



Lacock Visitor Reception Building Chimney Repairs

The Fox Talbot Museum and Abbey Lodge
High Street
Lacock
Wiltshire,
SN15 2LG

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Introduction

Overview

The proposed works Are to introduce lateral restraint and re-render a 20th century stack at the southeast gable elevation of the Fox Talbot Museum, Lacock.

The problem

Until recently, the Chimney stack was rendered and the masonry beneath not visible. Following reports of loose and falling sections of render, the property team took the decision to scaffold the chimney stack and defrass any lose sections of render. They found that the render to the chimney stack was generally in poor condition, almost entirely hollow and unbonded, and comprised a patchwork of various inappropriate cement containing products over a soft red brick. Large areas of render were found to be dangerous and the entire removal of the loose render was deemed necessary to make the situation safe. Upon removing the render we discovered that the stack was in fact two adjacent stacks, with little apparent structural ties either to each other or to the stone gable of the building.

Location

The Fox Talbot Museum is located adjacent to the front gates to the grounds of Lacock Abbey, accessed from the Lacock high Street. The chimney in question is located above the main visitor entrance route into the Abbey Grounds.

Aims of the project

To stabilise and re-render the masonry chimney located into the southeast gable wall of the Fox talbot Museum.

Description of Building/Structure

The building is a Grade 2 listed 16th century barn formed of limestone uncoursed rubble walls with a limestone tilestone roof. The east end of the building was converted to a dwelling in the early 20th century but subsequently altered further and is currently used as the visitor reception and main visitor entrance to the grounds of

Lacock Abbey. The west end of the barn has been converted into the Fox Talbot Museum of photography, with 1st floor gallery space.

Visitors exit the building via a single story extension, built onto the southeast gable wall of the original barn. This extension has a limestone tilestone roof and uncoursed limestone rubble walls. The unstable chimney stack is located on the southeast gable, and is believed to have been installed as part of the extension, likely in two phases, emerging from the extension roof and running up to a crown with three chimney pots, shared by both stacks.

The stack is made of soft red brick and appears to have been built in two phases, with what appears to be two separate but adjacent stacks, with no apparent structural connections. The stack appears to lean into the gable wall, which itself is not plumb, until about 2m below the ridge, at which point the stacks straightens up and becomes plumb, avoiding the projecting coping stones on the gable. This creates a circa 2 inch gap between the original gable stone wall and the brick stack. There is no evidence of any structural tying in of the chimney at this point. The top of the chimney has a limestone crown that spans both stacks and all three flues.

Significance of Heritage Asset

The Fox Talbot Museum and Abbey Lodge and Entrance Gates have a combined Grade II listing. As the visitor reception for Lacock Abbey, this building has a major impact on the experience of a visitor to Lacock Abbey, and is also visible from the public Highstreet of the historic Village of Lacock.

Proposed Works

We have explored three options in the table below, with our proposed course of action being option three, which ensures that the visitor route below the chimney is safe, and also structurally consolidates and ties in the chimney to prevent future structural movement.

Options	Risks	Pros	Cons
1: Do nothing	The stacks will continue to remain structurally isolated. The bricks will be exposed and deteriorate.	None	The visitor entrance route will be jeopardised by unstable masonry above. The historic aesthetics to the building would be significantly altered by the exposed, damaged brickwork.
2: Re-render only	The stacks will continue to remain structurally isolated.	Re-rendering with an appropriate lime render will stabilise and protect the friable brickwork, make the visitor route safe from falling material and reinstate the chimney's aesthetic.	There remains a risk that the chimney would be structurally independent of the gable wall which could cause future differential movement between the 16 th century gable wall and the modern brick stack.
3: Use 6mm 'Helibar' stainless steel bands, inserted into the brickwork mortar joints to provide structural ties and lateral restraint, followed by rerendering	None	As above, the rendering will protect the masonry and be aesthetically appropriate for its location. In addition, the stack(s) will be consolidated and restrained, structurally tied into the gable wall.	Additional expense of steel ties. The steel ties proposed are an 'invisible' solution, drilled into the stone gable wall.

Note on lime render choice: Given the medium exposure of the brick chimney, balanced by the apparent softness of the brick, we propose that the render mix

incorporates an NHL2 lime, with an appropriate well graded sand, colour matched to mortar joints in the gable elevation, in a ratio of 1 part lime to 3 parts sand.

Note on use of Helibar: The 7no Helibar bands are to be inserted into mortar joints within the brickwork . The bedding joint of the brickwork will be chased out to a depth of 40mm. We propose that mechanical chasing would be acceptable as the brickwork is relatively modern, in poor condition, is constructed with cement mortar, and would not be visible after the rendering is completed. No damage to the brickworks as a result of the chasing would ever been seen. A single 6mm 'Helibar' will be inserted into the chase, encased in a proprietary 'HeliBond' cementitious grout.

The technical structural tie proposal from ASRS Ltd is set out in Appendix B.

Impact of works on heritage asset

This section discusses our preferred option (3) as set out in the proposed works table on the previous page.

After the proposed project is completed, the building will be aesthetically similar as before, albeit with a lime render rather than a patchwork of cementitious renders on the chimney stack. In addition, the masonry substrate of the chimney stacks will have been repaired, consolidated across the two independent stacks, and tied back into the gable wall of the building, reducing the risk of future differential movement. We consider this to be a net positive impact on this listed building and the wider heritage streetscape.

The steel 'Helibar' ties are installed in the mortar joints of the brickwork and drilled 400mm back into the stonework, using a resin fixing on the gable wall on the south side of the chimney (the proposal on the north side is to simply return the helibar back to the gable wall but not drill into it). Above the roof line, the proposals is to return the Helibar all the way around the mortar joint of the chimney to create two

ring beams. This is an irreversible alteration to both the stone gable wall and the masonry chimney. However, the steel bars would be entirely invisible once the chimney is rendered and would be permanently tied in and stabilised.

Photographic Schedule



Image 1: Overview of Gable elevation showing location of chimney and single story extension with main visitor rout into Lacock Abbey Grounds beneath the stack.



Image 2: Overview of chimney once the render was removed, showing two distinct chimney stacks and damage to brickwork



Image 3: showing cementitious render and damage/loss of render, before removal



Image 4: showing gap between stack and gable wall



Image 5: showing loss of render and differing renders across stack.

Appendix A: Listing information

The Fox Talbot Museum and Abbey Lodge and Entrance Gates

A Grade II Listed Building in Lacock, Wiltshire

Coordinates:

Latitude: 51.4146 / 51°24'52"N, Longitude: -2.1201 / 2°7'12"W

OS Eastings: 391745, OS Northings: 168405, OS Grid: ST917684

Mapcode National: GBR 1RR.BSG, Mapcode Global: VH96K.6PKX

Plus Code: 9C3VCV7H+RX

Entry Name: The Fox Talbot Museum and Abbey Lodge and Entrance Gates

Listing Date: 20 December 1960

Last Amended: 7 January 1987

Grade: II

Source: Historic England

Source ID: 1022172

English Heritage Legacy ID: 315538

Location: Lacock, Wiltshire, SN15

County: Wiltshire

Civil Parish: Lacock

Built-Up Area: Lacock

Traditional County: Wiltshire

Lieutenancy Area (Ceremonial County): Wiltshire

Church of England Parish: Lacock with Bowden Hill

Church of England Diocese: Bristol

Description

LACOCK HIGH STREET ST 9168 (north side) 4/103 The Fox-Talbot Museum and Abbey Lodge and entrance gates (formerly listed as 20.12.60 Lodge and Barn at Abbey entrance gates) GV II

Barn, C16 with house inserted at east end in early C20 and remainder converted to museum of photography 1975. Rubble stone with stone slate roof and coped gables. South side, to road, has one blocked Tudor-arched upper opening and two C19 doorways to museum. House at right end has 2-storey, 2-window range of 2-light mullion windows. North side has 2 lean-to cart entries. Two-light hollow- moulded mullion window by right cart entry. Interior of museum has fine 9½ bay roof of tie-beam trusses with king-posts and collar pieces tenoned into king-posts each side, an unusual truss form also found at Lacock Abbey (q.v.). Interior of house not inspected. Attached low screen wall with ball-finials to piers and C19 iron gates. Old photographs show considerable alteration to road front which had buttresses, 2 elliptical-arched cart-entries and applied Gothick tracery on west end wall. Said to have been built as stable by Sir W. Sharington of Lacock Abbey in mid C16.

Listing NGR: ST9175968400

Appendix B: Technical specification