



THE COMMONWEALTH OF MASSACHUSETTS
Middlesex Canal Commission



Middlesex Canal Commission (MCC)
 Executive Committee Meeting
 July 16, 2009, at 7:30 PM
 Museum, N. Billerica, MA

Attending Thomas Raphael, Chairman
 Thomas Lincoln, Vice Chairman
 Michael McInnis, Secretary
 Betty Bigwood, Treasurer

Thomas Raphael
 Chairman

MEETING MINUTES

Thomas Lincoln
 Vice Chairman

Secretary: Minutes of 1/22/09 accepted and filed.

Michael McInnis
 Secretary

Treasurer: Financial Report, July 16 2009, Assets-----	\$237,178.20
Obligations	
Contracts Committed--	\$100,641.68
Dam Maintenance-----	\$25,000.00
Contracts Pending-----	\$95,000.00
Total -----	\$220,641.68
Uncommitted Funds	
Cash-----	\$16,536.52

Betty M. Bigwood
 Treasurer

Charles Anderson
 Asst. Treasurer

Chairman: For the details of the contracts and obligations see July 15,2009 Budget Summary and Status, (attached)

Phase I, Mill Pond/Canal Park:

Massachusetts Highway Department (MHD) is reviewing ICON's 25% Designs Submission Checklist (attached)

MHD has changed their project drawing submissions since the ICON project inception. MCC is investigating the impact and solution to the required changes with Beverly woods, NMCOG

Pac e/Cambridge is reported to be sending the approved Easement Agreement. The estimated start construction and completion dates need to be reconsidered.

The dam transfer to MCC is being delayed by legal corrections, however, the transfer no longer delays the project.

The MHD Project Review Committee has determined the project is eligible for Federal Aid Enhancement Funding of \$1,300,000 for construction cost.

MIDDLESEX CANAL COMMISSION

July 15 2009

BUDGET SUMMARY AND STATUS

	Project	Total Contract	Paid	Left
ICON Design	Highway	\$100,000	\$72,052.40	(forfeited-\$27,947.60?)
ICON Parks	MCC, Start (C)	\$10,000	\$10,000.00	0
h	MCC, Schem (C)	\$15,505	\$15,505.00	0
	Red Lock (Sur)C)	\$10,323.35	\$10,323.35	0
	MCC, 25%	\$52,515.00	\$25,879.25	\$26,635.75
	Dam Repair Res.	\$25,000	0	\$25,000
Green	AGE	\$12,600	\$9,116.71	\$3,483.26
	AGE (sub-WDG)	\$24,100	\$18,040.19	\$4,394.17
	open-app		\$2,950.68	0
WDG	Woburn (C)	\$13,000	\$12,933.00	0
	Wilmington (C)	\$20,000	\$20,000.00	0
	Overall (C)	\$43,250	\$44,303.44(1053.04)	0
	Aqueduct	open-app	\$543.70	0
	Osterberg (C)	open-app	\$517.00	0
	DEP (C)	open-app	\$2,349.00	0
	Map Book (C)	open-app	\$9,472.78	0
	Admin	open-app	\$14,121.73	0
Surveys	Aqueduct (C)	\$8,980	\$8,980.00	0
	Sandy Beach (C)	\$11,400	\$11,400.00	0
	Osterberg (C)	\$13,193	\$13,954.15 (761.15)	0
WDG, 25% Design	Woburn	\$78,380	\$37,966.07	\$40,413.93
	Wilmington	[\$95,185]	0	0
Sections	Billerica(C)	\$10,000	\$11,204.00 (1204.00)	0
	Chelmsford (C)	open-app	\$724.33	0
Reardon Esq.	Not Exceed	\$15,000	\$14,131.00	\$569.00
R. Ropes	Exec Adm.	\$2,500	\$2,304.43	\$195.57
Totals	Projects	<u>\$365,746.35</u>	<u>\$266,040.59(3018.19)</u>	<u>\$100,691.68</u>
	Hourly	open-app	\$30,678.22	
		<u>\$365,746.35</u>	<u>\$296,718.81</u>	

Dam \$25,000 is under contract

Wilmington \$95,000 is not under contract

**MIDDLESEX CANAL
PHASE I
MILL POND / CANAL PARK
PROJECT**

BACKGROUND

The Phase I, Middlesex Canal Mill Pond/ Canal Park will restore and preserve as a public park, four National Register Historic Site features, in four areas around the mill pond formed by the Talbot Mill Dam on the Concord River in North Billerica, Massachusetts. The mill pond was the high point of the canal and its major supply of water

The whole property, was the original Middlesex Canal Company's construction and maintenance property (1793-1851) and was sold to the Talbot Mills in 1851 and is now owned by Cambridge Tool and Manufacturing Company (Pace-Cambridge). The areas are not and have not been used for nor do they interfere with the company operations.

The general location is shown on the attached canal route map and the areas are designated as follows;

- Area 1- Red Lock
- Area 2- Guard Lock
- Area 3- Anchor Stone for floating towpath
- Area 4- Peninsular for floating towpath

The Areas 1, 2, and 3 have been granted perpetual Easements for the construction and maintenance and Area 4 has been gifted to the Middlesex Canal Commission as has been the dam, mill pond and surrounding 50 ft waterfront.

The Easements and the overall Mill Pond Historic Park plans are attached.

Each of the Areas is also presented with their description and plans.

The Middlesex Canal Association and the Middlesex Canal Commission operate a Museum and Visitors Center in the adjacent restored Faulkner Mill.



THE COMMONWEALTH OF MASSACHUSETTS
Middlesex Canal Commission



April 21, 2009

Mrs. Deborah Fox, Chair
Billerica Historic Commission
Town Hall
365 Boston Road
Billerica, MA 01821

RE: Middlesex Canal Commission, Phase I, Mill Pond/ Canal Park, North Billerica
(MHD Project Number 602945, MHC #RC 42410)

Dear Mrs. Fox:

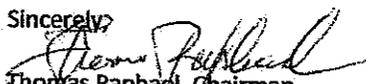
The Massachusetts Highway Department (MassHighway) and the Middlesex Canal Commission (MCC) propose to develop a Middlesex Canal Mill Pond /Canal Park at the Talbot Mill Dam mill pond and on the Pace Industries- Cambridge Division property on Faulkner Street, North Billerica. It is anticipated that this project will be supported in part by federal funds and will require review, therefore, under Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800). The enclosed project information is provided for the Billerica Historic Commission's review in compliance with Section 106.

The park will be constructed in four distinct but adjacent Areas. Each Area has an historic structure listed in the National Register of Historic Sites and will restore or replicate these structures as well as provide walking and rest areas with interpretive information. In one area half of the only remaining lock of the original 20 will be rebuilt to its original form. A large anchor stone to which one end of the unique floating towpath was attached will serve again for that purpose.

Mass Highway and the MCC request that the Billerica Historic Commission review the enclosed concepts and detailed designs at its earliest convenience and solicit any comment the Commission wishes to make regarding this project. Written comments should be submitted to Frank A. Tramontozzi P.E., Chief Engineer, Massachusetts Highway Department, 10 Park Plaza, Boston, MA 02116, Attn, Geoffrey Fulgione

If you have any questions concerning the enclosed project information, please feel free to contact David Shedd P.E. (617-973-8084) of MassHighway's Project Management Section. If you have any questions concerning the Section 106 process, please feel free to contact Geoffrey Fulgione (617)-973-8253) of MassHighway's Cultural Resource Center.

Sincerely,


Thomas Raphael, Chairman
666 Main Street, S-412
Winchester, MA 01890
(781-729-3215)

Atts: scope of work
Locus plan

Xcs: Brona Simon, SHPO : ahtts
G Fulgione, MassHighway, atts

C/O NMCOC, Gallagher Terminal, Floor 3B, 115 Thorndike Street, Lowell, MA 01852 (978)454-8021

**25% DESIGN SUBMISSION CHECKLIST
EARLY ENVIRONMENTAL COORDINATION FOR DESIGN PROJECTS**

The Designer should complete this form and submit it with backup information and explanations of how each item has been addressed as a part of the 25% Design Submission. Example Coordination Letters are available on the Environmental Page of the MassHighway Website under Documents – Environmental Publications.

COMMUNITY CONCERNS		Addressed
1	Coordinate with local boards, commissions & officials to identify specific issues or concerns. Attach all written correspondence.	TR
CULTURAL RESOURCES		
2	Send a letter to the Local Historical Commission (LHC) with a scope & locus, seeking comments. XC (with scope & locus) the State Historic Preservation Officer (SHPO) and MHD's Cultural Resources Unit (CRU).	TR
3	For projects in MHD Districts 1 or 5: Send a letter to the appropriate Tribal Historic Preservation Officer (THPO) – the Stockbridge-Munsee THPO for District 1, the Wampanoag-Mashpee THPO for District 5 – with a scope & locus, seeking comments. XC the SHPO and MHD's CRU. No THPO letters are required for Districts 2, 3, or 4.	N/A
4	On the plans - show property lines, plus footprints and street addresses of all buildings adjacent to the project.	
5	On the plans - show all bridges and culverts and label with MHD BDEPT # (if structure has one). Label the waterway, RR line, street or other feature intersected by the bridge/culvert.	
6	On the plans – show and label the existing and proposed edge of roadway.	
7	On the plans – show and label all existing and proposed guardrail.	
8	On the plans – show and label all slope limits, proposed easements, and proposed takings.	
9	On the plans – show and label all walls and fences.	
10	On the plans – show and label all trees 14" or more at breast height proposed for removal.	
11	On the plans – show and label all roadside monuments, historical markers, highway bounds, etc., and show future locations if any are proposed to be moved.	
12	On the plans – show and label all publicly owned parks, recreational areas, and wildlife refuges (potential 4(f)).	
13	On the plans – show and label any proposed landscape improvements.	
14	Provide details, cuts, etc., of any proposed ornamental elements, such as street lighting.	
15	Provide copies of any written comments regarding cultural resources received by the municipality or its consultant.	
HAZARDOUS MATERIALS		
16	Identify locations of known sources of hazardous waste and hazardous material releases, provide written documentation of the findings and identify sources consulted.	N/A
17	Identify sources of construction demolition materials requiring special handling & disposal (i.e., treated timber, ACM, lead based paint, mercury switches, etc.), provide written documentation of the findings & identify sources consulted.	N/A
WETLAND AND WATER RESOURCES		
18	On the plans, show the location of all existing and proposed drainage structures and discharge points.	
19	On the plans, show all wetland boundaries within 100 ft of the project limits, including bordering and isolated vegetated wetlands, land under water, and ordinary high water (i.e., 1-yr flood).	
20	On the plans, show the location of potential wetland replacement areas.	
21	On a separate locus, show limits of stormwater "critical areas" in relationship to the project limits.	
22	On a separate locus, show the limits of any FEMA floodplains or floodways in relationship to the project limits.	
23	On a separate locus, show the limits of Priority and Estimated Endangered Species Habitat and Areas of Critical Environmental Concern (ACEC) in relationship to the project limits.	
24	Submit coordination letters with a scope and locus to the Mass Division of Fisheries & Wildlife, Mass Natural Heritage & Endangered Species Program and U.S. Fish and Wildlife and, where applicable, the Mass Division of Marine Fisheries. Attach all written correspondence.	
25	Provide photographs of any cross culverts where work is proposed.	
26	If a culvert has the potential to be a fish passage, make necessary accommodations (e.g. low flow channel, burying culvert bottom at streambed grade).	
27	Provide photographs of proposed wetland impact areas & proposed replication areas or flood compensation storage areas.	
ITEMS NEEDED SPECIFICALLY FOR BRIDGE REHAB/REPLACEMENT PROJECTS WITH WORK IN WATER OR WETLANDS		
28	Provide photographs of riverbanks in all 4 quadrants.	N/A
29	Submit a Navigability Survey (available on MassHighway Website) to the Municipal Harbor Master where work will occur on bridges over US Coast Guard (USCG) regulated navigable waterways. Attach the completed survey. If the project will require a USCG Permit, submit to MassHighway a completed USCG Public Notice Checklist (found in the USCG Permit Application directions) along with plans conforming with the MassHighway's Construction Plan Sheet Requirements for USCG Permit Applications (found on the MassHighway Website).	N/A
30	Identify any Army Corps of Engineers (ACOE) Special Aquatic Sites (e.g. Salt Marsh, Tidal Flat) &/or Essential Fish Habitat within the project limits. Note: Impacts to Special Aquatic Sites require Individual 404 ACOE Permitting.	N/A
31	Where work will occur within or adjacent to a Wild and Scenic River, submit a letter to the National Parks Service with a scope and locus to initiate early coordination. Attach all written correspondence.	N/A

Stormwater "critical areas" – Cold water fisheries, Zone IIs, public swimming beaches, shellfish growing areas, drinking water reservoir watersheds.

Executive Summary

In the spring of 2007, The Waterfield Design Group, Inc. (WDG) conducted a physical inspection of the remaining segments of the Middlesex Canal between Winchester and Lowell, Massachusetts. From the time when commercial traffic ended on the canal in 1851, the structure has fallen into various levels of disrepair with many sections being built over and developed. The goal of the inspection was to identify existing segments of the canal and document the condition of each. The purpose of this report is to summarize WDG's findings and identify improvements necessary to return the canal to public use as an open space resource. In addition to a thorough visual inspection, research was performed on the ownership of all identified remaining canal segments.

As can be expected for a structure abandoned over 150 years ago, remaining segments of the canal are in poor condition. With the exception of a few areas which have received some attention in the recent past, the canal banks have lost a significant amount of their original shape. In most areas the original tow path, used by horses to guide the canal barges, is all but eroded into a path wide enough for individual foot traffic. In some areas the tow path has deteriorated completely.

Restoration of the remaining available canal segments will provide two functions. First, restoration will help to preserve this significant engineering accomplishment, which is listed on the National Register of Historic Sites. Second, it is proposed that along with restoration of the canal, the associated tow-path be reconstructed closely following the Massachusetts Highway Department's guidelines for Greenways. The result will be the creation of public open spaces, which will serve to honor the canal and encourage education of its rich history.

Within the limits of the Program Study nineteen (19) identifiable segments of the canal were identified. Review of each segment was performed with two goals in mind. First, physical elements were studied including condition, location, accessibility, and length. Second, restoration feasibility was evaluated. This evaluation was based not only upon physical elements, but also on existing ownership of the canal structure. A significant amount of the studied canal structure is located on private lands. Construction and maintenance of improvements in these instances will require property acquisition or access/maintenance easements.

As part of this Study, a rating system was devised to assist in planning and budgeting of the canal restoration program. This system was based upon the

following items:

- Ownership: Privately or publicly owned (or a combination)
- Condition: Level of disrepair
- Continuity: Will restoration provide for continuity of other restored segments
- Visibility: Segment visibility from public spaces
- Facilities Nearby: Proximity to public facility which will contribute to its use.

Conceptual cost estimates were prepared for each segment. A detailed breakdown of the estimate elements is included within the appendix of this Study. In general, the estimates included costs for restoration of the canal banks and towpath. In addition, costs for "Interpretive Elements" have also been included. These elements range from signs detailing the canal's history in a written and graphic form, to historically sensitive pedestrian bridge construction and landscaped park areas reminiscent of the canal's time in history. The estimated costs are for design and construction. Listed below are the nineteen segments and their associated estimates. Segments in bold received a score of "High" within the Study's restoration priority rating system.

Segment 1: Sandy Beach—Winchester	\$351,750
Segment 2: Wildwood Cemetery—Winchester.....	\$168,500
Segment 3: Winn Street to Lowell Street—Woburn	\$628,950
Segment 4: Lowell Street to Middlesex Park—Woburn	\$643,350
Segment 5: Alfred Street to School Street—Woburn	\$1,134,500
Segment 6: Main Street to Burlington Avenue—Wilmington	\$1,646,050
Segment 7: Shawshen Avenue to Richmond Street—Wilmington.....	\$373,850
Segment 8: Richmond Street to Lake Street—Wilmington.....	\$743,150
Segment 9: Lake Street to Nichols Street—Wilmington.....	\$372,900
Segment 10: Grace Drive to Melody Lane—Wilmington.....	\$315,300
Segment 11: Shawshen River Aqueduct—Wilmington/Billerica.....	\$140,200
Segment 12: George Brown Street to Dignon Road—Billerica.....	\$643,550
Segment 13: Kitchen Avenue to Staples Street—Billerica.....	\$378,700
Segment 14: Gray Street to Pond Street—Billerica.....	\$1,105,900
Segment 15: Pond Street to High Street—Billerica.....	\$594,300
Segment 16: High Street to Rogers Street—Billerica.....	\$1,092,200
Segment 17: Fire Station at Mill Pond to Brick Kiln Road—Billerica.....	\$747,600
Segment 18: Brick Kiln Road to Riverneck Road—Chelmsford.....	\$1,241,800
Segment 19: Route 3 Crescent to Golf Course—Lowell.....	\$463,250
TOTAL	\$12,785,800

For the purpose of this study, easement and land acquisition costs were not included and will need to be evaluated on a case by case basis per segment.