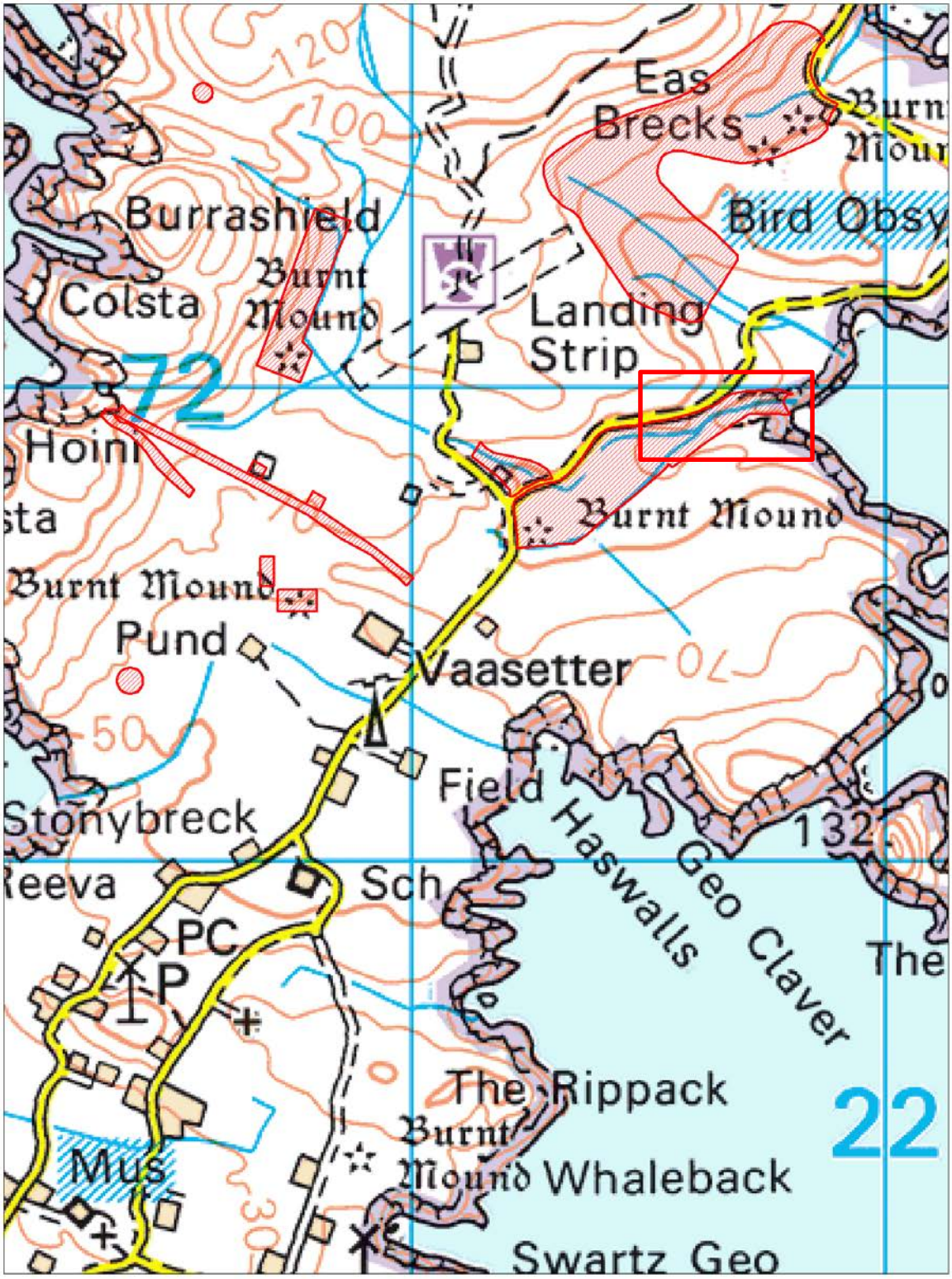
Burn of Gilsetter Mill repair Written Scheme of Investigation

Reference: SM6590

NGR: HZ 211 718

Local Authority: Sheltand Islands

Parish: Dunrossness



Map of East coast of Fair Isle. Gilsetter Mills denoted by red rectangle.

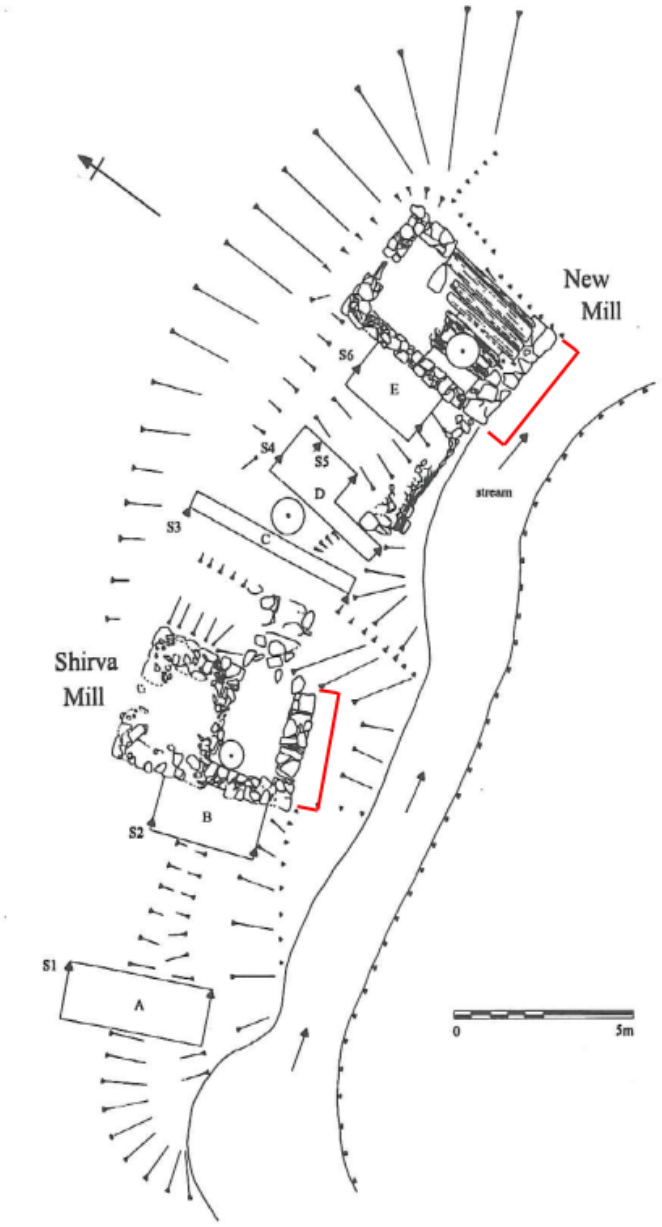


Fig 1. Plan of Mill complex with red indicating walls in need of repair and consolidation (after Hunter, 1996, 203).

Previous Work

The mill system at the Burn of Gilsetter appears to have no precise dating record, but by analogy belong to the later eighteenth or nineteenth century (Hunter 1996, 196). They are of the 'Norse Mill' or 'Click Mill' type. In 1987, the Royal Commission on the Ancient and Historical Monuments of Scotland prepared a survey of the mill system, with particular attention to Shirva Mill (Fig. 1 and 2), and subsequently drew up plans for the reconstruction. In 1989 John Hunter, then of Bradford University Department of Archaeological Sciences, undertook trial excavations of the site, with the aid of a 40% grant from the Shetland Amenity Trust. These excavations showed that the most recent lades were wooden (Hunter 1996, 201-8).

Following Hunter's preliminary work, deposits of archaeological interest which still remained were excavated in 1994 by the then National Trust for Scotland Archaeologist, Robin Turner with a view to inform proposed reconstruction of Shirva Mill (this proposed reconstruction was, however, never initiated). The deposits removed were largely inside the mill structure, while deposits within the laid were only taken down to the presumed level of the wooden floor. Little more was excavated than was to be disturbed by the mill restoration work, and some features which remained in situ were not recorded in detail (Turner 1997, 2).

In 1995 local residents on Fair Isle carried out emergency consolidation work to Shirva Mill in order to prevent complete collapse of the northern bank of the burn. This work consisted of the construction of a length of dry stone revetment wall to the south of the Mill along the side of the burn. The area directly behind this wall was also backfilled as part of the work. This work was not carried out by the National Trust for Scotland.

The site was scheduled by Historic Scotland in 1996.

Rational for Proposed Works

The revetment wall along the burn at Shirva Mill has begun to fail. Heavy flooding has eroded the northern bank of the burn which previously fed the mills and this erosion has begun to undercut the previously consolidated revetment which was designed to protect the mill. The failure of this length of wall following a particularly heavy flood in 2014/15 has had the knock on effect of eroding the southern outer wall of the lower New Mill.

It is proposed that repair along the lines of that previously carried out on Shirva Mill and a minimum rebuild of the collapsed section of New Mill will stabilize the structures for further years to come.

Proposed Works

Building Works to Upper Mill (Shirva Mill) **(Fig. 3);**

- Function of wall and need for repair/ justification for work;
    - The wall forms a revetment along the edge of the Burn of Gilsetter. Since it was first built in 1995 the burn has undercut the revetment further and further erosion will endanger the Mill above.
    - Repair will prevent further erosion of the underlying ground and protect the mill from further collapse for a number of years to come (on current experience survival would seem to be in the region of c.20 years).
- Building Method Statement;
    - How is it to be rebuilt.
        - It is proposed that the full 5m length of the wall will be rebuilt. The wall will be rebuilt up to its original height of 1.5m at its western most end and tapered to a single course to the east (as per previous structure). The rebuild will be guided by the use of historical photographs sourced from the NMRS, National Trust for Scotland Archive, and local residents. The aim will be to rebuild the collapsed section (as far as practicable) in a fashion as closely resembling the wall prior to collapse as possible.

- Any voids at the back of the wall on the landward side will be filled with concrete filled sandbags and the wall will be supported on foundations of concrete filled sandbags where necessary.
- All stone for the reconstruction will be recovered (were possible) from the collapse and any extra required will be sourced from outside the scheduled site (and care will be taken to not remove stone from any other archaeological site on the island). This stone will be in keeping with the overall construction of the wall in both size and type.
- It is estimated that the construction work will take c.4 days and staffed by 4 builder/labourers and 1 qualified archaeologist.

Lower Mill (New Mill) **(Fig. 4);**

- Previous Work;
  - No previous consolidation work has been carried out on this mill. Excavation was carried out in 1994 and published in John Hunter's Fair Isle: the Archaeology of an Island Community (1996).
- Function of wall and need for repair/ justification for work;
  - The outer skin of the mills southern wall adjacent to the burn has begun to fail and this required making back up to its previous height. Were this collapse permitted to continue through another heavy flood then further collapse is expected. Such degradation would impact on the wider structural integrity of the Mill and compromise the overall structure.
- Method Statement;
  - A full photographic record of the current state of the wall will be made by a qualified archaeologist prior to any work commencing. The rebuild will be guided by the use of historical photographs sourced from the NMRS, National Trust for Scotland Archive, and local residents. The aim will be to rebuild the collapsed section (as far as practicable) in a fashion as closely resembling the wall prior to collapse as possible.
  - This will be carried out using the same dry stone building technique used in the rest of the structure and will be carried out by the indigenous dry stone dyker who carries out all the wall repair on the island for the NTS. The stone used in the wall sections reconstruction will be that recovered from the collapsed section. No extra stone will be imported into the site.
  - In conjunction with the upper mill repair it is expected that this consolidation work could have a life expectancy of up to 20 years.

Safety to be considered;

- All the work will be carried out by suitably trained and insured individuals and the use of harnesses and appropriate PPE will be ensured by the designated site manager and the National Trust for Scotland Project co-ordinator.

Archaeological Mitigation

- Outline of Archaeological Recording;
  - A full photographic record of the collapsed section of wall will be made ahead of the repair work (all photographs will include a metric scale); inclding

representative views to show the progress and context of the works, and as far as possible views in plan and elevation from all relevant angles.

- An archaeologist will be present during the downtaking of the collapsed wall and any exposed archaeological deposits will be recorded using pro-forma context recording sheets, photographed and drawn to a suitable scale. All drawings and archaeological contexts will be geographically located using an overall site plan.
  - All archaeological records will be compiled into a fully annotated site record including photos, drawings, finds and sample registers.
  - The NTS will notify HES of the timetable of works two weeks prior to commencement and no more than 6 months from the completion of the archaeological element of the repair project a fully annotated report will be presented to Historic Environment Scotland for approval. Following approval copies will be submitted to Shetland Islands Council and OASIS; the project archive will be deposited with the NMRS.
  - Analyses and conservation of any archaeological finds recovered during the project will be funded by the National Trust for Scotland and presented for allocation via Treasure trove at the completion of the project.
  - All archaeological work will be carried out in accordance with the Standards and Guidance of the CIfA.

o Stone storage during repair works;
  - During the repair work building stone will be stored upon heavy duty tarpaulin upon the higher ground to the west of the Mill structure. All stone will be inspected by the archaeologist as part of the watching brief for signs of work and re-use.

Bibliography

Goudie, G., 1886, 'On the horizontal water mills of Shetland', *Proc. Soc. Antiq. Scotl. 20, 257-97*

Hunter, J., 1996, *Fair Isle: The Archaeology of an Island Community*

Waterston, G. and Jones, J. 1983, *Fair Isle: A Photographic History*



Fig 2: View of Mill Complex with Shirva Mill in the background and New Mill in the foreground. The red rectangle shows the proposed area to be used for the temporary storage of building stone during the project. Looking West.



Fig 3: showing collapse and undercutting of southern revetment wall. Looking West.



Figure 4: Showing the collapse of the outer skin of the southern outer wall adjacent to burn. Looking North.