

TITHE BARN, ROCHDALE

METHOD STATEMENT
1202 MS – FA-EO-NO

FIXINGS ATTACHED TO EXISTING OAK AND NEW OAK

1.00 FIXINGS FOR EXISTING OAK BEAMS, TRUSSES AND PURLINS

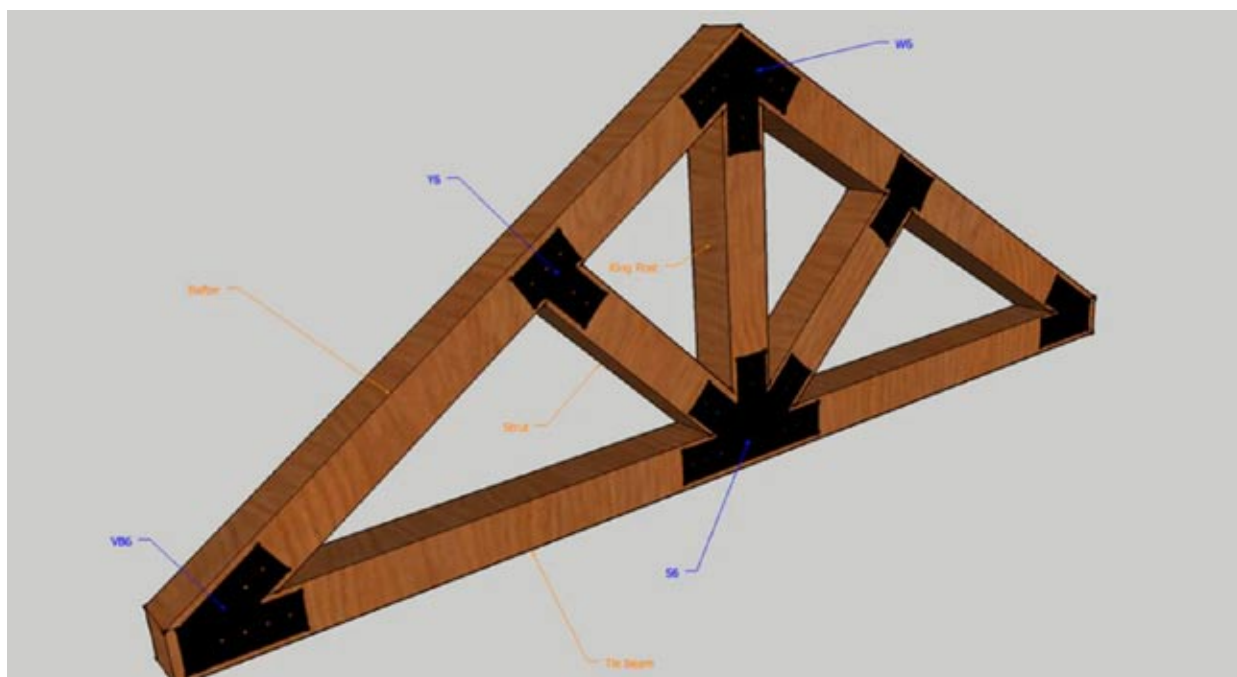
1.01 A survey is to be undertaken to assess the structural integrity of all the existing oak members. This survey is to identify the condition of the existing oak and the integrity of all the existing joints.

1.01 A strategy is then to be developed from this survey that can apply to all the existing oak members.

1.02 This strategy is to be developed on the principle that no undue harm is incurred to any of the existing oak members.

1.03 Any joints in the existing oak construction that are found to not have structural integrity will in the first instance be clamped to a stable condition and if necessary new oak pegs are to be inserted into the joint to stabilize the joint.

1.04 Any joint that requires further action is to be assessed by a conservation structural engineer to determine the least invasive solution to this issue. A selection of solutions will be identified by the conservation structural engineer for discussion with the conservation officer. The simple solution could be that simple plates or straps are connected to the joint to bring structural integrity. These simple solutions could have the benefit of clearly identifying the historical development of the building and actions that have been necessary for the building to continue [see diagram below and link to manufacturers website <https://www.timberplates.com/pages/how-it-works>

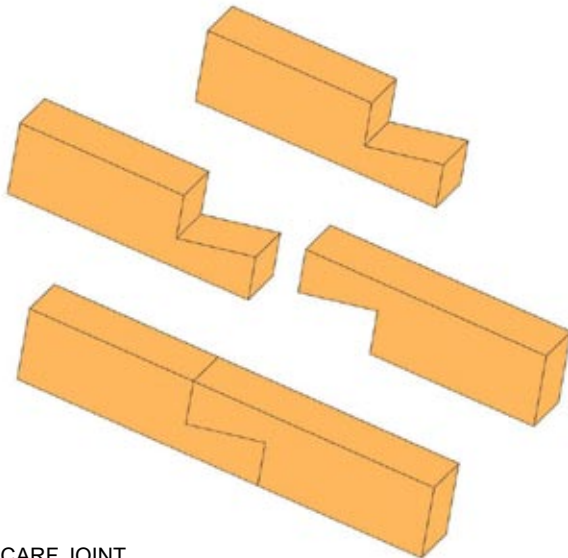


EXAMPLE DIAGRAM OF SELECTION OF PLATES

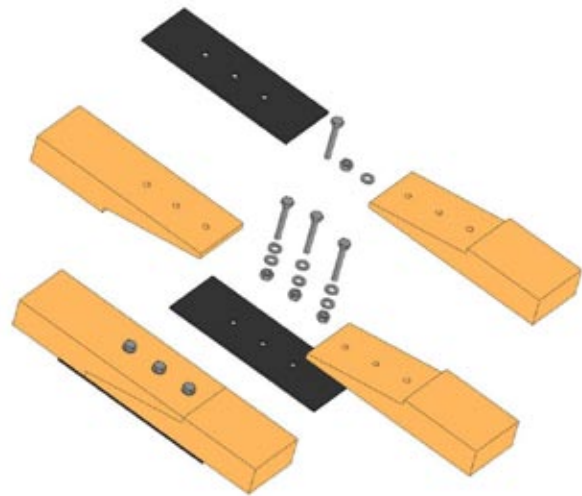
1.05 Ends of trusses and beams where they penetrate the external envelope are to be assessed for damage by damp. Where possible these members should simply be treated, and the source of the issue identified and rectified for the ongoing integrity of the structure.

1.06 Where ends of trusses and beams are found to be beyond the above-mentioned treatments. The solution to this problem could be to replace only the failing section of beams with new material to match. If possible, these new insertions could simply be joined to the original with a scarf

joint. The principle being adopted here is to retain as much of the historic structure as possible but provide structural integrity to the historic structure. The scarf joint adopted could just be the straightforward timber jointing or depending on the nature of the structural requirement it may need to be reinforced see diagrams below.



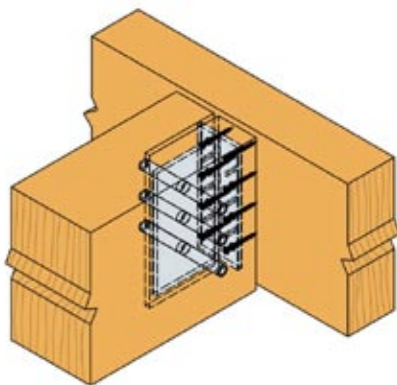
SCARF JOINT



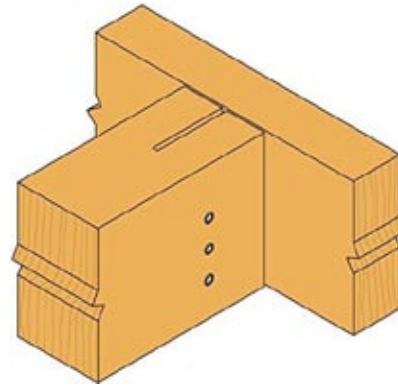
REINFORCED SCARF JOINT

2.00 FIXINGS FOR NEW BEAMS

2.01 The jointing of new oak beams to existing oak members is to be done using concealed beam hangers in steel. The hanger is to be fixed to the existing beam with an array of reasonably small screws. A mortice is to be made in the new beam to accept the concealed beam hanger. The new beam is then bolted with stainless steel bolts and washers to the concealed beam hanger. These bolts and washers are to be recessed into the new beam to allow the provision of oak pellets to cap off the joint. The concealed beam hangers are manufactured and supplied by Simpsons. A diagram of the concealed beam hanger is to be found below.

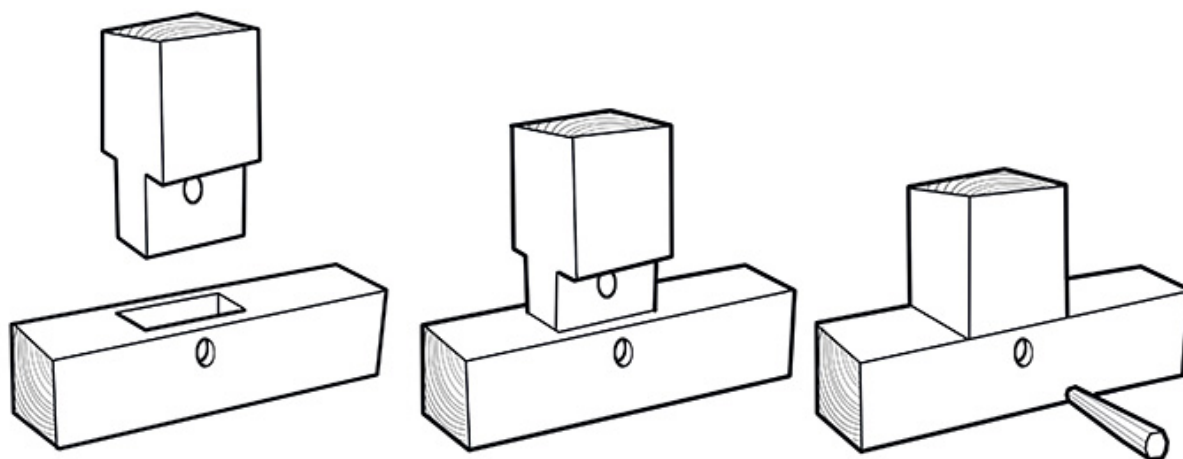


X RAY DIAGRAM OF CONCEALED BEAM HANGER



COMPLETED CONCEALED JOINT

2.02 The new oak beams and posts are to be joined with a traditional mortice and tenon joint. The joint is to be fixed with traditional oak pegs to tighten the joint. These joints are to be inspected after a period of 6 months to check for any movement due to any variation in moisture content. If there is any movement the pegs will need to be tightened back to a solid joint. It may be necessary to inspect these joints again for any subsequent movement and if so, the process should be repeated. [see the diagram of the jointing below].



MORTICE AND TENON JOINT FOR POST TO BEAM

2.03 The new oak posts are to be fixed with a concealed steel foot like the concealed hangers that are proposed to be used elsewhere on the new beams. The concealed steel foot is to be bolted to the structural floor. The posts are to be morticed and are to be bolted to the concealed foot with stainless steel bolts and washers. These bolts and washers are to be recessed into the new beam to allow the provision of oak pellets to cap off the joint. The concealed post feet are manufactured and supplied by Simpsons.

2.04 The new oak beams are to sit on stone padstones where they enter the external envelope and are to be wrapped in a damp proof membrane to protect the ends from moisture ingress.

3.00 INFILL TO TRUSSES, BEAMS AND POSTS:

3.01 The existing trusses are to be infilled with clear doubled glazed units. This is to retain as much as possible the visual volume of the building at the first-floor level. The glazed units are to be fixed with 25mm oak glazing beads that are to match the oak beams in all respects and will also conceal the double-glazing beading.

3.02 The infill between the posts and beams are to be constructed of 12.5mm plasterboard and skim both sides of 75x50mm softwood studs and is to be filled with sound insulation to meet current building regulation standards. This infill stud walling is to be placed centrally within the posts and beams and therefore will be recessed from the face of both the posts and beams.