DY

Client: Mr K. Weed

April 2023

REPORT CONTROL SHEET

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Issue		
Revision 0	April 2023	Report Prepared by: Peter Dickerson B.Sc (Hons) RSoBRA MSc Historic Building Conservation
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CONDITIONS OF INVESTIGATION & REPORTING

This report and its findings should be considered in relation to the terms of the brief and objectives agreed between Plandescil Ltd and the Client.

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ENABLING WORKS

A method statement was submitted to North Norfolk District Council for a cautious intrusive investigation of the bressummer jetty beam, to better understand its condition. The method was approved by Chris Young, the Conservation and Design officer for North Norfolk District Council, on the 8th February 2023, Reference LA/22/1058.

A site visit was undertaken on 7th March 2023 by Plandescil Ltd., and Norfolk Flint Ltd., to carry out the proposed work. The fascia boards added to the outside face of the beam, by the previous owner of the property, were removed to provide a better visual insight and allow unrestricted access to the close studding. Following the removal of the fascia boards and wire brushing of the jetty beam it was considered unnecessary to remove the close studding as previously requested.

The following salient points were discovered:

- The jetty beam is formed in two sections, both had an average section size of 125mm x 125mm along their length, although this is much diminished in places.
- The close studding render is formed of roughly 35mm thick cement-sand, this is not considered an appropriate material for the surrounding fabric of the wall
- The close studding contains soft friable daub with the wattle ends visible in two locations above the bressummer beam
- Much of the bressummer beam has been lost to wet rot, particularly around the morticed joints of the studding
- Six of the seventeen joists supporting the jetty beam will require some form of strengthening or repair
- Eight of the seventeen timber studs have lost their tenons entirely with five having lost up to 50%
- Several of the close stud panels have cracks and bossed render, it will be important that this is removed and replaced as part of the repair work
- We were able to undertake a thorough condition survey without the need to remove the base of the close studding panels.

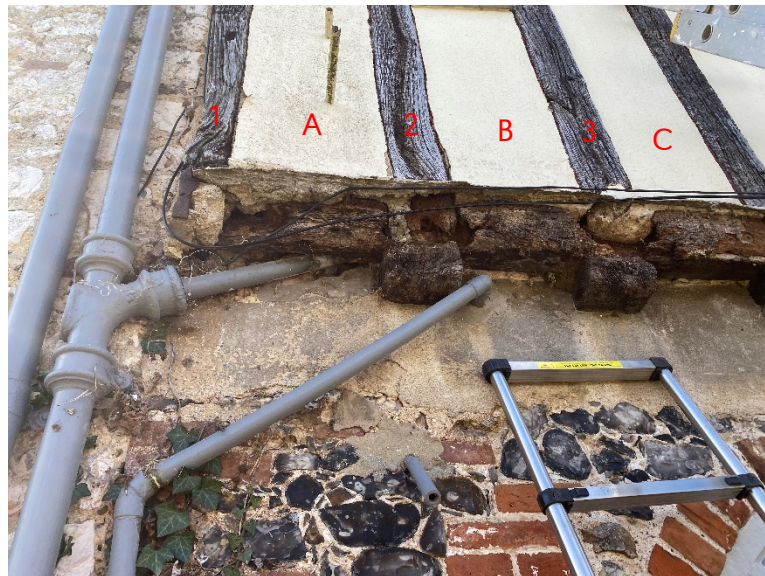


Beam Condition

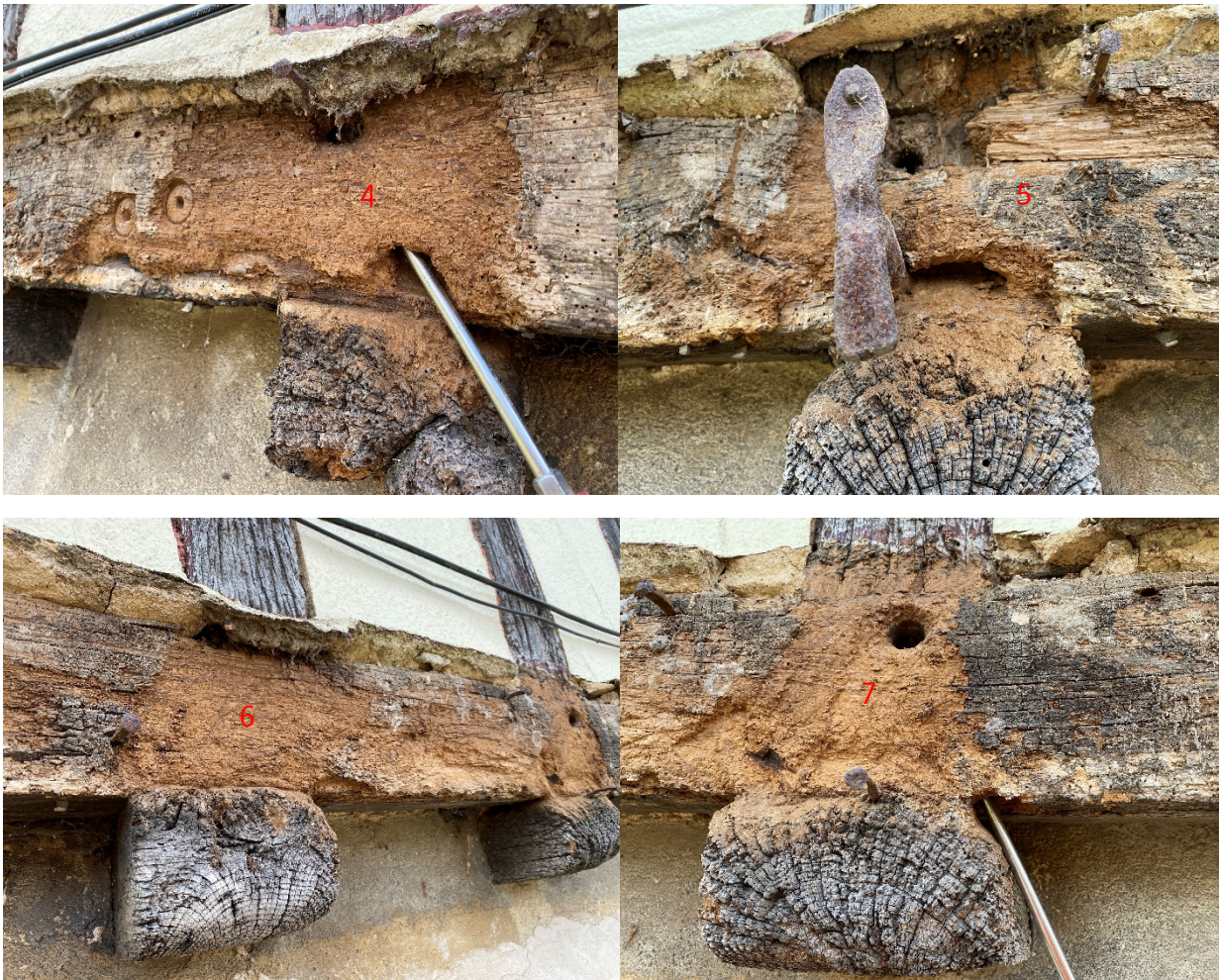
Please refer to Drawing No. 26632/122.

The length of the beam will be discussed below by section, broken down by numbers 1 to 17 to distinguish the close studding panels and the mortice and tenon jointing along the bressummer beam. The close stud panels and the beam below are labelled using letters A to P.

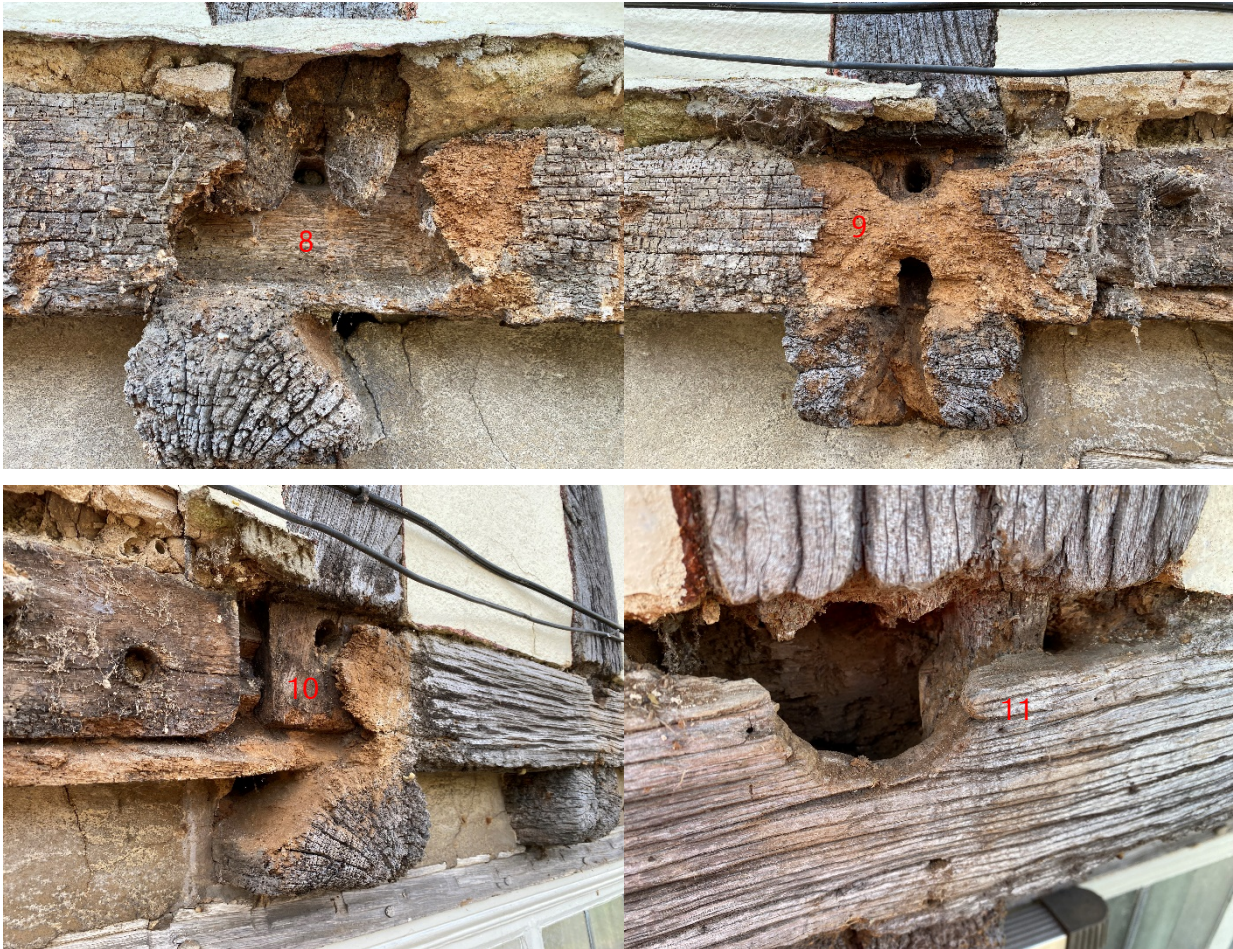
- 1 - Close studding, joist, and jetty beam missing
- A - More than half of jetty beam missing or rotten
- 2 - Tenon half missing, more than two thirds of jetty beam missing or rotten
- B - Up to one third of jetty beam missing or rotten
- 3 - Tenon missing, nearly one third of joist missing, more than two third of jetty missing or rotten
- C - Cracking in panel. One third of the jetty beam in missing or rotten



- 4 - Part of tenon missing, front of beam rotten, significant wood boring beetle activity to the rear of the beam and underside. Large shake parallel to beam face
- D - Less than a third decayed, the shake is still present making new joints difficult
- 5 - Tenon half missing, more than two thirds of jetty beam missing or rotten
- E - Panel has significant cracking and slump. Up to one third of jetty beam missing or rotten
- 6 - Nearly one third of jetty beam missing or rotten
- F - Cracking in panel. Less than one third of the jetty beam in missing or rotten
- 7 - One third of the jetty beam lost, face is soft and rotten
- G - Cracking in panel. Less than one third of the jetty beam in missing or rotten



- 8 - Half of tenon missing or rotten, front of beam missing. Half of joist is missing
- H - Significant decay in top and south of beam
- 9 - Tenon half missing or rotten, one third of joist missing or rotten, more than two thirds of jetty beam missing or rotten
- I - Panel cracked and bottom exposed. Significant decay to lap joint.
- 10 - Over one third of jetty beam missing or rotten. One third of joist missing or rotten
- J - Less than one third of the jetty beam in missing or rotten
- 11 - Half of tenon missing or rotten. Two thirds of the jetty beam missing or rotten
- K - Panel significantly cracked. Underside of beam rotten up to one third total section



- 12 - More than half of tenon missing or rotten, nearly a third of beam missing or rotten
- L - Panel cracked and slumped. Underside of the beam is hollow sounding
- 13 - Joist has deep cracking, nearly one third of jetty beam missing or rotten due to run-off into jetty beam
- M - Panel cracked. Nearly one third of beam hollow or rotten
- 14 - Most of tenon missing. Over one third of jetty beam missing or rotten. Half of joist missing or rotten
- N - Panel is cracked. One third of the jetty beam is rotten.
- 15 - Tenon missing. Two thirds of the jetty beam missing or rotten



- O - Panel cracked. Beam is rotten on the underside and hollow sounding up to a third of the section is missing
- 16 - No tenon. Joist is degraded through its centre. Jetty beam missing or rotten across more than two thirds of its section
- P - Jetty beam has deep cracking and rot within most of its section.
- 17 - No tenon. Joist is missing. Jetty beam missing or rotten across more than two thirds of its section.



Cause of the Decay

The timber decay is due to long term historic failures of the close studding and rainwater goods, which has allowed prolonged water ingress into the mortise and tenon joints where the water can puddle. The water ingress has been poorly addressed by 20th century patch repairs using cement-sand, which has not allowed the timber to “breathe” and sufficiently dry out. The decay is considered to be on-going due to inappropriate interventions, even though they were no doubt undertaken with the best intentions. The current rainwater disposal is ineffective, which will be addressed by the re-roofing works and upgrading of the undersized guttering. The upgraded rainwater disposal goods will ensure rainwater is no longer surcharging the system and disposing onto the close studding, saturating the timber beam. All replacement rainwater goods will be in colour matched (or painted) cast products.

The repair and replacement of the timber beam will require localised removal of the close studding. Any repair to the close studding will be made in “breathable” mature lime putty render. It is not

considered to be a requirement to remove and replace the entire close studding render in lime putty as the removal of the cement-sand render will likely remove any remaining wattle and daub.

Repair Proposal

Following an evaluation of the jetty beam and the tenons of the close studding it has been identified that very little of the beam is salvageable. To make good structural repairs that will reduce intervention in the future and reduce the damage to existing surrounding sound fabric (wattle and daub), it is considered inappropriate to retain the majority of the two timber bressummer jetty beams. To provide sound strength to the structure and provide suitable material to join in new timber on either end, any length of jetty beam to be retained will require a length of sound timber equal or greater than 600mm, which is apparent in only one location, between studs 5 and 7. Two new timbers with pegged and lapped joints could be introduced at either end of the retained length, provided there is remaining sound material i.e. where no more than a third of the timbers section size has been lost to wet rot or wood boring beetles.

CONCLUSION

Following the thorough inspection of the bressummer jetty beam it has been identified that significant loss of fabric and strength has occurred. It is proposed that the remaining material, that is of sound state, that can continue to provide adequate structural support to the building will be retained.

It is envisaged that the jetty beam repair will consist of three new seasoned timber oak beams with one length of retained beam (subject to site evaluation on removal). Drawing No. 26632/123 identifies the proposed repair and joint locations. Repairs are also required for the lost close studding and joist ends; their locations are detailed within Drawing 26632/123.

It is proposed that the joist ends will be sympathetically repaired, strengthened, and replaced where missing. The new joist ends will be dowel and resin fixed to the existing sound material in order to provide sufficient structural support to the jetty beam, the full product specification and design will be undertaken by Rotafix.