

Design & Access and Heritage Statements

For a loft conversion at

1 Sells Close Cottages, Barley

Ref: DAS/2316L



1 Sells Close Cottages

PREPARED BY DONALD PURKISS and ASSOCIATES LLP

ON BEHALF OF Mr and Mrs Hedges

September 2024

Donald Purkiss & Associates LLP, 1A King Street
Saffron Walden, Essex, CB10 1HE.
Tel: (01799) 523087

Introduction

This document has been prepared to accompany a planning and listed building application for converting the loft space in the listed cottage. This includes the insertion of a new staircase and partition at first floor level, altering the position of an existing door opening and undertaking repairs to some of the existing first floor ceilings.

This application is following on from a recent approval for a small single storey rear extension and side porch canopy (24/01197/FPH & 24/01198/LBC). This consent has not yet been implemented and so the drawings submitted with this application show the cottage as it currently exists.

1 Sells Close Cottages is a grade II listed property dating from the early 17th Century. No.1 is part of a small terrace of three cottages with the original building having been one tenement. It is thought that the original building was divided into three during the 18th century. The listing for the property is as follows:

BARLEY HIGH STREET TL 3938 (West side) Barley 7/98 Nos. 1, 2, and 3 Sells Close Cottages GV II

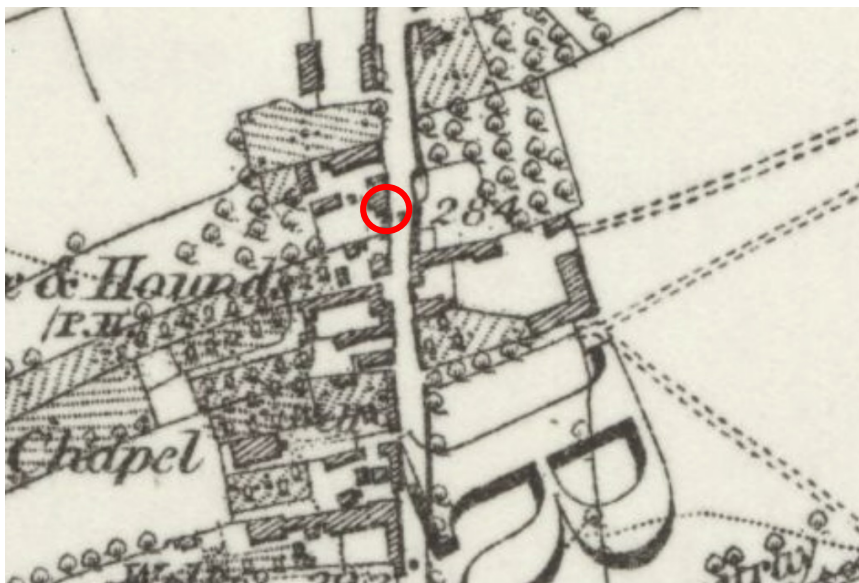
List Entry Number: 1175387

House, now 3 dwellings. Early C17 with minor C18 and C19 additions and alterations. Timber frame, rendered and weatherboarded. Steeply pitched tiled roof. 3 cell lobby entry plan. 2 storeys and attic. Ground floor bead moulded weatherboarding, first floor rendering with traces of panelled comb pargetting. 4 window front. Ground floor: 3 recessed entrances with panelled doors: No. 1 has 2 raised panels, No. 2 has 4 panels and No. 3 has 6 panels with the upper 4 raised and fielded. To centre and left 3 light small pane flush frame casements, to right a horizontal sliding sash, all with hoodboards. First floor: two 3 light small pane casements to left, an early 2 light iron frame leaded pane casement over original entrance and a larger C19 2 light small pane moulded frame casement to right. Rebuilt axial ridge stack to form lobby with entrance to No. 3. Left end external stack with offsets, exposed plates and purlins. Half hip to right end with an entrance, small first floor and latticed attic casements, exposed plates. Early lean-to outshut addition to rear right. Mixed casements to rear. Attached to left end and set back is a C19 lower 2 storey gabled outshut with a 2 light casement on return. Interior: No. 1 has a stop chamfered axial bearer, Nos. 2 and 3 not inspected.

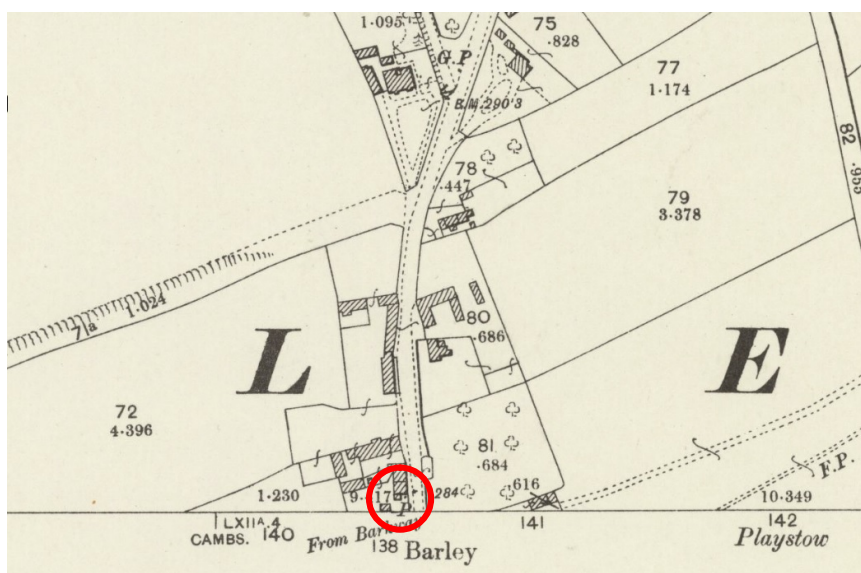
Listing NGR: TL3992438666

Context

Barley is an historic village with reference being made to it in the Domesday Book (ref: Barlei having been derived from Beora's Ley meaning the woodland clearing of a Saxon Lord). The following maps show the High Street which is the historic London to Cambridge Road. The travellers along this road were served by the Fox and Hounds pub as can be seen noted on the following maps but after a fire in 1955 the pub was relocated to the Waggon and Horses pub at the southern end of the High Street. The Waggon and Horses was renamed the Fox and Hounds and the famous sign, which survived the fire, repositioned. With the exception of the pub having burnt down there has been little change to the cottages' surroundings since the mid-19th century.



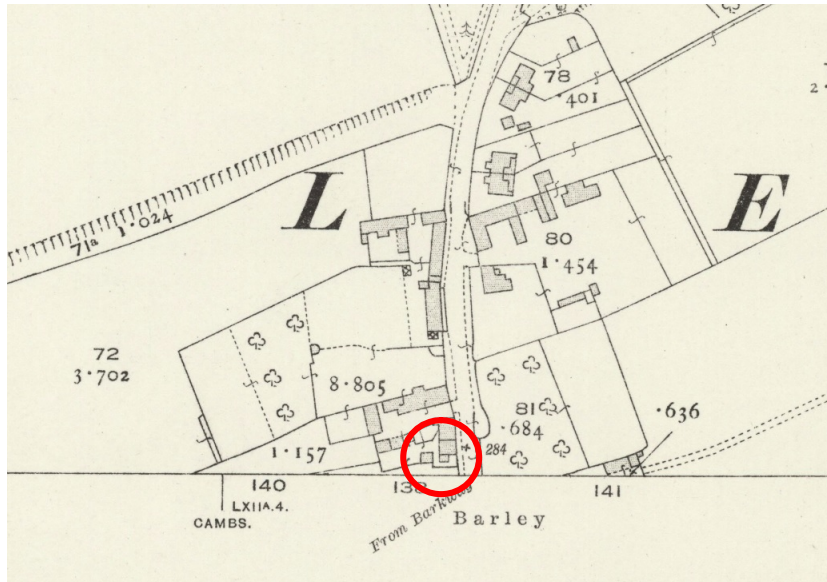
1880 map



1898 map



1903 map



1921 map



1950 map



Site plan as proposed

Current OS map

Planning history and assessment of significance of the existing cottage

As previously mentioned, this application is following a recent approval for a single storey rear extension and side porch canopy.

That approval was similar to a previous scheme approval which had expired. This had been submitted by Kay Pilsbury Thomas Architects for the previous owners and much of the information concerning the existing building is of similar nature. Therefore, we refer to pages 4, 5 & 6 of Heritage, Design and Access Statement submitted with applications 18/01866/LBC & 18/01865/FPH, with regard to the planning history and the assessment of the significance of 1 Sells Close Cottages.

However, neither the recently approved or scheme by Kay Pilsbury Thomas Architects considered converting the loft and so the impact on the significance of the listed building is assessed separately at the end of this document.

Proposals & Design

Due to the steeply pitched roof, the existing loft space has plenty of height and space which is currently unused. From the top of the existing ceiling spine beam to the underside of the ridge is 3.3m with a width of about 1500mm horizontally at the 2m height line. Currently the loft is access via a small loft hatch and is used for a very small amount of storage. This is limited by the size of the original first floor ceiling joists which are small in depth (approximately 85mm -100mm) and bowed between the central spine beam and the rafters. These ceiling joists have been given ad hoc additional support with timbers nailed to their sides which are in turn nailed to the rafters above.



Existing loft space with supports to the bowed/sagging ceiling joists.

Although not visible on the photograph above, the modern lighter coloured post in the foreground is giving additional support to a large cold water tank which sits on a platform supported by two modern collars which span between the original purlins. Removing this water tank will instantly give some relief to the existing structure.

Close to the southern gable of the loft, the hot water cylinder is located. Whilst this is positioned close to an outside wall and above the spine beam, its removal will also help reduce the loadings on the existing ceiling and roof structure.



Hot water cylinder will be removed and replaced as part of a conversion to a pressurised system

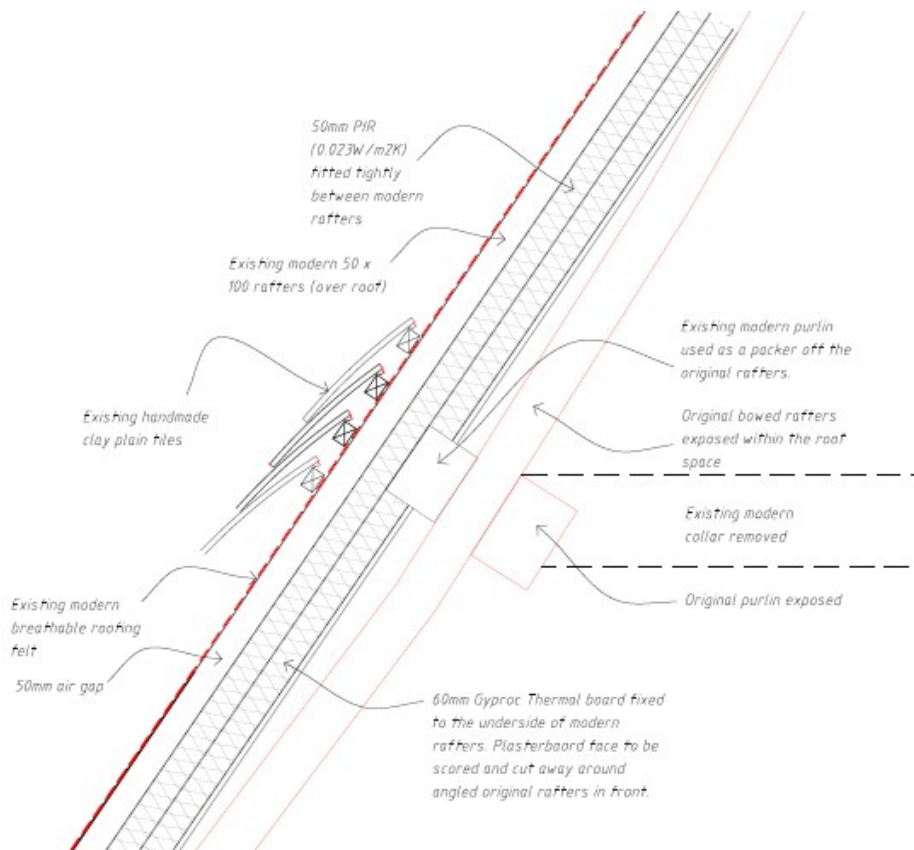
It should be noted that the cottage was over-roofed in its recent history with new modern rafters and breather felt clearly visible above the line of the original rafters which all remain in place, albeit significantly bowed inwards. As such there are two sets of purlins, one between the underside of the modern rafters and the top of the original historic rafters and then the original purlin below the original rafters.



Gap between the new rafters and the old rafters



Historic purlin beneath original rafters and lots of modern packing down from the new rafters



Detail section showing roof proposals with the bowed original rafters in red

Removal of the cold water tank and the hot water cylinder will be made possible by installing a new pressurised system throughout the cottage will require a new horizontal cylinder (and no cold water tank) to be located in the much smaller adjoining loft space above bedroom 3.

It is clear that the existing ceiling joists, which span between the spine beam and the rafters (they do not bear onto the eaves plate) are not strong enough to support any additional weight. In order to convert the loft, it will be necessary to insert a new floor that is independent and above the existing ceiling. The proposals involve carefully inserting two cranked steel beams at either side of the loft space (one near the external gable and one near the internal party wall gable) which will slide in between the existing rafters and bear onto the top surfaces of the eaves plates. Once passing above the existing ceiling joists, the cranked steels become horizontal and pass above the tops of the ceiling joists and the central spine beam. This will allow new floor joists to span between the new steels. A structural engineer has visited the property and has written a short report detailing the steels which can be seen in the appendix.

The insertion of new steels allows the existing ceiling to remain in place, albeit that the lath and plaster above bedroom 2 will need to be replaced like for like as it is currently 'live' and sagging significantly. To access the loft, it is proposed to create space for a new stair by building a partition within bedroom 2. The partition would be built beneath the spine beam in the ceiling above and above the one which sits within the living room on the ground floor. Inserting the stair will involve the removal of a small section of ceiling between the spine beam and the wall which currently separates bedroom 2 from the landing and the bathroom. The modern built in cupboards in bedroom 2 will also be adapted to suit with a new cupboard created under the new stairs



Orange lines show the position of the proposed partition to create the new stairwell

Within the loft a timber handrail and balustrade will surround the new stairwell. The roof will be insulated between and beneath the existing modern rafters allowing the original rafters to be seen within the completed room. The purlin level modern collars are to be removed with new high level collars inserted to provide a small void in which to run services and ashlar walls will be added above the new floor to seal off the eaves area.

To provide natural light and ventilation it is proposed to insert two conservation rooflights from The Rooflight company on the rear slope of the roof. There is no change to the external appearance of the roof from the road or from the side of the property. The gables internally will be lined with wood fibre board over the top of the existing studs and lime plaster infill panels and so no historic fabric will be lost. The wood fibre will be covered over with lime plaster to ensure the gable structures remain breathable. Insulation to the sloping roof structure would be with PIR insulation board and thermal board due to the need to maximise the insulation value and the complex nature of inserting the insulation boards between all of the modern and original rafters.

Use

The loft conversion will not affect the use of the building as a private dwelling.

Amount

The extension adds 10m² to the existing floor area.

Building form & scale

The building form and scale externally does not change as a result of these proposals.

Materials and appearance

Materials will be as follows:

New floor:	Cranked steels and softwood joists with floorboards.
Gable treatment:	Woodfibre boards and lime plaster
Rafter insulation:	PIR insulation and PIR thermal board with plaster skim finish between rafters.
Rooflights:	CR10-2 Conservation rooflights from The Rooflight Company.
New partition:	Softwood studs with lath and plaster finish.
Staircase:	Softwood staircase for carpet finish.
Balustrade:	Painted softwood plain spindles with simple oak handrail spanning between painted newel posts.
Door to bedroom 2:	Reuse existing.
New door:	New door into new lobby at bottom of stairs to be vertically boarded oak door to match existing.
Ceiling in bedroom 2:	Existing ceiling to be carefully taken down and new laths fixed to existing ceiling joists. New lime plaster finish over laths.

Significance and impact on the listed building

The impact on the listed building's fabric is limited but can be summarised as follows:

- **Insertion of cranked steels.** The steels would be made up in three parts to make their insertion into the roof of the cottage more manageable. As previously mentioned the steels will span above the existing first floor ceiling and so no historic fabric will be affected. Where the steels crank down to follow the pitch of the roof it will be necessary to remove a small section of sloping ceiling to allow the steel to pass in between the rafters and to provide fixings down onto the eaves plate. Drawing 2316.10 Section DD shows how the lath and plaster will cover over the steel and be feathered back into the existing line of the sloping ceiling
- **Removal of existing ceiling to provide access for the new staircase.** The ceiling above bedroom 2 is 'live' in many areas and it is proposed to take this down and repair the ceiling as part of the works. As such the laths and lime plaster will be lost as part of the works as they are in poor condition. Obviously, it is necessary to remove the ends of the ceiling joists as well (approximately 750mm between the existing partition and the spine beam) and six of the ceiling joists will be affected. The remaining ceiling joists over the bedroom, the bathroom and the landing will remain unaffected. The ceiling joists are relatively spindly timbers with no historic merit in themselves especially when compared to the exposed elements of timber frame in the ground floor areas. Without the removal of this section of ceiling, the loft space remains unusable.
- **Removal of rafters for the insertion of new rooflights.** The new rooflights will require the roof structure to be trimmed out. However, it is only proposed to trim out the modern rafters for the rooflights with the original rafters remaining in place and passing inside the rooflights. No historic structure will be affected.

Access

Access to the cottage remains unchanged.



ANDREW FIREBRACE PARTNERSHIP

STRUCTURAL AND CIVIL ENGINEERING CONSULTANTS

Stable Barn, Park End, Swaffham Bulbeck, Cambridge CB25 0NA. Tel: 01223 811572 Email: info@afpconsult.co.uk

PLS/cb/24/0042

6 August 2024

Mr P Stollery
Donald Purkiss & Associates LLP
1A King Street
Saffron Walden
Essex
CB10 1HE

Dear Peter

1 Sells Cottages, Barley for Mr and Mrs Hedges

We visited the above property on 17 May 2024 and met with yourself and Mr Hedges. The purpose of our visit was to visually inspect the existing roof structure and to assess the possible structural alterations to enable a single loft room to be formed within the existing roof structure.

This Engineer's report only deals with the above mentioned and our liability in respect of this report is limited to you as our Client. There is no intention to confer any third party rights as described in the Contracts (Rights of Third Parties) Act 1999. Please also note that we have not inspected the condition of timber or any parts of the property which are covered or unexposed and cannot therefore report that such parts of the property are free from defect.

The property is a traditional two storey timber framed house. The roof is currently covered with clay plain tiles. It is probably that the roof was originally thatched, but this has been stripped and replaced with plain tiles some considerable time ago. The roof pitch is approximately 56°.

Inspection within the roof void revealed the current roof structure. It is evident that the original roof structure remains but that it has been totally over-roofed with newer cut rafters which currently support the plain tiles. Below the tiles there is what appears to be a relatively modern breathable roofing felt.

The second floor ceiling is raised above wallplate level to both the front and rear elevations. The historic ceiling appears to be quite fragile. The ceiling joists span from the rafters to front and rear onto a central spine beam which spans along the length of the building between the party wall and the loadbearing heavy timber frame partition beside the stairs.

Contd/.....

Andrew Firebrace Partnership Limited

Registered Office: Stable Barn, Park End, Swaffham Bulbeck, Cambridge CB25 0NA. Registered in England with No. 5277907

Also at:-

Unit 6 Moseley's Farm Business Park, Fornham All Saints, Bury St Edmunds IP28 6JY

Bury St Edmunds: 01284 750492

The scheme for the loft conversion shows two rooflights to the rear roof pitch. The rooflights will be within the new over-roof with the existing rafters trimmed in the normal manner. It is proposed to retain the historic rafters and purlin passing across the rooflights. It is not proposed to cut, alter or remove any of the historic roof structure for the installation of the two rooflights.

The scheme will require a new second floor structure. It is proposed that this structure will be totally independent of the existing ceiling.

It is envisaged that the floor will be structured with cranked steel beams sitting above the ceiling and then cranking down partially within the existing rafter depth to bear onto the existing wallplate. Centrally the steels will be packed off the existing spine ceiling beam. It is anticipated that each beam will be designed in three pieces with bolted connections to allow for easier installation. It is envisaged that there will be two cranked steels. One adjacent to the party wall, the other adjacent to the gable end. There will be new floor joists spanning between these beams with a deflection gap between the underside of the joists on the 'snots' projection to the existing ceiling.

To restrain the crank of the steels it will be necessary to install a steel longitudinal tie beam. This will sit above the beam and inside the historic roof structure.

It is believed that with this proposed structural scheme that there will be minimal loss of historic fabric to the house. The only loss would be the ceiling between a pair of rafters where the new steels crank down to the wallplate.

We trust that this report is adequate for your current needs. We will await your further instruction before undertaking further work on this project.

Yours sincerely



PETER STUART BSc (Hons), CEng, MICE
For and on behalf of Andrew Firebrace Partnership Limited