

Method Statement for Repair and Conservation of Barn at The Compasses Inn Chicksgrove SP3 6NB



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View of the barn from the south west

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INTRODUCTION

The structure, constructed in the mid to late C19th and built in 2 sections, is a general purpose agricultural building for storage, stabling and lambing, etc.

Its condition is poor, particularly at the west end, which is in a state of near collapse.

A planning and listed building application accompanying this document is seeking a consent for the repair, alteration and conversion of the building to form 2 bedrooms, ancillary to the use of the inn and its rentable bedrooms.

This method statement describes the details of the structure and the way in which it is to be repaired, in-situ.

EXPERIENCE

The architect has had 40 years working in the conservation industry, including work as assistant the to the Cathedral Close surveyor, in Salisbury, colleague of the surveyor to the fabric of Salisbury Cathedral and recipient of 11 Salisbury Civic Society awards and commendations for works carried out to listed buildings in South Wiltshire.

He also has awards for a timber frame conservation project in Market Drayton Shropshire.

He was a founding member of Salisbury Civic Society and had been a committee member of the Salisbury District Council Conservation Area Advisory Committee for 15 years, before it was disbanded, and a similar time serving on the architect’s advisory panel.

He has a master’s degree in timber use and gained the qualification after submitting a dissertation on the dating of carpentry techniques in timber framed buildings in south Wiltshire between 1280 and 1550.

LISTING

The Compasses Inn was listed (Grade II) in 1987 and the official description is found below:

TISBURY LOWER CHICKSGROVE ST 92 NE (west side)
5/260 The Compasses Inn
GV II
Inn. Late C17, altered C20. Painted dressed limestone, thatched roof with gable end brick stacks and coped verges. Two-storey, 4- window. Ground floor to right has pantiled verandah with two planked doors and 3-light casement, entrance to first floor to left up wooden external stairs to C20 porch, 3-light leaded casement to left and 3-light and 2-light casements to right. Left return has two single-light casements to first floor. Rear has C20 parallel range to right, partly replacing original rear wing. Interior has chamfered beams with stepped stops, open fireplace with chamfered lintel on partly renewed brick jambs. Built on a slope with higher ground level to left.
Listing NGR: ST9743229382

PURPOSE

This statement describes the details of the structure, its historic development and the way in which it is to be repaired, in-situ.

DESCRIPTION

The barn is a timber framed, single storeyed structure, built of oak, pine and some other species, clad by plank-on-plank vertical boarding. The frame sits on a Somerset brick (extruded Bridgewater 18 hole) underpinning which supports the external sill plates but not the principal posts, which are earth-bound (photo 2.). The floor is a mixture of concrete with drain gullies and tamped chalk. The west end bay has been fitted with a floor structure, at eaves level, for a feed store and a gable pitching hole.

There are 7 no. principal trusses – east and west gables and 5 no. intermediate cross frames sitting on 5 bays defined by principal posts.

All trusses are tie-beams with raking queen struts to a single tier of purlins but no collars.

Principal posts support wall plates with tie-beams located by lapped dovetail joints in a typical English pattern of frame carpentry.

All posts are braced with raking straight braces morticed and tenoned in.

In the roof, rafters are carried on the single tier of through purlins, terminating at a plain ridge board at the apex and birds mouthed over the wall plates. Roof tiles are Bridgewater clay pantiles. Straight, raking wind braces are located at each gable from the trusses to the underside of the purlins.

All walls are fitted with a mid-rail, tenoned into the posts, and which carry the external cladding.

Externally, the north and east elevations are entirely clad. The south and west elevations have openings, many of which have been altered with the result that, due to the removal of sill plates, the 2 westerly bays have collapsed towards the south. They have been propped, temporarily.

A view of the plans shows that the barn was constructed in 2 main phases - Trusses T 3 to T7 form the original structure with bays between T 1 and T3 added at a later date. Witness to this is the type and jointing of the brick underpinning either side of the junction.

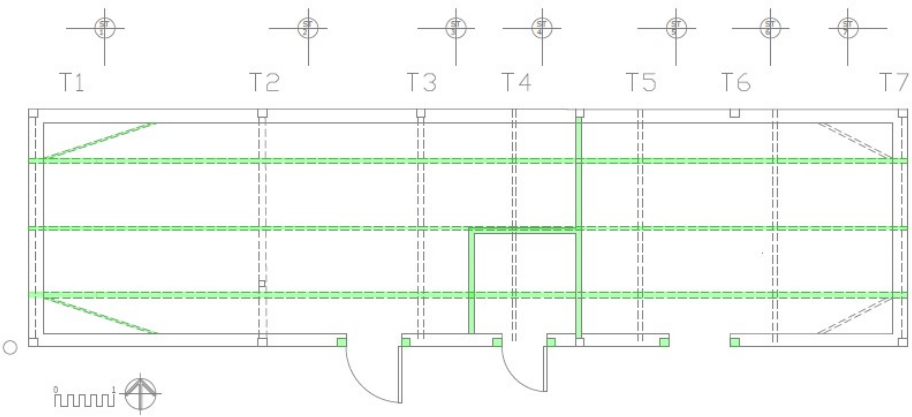
At a later date, a log-store was added between trusses T3 and T 5, constructed of blockwork. Image 4.



Photo 2. North east corner showing earth-bound principal



Photo 3. The junction at Truss T3 north side. Right are remains of a churn stand.



Suspension frame of temporary structure
Frame marked in green to be removed or replaced

Image 4. Basic plan of the barn



Photo 5. A prop in the west bay

CONDITION

Inspections of the barn, undertaken in July/August 2021 found that the building had had little maintenance for a period of many years, resulting in rain ingress to parts of the timber framed structure.

As a result of water ingress, there are a number of areas of concern for the structural stability of the building, as follows:

- The peripheral wall plates have universally rotted along with the earth-bound posts' bases. The result is that the plates are no longer able to adequately support the building.
- As the plates have rotted and moved, so have the tenoned and nailed joints between studs, principal posts and the plates.
- The small area of the former mezzanine feed store first floor supports has been affected by the rot in the north west corner and a part of the floor has collapsed.
- Cladding boards have been partially replaced over the years with differing species. Some have been more affected by rot and insect attack than others to the extent they are no longer viable as weather-proof cladding.
- The roof tiling remains with a few tiles missing – letting in rain. Rafters are still in-situ but will need some replacement, where affected by wet rot.
- The wall plate on the south elevation at the western end is largely missing resulting in the partial collapse of the building, towards the south.
- Brickwork underpinning has been misplaced and rotated outwards by the movement of the frame.
- Gable rafters and wall plate ends have rotted or are missing.
- At the east end, block and brick lining walls have been added with a mixture of render and steel covering. Structural timber is covered so that condition of the timbers is yet to be determined.



Photo 6. The underside of the roof adjacent Truss 1



Photo 7. The rotated wall between trusses 1 and 3

Photo 8. Rotated underpinning at post base truss 1.



Photo 10. The rotted wall gable rafter

plate end and missing east

SCHEDULE OF TIMBERS TO BE REPAIRED OR REPLACED

A survey of the structure of the building was carried on 19th July 2021 and photographs and measurements taken of the different elements. An examination of every timber in the structure was not due to the presence of extant cladding, missing floors and the presence of the linings or other walls. However, a reasonable amount of the damage and missing sections has been recorded and the illustrations are a good indicator of the extent of the repair and renewal required.

The following diagrams show the plans and elevations of the building.

The following is a schedule of the drawings:

Drawing number	Title	Scale	Size
1273.P.2	Survey Plans Elevations and Sections	1:50	A1
1273.P.3	Overview of the Frame Structure	NTS	A1
1273.P.8	Carpentry Joint Details	1NTS	A3
1273.P.9	Ground Floor Plan	1:50	A3
1273.P.10	Survey Long Sections	1:50	A3
1273.P.11	Survey Cross Sections	1:50	A3

The drawings are to be found at the end of this statement.

TYPES OF JOINTS TO BE USED IN THE REPLACEMENTS

All drawings show the location of the areas to be repaired. They are marked in grey.

Drawing 1273.P.12 shows the types of joint at each repair area. Different, experienced carpenters will have an opinion and experience of these and, other, similar joints.

Approval must be sought for any differing joints to ensure that the strengths of those proposed is adequate for the situation.

METHOD STATEMENT FOR THE INSERTION OF NEW AND REPAIRED COMPONENTS

Removal of existing components:

Existing cladding is to be removed and useful planks, free from rot or insect attack, set-aside for re-use.

Note – any cladding that has lost its strength through rot and insect damage is to be replaced, like-for-like.

Part of the feed store structure in the west bay is to remain in-situ, where possible, to help maintain the strength of the structure. In the event of necessary removal, the planks are to be numbered and catalogued so they can be replaced as previous.

Window and door frames are to be removed and carted away ready for replacement with new frames.

Stabilising the structure prior to alteration:

To prevent movement during repairs and replacements, temporary, horizontally mounted battens (say 25x100mm) are to be fixed to the posts and studs in 2 equally spaced at third intervals. See the red lines on the elevation drawings for suggested locations.

In the roof structure, the in-line braces are to be replaced, where missing or damaged beyond structural use.

Roof battens are to remain to help stabilise the rafters.

Raking props to be used at the west gable and in thirds locations on the south and north walls. The props are to be moved or increased in length during the jacking of the structure.

Scaffolding and jacks:

Once the ground floor has been cleared, standards are to be erected at 2 no. per principal post. They are to be linked together and placed so that each tie-beam end has a putlock beneath mounted with a jack each side with a total height movement of a minimum of 400mm.

See sketch over (Fig.11.) for an indication of the process.

Diagram showing the position of scaffold jacks at each end of each truss. The position of the jacks is shown by the texture at the top of the standards.

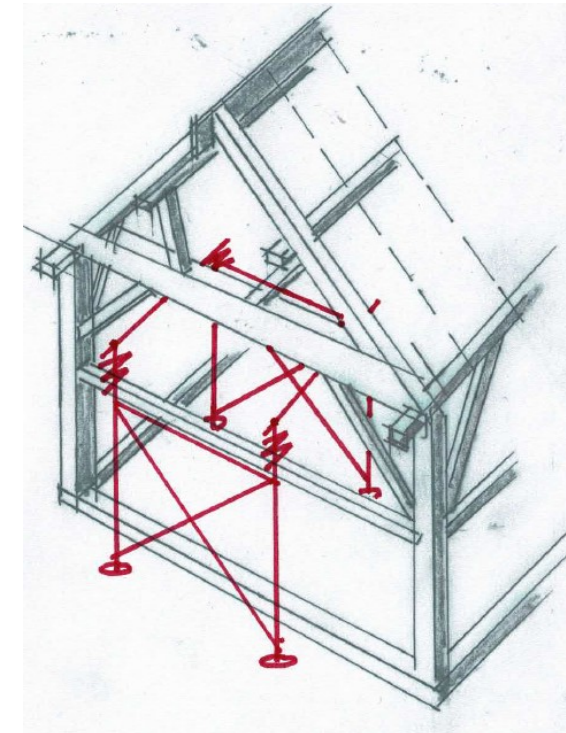


Fig. 11. Image showing the means by which the gable and intermediate trusses are to be re-positioned.

Lifting the structure:

All remaining pegs between principal posts, studs and braces and the sill plates are to be drilled or driven out.to allow the joints to come apart.

Once the scaffolding has been installed. The jacks are to be used to lift the structure off the brick underpinning to a height that would allow the sill plates to be dropped away and carried to a site for measurement and replacement to match existing. Note that the north and south sills are jointed.

Use temporary concrete block pads to support the remaining structure. Include some extra horizontal timbers screwed to the structure for support.

Cladding boards, gable rafters and gable architraves to be replaced to match existing profiles. The specification for the application of the cladding to be provided by others as the insulation value of the future project will need to be considered.



Photo 12 – showing the poor quality and rot in the purlins which are to be replaced.



Photo 13. – showing the south west corner with temporary props.

RECOMMENDATIONS FOR THE CLADDING AND INSULATION OF THE BARN DURING THE CONVERSION PROCESS.

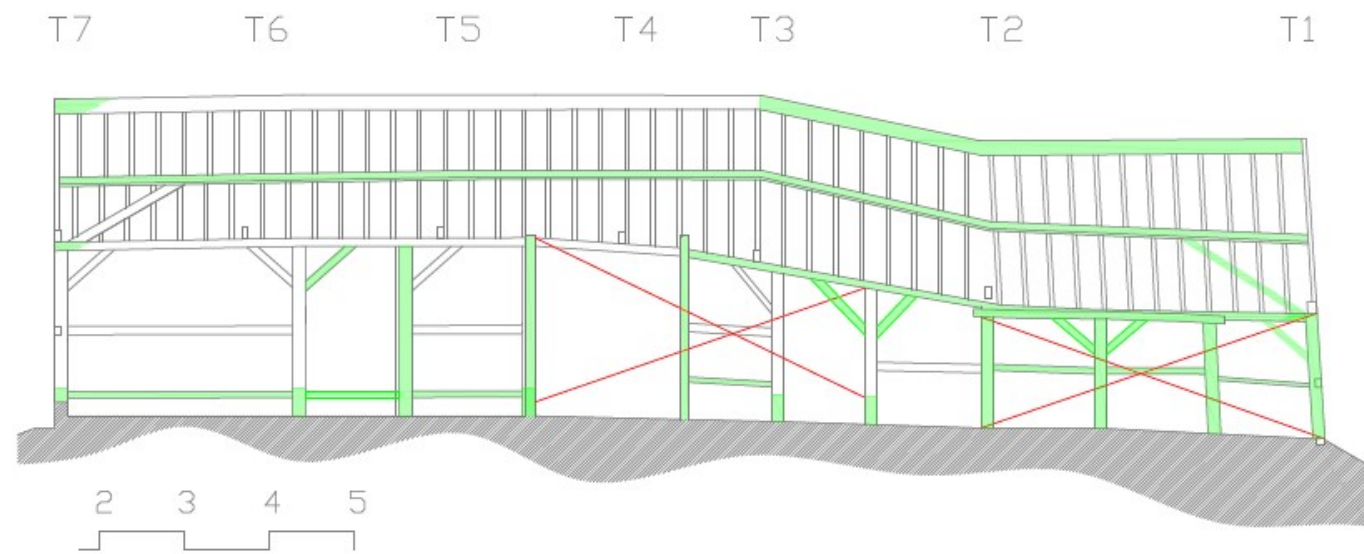
Walls:

As the building will be used as habitable accommodation, in order to add substantial bracing strength to this lightly framed building, it is recommended that the external walls be covered with 15mm OSB/3, fixed with s/steel screws @ 150mm c/c. In the future, the screws and boarding can be removed and the screw holes plugged.

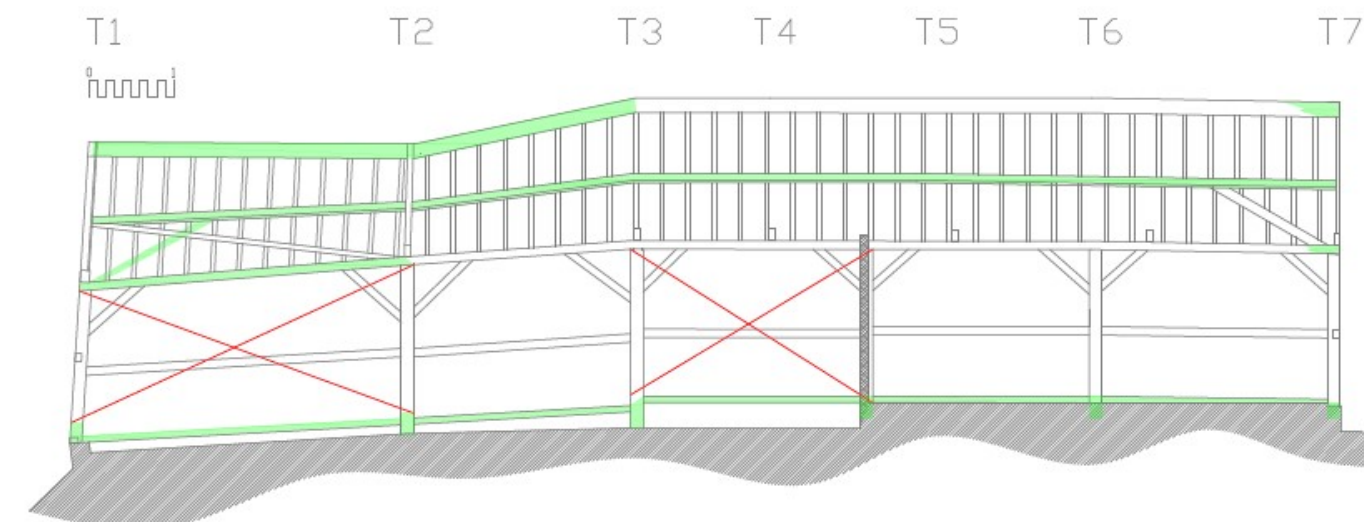
The OSB linings would allow installation of insulation and finishes on the inside.

Roof:

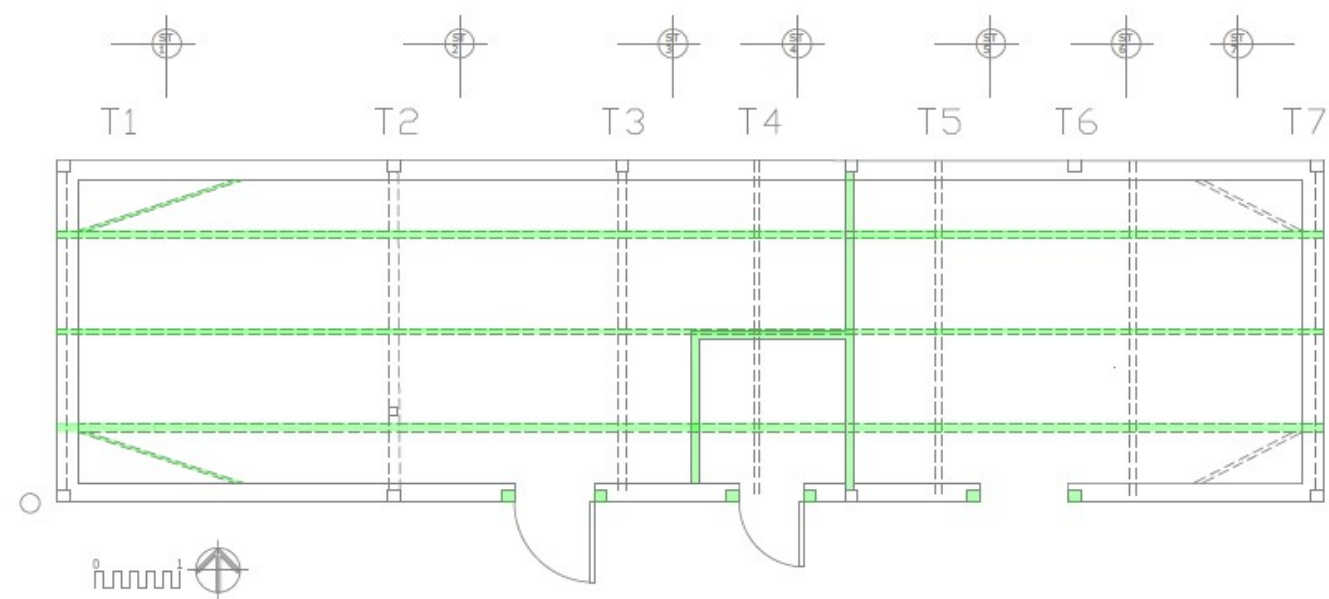
To maintain the character of the interior, the rafters could be lined with taper-edged MR plasterboard or sarking boards and 15mm OSB 3 above before adding a breathable felt, counter battening and tiling. The final specification to be provided by others.



Section west to east looking south.

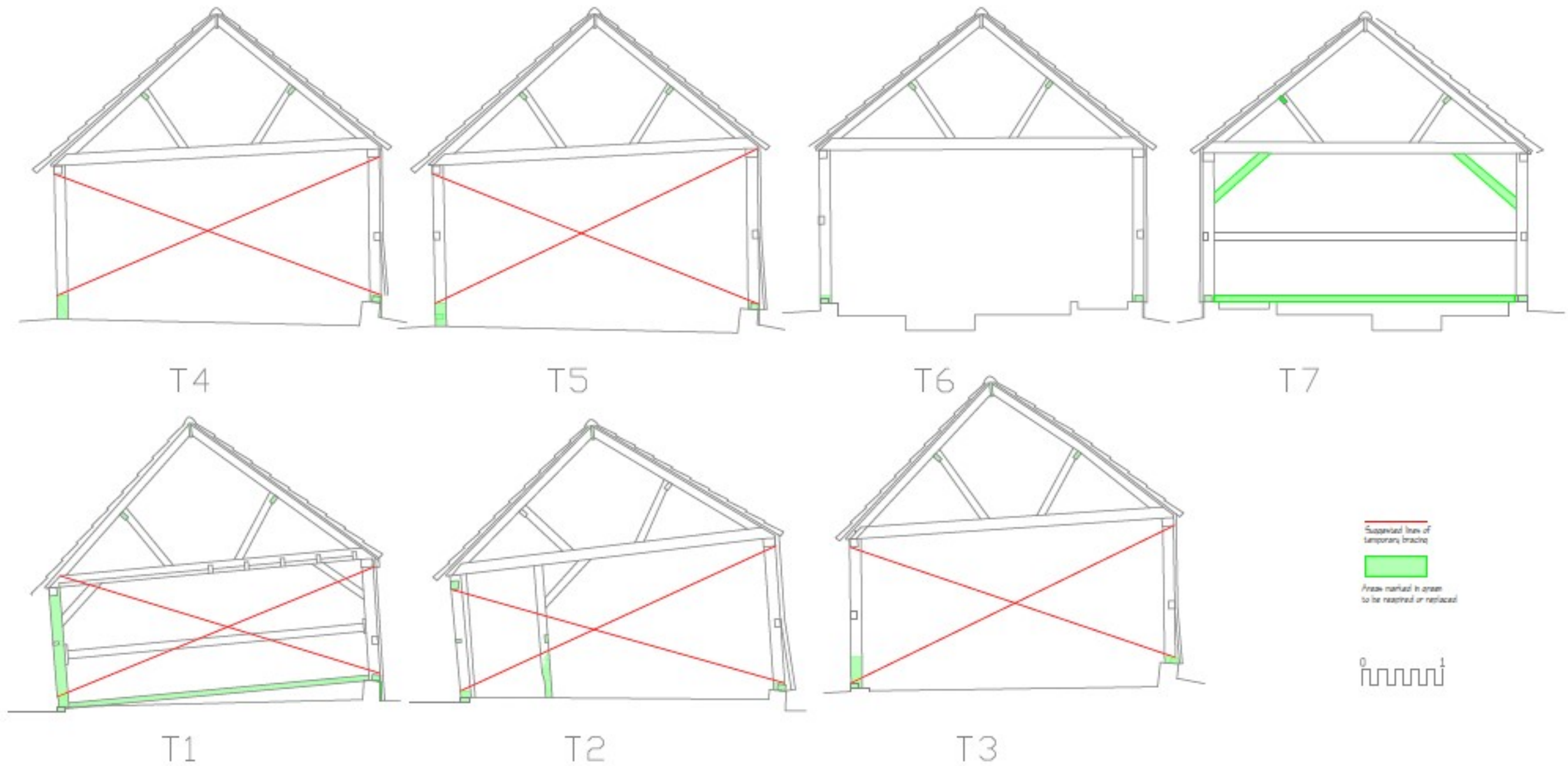


Section east to west looking north.



Plan of barn

-  Red lines indicate positions of temporary bracing.
-  Green shaded timbers are to be replaced.



Cross sections through building at each truss position. Note that red lines indicate temporary cross bracing. Green shaded timbers indicate those to be replaced.

