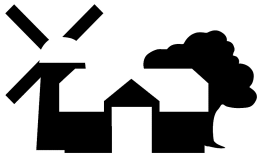


# **Fresh Wind in Our Sails Burwell Museum Trust**



## **Museum and Mill Management and Maintenance Plan**

**February 2012**

## Introduction

The purpose of Burwell Museum Trust's Management and Maintenance Plan is to inform the long-term management and maintenance strategy for the HLF-funded aspects of the Mill and Museum, and identify costs. The Management and Maintenance Plan was written by Jane Phillimore, the Museum's Development Support Officer, in consultation with Luke Bonwick of Bonwick Milling Heritage Consultancy, a member of the IfA (Institute for Archaeologists), Philip Orchard, a partner of The Whitworth Co-partnership LLP, a conservation architect RIBA/AABC accredited for work on historic buildings, and the Trustees of Burwell Museum.

BMT Trustees and current volunteers have maintained the buildings on the site for 20 years and are highly skilled at managing and carrying out practical maintenance work involving repair, painting and general site maintenance. They already have a management and maintenance structure in place to deal with the running of the site. For that reason, this Management and Maintenance Plan will focus on the HLF-funded works, especially the capital works to the Mill and new Museum interpretation and learning infrastructure, which together form a large part of the *Fresh Wind in Our Sails* project.

*Fresh Wind in Our Sails* includes the repair and conservation of Stevens' Mill, a Grade II\* listed four-storey tower mill on the Museum site. This work was outlined in the Conservation Action Plan of July 2009, revised September 2010 (attached to this application), written by Luke Bonwick. The conservation work will restore the Mill to museum working standard with sails turning and milling machinery in operational condition suitable for demonstration to visitors. The project will also involve an improved interpretation which integrates Museum and Mill. The interpretation includes infrastructure such as indoor and outdoor interpretive panels, audio-visual equipment, interactives, dressing-up costumes and loans boxes which will experience wear and tear and need regular maintenance and care.

## Section One

### Understanding the heritage

There are two interlinked strands of heritage at Burwell Museum. First, there is the heritage of Stevens' Mill which stands on its original site and as a working mill was at the centre of everyday life in Burwell for 130 years. Second, there is the heritage of the Museum collections which cover the social, agricultural and industrial history of Burwell village and fen-edge life and the people who have lived in the area over the generations.

Stevens' Mill is of regional significance as one of only three tower mills in the county open to the public on a regular basis. It is a prominent and iconic landmark, and its Grade II\* listed status recognises its value as one of few well-preserved representative examples of its type. The Mill displays many identifiable features that exemplify the traditional millwrighting characteristics of the region, including clockwise-rotating patent sails; a fantail carried on vertical posts which were braced to the top of the cap rather than down to the sheers; and 'underdrift' millstones located on the first floor rather than higher up the Mill as in other areas. The Mill's location at the centre of Burwell reflects the village's former significance as a hub of windmilling activity for more than 800 years.

The Mill offers tangible evidence of the village's past, demonstrating how its inhabitants lived, worked and adapted to changing technology. The use of windmills for milling corn, as

well as for fen drainage and other related activities, is central to the agricultural heritage of the fenland area. Many of the older current residents of the village have memories of Stevens' Mill as a working windmill and those without first-hand memories still consider the Mill to be an important part of their heritage.

The heritage is important to residents of Burwell, including community groups, families, young learners and schoolchildren, adults including the over-65s, the tourist market, current volunteers, Trustees and Friends, specialist groups such as those interested in millwrighting, industrial or farming heritage, social and local history, and people interested in conservation and traditional craft skills.

## Section Two

### Current situation

BMT Trustees are responsible for the management and maintenance of the Museum. Trustees monitor the site very regularly – on almost a daily basis – during the open and closed season. They work alongside volunteers to carry out the necessary practical work, and are responsible for commissioning specialist contractors when needed. Maintenance issues are raised and discussed at each monthly Trustees meeting, decisions are taken, and work carried out. This includes exterior work on buildings and windows (a rolling programme in which each Museum building is painted on a five- to seven-year schedule, annual inspections of guttering and downpipes, visual inspection of roofs); and interior building work (including painting and repairs). There is an annual rota for general site maintenance (including grass cutting, care of paths, gates and fences and toilet and other service facilities). The new buildings have fire/smoke sensors, and there is a manual fire alarm at the Barn. The Fire Brigade has carried out various fire inspections of the Museum and Mill. Electrical and other safety inspections are carried out once a year at the start of the season and to comply with relevant statutory requirements. The Trustees and volunteers will continue to carry out these tasks during and after the project end, and we have not outlined them in any more detail in this Plan.

In the past, BMT has also carried out maintenance work and running repairs on the Mill, which has been closed to visitors since 2010. Specialised Mill maintenance which could not be carried out by Trustees/volunteers has been undertaken as needed by a specialist millwright.

A risk assessment of the Museum and its buildings was drawn up by Andy Murkin, curator of the Royal Anglian Regiment Museum at Duxford, seven years ago, and is still in use.

The site and Museum buildings are generally in good repair, with the exception of the Mill – repairs to its structure form the focus of the *Fresh Wind in Our Sails* capital work. On average, BMT sets aside £2,000 a year for managing and maintaining the site. These funds are raised from annual visitor income and fundraising.

## Section three

### Risks

Risks facing the heritage include:

**Natural factors:**

- High winds, storms and other adverse weather conditions
- Fire

**Human factors:**

- Wear and tear from general visitor use
- Poor record keeping

The Mill is particularly vulnerable to adverse weather conditions, and we are instituting an adverse weather inspection routine to be carried out after storms, high winds and other adverse weather. Fire is always a risk factor. In addition to the fire prevention and detection strategies outlined above, we intend to wire fire/smoke sensors into the Mill, with battery back-up, as part of the electrical works (we have allowed a budget for this in the capital costings). Vandalism and theft are not considered risk factors: to date BMT has not experienced any instances of vandalism and only very minor instances of the theft of portable artefacts. There is an effective intruder alarm system linked to a pager which goes off in nearby houses, so Trustees can be at the site within minutes of the alarm being activated.

The new interpretive infrastructure will be subject to general wear and tear and outdoor interpretive panels will additionally be subject to adverse weather conditions. Routine and regular work will be needed to maintain the interpretation, interactives, audio-visual and other equipment and this work is detailed in the Action Plan below.

Poor record keeping has been an ongoing factor in the Museum's management during the past few years. This Plan initiates the use of a Mill maintenance log book which will help ensure maintenance tasks are carried out and thorough and detailed records are kept.

BMT has the resources and equipment in place and will provide the training necessary for volunteers to manage routine Mill maintenance. In addition, a detailed Mill inspection will be carried out on an annual basis by a specialist millwright.

## Section Four

### Management and Maintenance Aims

**BMT's management and maintenance aims** are to:

- Manage and maintain the site in good condition so the heritage can be accessed and enjoyed by a wide range of visitors
- Manage and maintain the Mill, its sails and internal machinery in operational condition and good repair
- Manage and maintain the interpretive and learning infrastructure in good condition
- Provide training to give volunteers the skills to maintain the heritage of the Mill and Museum

- Institute an on-site inspection procedure after adverse weather conditions to assess damage and ensure the Mill remains in good working order

**Key Mill management and maintenance objectives**

Maintenance after the project will involve a higher level of work and spend on the Mill. Once the Mill is restored to turning order, it is essential that its structure and working parts are regularly maintained. This will ensure that the external areas remain in a sound and safe condition for several years without costly intervention, and achieve their full life expectancy of several decades.

During the course of the project, the active volunteer team will grow and its members will receive training on the implementation of the regular maintenance and management schedules and on the practicalities of Mill maintenance. Training for volunteers on Mill maintenance skills has been included in the project costings.

During the development stage, millwright Dave Pearce of Wicken Mill has offered to provide help and advice with the regular post-project maintenance of the Mill, and his letter of support is attached to this application.

The key to maintaining the Mill in good order is regular inspection. This will mainly be carried out by an organised group of skilled volunteers who are local and able to visit the Mill on at least a weekly basis to carry out inspections, lubrication of shafts and bearings, and minor repairs to the fabric should they be deemed necessary. The volunteers will keep a log of all maintenance work that is carried out, however minor, to avoid important tasks being overlooked and to provide an ongoing record of Mill maintenance. The principal costs during the regular maintenance period will typically be a small outlay on materials (grease, oil, paint, hand tools).

The services of a professional millwrighting contractor will not usually be required more often than on an annual basis for a comprehensive maintenance check. This will keep maintenance costs low. Discussions on site between the millwright and the lead volunteer of the maintenance group will ensure that any problem areas are flagged for detailed attention.

The most expensive and complex maintenance work will involve redecoration of the tower render and the inaccessible woodwork of the cap and sails, together with their metal fittings, which should be carried out every five to seven years. These exterior parts of the windmill are the most vulnerable to the degrading effects of the weather, particularly seasonal heating and cooling. Redecoration offers a good opportunity to carry out woodwork repairs to minor areas where deterioration has occurred. Five-yearly maintenance and redecoration is a skilled job which will take place over several days during a spell of consistently good weather, and will involve the hire of a moveable access platform. It is suggested that most of the annual maintenance budget should be accrued to cover the costs of five-yearly maintenance.

## Section Five

### 10 Year Action Plan and Costs

Table 1: Maintenance Plan

Item	Action	When	Who by	Season/ duration	Costed days	Cost/ day	Cycles/ decade	Total cost
<b>Mill structure</b>								
Exterior walls	Check for cracks and damage to exterior render	Monthly	Skilled volunteers	30 mins	0	0	120	£0
Exterior walls	Redecorate  Hire of moveable platform	5 yearly	Building contractor	1 week; autumn or spring	7	£150	2	£2,100  £500
Interior walls	Check for damage and water ingress	Monthly	Skilled volunteers	30 mins	0	0	120	£0
Interior walls	Redecorate with limewash (H & S procedure)	5 yearly or piecemeal as required	Skilled volunteers	1 week	0	0	2	£0
Windows	Check interior and exterior for damage and water ingress	Monthly	Skilled volunteers	30 mins	0	0	120	£0
Windows	Redecorate	5 yearly	Building contractor	1 week, spring or summer	7	£150	2	£2,100
Mill site	Cut grass, keep tidy	Weekly	Unskilled volunteers	2 hours, less in winter	0	0	520	£0
<b>Mill working parts (to upkeep repair work funded by HLF)</b>								
All working parts	Maintenance check	Annually	Millwright	1 day	1	£300	10	£3,000
All working parts	Visual check, exterior and interior	Bi-weekly and after high winds	Skilled volunteers	30 mins	0	0	260	£0
Sails, shutters and striking gear	Repaint and lubricate	5 yearly	Millwright	5 days	5	£300	2	£3,000

Sails, shutters and striking gear	Performance check (H & S procedure)	Monthly	Skilled volunteers	1 hour	0	0	120	£0
Cap roof external woodwork	Repaint  Hire of moveable platform	5 yearly	Building contractor	7 days	7	£150	2	£2,100  £500
Fantail blades and external framework	Repaint	5 yearly	Building contractor	3 days	3	£150	2	£900
Fantail blades and external framework	Clean surfaces (H & S procedure)	Annually	Skilled volunteers	1 day	0	£0	10	£0
Fantail gearing	Check and lubricate	Quarterly	Skilled volunteers	3 hours	0	£0	40	£0
Curb	Check and lubricate (H & S procedure)	Weekly	Skilled volunteers	30 mins	0	£0	520	£0
Neck and tail bearings	Check and lubricate (H & S procedure)	Weekly	Skilled volunteers	15 mins	0	£0	520	£0
Bearings throughout Mill	Check and lubricate (H & S procedure)	Monthly	Skilled volunteers	1 hour	0	£0	120	£0
Millstones	Dismantle, check, clean (H & S procedure)	Annually	Skilled volunteer	1 day	0	£0	10	£0
Equipment, oil, grease etc								£1,800
<b>Mill total 10 year maintenance costs</b>								<b>£16,000</b>
<b>Interpretation and learning activities infrastructure (heritage items funded by HLF)</b>								
Interpretive panels outdoor	Check for damage and water ingress	Monthly and after adverse weather	Unskilled volunteer	10 mins	0	£0	120+	£0
Interpretive panels indoor	Check for damage	Monthly	Unskilled volunteer	30 mins	0	£0	120	£0
Plasma screen	Check for damage	Weekly	Skilled volunteer	10 mins	0	£0	520+	£0

Interactives	Check for damage, repair where necessary	Monthly	Skilled volunteer	30 mins	0	£0	120	£0
Chatter-boxes	Check working parts	Weekly	Unskilled volunteer	30 mins	0	£0	520	£0
Costumes	Check for wear and tear, repair	Monthly	Unskilled volunteer	30 mins	0	£0	120	£0
Loans boxes	Check and restock after outreach sessions	Bi-weekly	Unskilled volunteer	1 hour	0	£0	260	£0
Human figures	Check for damage	Annually	Unskilled volunteer	20 mins	0	£0	10	£0
Discovery Zone	Redecorate	5 yearly	Skilled volunteer	5 days	0	£0	2	£0
Equipment/ materials	Discovery Zone (paint £250 x 2). Replacement of loans boxes, chatterboxes and other materials and items, plus fees, over 10 years.							£2,000
<b>Interpretation and learning total 10 year maintenance costs</b> (This cost is to carry out work for 10 years after the project end, and is additional to the £1,092 allowed for interpretive maintenance in the Activity Plan.)								<b>£2,000</b>

Table 2 Management Plan

Item	Action	When	Who by	Duration	Costed days	Cost/day	Cycles/decade	Total
Mill	Fill out maintenance log book	Bi-weekly	Key Mill maintenance volunteer	1 hour	0	£0	260	£0
Mill	Report condition defects to millwright	As required	Key Mill maintenance volunteer	30 mins	0	£0	As required	£0
Mill	Train new volunteers to man Mill on open days, including health and safety issues	Annually	Key Mill maintenance volunteer	3 hours	0	£0	10	£0



<b>Mill</b>	Train volunteers in Mill maintenance tasks, including health and safety	Annually	Millwright consultant and Key Mill maintenance volunteer	1 day	Millwright session costed in Activity Plan, thereafter training delivered by Key Mill maintenance volunteer	£0	10	£0
<b>Mill</b>	Draw up emergency procedure for Mill	Review annually	Key Mill maintenance volunteer/ Trustees	1 day and 30 mins annually thereafter	0	£0	10	£0
<b>Mill and Museum</b>	Draw up and institute adverse weather inspection routine	After adverse weather	Trustees/ volunteers	1-2 hours, as needed	0	£0	As needed	£0

### Review

The Management and Maintenance Plan will be reviewed by the Trustees at the end of the open season every year, and modifications made as necessary. A strategic review of procedures will take place five years after the end of the project.

### Copies

The Mill log book and a regularly updated Management and Maintenance Plan will be kept in the BMT office, available to key volunteers and Trustees. Further copies will be made available on request. A secure copy of the Plan will be deposited with Burwell Parish Council. Copies will be given digitally to contractors and volunteers. A pdf of the Plan will be made publicly available on the website.

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