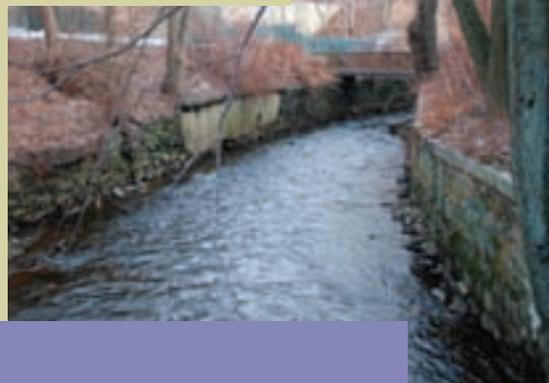
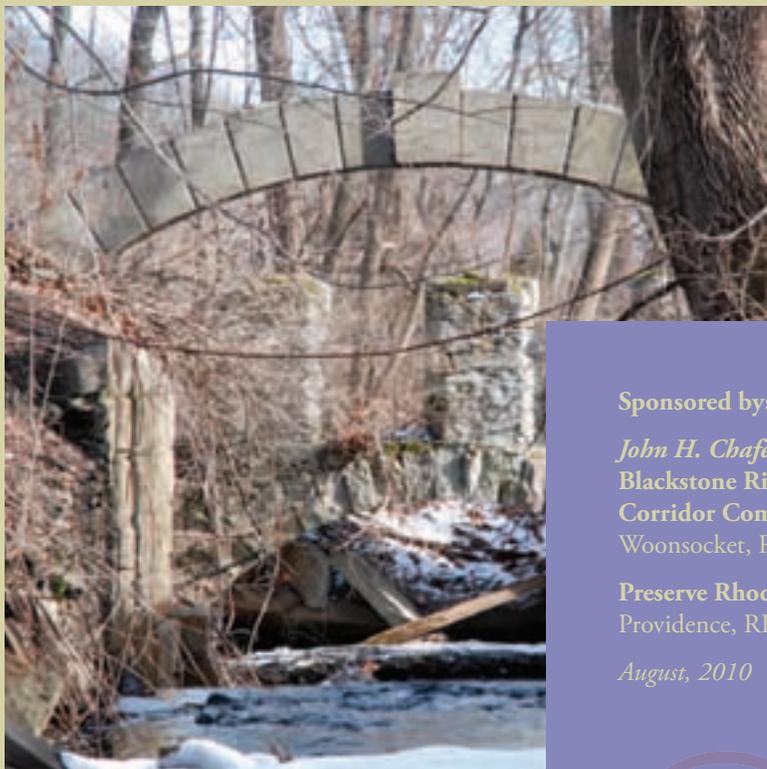




Blackstone

CANAL PRESERVATION STUDY • RHODE ISLAND



Sponsored by:

John H. Chafee
Blackstone River Valley National Heritage
Corridor Commission
Woonsocket, RI

Preserve Rhode Island
Providence, RI

August, 2010



Blackstone Canal Preservation Study

Providence, Pawtucket, Lincoln,
Woonsocket and North Smithfield,
Rhode Island

Prepared for **Preserve Rhode Island**
957 North Main Street
Providence, RI 02904
401-272-5101

**John H. Chafee Blackstone River Valley National Heritage Corridor
Commission**
One Depot Square
Woonsocket, RI 02895
401-762-0250

Prepared by **VHB/Vanasse Hangen Brustlin, Inc.**
Transportation, Land Development, Environmental Services
101 Walnut Street, P.O. Box 9151
Watertown, MA 02471
617-924-1770

August 2010

Executive Summary

Overview

In 1986, the U.S. Congress created the John H. Chafee Blackstone River Valley National Heritage Corridor, which encompasses 24 communities in Massachusetts and Rhode Island, in recognition of the region's central role in the early industrialization of America. At the same time, a federally-appointed Commission was created to oversee activities within the Corridor, staffed by employees of the National Park Service (NPS). The BRVNHCC works in partnership with a variety of Federal, State and local agencies, and non-profit and private organizations to preserve the historic and environmental elements of the Valley's landscape, and to promote investment in the Valley's historic mill villages and revitalization of its river system. Among the key goals of the Commission are to:

- Tell the story of America's path to industrialization by shaping experiences for visitors and making the story accessible to large numbers of people;
- Promote preservation and new life for the Valley's older village centers, mills, and other historic resources;
- Assist local communities in balancing conservation and growth; and
- Reaffirm an active commitment to improving the health of the river system.

The subject of the Blackstone Canal Preservation Study (the Study) is the portion of the Blackstone Canal in Rhode Island extending from Providence to North Smithfield. Constructed between 1824 and 1828, the Blackstone Canal connected Providence, RI and Worcester, MA. Though superseded as a transportation system by the construction of the railroad in 1847, many remnants of the Canal remain discernible along its route through Rhode Island. The purpose of the Study is to support the BRVNHCC mission to promote preservation of historic resources in the Blackstone River Valley and tell the story of the American Industrial Revolution in the region.

The goals of the Blackstone Canal Preservation Study are to facilitate a better understanding of the character and condition of the extant segments of the Blackstone Canal in Rhode Island; to assess opportunities for preservation, restoration, and interpretation of the Canal and its history; and to recommend key projects for such action. The Study includes the following elements:

- Inventory and comprehensive mapping of the existing and historic location of the Blackstone Canal and associated historic and archaeological resources,
- Narrative documentation of the existing conditions of canal resources,
- Identification of key canal projects in Rhode Island that offer outstanding opportunities for preservation, restoration, and interpretation of the history of the Blackstone Canal, the Blackstone River Valley and the Moshassuck River Valley, and
- Preliminary tasks and cost estimates associated with recommended restoration efforts.

Study Area

The portion of the Blackstone Canal located in Rhode Island extends approximately 17.5 miles from the Canal's southern terminus in the City of Providence to the Massachusetts state line in the Town of North Smithfield, passing through the cities and towns of Providence, Pawtucket, Lincoln, Woonsocket and North Smithfield (Figures 1-13, Appendix A).

The Study Area includes the path of the Canal and its associated engineering resources (locks, bridges, etc.), as well as adjacent mill buildings, houses and villages, surrounding mill sites, and natural bodies of water used to sustain the Canal's water supply.

Planning Process

Resource Inventory and Mapping

A Resource Inventory and Existing Conditions assessment was conducted based upon existing data inventories and in consultation with staff from the BRVNHCC and Rhode Island Historical Preservation and Heritage Commission (RIHPHC), local historians and stakeholders. The documentation of extant canal resources and their condition is based on the 1991 expanded and revised National Register of Historic Places Registration Form (NR form) for the Blackstone Canal Historic District in Rhode Island.

After the initial refinement of the location of the Blackstone Canal, the canal path and significant associated historic and archaeological resources identified in the 1991 expanded and revised NR form for the Blackstone Canal Historic District were mapped using a Geographic Information System format. The resulting maps show the following information for each of the five Rhode Island towns and cities containing remnants of the Blackstone Canal:

- Where the Canal is located in the Blackstone River or other water bodies,
- Where it is no longer visible,
- Where it is clearly visible, and
- Where the Canal is visible and watered.

Public Workshop

A public workshop was held in January 2009 with citizens from the Rhode Island communities containing the Blackstone Canal to solicit input on the accuracy of the Resource Inventory and mapping and to gather suggestions for areas in their communities where the Canal could be preserved and made publicly accessible. The workshop resulted in a list of five suggested sites for future preservation and accessibility. The detailed minutes from this meeting, including public comment and suggestions, is in Appendix B.

Canal Projects Selection Methodology

Selection of five key projects for the Blackstone Canal in Rhode Island for further study was a phased process relying on public input from Blackstone Canal corridor communities, input from BRVNHCC and RIHPHC staff, and assessment of the Resource Inventory and Existing Conditions summary. Where feasible, field inspections were conducted for sites suggested by the public. The projects were reviewed and rated based on the following criteria:

- The state of preservation of canal segments and associated resources,
- The rarity of survival of the Canal or associated features relative to the entirety of the Canal in Rhode Island or the community within which the segment was located,
- The level of protection afforded to the resource via ownership or management status,
- Current and potential public access, and
- Restorative and interpretive opportunities.

In selecting key projects for restoration or interpretation, emphasis was put on those segments of the Canal that were well-preserved (i.e. visible and/or watered), that were unprotected through public ownership or conservation or preservation restrictions, that were presently or would soon be publicly accessible, and that included resources associated with important historic contexts in the Blackstone River Valley.

Summary of Recommendations

Key Ventures

Based on the selection methodology outlined above, five projects or “ventures” were put forward for further evaluation for protection, stabilization, interpretation, and restoration. Four of the five key ventures focus on discrete canal segments, while the fifth proposes a series of locations along the canal that would provide stories about various aspects of the Canal’s history.

These ventures were identified as offering outstanding opportunities for preservation, restoration, and interpretation by virtue of their high degree of integrity, unprotected status, current or potential public access, proximity to other protected segments of the Canal, and high interpretive value. The five ventures are presented in geographical order from south to north.

Canal Basin to Randall Street, Providence

The Canal Basin to Randall Street area in Providence comprises two sections of watered trench, of which the northern section is the Blackstone Canal and its stone walls, while the south section opposite the Roger Williams National Memorial next to Canal Street contains a watered trench with walls that post-date the Canal’s construction. The south section, however, is within the original Canal Basin that served as the termination point for the Blackstone Canal in Providence. The north section is surrounded by a number of offices and residences. The south end of this key venture area is close to Water Place Park and the hotels, restaurants, shops, offices and convention center facilities of downtown Providence.

The Canal Basin to Randall Street Area presents a prime opportunity to remove the concrete cap that covers a portion of the watered trench just north of Park Row and restore and stabilize collapsed sections of canal trench wall in the north section. In addition, this project presents an outstanding opportunity for enhanced interpretive signage to promote public awareness and encourage public visitation of all key areas of the Blackstone Canal in Rhode Island.

Lorraine Mill Area, Pawtucket

The Lorraine Mill Area in Pawtucket, which extends to the north and south of the Lorraine Mill complex on Mineral Spring Avenue, comprises both watered and visible canal and sections that are no longer visible. The northern end of this area includes Lockbridge Street on the north, near the Pawtucket-Lincoln municipal line, which contains mill worker housing opposite an extant segment of watered canal. The central section contains wetlands of the Moshassuck River, which the City of Pawtucket is interested in preserving and opening to limited use through the implementation of a conservation easement and potential to connect this segment

with planned linkages to City-owned future trail segments. The south end of the area includes remnants of the Mineral Springs Lock #4, a rare survivor, which are located in the parking lot of a former industrial complex.

The Lorraine Mill Area offers significant opportunities to restore deteriorated trench walls; protect a section of the Moshassuck River wetlands which historically were part of the setting of the Canal in Pawtucket; and develop a recreational walkway that links the wetlands to extant portions of the Canal. This key segment also provides an important opportunity to interpret the locally-relevant story of the Canal in relation to the post-Canal era development of mill buildings, worker housing and railroads over portions of the Blackstone Canal bed after the Canal's closure in 1848.

Ashton Dam Area, Lincoln

The Ashton Dam Area in Lincoln comprises a 1.8-mile length of watered canal, beginning in the south at a point approximately 0.8 miles south of Martin Street and across the Canal from the northern leg of Maria Street, and extending north to Ashton Dam.

The Ashton Dam Area provides a highly important opportunity to rebuild the Ashton Gates, which would protect the Canal and towpath from chronic danger of being washed out by the Blackstone River. There is also an opportunity to monitor and protect historically significant archaeological resources that are associated with the Canal, including a mile-marker, a ford, cart and towpath bridge abutments, and cart ramps.

Mammoth Mill Area, North Smithfield

The Mammoth Mill Area in North Smithfield includes a 0.4-mile length of watered canal beginning in the south at the Singleton Street bridge and extending north to the town line; running between the railroad on the west and the Blackstone River on the east. The area encompasses the canal on the west and the Blackstone River on the east. Between the canal and the river are the extant ruins of the former Mammoth Mill, which features distinctive stone raceway arches and stone and brick walls. This key venture area is the northern gateway to the Blackstone Canal in Rhode Island, where it serves as an important link to and from the Massachusetts section of the Canal.

The Mammoth Mill Area presents an opportunity to repair and maintain a watered section of canal trench whose location makes it a valuable historic resource for the residents of both Rhode Island and Massachusetts. This project provides an opportunity to interpret the Canal and Mammoth Mill, an industrial development that was directly stimulated by the Canal. The Mammoth Mill Area also provides a significant opportunity to promote links to Canal features and facilities in

Massachusetts, which could strengthen public awareness and appreciation of the Blackstone Canal as an interstate resource that has regional importance.

Interpretive Signage/Activities for Canal, Various Locations

Interpretive signage and activities for the Blackstone Canal, to be located at various locations along the Canal in Rhode Island, can play an important role in promoting public awareness of the Canal as a state-wide resource. The disjointed nature of the Canal in Rhode Island, where visible and watered segments of identifiable Canal trench are by original design interspersed with long stretches of slackwater passages in natural bodies of water such as the Blackstone and Moshassuck Rivers, makes it difficult for the public to recognize that the Canal historically was a contiguous feature in the landscape.

This interpretive signage and activities initiative is proposed in order to help the public understand the Canal as a single entity that traverses 17 miles of the state. A highly consistent look and style for the signage will help reinforce public perception that the separated extant sections of the Canal are part of a larger whole. This interpretive approach would link sections of the canal in a more interactive way and moves beyond a series of static discussions about individual locations in isolation of the larger phenomenon of the canal, the valley and the visitor's experience. Suggested interpretive themes include the economic and demographic impacts of the Canal on Rhode Island communities, the construction techniques used to build the canal, the trajectory of the rise and fall of the Canal as a transportation facility, and what changes occurred after the closure of the Canal.

Interpretive efforts can also include activities at various locations along the Canal. These activities can take such forms as organized hikes, dramatizations, scavenger hunts, or demonstrations of how equipment used in the canal operation or how lock structures worked.

Projects for Future Action

In addition to the five key ventures recommended for consideration, the following four canal projects areas were identified for consideration in a second phase of planning and study to be conducted in the future:

- North Burial Ground, Providence,
- Lonsdale Bleachery Area, Lincoln,
- Market Square and Vicinity, Woonsocket, and
- Mott Dam Area, Woonsocket

These areas meet many of the criteria used to select the key ventures and should be priority areas for preservation, public access, and interpretation in the future. Several of these sites pose preservation, access, or restoration challenges that make them less

feasible for more immediate action, while others do not require substantive restoration efforts.

General Recommendations

While each of the key ventures for the Blackstone Canal in Rhode Island proposed for future work is unique, a set of general recommendations has been developed to be applied to each project or segment. The general recommendations include a phased program of short-term preservation and protection; mid-term stabilization, maintenance, and management; and long-term rehabilitation and interpretation. The general recommendations address issues such as land or easement acquisition, facilitation of public access to canal segments, and further study regarding historic restoration and interpretation opportunities.

The recommendations in this Study are necessarily preliminary and conceptual, which is appropriate for this phase of the study. The next steps would involve site specific feasibility analysis, preliminary design and environmental assessment, followed by final design and actual construction. These activities will take into consideration impacts to natural and historic resources, including known and potential archaeological sites, through research and/or survey. Further environmental study will ensure that important resources are not harmed and that all rehabilitation or restoration activities comply with applicable state and federal laws. In addition, information gained from a deeper understanding of each site's natural, historic, and archaeological resources will inform the treatment plan and enhance interpretive opportunities.

Protection and Preservation

The documentation of the Blackstone Canal for the National Register of Historic Places, beginning in 1971 and expanded in 1991, was a significant recognition of the importance of the Canal as an historic resource. Although there have been many successes in the past 39 years to preserve and protect the Blackstone Canal from adverse impacts, at present, there is no comprehensive protection for the Canal. Major portions of the Canal in Rhode Island remain in private ownership with limited protection from demolition, natural deterioration, or inappropriate abutting development. Many portions of the canal are not available for public access.

Providing protection of the most intact, well-preserved segments is the first step in facilitating future restoration and interpretation efforts. A concerted and cooperative effort between the BRVNHCC, state entities, municipalities in which the Canal is located, private organizations with preservation or conservation missions, and property owners should be undertaken to ensure sensitive treatment and long-term management of, and public access to, the Canal's most intact and well-preserved segments.

The strongest measure to ensure public access and appropriate treatment and management of extant segments of the Blackstone Canal is acquisition in fee simple, or acquisition of an interest in the property through an easement by donation or with federal, state, or local funds. In circumstances where acquisition is not feasible or appropriate, alternatives such as preservation or conservation restrictions, establishment of a local historic district or conservation district, zoning overlays, corridor protection bylaws or ordinances, or transfer of development rights provisions can be pursued. A preservation strategy – either calling for fee acquisition or alternative protection – is recommended for all well-preserved, extant sections of the Canal as identified in the Resource Inventory and Existing Conditions section of the Study, regardless of interpretive opportunity or public access.

Stabilization and Management

Though the key segments of the Canal recommended for restoration as part of the Study remain in a recognizable state, most are in need of stabilization and planning for ongoing management and maintenance. As segments of the Canal are planned for protection and future actions, resource management plans should be implemented at the corridor and local levels to assist stewards of the Canal in this work. The resource management plans should guide both routine operation and long-term decisions and planning concerning the use, interpretation, study, and preservation of the Canal, and provide the means to make informed decisions concerning future stewardship of key canal segments, with identified strategic objectives, achievable goals, and concrete action items. Means should also be secured to ensure long-term preservation of privately owned resources and to provide public access where appropriate and feasible. The plans should be completed prior to the commencement of rehabilitation or restoration activities and should take into consideration potential impacts to natural, historic, and archaeological resources.

Rehabilitation, Restoration, and Interpretation

The long-term goal for the five key ventures is to rehabilitate, restore or interpret the Blackstone Canal's structure and associated features in these locations in support of the preservation and interpretive goals of the BRVNHCC. This Study makes preliminary recommendations for potential restoration and rehabilitation of key canal segments and features as well as preliminary recommendations for interpretive opportunities. Rehabilitation or restoration tasks could include restoration of key features such as lock structures and water control gates, opening covered or hidden sections of the Canal, rebuilding damaged or destroyed towpath sections, and re-watering dry sections of extant Canal. The next phase of work should include site-specific research and planning activities resulting in consensus regarding plans and specifications to focus on the five key areas. Such research and planning should take into consideration potential impacts to natural, historic, and archaeological resources to ensure that these resources are not harmed and that all rehabilitation or restoration activities comply with applicable state and federal laws. Upon the completion of

these additional planning studies, the rehabilitation, restoration, or interpretive activities can be implemented.