

Historic Environment Scotland Àrainneachd Eachdraidheil Alba

NEW ABBEY CORN MILL: MILL BUILDING FLOOR STRENGTHENING & RESTRAINT FOR EXISTING FIRST FLOOR MILL STONE DISPLAY

SUPPORTING INFORMATION

1. The building complex at New Abbey Corn Mill includes a water powered corn mill spread over three floors. Visitors are taken on guided tours through the Mill with mill machinery operated periodically during the summer months.
2. Various HES Collections items or loaned collections items in place within the Mill contribute to the visitor experience and understanding of this part of the site. This includes a large mill stone (Collections Item NEW049) permanently displayed on the first floor. The item enables Visitors to view an ex-situ mill stone, gaining an appreciation of its size and construction within the immediate context of the other operational mill stones on this floor which are largely hidden within the timber housings of the mill machinery.
3. Support for and restraint fixing of Mill Stone NEW049 has been identified as inadequate. Although the stone sits on a plank spreader plate, structural assessment of the timber joisted floor immediately below by our in-house Engineers has revealed an inadequate margin of safety in bearing the load. Additionally the stone is currently simply leant against the masonry wall. Whilst it has been in this position for a number of years without recorded incident, it is considered prudent to provide restraints to prevent it being moved in order to address health and safety and building fabric impact concerns. This would then prevent the possibility of it being pulled over onto a person, or imposing potentially catastrophic loading onto the floor structure if rolled around, or on impact if toppled.
4. The proposed solution to upgrade floor bearing capacity is to locally strengthen the end of the floor joist immediately below using stainless steel plates bolted to either side of the joist, and to provide a new timber bearer onto the floor boards above, also bolted in position to joists. Visual intrusion of this 'honest' approach is diminished by this area of the floor structure being dark coloured and in shadow. Additionally, to further reduce intrusiveness, plates would be painted a dark recessive brown colour matching other recent modern extract ventilation system interventions. The timber bearer would be clear finished and detailed to broadly match other modern interventions such as the timber guardrails around mill machinery. Physical impact on historic fabric would comprise drilled holes through timbers for bolts, reversible by plugging should this be required in the future.
5. The proposed solution to restrain the stone is to cut a housing in the new spreader plate to locate the stone's base and provide two stainless steel wall fixing cramps to the upper part of the mill stone. To minimise historic fabric impact these would be located to enable fixing into joints between stones of the inner face of the Mill external wall. Build is of granite rubble with sufficiently wide joints to allow fixings to be made without damage to masonry.
6. Retaining the current arrangement is not considered to be an option due to concerns about risk to persons and building fabric.

Paul Beaton
Historic Environment Scotland District Architect SW
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