

Society for Industrial Archeology · New England Chapters

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David Starbuck PO Box 492 Chestertown, NY 12817-0492 dstarbuck@frontiernet.net Call for Papers The Twentieth Annual Conference on New England Industrial Archeology to be held on Saturday, February 23, 2008 at Plymouth State University, Plymouth, New Hampshire

Papers are invited for presentation to the 20th Annual Conference on New England Industrial Archeology to be held on February 23, 2008 at Plymouth (NH) State University.

The conference is an annual project of the Southern and Northern New England Chapters of the Society for Industrial Archeology, which alternately sponsor the meeting with the host institution. The purpose of the conference is to encourage the study of the material culture of our industrial past, and exchange information on all aspects of our industrial heritage.

Papers with a strict thirty-minute time limit may describe field investigations and other research and findings concerning such topics as structures, machinery, industrial sites, manufacturing processes, technology, labor, etc. Also, reports on efforts at conservation, restoration, rehabilitation, public education or advocacy programs are welcome. Topics relating to industries throughout the Northeast, especially New England, and Eastern Canada are encouraged but not absolutely necessary to be included in the program.

Persons who wish to present a paper are asked to send by either USPS or E-mail an abstract and title, along with a s h o rt biographical note about the author by January 15, 2008 to:

> Dennis Howe, Paper Chair 22 Union Street Concord, New Hampshire 03301-4250 (603) 224-7563 E-mail: earlyhow@verizon.net

President's Letter to the Board of Directors and Membership of the Society for Industrial Archeology

The year 2007 was characterized by some outstanding contributions from individuals that enabled the Society to have a successful Annual Meeting and Fall Tour. The Oliver Evans Chapter, and in particular, Reese Davis and Ed Grusheski, produced an exceptional annual meeting within a very short time frame of nine months. The fall tour in back of the toole bushes in Ely, Nevada gave 105 SIA members the opportunity to see a part of the country about 230 miles from the nearest Wal-Mart. Ely has an exceptional railway museum featuring real steam, diesel fumes, grease, oil, coal and the sweat of a score of volunteers. Tours of back country ghost towns and an open pit copper mine and mill tour were also featured. Mark Basset and Andrea Westland organized the event and have the Society's gratitude for their hard work. The USDA Forest Service also contributed expertise on the history of the ghost towns and mining in the area.

The SIA Board adopted a Historic Preservation Advocacy policy which should create an effective and respected voice for the Society in helping to preserve historic industrial sites. The policy was developed by former board member Rick Greenwood and past president Chris Andrade. It may be viewed on the SIA website.

Our next annual meeting will be held in San Jose, California. The SIA Board also appointed Bode Morin as our events coordinator. While future events are in very early planning stages, the Society is looking at sites in Tennessee, Vermont and England for Fall Tours and Foreign Study Tours. A tour of Southern Arizona featuring sites in Bisbee and the Tucson area is also in the works.

The recent dues increase, while unpleasant, has put the Society on a sound financial basis. We will be reviewing the dues structure to insure that it is as low as possible consistent with carrying out the goals of the Society.

The Board also thanks the many members who have contributed their expertise and volunteered

their time to answer technical questions on the numerous questions that historians, cultural resource consultants and museum professionals have referred to the organization. SIA has a unique membership of academics, archeologists, chemists, historians, government agents, historic preservation officers, museum professionals, factory workers, communications experts and retired, active and vernacular engineers. They have produced an organization that is positioned to make significant contributions to the history of the industrial revolution and preservation of its artifacts.

> Bob Stewart, President Society for Industrial Archeology

NNEC President's Note

This spring we had an interesting and varied tour that is described in the newsletter. We cooperated with the Upper Pemigewasset Historical Society and local expert Rick Russack who led and assisted on tours that day.

This brings up the suggestion that members may organize, arrange, and assist with industrial archeology tours in their towns or any areas of special interest that would be suitable for our chapter. There are many old industries past and present in Maine, Vermont, and New Hampshire that are known only to those in the vicinity, and may be ideal locations for us to visit.

Local historical societies can be places to meet at the start of tours, and a source for expertise on the history of towns, their industries, and past site. If a member feels there is enough sites in their town and surrounding areas for a days tour, let me or any chapter officer know. We can work together and make arrangements. Maine has numerous industries we've never seen. My phone number is 603-714-4052 and e-mail is ykforestry@ yahoo.com.

The Northern New England Chapter held its annual meeting and tour on October 15, 2007 in Greenville and Wilton, N.H.. Rick Russack was nominated and voted in as our new vice-president. There is a vacancy for second vice-president that any interested member may volunteer to be nominated for. Filling this position would give us a complete staff of chapter officers. The main topic of consideration was to increase the yearly dues from \$10 to \$15. After discussion, a motion was made and passed to have a treasurers report on the costs of printing and mailing our fliers and newsletters and why the increase is necessary.

A comprehensive description of the fall tour sites will appear in the spring newsletter.

A reminder that the 20th Annual Conference on New England Industrial Archeology will take place in February 2008 at Plymouth State College. I have always found the presentations to be very interesting and frequently on industries we never see in this area.

> Dave Coughlin President, Northern NE Chapter, SIA

NNEC 2007 Spring Tour

The Northern New England Chapter held its spring tour in Lincoln and North Woodstock, N.H.. This location contains four different railroad entities, making it a good stop for rail fans.

Our first site was the former Parker-Young pulp and paper mill which operated from the 1890's until 1980. Demolition of teh mill began this year and a hotel will be built on the site, reflecting the change in Lincoln from a mill town to a tourist destination. A high grade bond paper was made here. Most of the mill is empty now, although large block tanks which held dye and chemicals still remain. A unique feature of this mill was a basement under the papermaking machinery, the only one in New England. The walls were reinforced with iron to withstand the weight and vibrations of the heavy equipment. There remains a large multistoried 1950's mill addition that will be demolished next year. This was once the site of a waterpowered sawmill and we had a glimpse of the penstock and turbines at this location.

Next on the agenda was a tour of the "Flying Yankee" at the Hobo railroad. Work continues on

the restoration of the oldest deisel-electric streamliner in the U.S., with the middle passenger cal almost completely finished. The NNEC donated one-half of the money raised from the spring tour to help continue the restoration work. Many other railroad cars and engines can be seen, with repair and restoration work currently taking place.

A look at Clark's Trading Post's collection of railroad engines and equipment followed the "Flying Yankee" tour. They have several steam locomotives, including a 1915 Lombard log hauler that ran on its own tracks off the railroad lines. A stop at the small brick railroad shop was included. There is a 1904 Howe truss covered bridge over the Pemigewasset River, the only one still in use, which is crossed by the White Mountain Central Railroad tourist ride.

The afternoon had two options. A small group had lunch aboard the Hobo railroad on a 80 minute ride along the Pemigewasset River. Next they viewed an excellent display on local history and sites put together by Rick Russack. This was at the Lincoln Mall which once was a brick pulp mill plant built in 1902. Back at the Forest Service visitor center a parade of 30-40 railroad inspection cars went by as the group prepared to depart.

The majority of the afternon participants toured the ruins of teh Matson Manufacturing Company's hardwood kiln. The still standing concrete abutments look out of place pointing skyward in the forest. The last stop was the site of Woodstock Lumber Company, manufacturer of hardwood flooring. A century ago this was reputed to be the largest lumber mill in the country. Located alongside the Pemigewasset River, the mill pond location and other features can still be seen on the landscape. This day gave us a sense of what life was once like in northern New Hampshire a century or more ago.

Dave Coughlin

NNEC 2008 Spring Meeting and Tour will be held in the Portland, Maine, area on Saturday, May 17. The tour will focus on the Cumberland & Oxford Canal.

New Exhibit December 17 through March 16

Looking for Work: The Industrial Architecture of Columbia County. Photographs by Anita Giraldo features twenty large-scale color photographs of mills, factories, bridges, and other architectural buildings tells the story of Columbia County's economic development from the late 18th century to the mid 20th century. The exhibition also includes historical objects and a catalogue with a map, and is based on industrial historian Peter H. Stott's soon to be published manuscript, Looking for Work, The Industrial Archeology of Columbia County, New York (Syracuse University Press, 376 pp. 163 illus., \$49.95). Columbia County Museum, 5 Albany Avenue, Kinderhook, NY.

Open Monday, Thursday, Friday, and Saturday, 10 AM to 4 PM, Sunday, Noon to 4 PM. 518-758-9265

Over 12,000 objects from the American Textile History Museum's collections of textiles, decorative arts, costumes and accessories, tools, machinery and workplace artifacts, and library collection are now available for viewing online through the Museum's Chace Catalogue.

"On June 14th, 2006 we officially launched the Chace Catalogue with 600 objects," said ATHM's President & CEO James S. Coleman. "Now scholars and interested individuals will have access to 20 times more objects from the eighteenth century to the present. Our gratitude goes to the Chace Foundation of Providence, R.I. for enabling the Museum to share our unparalleled collections on a national stage through the technology of a virtual museum. "

According to Deborah-Ann Giusti, coordinator & cataloguer of the Chace Project, the most significant addition to the online database is the first phase of posting records from the Osborne Library collection. "This collection now consists of over 10,000 records accessible by author and title search. Other additions have increased the totals for public viewing to include information and photographs for 593 hats, 166 shoes, 154 purses, and 21 dresses in the online costume collection; 60 artist-designed printed textiles from the Associated American Artist series of 1950s fabrics, 292 coverlets; and 447 textile tools and machinery including 247 spinning wheels, 65 swifts, 65 reels, 37 niddynoddies, and 25 winders," she said.

The American Textile History Museum tells America's story through the art, history and science of textiles. It is home to the most significant textile history collection in North America, with an extraordinary library and one of the world's largest and most important publicly held collections of tools, spinning wheels, hand looms and early production machines. The Museum's textile collections include more than 5 million pieces of textile prints, fabric samples, rolled textiles coverlets and costumes.

ATHM is currently undergoing renovations to provide new and exciting experiences for visitors. During renovations its exhibitions galleries are closed to the public, starting July 2, 2007. The Administrative offices, Collections department and the Osborne Library remain open by appointment only, and selected school and scout programs are available. Visit the website www.athm.org for upto-date information, including school and scout offerings and fees.

A \$3.9 million Campaign for the American Textile History Museum is now in progress, with donations for the \$1.5 million renovation to the Textiles in America core exhibition, and the \$1.4 million general operating fund still needed to complete the Campaign. For information on how to donate or pledge, please contact Marisa Tescione in the development office at 978-441-0400, ext. 246, or visit www.athm.org.

> Lois Frankenberger 978.470.0040

FEMA Restoration of Silvermine Avenue Retaining Wall and Culvert, Norwalk, Connecticut

Statement of Purpose

The Federal Emergency Management Agency's (FEMA) Public Assistance Program (PA) provided funding to restore damaged Silvermine Avenue Retaining Wall and Culvert between Comstock Hill Avenue and Belair Road, Norwalk, Connecticut, to their pre-disaster condition or to a condition sufficient to perform their pre-disaster functions. As a result of heavy rains and wide-spread flooding during the incident period between April 15 and April 27, 2007, a Presidential Disaster, referenced as DR-1700-CT, was declared which made PA funding available to Fairfield County.

During the incident period, heavy rain scoured a section of the Silvermine Avenue Retaining Wall and Culvert in Norwalk, Connecticut. The scour resulted in bulging on the northern section of the downstream side of the retaining wall as well as damage to the road surface, in an area estimated to be 60 feet (ft) long x 4 ft wide x 10 ft deep. The proposed scope of work for this project is to dismantle the affected portion of the stone wall and rebuild the damaged portion with the same stone to the same dimensions. The affected portion of the road will also be repaired.

Per Section 106 of the National Historic Preservation Act, FEMA consulted with the Connecticut State Historic Preservation Office (SHPO) about this project. The Silvermine Avenue Retaining Wall and Culvert has been determined to be eligible for the National Register of Historic Places. It has been determined to have significance under Criteria A, as it is related to the history of the transportation network of the community of Silvermine. Silvermine Avenue was a key road to the development of this area, and this structure, which encompasses the raised roadbed, the culvert, and the retaining wall, was an integral part of that road. This structure also has significance under Criteria C. Many early roads have been heavily modified and no longer retain their original methods of construction. This structure



1.1: View from the top of the Silvermine Avenue Retaining Wall and Culvert looking north up Silvermine Avenue. Silvermine Brook flows left to right in this photograph. Motorists crossing the brook are unaware of the structure lying beneath the roadway.



1.2: View of Silvermine Brook looking upstream (west) from the Silvermine Avenue Retaining Wall and Culvert. The stone dam is under the wooden bridge in the background.

exemplifies an early example of road engineering.

This documentation study is being undertaken by FEMA as part of a consensus determination with the SHPO of No Adverse Effects to the Silvermine Avenue Retaining Wall and Culvert.

At present, the Silvermine Avenue Retaining Wall and Culvert serves to carry traffic on Silvermine Avenue over Silvermine Brook. The proposed actions will not change this function.

History of the Silvermine Area

The Silvermine Community Association defines Silvermine as an area (not a town), which is actually part of three towns – Norwalk, New Canaan, and Wilton. The Silvermine River runs through the center of Silvermine, which is approximately three miles long and one mile wide. Map 2.2 shows the area of Silvermine. Although used to describe the area since at least the early part of the eighteenth century, no convincing evidence of a "Silvermine" has yet been found.

Early settlement in the area is attributed to water-powered mills, with agriculture also contributing to the growth of the area. Industrial development in the area along the river dates to the seventeenth century. As the Industrial Revolution gripped New England, steam power replaced the water wheel and early turbines, ushering in the era of large-scale manufacturing. The smaller mills located along the Silvermine River, functionally dependent on their location, could not expand to compete with these works and soon began to suffer.

The American Renaissance, an arts movement b eginning in the late nineteenth century with America's centennial celebration, helped transform the declining mill village of Silvermine into a thriving arts center. Beginning with a single artist's relocation to the area in 1906, Silvermine blossomed with the arrival of sculptors, painters, writers, actors, and musicians. Interestingly, it can be stated that the decline of the industrial endeavors produced cheap building stock which was an essential ingredient to the development of the arts colony. The art community in Silvermine continues to flourish, thanks in no small part to the Silvermine Arts Guild, a group active since the 1920s.

Silvermine today exhibits a range of influences: the rural New England mill village; the secluded artist colony; post-World War II development; and regional tourism. There are active community groups concerned with the preservation of this unique area. The core of the Silvermine area has been deemed eligible for the National Register of Historic Places, and a Historic District nomination is in process.

Site Description

The location of the Silvermine Avenue Retaining Wall and Culvert lies in the southern fifth of Silvermine (N 41.13665, W -73.4398; UTM 18 630946E, 4555100N). The structure consists of a raised roadbed that carries Silvermine Avenue over Silvermine Brook which drains into the Silvermine River, located approximately 350 ft to the east. Dry-laid, hand-stacked, stone retaining walls, with a maximum height of 10.5 ft, line both sides of the earthen road fill; a small culvert allows Silvermine Brook to pass beneath the 26 ft-wide roadway. Photograph 1.1 shows that the Silvermine Avenue Retaining Wall and Culvert is invisible from the road; most of the traveling public has no concept of the intricate structure upon which they are driving.

Silvermine Brook runs very slowly here as it falls over a small rock dam and around piles of rocks before it enters the stone culvert (Photograph 1.2). Angled rock walls direct the flow into the culvert, which is approximately 3.5 ft wide and 4 ft from water surface to the top of the culvert opening. Photograph 1.3 details that the Silvermine Avenue Retaining Wall and Culvert is constructed with a variety of stones. The square-box stone culvert has a single lintel cap on each side. Shown in Photograph 1.4, these lintels are the only stones which have visible quarry marks. The other stones



1.3: View looking east at the upstream side of the Silvermine Avenue Retaining Wall and Culvert. Note the different types of stone present in the construction.



1.4: View looking west to the detail of the upstream end of the square-box, single-lintel culvert. Quarry marks are visi - ble only on these lintel caps.



1.5: Previous repairs included added mortar to the upstream side which has since spalled and is now offering no support. View looking west at the structure, just below the roadbed.

used in the structure are a vast array of sizes and shapes, including glacially-deposited field stone; there is no observed pattern to the construction. The total length of the structure on the upstream side is approximately 50 ft. Photograph 1.5 shows the upstream side of the Silvermine Avenue Retaining Wall and Culvert, where there is evidence of mortar added as a previous repair measure. Much of this mortar has separated and spalled from the wall itself and is no longer offering any support.

On the downstream side, the Silvemine



1.6: A view looking west towards the downstream side of the Silvermine Avenue Retaining Wall and Culvert. The depth of the brook bed increases inside the culvert creating the still pool on this end. This image is taken from the northern bank.

Avenue Retaining Wall and Culvert does not have any evidence of mortar repair. It appears that the depth of the brook bed increases as Silvermine Brook enters the culvert; there is a deep, almost still pool on the downstream side of the structure which is shown in Photograph 1.6. An adjacent homeowner states that a large pipe visible in this pool carries a waterline across the brook. The structure is noticeably longer here (roughly 130 ft). Silvermine Avenue makes a bend at the point where it crosses Silvermine Brook; the downstream side is the outer part of the curve. Photograph 1.7 shows the southern section of the structure, which is approximately 65 ft long, tapering from the culvert opening. The northern section detailed in Photograph 1.8 is approximately 60 ft long; this is the area where the bulging is observed. There is a pipe protruding from the retaining wall on this section. The homeowner referenced above states that when the City flushes out the fire hydrants, water shoots out of the pipe into Silvermine Brook.

Detailed in Photograph 1.9, the northern section of the downstream side also exhibits an interesting feature. Protruding stones with metal tie rod imbedded in them are evenly spaced along the wall. The ties angle up towards the road. As they are integrated into the wall, it can be reasonably



1.7: Tapering from a height of 9.5 ft at the culvert opening shown at right, the southern sec tion of the downstream side has been overgrown by vegetation. View looking west.

1.8: This northern section of the downstream side of the structure was damaged during the incident period. The area above and to the right of the blue tarp exhibits bulging, and the pavement above has been scoured. The culvert is at the far left of this photo graph. View looking west.

assumed that they were a characteristic of the original construction. Inspection of these did not immediately present a clear function. One possible explanation is that they were part of an early guardrail system. There is evidence of cut-off wooden posts at the edge of the road. Modern metal guardrails now exist farther back from the edge of the road. These metal tie rods do not exist on the upstream side of the Silvermine Avenue Retaining Wall and Culvert.

Site History

Silvermine Avenue continues to be a major northsouth route connecting the historic Silvermine area with the City of Norwalk. Map 2.3 shows Silvermine Avenue crossing the Silvermine Brook in 1851. It logically follows that the Silvermine Avenue Retaining Wall and Culvert is carrying Silvermine Avenue over Silvermine Brook on this map, and therefore has existed at least since 1851. Map 2.4 shows the same area of Norwalk in 1874.

Both maps detail the vicinity around the Silvermine Avenue Retaining Wall and Culvert. It

should be noted that, although early industrial development occurred in this general area during the early to mid-nineteenth century, these maps show the area immediately surrounding the structure to be primarily rural with few homes and no



1.9: Flat stones jut out of the northern section of the down stream side of the Silvermine Avenue Retaining Wall and Culvert. Ties present in these stones angle back up towards the road. Obviously incorporated into original construction, these may have been a part of an early guardrail system. These ties do not occur on the upstream side. View looking south.

noted mill buildings in both 1851 and 1874.

Agriculture and water-powered mills fostered the initial wave of settlement in Silvermine. These industries needed a road system which would function year-round in order for their goods to be transported to markets. As early as 1819, materials were routinely ferried between Norwalk and New York City. Silvermine Avenue aided the entrepreneurs of Silvermine by providing a key link to these cities. The Silvermine Avenue Retaining Wall and Culvert would have been essential for the construction of this important road, as it elevated the roadbed over the Silvermine Brook, thus making the road passable even during periods of high water.

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Individuals

Esser, Phillip. Associated Cultural Resource Consultants.

Grant, Leigh. President, Norwalk Association of Silvermine Homeowners.

Maps

Clark, Richard

"Map of the town of Norwalk 1851," courtesy of Leigh Grant, Norwalk Association of Silvermine Homeowners.

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> Amanda E. Ciampolillo FEMA Historic Preservation Specialist

Perry Avenue Bridge Improvements

The Perry Avenue Bridge, located in Norwalk, CT is a 40-foot span stone masonry arch bridge carrying vehicular traffic over the Silvermine River. The bridge was constructed in 1899, replacing a wooden structure that dated to 1814. With a roadway width of 16 feet, the bridge was originally designed for non-motorized vehicles and, as such, does not meet the needs of current use.

The bridge provides a very graceful, sparing appearance due to the minimal structure over the 22 inch deep cut granite ring stones. From the ring stones to the top of present day roadway is approximately 6 inches. When viewing an elevation of the bridge, this graceful, streamlined appearance is reinforced by a bordering curb composed of "Portland Brownstones" approximately nine inch-



es in height. Overall the depth of the stonework and ringstone arch at the center of the bridge is less than 3 feet.

The picturesque rural setting of the bridge remains today and leaves one envisioning the former mills that were situated along the river at dams located just upstream (Guthrie Pond Dam) and downstream (Timber Pond Darn). During the early 19th century, with the demise of the mill industry,



the community around the immediate area became settled by an artist's community that survives today as the Silvermine Guild. Other historic structures from the turn of the century, including the Red Mill and Silvermine Tavern, still exist today.

Spandrel walls composed of miscellaneous random cement rubble masonry help to accentuate the organized structural elements of the arch.

In plan view, the structure and roadway width decrease as one approaches the center of the bridge, promoting a sense of greater strength to the overall structure.

Curbstones at both sides of the bridge anchor a railing system comprised of two and a half inch diameter pipes.

Due to the width of the roadway over the bridge and the fact that the bridge until recently was carrying two way traffic, the curbstones and railing system have been continually damaged by vehicular impacts. During the winter of 2005, vehicular impact caused a curbstone to be pushed into the Silvermine River. Department of Public Works officials at that time restricted traffic on the bridge to one lane at a time.

Subsequent investigations revealed that, beyond the damage to the railing systems and curbstones, the underlying mortar at the top of the spandrel cheekwalls was disintegrated due to water



intrusion and freeze thaw cycles. This condition exists for approximately the top 18 inches of the cheekwalls. The state of disrepair of these elements prompted the City to undertake design of repairs to correct deficiencies.

In designing the repairs to the bridge, City officials were obligated to improve the functionality of the structure and make necessary safety improvements including the installation of an appropriate railing system that meets AASHTO standards. City officials worked closely with the State Historic Preservation Office (SHPO) and the neighborhood association who was in the process of submitting the necessary documentation to have the bridge recognized on the State Register of I Historic Places. In October of 2006, the bridge was installed into the State Register of Historic Places.

Designs for the bridge include the installation of a new reinforced concrete slab installed just above the stone arch, along with the rebuilding of deteriorated stone masonry spandrel cheekwalls. The reinforced concrete slab will help to control water intrusion to the arch and provide wheel load distribution, improving the current load rating and longevity of the structure. All stone work will incorporate the use of existing random masonry.

City officials designed a railing system of two horizontal pipe traffic rails and pipe posts in an effort to lessen the visual impact of the railing on the overall appearance of the bridge.

Brian R. Sweeney, PE Francis Wilk City of Norwalk Department of Public Works

Devon Rail Bridge Gets a Lift

The Devon Rail Bridge (No. 08080R) carries Metro-North and Amtrak train service over the Housatonic River in Milford and Stratford, Connecticut.

This through truss Scherzer rolling lift bascule bridge was constructed in 1905 by the American Bridge Company to replace an existing two-track swing bridge in the same location. The bridge, which is oriented in an east-west direction, is a total of 1069 feet in length and consists of two parallel eaves; each carrying two tracks. The cultural resources team from Fitzgerald & Halliday, Inc. recorded the structure in March of 2007. The goal of the recordation was to mitigate the effects of the installation of electrical conduit along the bridge's truss system.

From east to west, the bridge consists of three 218 foot long, Baltimore through trusses, the 110'ft long Scherzer Rolling Lift Span, a 36'8" channel span, an 109'-long deck girder span, and a 145'long Baltimore through truss. All trusses are riveted steel; piers and abutments are brownstone



Figure 1: USGS Map of Site (Milford Quadrant)



Figure 2 (Left): Aerial view of the Devon Bridge and the adjacent Moses Wheeler Bridge. View Southwest.

Figure 3 (Below): Detail of Pier 4 (note base of cate nary tower). View north west.

masonry. Drive machinery sits on platforms between the top chords of the trusses over the rear floor break of the bascule span. The existing masonry structures consist of six stone masonry piers and two stone masonry abutments on stone footings. The footings for each of the six piers are set on seat stones laid directly into the bedrock. The western abutment face measures 80' across and each angled side wall measures 48'. Pier 1 is 10'7" wide and 104' long; Piers 2 and 3 are each 126' long; Pier 4 is 98 feet long and Piers 5 and 6 are 93'6". The height of the piers from the mean high water mark to the base rail is approximately 25 feet at each pier. Piers 2 and 3 are protected by a timber fender system that lines the navigation channel.

The movable span consists of two independent leaves with each side made up of a pair of girders. Each leaf can open irrespectively of the other leaf allowing train movements through this location in the event that maintenance or malfunction requires one leaf to remain open. By 1905, more than forty Scherzer Rolling Lift bridges were in use throughout the country.

Since 1849, when the railroad was completed between New York and New Haven, there has been some form of railroad-bridge over the Housatonic



River at this former ferry crossing connecting Milford and Stratford. Increased weight and trackage demands necessitated a new bridge at the site shortly after the turn of the century. By the time the Devon Bridge was in the planning stage, the Scherzer rolling lift bridge type was the primary type of moveable bridge used by the NYNH&H RR.

Invented and patented in 1883 by William Scherzer (1858-1893) of Chicago, the relative simplicity of the lift mechanism, and the minimal power required to lift the bridge, were two features that appealed to the railroads. Since the lift span



Figure 4: Movable Span Four. View southwest.

rolled away from the navigation channel as it was raised, it did not have rise as far as other types of lift bridges. This reduced the arc of swing and the amount of time the bridge had to remain open. The bridge could also be expanded by adding additional leaves, permitting continued operation during expansion, where swing bridge enlargement would require the construction of a temporary bypass and the complete scrapping of the existing span and its mechanical system.¹

The Scherzer Rolling Lift Bridge Company signed a contract in 1904 and completed the design of the lift span and its mechanisms by late summer of that year. The bridge was constructed by the American Bridge Company, which was founded in April 1900 as part of a J. P. Morgan-led consolidation of some of the country's largest steel manufacturers and builders. Based near Pittsburgh, Pennsylvania, American Bridge was responsible for some of the country's most notable spans including the San Francisco Bay Bridge. They pioneered steel as a construction material which led to its use in a variety of applications including buildings, bridges and vessels.

The bridge has undergone numerous repairs

and rehabilitations over the past century. It was significantly rehabilitated in 1990. Steel repairs were mostly performed on the moveable span and support steel. The rocker bearings were replaced with sliding plate bearings, deteniorated rivets were replaced with high strength bolts, and miscellaneous repairs to the segmental girders, rack girders and a rack adjustment were performed. Existing stone masonry piers and abutments were re-pointed and strengthened with steelbars. During an inspection undertaken by Garg Engineering in 2003, the structure was rated as being in "poor" condition.²

The Devon Railroad Bridge was placed on the National Register of Historic Places in 1987. This bridge is one of eight original movable railroad bridges constructed on the railroad's main line in Connecticut. It illustrates the historical develop-

¹ *Hovey, Movable Bridges,* (New York: John Wiley, 1926): pp 101-105. "Rolling Lift Bridge," *Railroad Gazette* 39, No. 13: p. 307 (September 29, 1905).

² Garg Consulting Services, Inc. "Bridge Safety Inspection State Project No. 300-097 for CONNDOT Bridge No. 08080R, Metro-North Railroad (Mainline) over Housatonic River Stratford, Connecticut" September 22, 2003., p. 2.

ment of Connecticut's railroad empire during the early 20th century. These movable bridges also symbolize the distinctive characteristics of turn of the century engineering and wisdom. This structure, along with seven other bridges located on the Northeast Corridor in Connecticut, was identified in an aerial reconnaissance survey of historic and archeological resources undertaken in 1987 as part of the Northeast Corridor Improvement Project. In 1990, it was rehabilitated as part of the same project. The seven other railroad bridges that were listed were the Mianus River (Cos Cob), Norwalk River (South Norwalk), Pequonnock River (Bridgeport), Saga Bridge (Westport), Connecticut River (Old Saybrook), Niantic River (East Lyme), and the Thames River (Groton).

> Ms. Stacey Vairo Architectural Historians

> > Figure 5: Advertisement for Scherzer Rolling Lift Bridge in The American City



American Textile History Museum Previews Plans for Exhibition Renovation

LOWELL (October 10, 2007)– More than 40 area people related to the U.S. textile industry attended a reception for the American Textile History Museum (ATHM) on Friday evening, September 28th at the Hope Club in Providence to acquaint them with plans for renovating the Museum's Textiles in America core exhibition.

The evening, hosted by Cranston Print Works Chairman and CEO George W. Shuster, National Textile Association President Karl H. Spilhaus, and Hayes Pump, Inc. Chairman Emeritus J. Craig Huff, Jr., featured a presentation by ATHM President and CEO James (Jim) S. Coleman on the Museum's collections and programs, and the exciting changes planned for its core exhibition, Textiles in America.

"Our vision for the future of the Museum is to make it interactive, up to date, and just plain fun," said Mr.Coleman. "We would like to see this museum be the kind of place where a family can come, enjoy themselves, interact with a variety of textiles, and hopefully learn a few things."

According to Mr. Coleman, displays of cutting edge textiles will include a glove designed for use by astronauts that won a contest held by NASA, 21st century biomedical textiles, nano textiles as well as conductive items, sports based products and textiles used by the military for shelter, protection of our soldiers and armor for Humvees. Visitors will have the opportunity to walk through a heard of faux sheep, a field of cotton and take a simulated parachute jump.

During the evening Mr. Coleman presented Messrs. Huff, Shuster, and Spilhaus, who are ATHM trustees, with a Distinguished Service Award for their efforts on behalf of the Museum.



Pictured from left are George W. Shuster, Karl H. Spilhaus, James S. Coleman, J. Craig Huff, Jr.

Mr. Spilhaus said that "As President of the NTA and a Trustee of the Museum, I am very pleased to see the Museum moving forward towards fulfillment of its goals and solidifying its future. It is an important place for textiles and for American history."

The Museum temporarily closed to the public in July to begin removing exhibition objects for the renovation project, and is expected to have a grand reopening in late Spring 2008. Mr. Coleman said that funding for the project comes from a \$3.9 million Campaign for the American Textile History Museum, Stories of the Past...Visions of the Future which also includes \$1 million dollars to strengthen the endowment, and \$1.4 million towards operating costs. "The campaign has raised more than \$3.4 million to date," he said. "Funds are still needed for the renovation project and to fund operations for the next several years."

The American Textile History Museum collection is the most significant textile history collection in North America, with an extraordinary library and one of the world's largest and most important publicly held collections of tools, spinning wheels, hand looms and early production machines. Its collections include more than 5 million textile prints, fabric samples, coverlets and clothing. During construction, the Museum's Administrative offices are open; Collections department and the Osborne Library are open by appointment, and selected school and scout programs are available. For information, call 978-441-0400, or visit www.athm.org.

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