



JOSEPH A. CURTATONE  
MAYOR

Somerville CPA



**CITY OF SOMERVILLE, MASSACHUSETTS**  
**COMMUNITY PRESERVATION COMMITTEE**  
**FY15 FUNDING APPLICATION**  
**COVER PAGE**

**1. PROJECT INFORMATION**

PROJECT NAME: Mystic WaterWorks

PROJECT LOCATION: 485 Mystic Valley Parkway

LEGAL PROPERTY OWNER OF RECORD: Somerville Housing Authority

ONE SENTENCE DESCRIPTION OF PROJECT: The project will reuse the historic Mystic WaterWorks building and construct 25 units of affordable housing for seniors and young people with disabilities.

Please indicate (X) the approved category(s) from your Eligibility Determination Form.

	Open Space	Recreational Land	Historic Resources	Community Housing (blended projects only)
Acquisition				
Creation				X
Preservation			X	
Support				
Rehabilitation/ Restoration			X	X

ESTIMATED START DATE: March 1, 2016

ESTIMATED COMPLETION DATE: March 1, 2017

CPA FUNDING REQUEST: \$500,000

TOTAL BUDGET FOR PROJECT: \$9,475,000

**2. APPLICANT INFORMATION**

APPLICATION NAME / ORGANIZATION: Somerville Housing Authority

CO-APPLICATION NAME / ORGANIZATION: \_\_\_\_\_

CONTACT PERSON: Paul Mackey

MAILING ADDRESS: 30 Memorial Road, Somerville, MA 02145

PHONE: \_\_\_\_\_ EMAIL: paulm@sha-web.org

**3. SIGNATURES**

I (we) certify that all information provided in this entire submission is true and correct to the best of my (our) knowledge and that no information which might reasonably affect funding has been excluded. I (we) authorize the Community Preservation Committee and/or the City of Somerville to obtain verification from any source provided.

Name (printed) Paul Mackey

Signature \_\_\_\_\_

Date 11/7/14

Name (printed) \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

FOR CPC USE: Date Received \_\_\_\_\_

Date Reviewed \_\_\_\_\_

Date Applicant Notified \_\_\_\_\_



JOSEPH A. CURTATONE  
MAYOR



**CITY OF SOMERVILLE, MASSACHUSETTS  
COMMUNITY PRESERVATION COMMITTEE  
FY15 FUNDING APPLICATION  
SUBMISSION REQUIREMENTS CHECKLIST**

Please check (✓) each item included in your submission, which should include the applicable items in the order listed below.

**GENERAL:**

- ☒ Application Cover Page (form provided)
- ☒ Submission Requirements Checklist (this form)
- ☒ Narratives (prompts provided)
- ☒ Project timeline: a project schedule showing all major milestones (i.e., study, design, environmental, permitting, construction, etc.), including receipt of other funding sources

**FINANCIAL:**

- ☒ Budget Summary (form provided)
- ☒ Itemized budget of all project costs, including the proposed source for each cost
- ☒ At least two written quotes for project costs. If quotes cannot be secured, detailed cost estimates may be used if a thorough explanation of the estimates is included.
- ☒ Proof of secured funding (e.g., commitment letters or bank statements), if applicable

**VISUAL:**

- ☒ Map of the property location showing all features pertinent to the project, including current or future rapid transit stations
- ☒ Photos of the project site (not more than 4 views per site); include digital copies

**OWNERSHIP/OPERATION (NON-CITY):**

- ☒ Documentation of site control or written consent of the property owner to undertake the project, if the owner is not the applicant
- ☒ Certificate of Good Standing from the City, if applicable
- ☒ 501(c)(3) certification, if operating as a non-profit
- ☒ Purchase and sale agreement or copy of current recorded deed, if applicable

**COMMUNITY SUPPORT (RECOMMENDED):**

- ☐ Letters of support from residents, community groups, other City boards, commissions, or departments, or from City, state, or federal officials

**HISTORIC RESOURCES PROJECTS:**

- ☒ Documentation that the project is listed on the State Register of Historic Places or a written determination from the Somerville Historic Preservation Commission that the resource is significant in the history, archeology, architecture, or culture of Somerville.
- ☒ Photos documenting the condition of the property
- ☒ Report or condition assessment by a qualified professional describing the current condition of the property, if available.

**PLANS AND REPORTS (IF AVAILABLE)**

[if available in 8½ x 11, include in the application. If not, include separately, not bound to the application]

- ☒ Renderings, site plans, engineering plans, design and bidding plans, and specifications
- ☒ Applicable reports (e.g., 21E, historic structure report, appraisals, survey plans, feasibility studies). Note: for reports of more than 10 pages, applicant may provide 2 copies, rather than 11.

**Existing Feature and its Condition:**

The former Mystic Water Works property at the intersection of the Mystic Valley Parkway, the Alewife Brook Parkway, and Capen Court in Somerville is dominated by the Mystic River Pumping Station, a rectangular one and a half story, sixteen-bay brick industrial building set upon a granite foundation and covered with an asphalt shingle mansard roof. The building is rectangular and is divided into three sections. The central section of the building dates from 1864, with 1870 and 1895 additions marked by slight projections in the facades and changes in the roofline.

The historic building continued to serve as a pumping station for the area until 1912, when the pumps and engines were sold for scrap. Plastered walls located in the current attic space suggest that the interior of the building originally was open from floor to ceiling. In 1921, the building was renovated again. The interiors were partitioned during World War I, when it was repurposed into offices and used for research. A mezzanine and an attic level were added at this time to help facilitate the building's transition into office spaces. As a result, little original material remains on the interior that conveys the historic significance of the building as a pumping station.

**Proposed Development:**

This project will rehabilitate the long-vacant former Pump Station and return it to use as senior citizen housing. The rehabilitation will create 25 one bedroom housing units within the historic building, with designated common spaces including a lounge and other common areas. Residential units will be located on two-levels around the perimeter of the building on either side of a double-loaded corridor. Windows will be replaced with energy efficient windows that are compatible with the historic character of the property. The later inserted floor will be replaced and realigned to facilitate the reuse of the property for housing.

The property will seek to match the state public housing tenant mix of 86.5% elderly and 13.5% non-elderly disabled. Five (5) of the units will be targeted to homeless individuals and couples at or below 30% of AMI and the remaining twenty (20) units will be targeted to households at or below 50% of AMI. Mystic WaterWorks is adjacent to our Capen Court Senior Housing development and the Visiting Nurse Association's Assisted Living Facility to which it is connected by a bridge. There will be a part-time service coordinator on site at Mystic WaterWorks and all residents will have access to the multitude of services offered at Capen Court.

The project is conveniently located to local shopping and the West Medford commuter rail station is 1/4 mile and two bus lines (the #80 to Arlington-Union Sq.-Lechmere and the #94 to West Medford-Davis Sq.) are a block away on Boston St.

The redevelopment of Mystic WaterWorks presents an extraordinary opportunity to provide 25 units of affordable housing for very low income elders restore a highly visible dilapidated historic building to its former beauty and also complete the Capen Court elderly/disabled campus.

## Project Description # 3

### City of Somerville

#### General Priorities

The CPC will prioritize projects that:

1. **Are consistent with the community's values, which includes projects that:** a. Improve accessibility for all members of the community . Mystic WaterWorks, when completed, will have 100% of the units fully accessible.

b. Incorporate sustainable practices and design<sup>3</sup> Mystic WaterWorks is a renovation/reuse project which is inherently sustainable. To minimize energy use over time, the building will exceed the code requirement for insulation and will have 90+% efficient heating equipment. The landscaping will feature native drought-tolerant plants. The building design provides dedicated space for recycling and building management will encourage tenants to recycle.

c. Receive endorsement from other Somerville boards, commissions, departments, or community groups or from city, state, or federal officials . The City of Somerville has shown strong support for the Mystic WaterWorks project from the Zoning Board which gave zoning approvals, the approval of \$500, 000 in Somerville HOME funds for this project as well as strong letters of support from Mayor Curtatone, Congressman Capuano and state Senator Jehlen

d. Are consistent with the goals and priorities established in other current planning documents but not explicitly addressed in this plan

e. Address two or more of the CPA focus areas (i.e., blended projects) **Mystic WaterWorks** Project restores an historic Somerville property seriously deteriorating and at risk which is a CPA priority. It also will create affordable wheelchair accessible units with 5 units set aside for the homeless which are both City priorities.

2. **Use CPA funding strategically, which includes projects that:** a. Leverage other funds or in-kind contributions and/or implement cost-saving measures. This project will leverage over 8 million of dollars of state and federal resources including Low Income Housing Tax Credits, state and federal Historic Tax Credits, and a private mortgage financing.

b. Address long-standing or urgent needs in the community As evidenced by the Somerville Housing Authority's long waiting for low income elders and low income young people with disabilities, these new units will help address an urgent need in the City of Somerville and complete the continuum of care housing at Capen Court.

c. Take advantage of exceptional, time-sensitive opportunities The sale of the Mystic WaterWorks building to the Somerville Housing Authority for \$1.00 is an exceptional opportunity in a city with such an expensive real estate market. However, the terms of that sale *require* the SHA to use the building to provide housing for low-income seniors and disabled. If the SHA is unable to do that, the deed gives the state has the right to take the building back.

d. Could serve as catalysts for transformative change The renovation of the Mystic WaterWorks building is not as much a catalyst for neighborhood change but it will be a catalyst for transformative change for its residents who will include at least 5 that are currently homeless (which is one of CPC's priorities). We expect that most of the rest of the tenants will be leaving housing situations that were some combination of overcrowded, unsafe or unsanitary, and/or unaffordable. Since Mystic WaterWorks has a project-based Section 8 contract, its residents will only pay 30% of their income for rent. The property will employ a part-time resident service coordinator.



Mystic WaterWorks  
Somerville Housing Authority  
Financial Narrative

1. The SHA has successfully obtained a commitment of \$500,000 of Somerville HOME funds; \$1,400,000 of state Historic Tax Credits; and Part 1 and Part 2 approval for federal Historic Tax Credits estimated at \$1,284,940. The SHA has submitted two previous applications for Low Income Housing Tax Credits (LIHTC) which were not funded which is not unusual for these highly competitive funds. The SHA is confident that it will be successful in the next LIHTC round. The SHA seeks to save costs by providing contractors with detailed plans and specs and it will follow strict state-mandated bidding procedures to ensure the lowest responsible cost.
2. The CPA funding request was determined by estimating the gap in all the other funding that we have either received or have requested.
3. The project does not require funding over multiple years. This is a one-time request for construction funding; the project has a commitment of Section 8 project-based vouchers which will ensure an adequate income stream to maintain the building and pay off the bank mortgage.

# **Somerville Housing Authority Developer and Property Management Profile**

The Somerville Housing Authority (SHA) owns and manages 1,453 residential units located at 17 separate properties, all located in Somerville, Massachusetts.

Annual Budget: \$30,809,701

The most recent relevant development project is Capen Court.

## **CAPEN COURT SENIOR HOUSING BRIEF SUMMARY**

The Somerville Housing Authority completed construction on the redevelopment of Capen Court, an elderly housing development on Mystic Valley Parkway built with state public housing funds in 1955. The original project consisted of 64 very small units in eight two-story walk-up buildings, scattered around a small community building. After fifty years, the property was terribly obsolete and the buildings and site were heavily worn. The units were too small and had no handicapped accessibility or adaptability for frail elders. In short, the property no longer served the needs of low income seniors who are increasingly in their seventies and eighties and require suitable housing and supportive services to maintain independent living.

Because of the scarcity of public housing funds, the Capen Court redevelopment was planned to be financed through a mixture of public and private resources. The project was one of the first examples of using “mixed financing” to complete a major overhaul of state public housing. The result is a relatively modest use of public housing funds, and a significant private investment in low-income housing that continues to be operated as public housing for low income seniors.

Somerville Housing Authority has been able to attract investors and lenders in the most difficult investment climate of our generation.

The Capen Court redevelopment had total costs of roughly \$25 million. Nearly two-thirds of the long-term funding is private investment and lending. There were four critical resources financing the project:

1. **MassDevelopment:** An allocation of Low Income Housing Tax Credits from the issuance of tax exempt private issue bonds. We were able to secure an investment of \$8,508,700 in exchange for the \$1,037,645 in annual credits over ten years, or about \$.82 per dollar of total credits. The equity investment represents 34% of total costs. Boston Capital – a Boston-based residential investment company, worked with us and their investors to maintain a fairly high yield amidst a rapidly declining investment climate. The Tax Credit allocation and the tax-exempt bond issuance were made by the Massachusetts Development Finance Agency, known as MassDevelopment.
2. Tax-exempt bonds for construction and permanent financing. We were able to secure a \$14 million construction loan and a \$7,500,000 permanent financing with tax exempt bonds. This is over half the construction costs, and 30 % of permanent financing. Bank of America committed to a direct purchase program for both the construction and permanent loans, with assistance from the Massachusetts Housing Partnership. The result was low cost financing with relatively low transaction costs, and most importantly, we were largely shielded from the volatility of the current private activity bond market.
3. Public investment, in the form of grants or deferred interest loans, from DHCD and the City of Somerville. **DHCD committed \$6.5 million** in public housing funds and \$1,750,000 in other private housing funding, and the City of Somerville provided \$500,000 in HOME funding to the project. Altogether, the direct public funding of \$8,750,000 is 35% of total costs.
4. Three housing authorities have contributed project-based Section 8 contracts to cover all 95 units in the project. The Somerville Housing Authority provided 64 PB vouchers, Medford provided 23, and Metro Boston Housing Partnership provided 8 units. With all of the units covered by Section 8 contracts, the project was able to remain affordable to even the lowest income resident while assuring adequate operating revenue to maintain high property standards and cover debt service.

This public-private investment structure proved to be attractive to lenders and tax credit investors even in a difficult climate. Very important was the early commitment of Mass. Housing Partnership and Bank of America to a bond purchase arrangement which allowed us to sell the project to investors as truly “ready to go.” With Section 8 contracts and modest long-term debt we greatly reduced the operating risk. The Somerville Housing Authority also has a track record of managing large scale redevelopments over the years and has dedicated significant funding and staffing to the effort.

Additional successful redevelopments efforts include:

- ☐ Modernization of 215 units at Mystic View: \$28 million
- ☐ Modernization of Weston Manor: \$12 million
- ☐ Modernization of 240 units at Mystic River (State-Aided) \$35 million expansion of kitchens and baths using modular additions.

The Somerville Housing Authority manages approximately \$800,000 of modernization projects each year.

# SOMERVILLE HOUSING AUTHORITY BREAKDOWN OF UNITS

			NUMBER OF BEDROOMS											
PROJECT No.	PROJECT NAME		TOTAL UNITS	ZERO	ONE	TWO	THREE	FOUR	FIVE	IOP	Manager	Development Address	Zip Code	Recert. Date
AMP 2- MA031000319(31-3)	Brady Towers	Elderly	84	0	84	0	0	0	0	06/1962	Cathy	252 Medford Street	02143	June
AMP 3- MA031000311(667-6)	Ciampa manor	Elderly	53	0	53	0	0	0	0	09/1973	Cathy	27 College Avenue	02144	April
AMP 2- MA031000319(31-3)	Highland Garden	Elderly	42	0	42	0	0	0	0	06/1958	Cathy	114 Highland Avenue	02143	March
AMP 1- MA031000311(31-1)	Mystic View	Family	215	0	22	94	71	24	4	07/1954	Annemarie	Mystic View	02143	January
AMP 4- MA031000311(667-3)	Properzi Manor	Elderly	110	0	110	0	0	0	0	11/1974	Annemarie	13-25 Warren Avenue	02144	September
AMP 2- MA031000319(31-7)	Weston Manor	Elderly	80	0	80	0	0	0	0	06/1962	Cathy	15 Weston Avenue	02144	April
TOTAL FEDERAL UNITS			584	0	391	94	71	24	4					
667-4	Bryant Manor	Elderly	134	0	134	0	0	0	0	04/1980	Rosewelt	75 Myrtle Street	02145	September
200-1	Clarendon Hill	Family	216	0	33	150	33	0	0	05/1950	Rosewelt	278 Powderhouse Blvd.	02144	March
667-2	Corbett Apts. (Jacques St.)	Elderly	100	0	100	0	0	0	0	02/1966	Bernice	32 and 125 Jacques St.	02145	September
689-2	Hagan Manor	HP*	24	6	11	4	3	0	0	04/1982	Rosewelt	268 Washington St.	02143	September
689-3	Monmouth House	MR*	8	0	8	0	0	0	0	01/1975	Annemarie	17 Monmouth Street	02145	N/A
200-2	Mystic River	Family	240	0	0	96	144	0	0	02/1952	Bernice	Mystic River	02145	March
689-1	Prospect House	MR*	8	0	8	0	0	0	0	03/1978	Annemarie	386 Broadway	02143	N/A
705-1	66 Sycamore Street	Family	1	0	0	0	0	0	1	1974	Annemarie	66 Sycamore Street	02145	March
705-1	6 Fountain Avenue	Family	2	0	0	1	0	1	0	1975	Annemarie	6 Fountain Avenue	02145	March
TOTAL STATE UNITS			733	6	294	251	180	1	1					

	Capen Court	Elderly / PBA*	95	0	95	0	0	0	0	04/2010
667-7	Clarendon Hill Towers	Elderly	41	0	37	4	0	0	0	02/1987

TOTAL SHA UNITS	1453	6	817	349	251	25	5
-----------------	------	---	-----	-----	-----	----	---

## FAMILY AND ELDERLY/HP BREAKDOWN UNITS

	# UNITS	ZERO	ONE	TWO	THREE	FOUR	FIVE
Federal Family	215	0	22	94	71	24	4
Federal Elderly	369	0	369	0	0	0	0
TOTAL FEDERAL UNITS	584	0	391	94	71	24	4
State Family	459	0	33	247	177	1	1
State Elderly	234	0	234	0	0	0	0
State Handicapped	40	6	27	4	3	0	0
TOTAL STATE UNITS	733	6	294	251	180	1	1
TOTAL	1317	6	685	345	251	25	5

\*HP Handicapped  
 \*MR Mentally Challenged  
 \*PBA Project Based Assistance/Tax Credit

Total Elderly (State and Federal) 643  
 Total Family (State and Federal) 674

Annemarie	385
Mystic View	215
Properzi Manor	110
17 Monmouth Street	8
386 Broadway	8
66 Sycamore Street	1
7 Fountain Ave	2
Clarendon Hill Towers	41
Bernice	340
Mystic River	240
32 & 125 Jacques St.	100
Cathy	259
Brady Towers	84
Ciampa	53
Highland Gardens	42
Weston Manor	80
Rosewelt	374
Bryant Manor	134
Clarendon Hill	216
Hagan Manor	24
Belkis	95
Capen Court	95

TOTAL UNITS 1453

# SOMERVILLE HOUSING AUTHORITY BREAKDOWN OF UNITS

PROJECT No.	PROJECT NAME		TOTAL UNITS	NUMBER OF BEDROOMS						
				ZERO	ONE	TWO	THREE	FOUR	FIVE	IOP
AMP 2- MA031000319(31-3)	Brady Towers	Elderly	84	0	84	0	0	0	0	06/1962
AMP 3- MA031000311(667-6)	Ciampa manor	Elderly	53	0	53	0	0	0	0	09/1973
AMP 2- MA031000319(31-3)	Highland Garden	Elderly	42	0	42	0	0	0	0	06/1958
AMP 1- MA031000311(31-1)	Mystic View	Family	215	0	22	94	71	24	4	07/1954
AMP 4- MA031000311(667-3)	Properzi Manor	Elderly	110	0	110	0	0	0	0	11/1974
AMP 2- MA031000319(31-7)	Weston Manor	Elderly	80	0	80	0	0	0	0	06/1962
TOTAL FEDERAL UNITS			584	0	391	94	71	24	4	
667-4	Bryant Manor	Elderly	134	0	134	0	0	0	0	04/1980
200-1	Clarendon Hill	Family	216	0	33	150	33	0	0	05/1950
667-2	Corbett Apts. (Jacques St.)	Elderly	100	0	100	0	0	0	0	02/1966
689-2	Hagan Manor	HP*	24	6	11	4	3	0	0	04/1982
689-3	Monmouth House	MR*	8	0	8	0	0	0	0	01/1975
200-2	Mystic River	Family	240	0	0	96	144	0	0	02/1952
689-1	Prospect House	MR*	8	0	8	0	0	0	0	03/1978
705-1	66 Sycamore Street	Family	1	0	0	0	0	0	1	1974
705-1	6 Fountain Avenue	Family	2	0	0	1	0	1	0	1975
TOTAL STATE UNITS			733	6	294	251	180	1	1	
	Capen Court	Elderly / PBA*	95	0	95	0	0	0	0	04/2010
667-7	Clarendon Hill Towers	Elderly	41	0	37	4	0	0	0	02/1987
TOTAL SHA UNITS			1453	6	817	349	251	25	5	

## FAMILY AND ELDERLY/HP BREAKDOWN UNITS

	# UNITS	ZERO	ONE	TWO	THREE	FOUR	FIVE
Federal Family	215	0	22	94	71	24	4
Federal Elderly	369	0	369	0	0	0	0
TOTAL FEDERAL UNITS	584	0	391	94	71	24	4
State Family	459	0	33	247	177	1	1
State Elderly	234	0	234	0	0	0	0
State Handicapped	40	6	27	4	3	0	0
TOTAL STATE UNITS	733	6	294	251	180	1	1
TOTAL	1317	6	685	345	251	25	5

\*HP

Handicapped

\*MR

Mentally Challenged

\*PBA

Project Based Assistance/Tax Credit

Total Elderly (State and Federal) 643

Total Family (State and Federal) 674





## Executive Office of Housing and Economic Development

Rental OneStop

Organization: Somerville Housing Authority - HD

Development Team Summary

Mystic WaterWorks

Developer/Sponsor Type

Non-profit

Are you applying under non-profit set aside?

☒ Yes ☐ No

### Developer/Sponsor:

Form of Legal Entity

Other

If Other, please specify:

Housing Authority

Legal Name

Somerville Housing Authority

If CHDO: DUNS #

Address

30 Memorial Road

City/Town:

Somerville

State:

Massachusetts

Zip Code:

2145

Contact Person

Joseph Macaluso

Work Telephone No.

(617) 625-1152

Mobile No.

E-mail

jmacaluso@sha-web.org

### Owner/Mortgagor:

Form of Legal Entity

Limited Partnership

If Other, please specify:

Legal Name

To Be Formed

Address

30 Memorial Road

City/Town:

Somerville

State:

Massachusetts

Zip Code:

2145

Has this entity already been formed?

Yes ☐ No ☐

DUNS #

Principals:

Somerville Housing Authority

Principals:

Contact Person

Joseph Macaluso

Work Telephone No.

(617) 625-1152

Mobile No.

E-mail

jmacaluso@sha-web.org



## Executive Office of Housing and Economic Development

Rental OneStop

Organization: Somerville Housing Authority - HD

### Development Team Summary

#### General Partner/Managing Member:

Legal Name	To be formed		
Address	30 Memorial Road		
City/Town:	Somerville	State:	Massachusetts
Has this entity already been formed?	Yes	No	Zip Code: 2145
Principal (if corporate)	Somerville Housing Authority		
Contact Person			
% of Ownership	%		
Work Telephone No.	(617) 625-1152	Mobile No.	
E-mail	jmacaluso@sha-web.org		

#### Development Consultant:

Legal Name	New England Communities, Inc.		
Address	97 Parker Street		
City/Town:	Newton	State:	Massachusetts
Contact Person	Marc Slotnick	Zip Code:	02459
Work Telephone No.		Mobile No.	(617) 290-5001
E-mail	marcslochnik@comcast.net		

#### Contractor:

Name	TBD		
Address			
City/Town:		State:	Zip Code:
Federal Tax ID #			
Contact Person			
Work Telephone No.		Mobile No.	
E-mail			



## Executive Office of Housing and Economic Development

Rental OneStop

Organization: Somerville Housing Authority - HD

### Development Team Summary

#### Architect:

Name	DiMella Shaffer			
Address	281 Summer Street			
City/Town:	Boston	State:	Massachusetts	Zip Code: 02210
Contact Person	Frank Valdes			
Work Telephone No.	(617) 625-1152	Mobile No.		
E-mail	fvaldes@dimellashaffer.com			

#### Management Agent:

Name	Somerville Housing Authority			
Address	30 Memorial Road			
City/Town:	Somerville	State:	Massachusetts	Zip Code: 02145
Contact Person	Joseph Macaluso			
Work Telephone No.	(617) 625-1152	Mobile No.		
E-mail	jmacaluso@sha-web.org			

#### Attorney (Real Estate):

Name	Klein Hornig LLP			
Address	145 Tremont Street, Suite 400			
City/Town:	Boston	State:	Massachusetts	Zip Code: 02111
Contact Person	Daniel Rosen			
Work Telephone No.	(617) 244-0600	Mobile No.		
E-mail	drosen@kleinhornig.com			

#### Attorney (Tax):

Name	Klein Hornig LLP			
Address	145 Tremont Street, Suite 400			
City/Town:	Boston	State:	Massachusetts	Zip Code: 02111
Contact Person	Daniel Rosen			



## Executive Office of Housing and Economic Development

Rental OneStop

Organization: Somerville Housing Authority - HD

### Development Team Summary

Work Telephone No.  
E-mail

(617) 244-0600 Mobile No.  
drosen@kleinhornig.com

#### Accountant:

Name  
Address  
City/Town:  
Contact Person  
Work Telephone No.  
E-mail

State: Zip Code:  
Mobile No.

CPA

#### Syndicator:

Name  
Address  
City/Town:  
Contact Person  
Work Telephone No.  
E-mail

TBD  
State: Zip Code:  
Mobile No.

#### Guarantor:

Name  
Address  
City/Town:  
Contact Person  
Work Telephone No.  
E-mail

State: Zip Code:  
Mobile No.

#### Service Provider or Coordinator:

03/19/2014

Page 35 of 115

Mystic WaterWorks  
Somerville Housing Authority

Project Management

4. The SHA has assembled an experienced development team featuring DiMella Schaffer Architects and New England Communities, Inc. (NECI) as financial consultants. DiMella has prepared detailed plans and specifications and has obtained a professional cost estimate. NECI has prepared a project development and operating budgets based on the underwriting criteria used by the Department of Housing and Community Development, Low Income Housing Tax Credit syndicators, and mortgage lenders. The management team at SHA has previously completed Capen Court, a larger development in a timely manner. The budgets and timelines are conservative in nature and were developed based on the extensive experience of DiMella, NECI and the SHA in projects of this nature.
5. The project has cleared the two most difficult regulatory barriers: Part 1 and Part 2 approval by the National Park Service and zoning approval by the Somerville Zoning Board of Appeals. The key remaining challenge is obtaining an allocation of highly competitive Low Income Housing Tax Credits. Very few applications are funded in their first try; however, the Department of Housing and Community Development (DHCD) has encouraged us to reapply and we are confident that we will be successful in the upcoming round especially with the commitment of \$500,000 of Somerville CPA funds. The DHCD looks favorably on applications that have local support and funding.

**SOMERVILLE HOUSING AUTHORITY BREAKDOWN OF UNITS - revised April 2013**

**Project Management Narrative #6**

Somerville Housing Authority (SHA) will be managing Mystic WaterWorks . The SHA has significant experience managing resident developments as seen by their portfolio below. Also included is the proposed Management Plan for Mystic Water Works.

			NUMBER OF BEDROOMS											
PROJECT No.	PROJECT NAME		TOTAL UNITS	ZERO	ONE	TWO	THREE	FOUR	FIVE	IOP	Manager	Development Address	Zip Code	Recert. Date
AMP 2- MA031000319(31-3)	Brady Towers	Elderly	84	0	84	0	0	0	0	06/1962	Cathy	252 Medford Street	02143	June
AMP 3- MA031000311(667-6)	Ciampa manor	Elderly	53	0	53	0	0	0	0	09/1973	Cathy	27 College Avenue	02144	April
AMP 2- MA031000319(31-3)	Highland Garden	Elderly	42	0	42	0	0	0	0	06/1958	Cathy	114 Highland Avenue	02143	March
AMP 1- MA031000311(31-1)	Mystic View	Family	215	0	22	94	71	24	4	07/1954	Annemarie	Mystic View	02143	January
AMP 4- MA031000311(667-3)	Properzi Manor	Elderly	110	0	110	0	0	0	0	11/1974	Annemarie	13-25 Warrren Avenue	02144	September
AMP 2- MA031000319(31-7)	Weston Manor	Elderly	80	0	80	0	0	0	0	06/1962	Cathy	15 Weston Avenue	02144	April
TOTAL FEDERAL UNITS			584	0	391	94	71	24	4					
667-4	Bryant Manor	Elderly	134	0	134	0	0	0	0	04/1980	Rosewelt	75 Myrtle Street	02145	September
200-1	Clarendon Hill	Family	216	0	33	150	33	0	0	05/1950	Rosewelt	278 Powderhouse Blvd.	02144	March
667-2	Corbett Apts. (Jacques St.)	Elderly	100	0	100	0	0	0	0	02/1966	Bernice	32 and 125 Jacques St.	02145	September
689-2	Hagan Manor	HP*	24	6	11	4	3	0	0	04/1982	Rosewelt	268 Washington St.	02143	September
689-3	Monmouth House	MR*	8	0	8	0	0	0	0	01/1975	Annemarie	17 Monmouth Street	02145	N/A
200-2	Mystic River	Family	240	0	0	96	144	0	0	02/1952	Bernice	Mystic River	02145	March
689-1	Prospect House	MR*	8	0	8	0	0	0	0	03/1978	Annemarie	386 Broadway	02143	N/A
705-1	66 Sycamore Street	Family	1	0	0	0	0	0	1	1974	Annemarie	66 Sycamore Street	02145	March
705-1	6 Fountain Avenue	Family	2	0	0	1	0	1	0	1975	Annemarie	6 Fountain Avenue	02145	March
TOTAL STATE UNITS			733	6	294	251	180	1	1					

	Capen Court	Elderly / PBA*	95	0	95	0	0	0	0	04/2010			
667-7	Clarendon Hill Towers	Elderly	41	0	37	4	0	0	0	02/1987			

<b>TOTAL SHA UNITS</b>	<b>1453</b>	<b>6</b>	<b>817</b>	<b>349</b>	<b>251</b>	<b>25</b>	<b>5</b>
------------------------	-------------	----------	------------	------------	------------	-----------	----------

**FAMILY AND ELDERLY/HP BREAKDOWN UNITS**

	# UNITS	ZERO	ONE	TWO	THREE	FOUR	FIVE
Federal Family	215	0	22	94	71	24	4
Federal Elderly	369	0	369	0	0	0	0
<b>TOTAL FEDERAL UNITS</b>	<b>584</b>	<b>0</b>	<b>391</b>	<b>94</b>	<b>71</b>	<b>24</b>	<b>4</b>
State Family	459	0	33	247	177	1	1
State Elderly	234	0	234	0	0	0	0
State Handicapped	40	6	27	4	3	0	0
<b>TOTAL STATE UNITS</b>	<b>733</b>	<b>6</b>	<b>294</b>	<b>251</b>	<b>180</b>	<b>1</b>	<b>1</b>
<b>TOTAL</b>	<b>1317</b>	<b>6</b>	<b>685</b>	<b>345</b>	<b>251</b>	<b>25</b>	<b>5</b>

\*HP Handicapped  
 \*MR Mentally Challenged  
 \*PBA Project Based Assistance/Tax Credit

Total Elderly (State and Federal) 643  
 Total Family (State and Federal) 674

<b>Annemarie</b>	<b>385</b>
Mystic View	215
Properzi Manor	110
17 Monmouth Street	8
386 Broadway	8
66 Sycamore Street	1
7 Fountain Ave	2
Clarendon Hill Towers	41
<b>Bernice</b>	<b>340</b>
Mystic River	240
32 & 125 Jacques St.	100
<b>Cathy</b>	<b>259</b>
Brady Towers	84
Ciampa	53
Highland Gardens	42
Weston Manor	80
<b>Rosewelt</b>	<b>374</b>
Bryant Manor	134
Clarendon Hill	216
Hagan Manor	24
<b>Belkis</b>	<b>95</b>
Capen Court	95

**TOTAL UNITS 1453**



## **SOMERVILLE HOUSING AUTHORITY BREAKDOWN OF UNITS**

Revised April 2013



**MANAGEMENT PLAN**

**FOR**

**MYSTIC WATERWORKS**

**DRAFT 2013**



**TABLE OF CONTENTS**

OVERVIEW

STAFFING PLAN

TENANT SELECTION/MARKETING

LEASE

UNIT INSPECTIONS

TENANT ORIENTATION

MAINTENANCE REPAIRS

RENT COLLECTION

INITIALLY QUALIFIED LIHTC RESIDENTS

REDETERMINATION OF RENT AND FAMILY  
COMPOSITION CHANGES

SECURITY DEPOSITS

PARKING

LAUNDRY

UTILITIES

ACCOUNTING/FINANCIAL REPORTS

ANNUAL OPERATING BUDGET

ENERGY CONSERVATION

EMERGENCIES

EXISTING POLICIES AND GUIDELINES

COMMUNITY ROOM

KEY CONTROL

PET POLICY

PUBLIC SAFETY

RESIDENT SERVICES

## **OVERVIEW**

The property at Mystic WaterWorks in Massachusetts is owned by the Somerville Housing Authority (SHA). The property consists of 25 one-bedroom, one-bath apartments. Each unit has a separate kitchen and dining/living room area.

The Somerville Housing Authority is the property manager, and is responsible for the management and maintenance of the property including, rent-up and marketing, daily operation, maintenance and repairs, budgeting, accounting including rent collection, resident services and security.

## **STAFFING PLAN**

All SHA Properties are managed from the central office located at 30 Memorial Road, Somerville, Massachusetts. Under the direction of the Executive Director and Deputy Director, all SHA Division Directors will oversee all management functions at the Mystic WaterWorks..

Maintenance functions will be accomplished by the centralized SHA Maintenance Department. A staff member will be assigned to Mystic WaterWorks and SHA will deploy additional staff when appropriate.

An SHA Resident Services Coordinator will be responsible for working with tenants, facilitating tenants meetings, and resolving tenant disputes. Other SHA staff will become involved as required by the situations. This shall apply to all areas of management and maintenance including: rentals; occupancy requirements of federal, state or local agencies; bookkeeping; reporting; and physical condition (maintenance).

The SHA conforms to equal employment opportunity requirements in its hiring practices. Applicants will be interviewed and their qualifications judged without regard to race, color, age, sex, or disability.

Specific Responsibilities:

Property Manager:

The management of the property will be handled directly by an SHA Property Manager  
The Property Manager will;

- a. Manage and maintain Tenant Selection Plan requirements;
- b. Oversee lease-up of vacant units;
- c. Perform interim and annual re-certifications of all residents, including residents occupying HOME in coordination with SHA Section 8 staff;

Financial Management:

The management of the property will be handled directly by an SHA Property Manager. Additional SHA staff may be utilized to support management as necessary. The Financial Manager will;

- a. Assist with performing all accounting functions, budgeting and operational reports;
- b. Assist with the preparation of all fiscal, rental, and equal opportunity and marketing reports; and
- c. General oversight of rent collection and any other monies owed.

### **TENANT SELECTION/MARKETING**

A Tenant Selection Plan and an Affirmative Marketing Plan have been developed in accordance with applicable guidelines. SHA will follow federal, state and local laws prohibiting discrimination. Tenant Selection policies are described in the Tenant Selection Plan as reflected in the Administrative Plan Amendment, Chapter 23-B Project Based Voucher Tenant Selection Plan for Mystic WaterWorks. Marketing Plan is described in SHA's Administrative Plan as well as the Affirmative Fair Housing Marketing Plan that has been specifically developed for Mystic WaterWorks.



## **LEASE**

All residents of the Development shall be required to execute a lease on a form utilized by SHA modified via addenda to incorporate the occupancy requirements associated with the sources of financing for the Development. The lease will include the lease addendum required by HUD for use in the PBA program.

## **UNIT INSPECTIONS**

A move-in inspection will take place prior to the tenant signing the lease.

Each unit will be inspected annually prior to the lease renewal date to check on housekeeping, maintenance, and other lease compliance issues. If any repairs are necessary, the appropriate maintenance staff will promptly make the repair, generally within 24 hours if it is capable of being repaired within that time.

When a termination notice is received, a unit inspection will be conducted with the outgoing tenant prior to keys being handed in. If there are any tenant caused damages beyond normal wear and tear the tenant will be notified of the costs.

The SHA at its sole discretion may periodically inspect units when it believes there are reasonable grounds for an inspection, upon giving proper prior notification to the tenant, except in emergencies. A copy of all unit inspections will be kept in the tenant's files.

## **TENANT ORIENTATION**

All new residents will be required to participate in a tenant orientation program to familiarize themselves with the policies and procedure of the building when executing their lease. This will be performed by the Property Manager and Resident Services Coordinator and will cover the lease, maintenance/repairs policy, rent collection, housekeeping, and operation of thermostat within the apartment, and other items in the policies and guidelines related Mystic WaterWorks.

## **MAINTENANCE REPAIRS**

The SHA Maintenance Department will make an inventory of mechanical equipment, appliances, spare parts, and cleaning materials along with a schedule of preventive maintenance in accordance with operating procedures. The SHA staff will test and inspect the mechanical equipment and appliances in accordance with the schedule of preventive maintenance. Improperly installed or inoperative equipment and appliances will be identified and fixed.

Residents will dispose of garbage and deposit trash in proper central receptacles. Refuse will be removed by contracted services.

Maintenance/repairs will be made by either on-site or centralized SHA Maintenance Staff. The Maintenance Department will determine whether or not the action requires additional contract services not offered by SHA.

SHA Maintenance staff is responsible for snow removal and landscaping.

Repairs and maintenance requests can be made via phone call to central maintenance or off hours to SHA's answering service, directly to the Property Manager or to on-site maintenance personnel. All work orders will be recorded by centralized maintenance with the date of the request, name and apartment number of resident, description of work, date work is scheduled, date of work completion, and cost of labor and materials.

Residents will report emergencies by calling the SHA Maintenance Telephone number given to them at the time of move-in. This number functions on a twenty-four (24) hour basis. Maintenance requests will be handled promptly during working hours; emergencies will be covered on a twenty-four (24) hour basis. All repairs will be made within 24 hours unless the repair is not capable of being accomplished within that time.

## **RENT COLLECTION**

Rents are due and payable on or before the first day of each month. Payment must be made by check or money order to Somerville Housing Authority mailed or delivered to the Somerville Housing Authority lock box at C/O Century Bank PO BOX 208 Somerville MA 01243

Payments are received and recorded by Century Bank and information is forwarded to appropriate Finance staff. Funds will be deposited in the project account.

Residents in arrears on the seventh (7<sup>th</sup>) day of the month will be contacted and sent a Private Conference Notice (PCN). At the PCN the tenant can either submit payment or discuss payment status or other issues and problems. SHA will determine if additional services are required and create a plan of action and resolution.

If tenant fails to respond or otherwise does not comply with plan of action and the rent is still in arrears on the fifteenth (15<sup>th</sup>) of the month, SHA will serve a 30-days notice of lease termination, in accordance with the lease, and, if necessary, at the expiration of the notice, an eviction action will be filed in court. The SHA staff will make every effort to secure voluntary compliance by each resident with the terms of his or her occupancy agreement. If a resident's financial situation changes resulting in hardship, the SHA will counsel the resident and make referrals to community agencies so that involuntary termination of tenancies may be avoided.

## **INITIALLY QUALIFIED LIHTC RESIDENTS**

All residents that "initially qualify" a unit at Mystic WaterWorks for purposes of the LIHTC program will be processed in accordance with the Tenant Selection Plan. No residents shall execute a lease for initially qualifying occupancy without prior written approval by Cornu Management evidencing that resident meets the requirements of the LIHTC program. SHA and Cornu Management will establish communication protocols relevant to this review and approval process. Furthermore, SHA will adopt appropriate industry standard safeguards for securing the initially qualifying files in Fire Proof cabinets.

## **REDETERMINATION OF RENT AND FAMILY COMPOSITION CHANGES**

The income, allowances and family composition of each household who resides at Mystic WaterWorks will be re-determined at least once a year by Property Manager or Assistant Property Manager in accordance with the current recertification policy followed by the SHA as amended to include considerations for LIHTC, Home and CBH programs. Staff will be trained in LIHTC requirements by attendance at professional seminars and by training provided by Cornu Management.

Third party verifications to verify income, allowances and expenses will be obtained whenever possible, and in accordance with the SHA's standard practices and procedures, which are reflected in SHA's Administrative Plan.

Upon final recertification, if rent amount increases, the increase will be effective no earlier than 30 days. If rent amount decreases, the decrease will become effective immediately upon the next rent payment.

Interim certifications are allowed, and will conform to the SHA's current policy.

## **SECURITY DEPOSITS**

SHA does not collect Security Deposits

## **PARKING**

Parking is available on a first come, first served basis. There are no assigned spaces in the parking lot. Only one car per unit can qualify for available parking spaces. Storage of any automobile will not be allowed and will be towed at owner's expense.

Automobiles must be properly registered to a licensed owner who is a resident on the lease. The automobile must also be insured, and inspected, as required by law.

## **LAUNDRY**

Laundry facilities are available within the building. SHA contracts with a laundry equipment provider and tenants are charged for laundry use. SHA collects the funds and provides 50% of collected funds back to the Tenant Association.

## **UTILITIES**

Utilities are supplied by SHA except electricity. Residents receive a utility allowance that is based upon a schedule approved by SHA.

## **ACCOUNTING/FINANCIAL REPORTS**

The Central Office of the SHA or contracted entity will provide computerized accounting services. The annual operating budgets, carrying charge collections, vacancies, bills, etc. will be entered into the computer at the end of each month. These computer reports will indicate cumulative expenses to date, as well as total income, so that the project's cash flow can be monitored easily.

## **7**

The SHA will oversee the timely preparation of reporting as required by the regulatory management agreements and in conformance with federal, state and local agency requirements.

All books, records, and accounts shall be maintained either on-site by contracted staff or at the central office of the SHA and will be available for examination at all reasonable times. All project files and all resident information will be kept at the appropriate office.

## **ANNUAL OPERATING BUDGET**

This will be developed within the existing framework utilized by SHA adapted to incorporate special considerations for Mystic WaterWorks and will include established timeframes for review, approval and subsequent dissemination to investors and regulatory agencies as required.

## **ENERGY CONSERVATION**

The conservation of energy is an ongoing concern. A preventive maintenance program will be applied to keep operations at peak efficiency. Residents will be instructed on the proper use of all appliances and heating units to insure maximum comfort and efficiency.

Energy consumption will be closely monitored and compared to existing records to determine if excessive energy is being used, and if so, what be done to remedy the situation.

## **EMERGENCIES**

All residents will be instructed on the proper procedures to follow in the event of a general maintenance, fire or medical emergency.

## **EXISTING POLICIES AND GUIDELINES**

In all SHA properties, it is important to establish and maintain an environment that allows residents to feel comfortable and safe. The residents will be supported and encouraged to participate in the Tenant Association and their activities. Many returning residents will assist in re-establishing the Mystic WaterWorks Tenant Association and all new tenants will be welcomed to participate.

## **COMMUNITY ROOM**

Whereas, it is the intention of the Board of Commissioners of the Somerville Housing Authority (SHA) to provide residents and resident associations with a full range of opportunities while maintaining responsible care, order, and utilization of community room spaces,

And whereas, the Board of Commissioners seeks to preserve integrity, fairness, and neutrality, while maintaining their own non-involvement in the administration of these spaces,



The Board hereby adopts the following policy relative to the use of community spaces in SHA developments by residents or associations:

Meetings, events, functions, etc. must be held within the building, the grounds of the building cannot be used without prior consent of the authority. Requests to use a community room must be forwarded to the housing manager. The housing manager will examine all pertinent information to properly consider requests for use. Information considered will include the purpose and hours of use, as well as compliance with board of health regulations concerning food preparation, food service and disposal. Under extraordinary circumstances, the authority may require that an insurance certificate or police detail be assigned to a function. This policy will not preclude the resident association from conducting their regularly scheduled monthly meetings, emergency meetings, or special occasion functions as a matter of right and without prior SHA approval.

Following are some examples of appropriate use of the community rooms REQUIRING SHA APPROVAL;

- 1) Educational use - such as; nutritional counseling, health seminars, exercise, age group mix, lectures.
- 2) Entertainment – such as; Holiday parties and musical or theatrical entertainment.
- 3) Group activities – such as; Spiritual meetings, rummage sales, bake sales, bingo games, card games.
- 4) Political events – such as; voting precincts, candidate nights, community political meetings.

Residents reserving the community spaces are responsible for returning the community space to its original condition. Damage charges will be assessed to cover the costs of materials and labor needed to restore community spaces to their original condition.

A file will be maintained by Property Manager on community space activities, indicating dates, number of participants, and general comments. Community space activities will be posted on the bulletin board calendar.

If no routine association activities are scheduled, assigning use of the Community spaces shall be as follows:

#### FIRST PRIORITY

Residents or resident associations planning to make use of the community space for the sole benefit of the

residents.

#### SECOND PRIORITY

Individuals or groups volunteering or responding to invitations to provide educational programs and/or entertainment to residents.

#### THIRD PRIORITY

Compatible groups and organizations that can be expected to cooperate and assist the housing authority in various ways.

Associations and individual residents are encouraged to exercise their obligations and rights in a thoughtful and responsible manner that is fair to all political candidates and supportive of the principles of our democratic process. The authority policy for campaign events is:

#### POLITICAL ACTIVITIES

Candidates are welcome to host campaign events in community rooms with the prior approval of the housing manager. Similarly, elected officials that choose to conduct district office hours in a community space may do so upon prior pre-approval. However, community rooms can only be used by elected officials for district offices during non-election years.

Door to door solicitation is prohibited at all times. Distributing pamphlets or knocking on doors to solicit residents is strictly prohibited, however, residents of the buildings are allowed to distribute materials on behalf of a candidate.

Campaigns are prohibited from setting up in community rooms or common areas on Election Day. Unlike prior campaign activities, voter turnout tactics result in all candidacies maneuvering for presence and poses a safety problem.

Candidates are required to keep Election Day transport vehicles out of parking spaces under the control of the SHA.

#### KEY CONTROL & POLICY

The Somerville Housing Authority will issue an appropriate number of keys to legal lease holders. SHA has adopted a key control policy to eliminate excessive requests for keys and maintain safety and security. Forms requesting additional keys or replacements keys due to loss, will be provided by property manager.

Multiple requests for replacement keys due to loss will require a meeting with Property Manager and may result in charges to the tenant if it necessitates replacement locks.

## PET POLICY

The purpose of the Pet Policy (hereinafter "policy") is to establish rules and guidelines regulating the keeping of "common household pets" in the Somerville Housing Authority (SHA). Management must approve of any pet except for caged birds and fish. A service animal which is specially trained to assist an individual with a disability in specific activities of daily living (for example, a dog guiding individuals with impaired vision or alerting individuals with impaired hearing) is not considered a pet for which permission to keep is required, when it is kept in a safe and sanitary manner by an individual with a disability to whom the animal gives necessary assistance in activities of daily living. A service animal shall be considered a pet in computing the number of pets kept.

For this policy an example of a "common household pet" includes domesticated animals such as dogs, cats, birds, hamster, gerbil, fish or turtles. A monkey or snake is an example of an animal that is not a "common household pet" (hereinafter "pet").

This policy provides that the SHA will not prohibit an elderly or disabled resident from owning and/or keeping a common household pet in their dwelling unit.

This policy is deemed to be an addendum to the residents lease.

### A. Ownership of Pets

Because of the vast number of young children residing in the family developments, and the threat to personal safety and sanitary conditions, dogs will not be permitted in the Mystic or Clarendon developments. Senior buildings will retain their right to keep a small dog in accordance with the provision of this policy.

- Each pet kept in a dwelling unit must be licensed and immunized to the extent required by state or local law. The pet must be restrained while in any common area of the development.
- Cats or dogs that are kept in dwelling units must be spayed or neutered and certified clean by a veterinarian.

### B. Number and Size of Pets

- A resident may only one (1) pet at a time. However, any resident that owned more than one cat prior to December 15, 1998 will be permitted to keep a maximum of two (2) cats. Cats are the only pets that will be recognized as preexisting under this provision.
- No pet may exceed 30 pounds in weight. **Animals used to assist the disabled are excluded from this size limitation.**
- Any pet other than a cat or dog must be kept in a cage when in a dwelling unit. No rodents are allowed unless in a cage. Fish and turtle tanks are limited to 20 gallons.

### C. Financial Obligation of Pet Care

- Each pet owner must provide adequate daily care to maintain the pet in good health including immunization.
- Damage to any property within the dwelling unit or common areas that is the direct result of a pet's behavior is the financial responsibility of the pet owner.

- If an owner is incapacitated to the extent that they cannot provide daily care for the pet, the owner will arrange to provide for the pet's care, either on a temporary or permanent basis, depending on the individual circumstances.

#### **D. Pet Registration**

- All pet's must be registered (from SHA-PF) annually with the SHA property manager. Registration must include the following:
  - a. for cats and dogs, veterinary certificate of inoculation;
  - b. for cats and dogs, license information about the pet;
  - c. The name of the person who will care for the pet if the owner dies or becomes incapacitated.

The designated pet caretaker and the pet owner must sign the lease addendum for pets (form ) indicating that they have read the Pet Policy and agree to comply with it.

- SHA may refuse to register a pet if SHA reasonably determines that the pet owner, because of practices, habits, or physical condition, is unable to keep the pet according to the rules, or if the pet temperament is such that the rules will not be followed. SHA will notify the pet owner in writing within ten (10) business days if registrations of pet is refused. The notice will state the basis for the refusal.
- A resident keeping an unregistered pet is violating Policy rules and will be treated according to the rules in section J of this Policy.

#### **E. Pet Deposit**

A pet deposit must be paid upon registration of any cat or dog registered after the implementation date of the policy (March 1, 1999). The pet deposit is \$50.00. A pet owner unable to pay this deposit in full may request a payment agreement. A down payment of \$10.00 will be required for the payment agreement. The pet deposit is refundable when the dwelling unit is vacated or upon removal of the pet if an inspection of the premises reveals no evidence of pet-related damage. Pet damage includes, but is not limited to, grounds cleanup, carpet cleaning and/or replacement if stained, carpet deodorizing, and scratching or clawing damage to any surfaces.

#### **F. Pet Restraints**

- Pets must be restrained at all times when not in the dwelling unit.
- A pet may not roam loose. Each pet **must be attended** when outside the dwelling unit.
- Tethering of unattended pets is not allowed.
- Pets are not allowed in any common areas unless entering or exiting the dwelling unit.

#### **G. Disposal of Pet Wastes**

- Each pet owner is responsible for the immediate removal of all pet waste in a sanitary manner. Disposal must be in waterproof containers to avoid leakage and odor and must be in the manner prescribed by the SHA for each development.
- Pet owners who fail to remove pet waste will be charged a cleanup fee of \$5.00 per occurrence. Repeated failures to remove pet waste and/or pay cleanup fees are grounds for eviction.

#### **H. Pet Behavior**

- Each pet owner is responsible for the behavior of his/her pet and must control behavior such as noisiness to ensure the peaceful enjoyment of the premises.
- If there are pet-related disturbances or damages, a notice of lease violation will be issued to the pet owner by the management staff. If the pet owner fails to correct the condition or permits its reoccurrence after notification, SHA may terminate the resident's lease for good cause.
- In an emergency, when it is necessary for the protection of the pet, other residents, resident's guests, or SHA staff, SHA may immediately remove the pet.
- Dogs may not be left unattended inside a dwelling unit for more than ten (10) hours. All other pets may not be left unattended for more than 24 hours.
- In the event of an animal bite or attack on another tenant or pet, the pet owner is solely responsible for any costs arising from the incident.
- All pets must be housebroken

#### **I. Visiting Pets**

The SHA will not allow visiting pets in any dwelling unit for any period of time unless expressly approved in advance by the management staff.

#### **J. Pet Rule Violation Procedures**

If the SHA determines that an owner has violated a provision of the Policy, a lease violation will be issued. Failure to correct any identified problems within (10) days, or a repetition of a similar violation occurring within six (6) months, will constitute grounds for eviction. Failure to correct violations of the policy or pay for pet damages will result in removal of the pet and/or termination of the resident's lease.

#### **K. Pet Grievance Panel**

A pet grievance committee will be established for the purposes of resolving disputes arising from the SHA pet policy. The pet grievance panel will be comprised of one SHA designee, one resident representative, and a third member agreed upon by these two members. The panel will render written decision based upon majority opinion, based upon material facts, applicable law and regulations.

In case where appeals are sought, the SHA will directly furnish a list to the tenant concerning information and process necessary to pursue an appeal.

## **PUBLIC SAFETY**

The Department of Public Safety exists to assist residents in maintaining a safe and secure living environment. The Somerville Housing Authority fields two plain clothes police officers nightly 5 PM to 1 AM and one plain clothes police officer Monday through Friday 11 AM to 7 PM.

Officers patrol all SHA properties and respond to calls for assistance. They investigate crimes, arrest offenders and appear in court for criminal prosecution. They enforce parking regulations and motor vehicle law, while administering the SHA resident parking sticker program.

During patrols, they document safety and security deficiencies and refer them to the proper agency for repair.

The Department assists SHA management in lease enforcement, investigating violations and appearing in court as witnesses.

The Department works with the Somerville Police and Somerville Fire Department to enhance the level and quality of services provided by those agencies. They also act as a resource to those agencies in providing information and training. We also participate in regional public safety initiatives, including Gang, Juvenile Justice, Domestic Violence and Disaster Response.

We meet regularly the Tenant Associations in providing residents with crime prevention, fire prevention and disaster preparation.

We monitor the SHA Tip Line and respond to any complaints received.

## RESIDENT SERVICES

The Somerville Housing Authority has 2 full-time resident service coordinators that assist our residents with a variety of services. At the time of lease up, our resident services coordinators (RSC) visit the newly arrived tenant and offer a handbook that describes the SHA community and important contact information and policies. The RSC work and meet regularly with all building/development tenant associations to assist in maintaining viability and encouraging new tenants to join.

RSC assist tenant with both physically, emotional challenges and provide referrals to a wide range of service providers and resources.

Resident Services staff continued to address a variety of concerns for SHA families and seniors, with particular attention to increased numbers of elderly residents facing health issues of Alzheimer's and dementia. As these conditions also affect lives of family members and friends of those afflicted, SHA Resident Services continued to work closely with local social service agencies to ensure the needs of these families are met, and that residents may safety remain in their homes as long as possible.

Immediately adjacent is the new VNA Assisted Living building, a full-service assisted living residence serving low-income seniors . The completed new Mystic WaterWorks building will have access to services and facilities provided by the VNA.

## **Narrative / Historic Resources Rehabilitation Projects**

The project has been approved for federal and state historic tax credits which requires that it is reviewed by the Massachusetts Historic Commission (MHC) and the National Park Service (NPS) prior to construction. MHC and NPS will also review the completed project and will only certify the credits if all completed work meets the Secretary of the Interior's *Standards for Rehabilitation*

Mystic WaterWorks  
Somerville Housing Authority  
Project Timeline

Completed	Preliminary Plans and Specs, Environmental Testing, Zoning
1/15	Apply for balance of State Historic Tax Credits
4/15	Apply for Housing Tax Credits from DHCD
4/15	State Historic Tax Credit awards announced
7/15	DHCD announces Housing Tax Credit awards
7/15-3/16	Final Plans and Specs; Construction Bid Process
3/16	Loan Closing and Construction Start
9/16	50% Construction Completion
3/17	Construction Completion, begin occupancy
4/17	Full Occupancy





JOSEPH A. CURTATONE  
MAYOR

Somerville CPA



**CITY OF SOMERVILLE, MASSACHUSETTS**  
**COMMUNITY PRESERVATION COMMITTEE**  
**FY15 FUNDING APPLICATION**  
**BUDGET SUMMARY**

PROJECT NAME: \_\_\_\_\_

APPLICANT: \_\_\_\_\_

<b>SUMMARY OF PROJECT COSTS</b>						
<i>Please include a complete itemized budget of all project expenses, including the proposed funding source for each expense, in your submission.</i>						
<b>PROPOSED SOURCE</b>		<b>EXPENSES</b>				
		<b>STUDY</b>	<b>SOFT COSTS*</b>	<b>ACQUISITION</b>	<b>CONSTRUCTION**</b>	<b>TOTAL</b>
1	Somerville CPA	\$	\$	\$	\$	\$
2						
3						
4						
5						
6						
<b>TOTAL PROJECT COSTS</b>		<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
<small>*Soft costs include design, professional services, permitting fees, closing costs, legal, etc.</small>						
<small>** Construction includes new construction, preservation, rehabilitation, and/or restoration work</small>						

<b>EXPLANATION OF FUNDING SOURCES</b>			
<i>Please explain the status of each funding source (i.e., submitting application on X date, applied on X date, received award notification on X date, funds on hand, etc.). For sources where funding has been awarded or funds are on hand, please include documentation from the funding source (e.g., commitment letter, bank statement) in application packet</i>			
	<b>SOURCE</b>	<b>SECURED? (YES/NO)</b>	<b>STATUS OF FUNDING SOURCE</b>
2			
3			
4			
5			
6			

**Construction Period Sources and Uses**

Please fill out the following table with information on each month for which the project will be under construction. "Sources" and "Uses" should equal each other every month. Indicate loan repayment during the construction period.

**Sources of Cash:**

	<i>Total</i>	<i>Closing</i>	<i>Month 1</i>	<i>Month 2</i>	<i>Month 3</i>	<i>Month 4</i>
Construction Loan	\$6,500,000	\$327,714	\$79,158	\$529,488	\$531,694	\$533,909
Proceeds from Sale (Net)*	\$0	\$	\$	\$	\$	\$
Equity: Cash	\$0	\$	\$	\$	\$	\$
Equity: Tax Credit (Net)	\$6,975,000	\$415,247.76	\$	\$	\$	\$
Subordinate Debt	\$1,000,000	\$450,000	\$450,000	\$	\$	\$
Permanent Debt	\$1,500,000	\$	\$	\$	\$	\$
Syndication Bridge Loan	\$0	\$	\$	\$	\$	\$
Other Interim Loan	\$0	\$	\$	\$	\$	\$
<b>SUBTOTAL</b>	<b>\$15,975,000</b>	<b>\$1,192,961</b>	<b>\$529,158</b>	<b>\$529,488</b>	<b>\$531,694</b>	<b>\$533,909</b>
Repayment: Construction Loan	\$6,500,000	\$	\$	\$	\$	\$
Repayment: Syndication Loan	\$	\$	\$	\$	\$	\$
Repayment: Interim Loan	\$	\$	\$	\$	\$	\$
<b>TOTAL SOURCES, NET</b>	<b>\$9,475,000</b>	<b>\$1,192,961</b>	<b>\$529,158</b>	<b>\$529,488</b>	<b>\$531,694</b>	<b>\$533,909</b>
<b>Cumulative Sources</b>		<b>\$1,192,961</b>	<b>\$1,722,119</b>	<b>\$2,251,607</b>	<b>\$2,783,301</b>	<b>\$3,317,211</b>

\* Only relevant in the case of for-sale projects.

**Uses of Cash (Expenses):****Acquisition**

<i>Total</i>	<i>Closing</i>	<i>Month 1</i>	<i>Month 2</i>	<i>Month 3</i>	<i>Month 4</i>
\$1	\$1	\$	\$	\$	\$

**Hard Costs:**

Direct Construction	\$6,134,531	\$	\$460,090	\$460,090	\$460,090	\$460,090
Contingency	\$613,453	\$	\$46,009	\$46,009	\$46,009	\$46,009
<b>Total Hard Costs</b>	<b>\$6,747,984</b>	<b>\$0</b>	<b>\$506,099</b>	<b>\$506,099</b>	<b>\$506,099</b>	<b>\$506,099</b>

**Soft Costs:**

Construction Loan Interest	\$300,000	\$0	\$1,365	\$1,695	\$3,901	\$6,117
Architecture & Engineering	\$384,670	\$228,653	\$12,000	\$12,000	\$12,000	\$12,000
Survey and Permits	\$127,850	\$117,850	\$	\$	\$	\$
Clerk of the Works	\$68,250	\$	\$5,250	\$5,250	\$5,250	\$5,250
Environmental Engineer	\$25,000	\$25,000	\$	\$	\$	\$
Bond Premium	\$68,230	\$68,230	\$	\$	\$	\$
Legal	\$275,000	\$245,000	\$	\$	\$	\$
Title and Recording	\$25,000	\$25,000	\$	\$	\$	\$
Accounting & Cost Certificat.	\$35,000	\$10,000	\$	\$	\$	\$
Marketing and Rent Up	\$17,500	\$	\$	\$	\$	\$
Real Estate Taxes	\$0	\$	\$	\$	\$	\$
Insurance	\$25,000	\$15,000	\$	\$	\$	\$
Relocation	\$0	\$	\$0	\$0	\$0	\$0
Appraisal	\$12,000	\$12,000	\$	\$	\$	\$
Security	\$0	\$	\$	\$	\$	\$
Inspecting Engineer	\$34,000	\$5,000	\$2,000	\$2,000	\$2,000	\$2,000
Financing Fees	\$232,926	\$232,926	\$	\$	\$	\$
Development Consultant	\$0	\$	\$	\$	\$	\$
Escrows	\$25,000	\$	\$	\$	\$	\$
Other	\$10,000	\$10,000	\$	\$	\$	\$
Developer's Overhead	\$289,355	\$144,678	\$1,000	\$1,000	\$1,000	\$1,000
Developer's Fee (Net)	\$289,355	\$	\$	\$	\$	\$
Soft Cost Contingency	\$79,451	\$53,624	\$1,444	\$1,444	\$1,444	\$1,444
Contribution to Reserves	\$403,429	\$	\$	\$	\$	\$
<b>Subtotal Soft Costs, Fees</b>	<b>\$2,727,016</b>	<b>\$1,192,960</b>	<b>\$23,059</b>	<b>\$23,389</b>	<b>\$25,595</b>	<b>\$27,811</b>
<b>TOTAL USES</b>	<b>\$9,475,001</b>	<b>\$1,192,961</b>	<b>\$529,158</b>	<b>\$529,488</b>	<b>\$531,694</b>	<b>\$533,909</b>
<b>Cumulative Uses</b>		<b>\$1,192,961</b>	<b>\$1,722,119</b>	<b>\$2,251,607</b>	<b>\$2,783,301</b>	<b>\$3,317,211</b>

**Budget: Percentage of Funds Expended**

12.6%	5.6%	5.6%	5.6%	5.6%
-------	------	------	------	------

Construction Loan Balance	\$0	\$327,714	\$406,872	\$936,359	\$1,468,054	\$2,001,963
Syndication Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0
Interim Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0

## Exhibit 11

## Construction Period Sources and Uses

Page 2

Please fill out the following table with information on each month for which the project will be under construction. "Sources" and "Uses" should equal each other every month. Indicate loan repayment during the construction period.

**Sources of Cash:**

	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10
Construction Loan	\$536,134	\$538,368	\$540,611	\$542,864	\$545,126	\$555,459
Proceeds from Sale (Net)*	\$	\$	\$	\$	\$	\$
Equity: Cash	\$	\$	\$	\$	\$	\$
Equity: Tax Credit	\$	\$	\$	\$	\$	\$
Subordinate Debt	\$	\$	\$	\$	\$	\$
Permanent Debt	\$	\$	\$	\$	\$	\$
Syndication Bridge Loan	\$	\$	\$	\$	\$	\$
Other Interim Loan	\$	\$	\$	\$	\$	\$
<b>SUBTOTAL</b>	\$536,134	\$538,368	\$540,611	\$542,864	\$545,126	\$555,459
Repayment: Construction Loan	\$	\$	\$	\$	\$	\$
Repayment: Syndication Loan	\$	\$	\$	\$	\$	\$
Repayment: Interim Loan	\$	\$	\$	\$	\$	\$
<b>TOTAL SOURCES, NET</b>	\$536,134	\$538,368	\$540,611	\$542,864	\$545,126	\$555,459
<b>Cumulative Sources</b>	\$3,853,345	\$4,391,713	\$4,932,324	\$5,475,188	\$6,020,313	\$6,575,773

\* Only relevant in the case of for-sale projects.

**Uses of Cash (Expenses):****Acquisition**

	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10
\$	\$	\$	\$	\$	\$	\$

**Hard Costs:**

Direct Construction	\$460,090	\$460,090	\$460,090	\$460,090	\$460,090	\$460,090
Contingency	\$46,009	\$46,009	\$46,009	\$46,009	\$46,009	\$46,009
<b>Total Hard Costs</b>	\$506,099	\$506,099	\$506,099	\$506,099	\$506,099	\$506,099

**Soft Costs:**

Construction Loan Interest	\$8,342	\$10,575	\$12,819	\$15,071	\$17,333	\$19,604
Architecture & Engineering	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
Survey and Permits	\$	\$	\$	\$	\$	\$
Clerk of the Works	\$5,250	\$5,250	\$5,250	\$5,250	\$5,250	\$5,250
Environmental Engineer	\$	\$	\$	\$	\$	\$
Bond Premium	\$	\$	\$	\$	\$	\$
Legal	\$	\$	\$	\$	\$	\$
Title and Recording	\$	\$	\$	\$	\$	\$
Accounting & Cost Certificat.	\$	\$	\$	\$	\$	\$
Marketing and Rent Up	\$	\$	\$	\$	\$	\$7,500
Real Estate Taxes	\$	\$	\$	\$	\$	\$
Insurance	\$	\$	\$	\$	\$	\$
Relocation	\$0	\$0	\$0	\$0	\$0	\$0
Appraisal	\$	\$	\$	\$	\$	\$
Security						
Inspecting Engineer	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Financing Fees	\$	\$	\$	\$	\$	\$
Development Consultant						
Escrows	\$	\$	\$	\$	\$	\$
Other	\$	\$	\$	\$	\$	\$
Developer's Overhead	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Developer's Fee (Net)	\$	\$	\$	\$	\$	\$
Soft Cost Contingency	\$1,444	\$1,444	\$1,444	\$1,444	\$1,444	\$2,006
Contribution to Reserves	\$	\$	\$	\$	\$	\$
<b>Sub-Total Soft Costs</b>	\$30,035	\$32,269	\$34,512	\$36,765	\$39,027	\$49,361
<b>TOTAL</b>	\$536,134	\$538,368	\$540,611	\$542,864	\$545,126	\$555,459
<b>Cumulative Uses</b>	\$3,853,345	\$4,391,713	\$4,932,324	\$5,475,188	\$6,020,313	\$6,575,773

**Percentage of Funds Expended**

5.7%	5.7%	5.7%	5.7%	5.8%	5.9%
------	------	------	------	------	------

Construction Loan Balance	\$2,538,097	\$3,076,465	\$3,617,076	\$4,159,940	\$4,705,066	\$5,260,525
Syndication Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0
Interim Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0

## Exhibit 11

## Construction Period Sources and Uses

Page 3

Please fill out the following table with information on each month for which the project will be under construction. "Sources" and "Uses" should equal each other every month. Indicate loan repayment during the construction period.

**Sources of Cash:**

	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16
Construction Loan	\$565,836	\$557,444	\$0	\$30,461	\$0	\$15,641
Proceeds from Sale (Net)*	\$	\$	\$	\$	\$	\$
Equity: Cash	\$	\$	\$	\$	\$	\$
Equity: Tax Credit	\$		\$830,495.52	\$	\$2,822,522	\$
Subordinate Debt	\$	\$	\$100,000	\$	\$	\$
Permanent Debt	\$	\$	\$	\$	\$	\$
Syndication Bridge Loan	\$	\$	\$	\$	\$	\$
Other Interim Loan	\$	\$	\$	\$	\$	\$
<b>SUBTOTAL</b>	\$565,836	\$557,444	\$930,496	\$30,461	\$2,822,522	\$15,641
Repayment: Construction Loan	\$	\$	\$105,091	\$	\$2,795,234	\$
Repayment: Syndication Loan	\$	\$	\$	\$	\$	\$
Repayment: Interim Loan	\$	\$	\$	\$	\$	\$
<b>TOTAL SOURCES, NET</b>	\$565,836	\$557,444	\$825,405	\$30,461	\$27,288	\$15,641
<b>Cumulative Sources</b>	\$7,141,609	\$7,699,053	\$8,524,458	\$8,554,919	\$8,582,207	\$8,597,849

\* Only relevant in the case of for-sale projects.

**Uses of Cash (Expenses):****Acquisition**

	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16
\$	\$	\$	\$	\$	\$	\$

**Hard Costs:**

Direct Construction	\$460,090	\$460,090	\$613,453	\$	\$	\$
Contingency	\$46,009	\$46,009	\$61,345	\$	\$	\$
<b>Total Hard Costs</b>	\$506,099	\$506,099	\$674,798	\$0	\$0	\$0

**Soft Costs:**

Construction Loan Interest	\$21,919	\$24,277	\$26,599	\$26,161	\$26,288	\$14,641
Architecture & Engineering	\$12,000	\$12,000	\$12,017			
Survey and Permits	\$10,000	\$		\$	\$	\$
Clerk of the Works	\$5,250	\$5,250	\$5,250	\$	\$	\$
Environmental Engineer	\$	\$	\$	\$	\$	\$
Bond Premium	\$	\$	\$	\$	\$	\$
Legal	\$	\$	\$25,000	\$		\$
Title and Recording	\$	\$	\$	\$	\$	\$
Accounting & Cost Certificat.	\$	\$	\$25,000	\$		\$
Marketing and Rent Up	\$5,000	\$5,000	\$	\$	\$	\$
Real Estate Taxes	\$	\$	\$	\$	\$	\$
Insurance	\$	\$	\$10,000	\$	\$	\$
Relocation	\$	\$	\$	\$	\$	\$
Appraisal	\$	\$	\$	\$	\$	\$
Security			\$	\$	\$	\$
Inspecting Engineer	\$2,000	\$2,000	\$2,000	\$3,000	\$	\$
Financing Fees	\$	\$	\$	\$	\$	
Development Consultant				\$	\$	
Escrows	\$	\$	\$25,000	\$	\$	\$
Other	\$	\$	\$	\$	\$	\$
Developer's Overhead	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Developer's Fee (Net)	\$	\$	\$	\$	\$	
Soft Cost Contingency	\$2,569	\$1,819	\$6,139	\$300	\$0	\$0
Contribution to Reserves	\$	\$	\$	\$	\$	
<b>Sub-Total Soft Costs</b>	\$59,738	\$51,345	\$138,005	\$30,461	\$27,288	\$15,641
<b>TOTAL</b>	\$565,836	\$557,444	\$812,804	\$30,461	\$27,288	\$15,641
<b>Cumulative Uses</b>	\$7,141,609	\$7,699,053	\$8,511,857	\$8,542,318	\$8,569,606	\$8,585,248

**Percentage of Funds Expended**

	6.0%	5.9%	8.6%	0.3%	0.3%	0.2%
--	------	------	------	------	------	------

Construction Loan Balance	\$5,826,361	\$6,383,805	\$6,278,714	\$6,309,176	\$3,513,942	\$3,529,583
Syndication Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0
Interim Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0

## Exhibit 11

## Construction Period Sources and Uses

Page 4

Please fill out the following table with information on each month for which the project will be under construction. "Sources" and "Uses" should equal each other every month. Indicate loan repayment during the construction period.

**Sources of Cash:**

	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22
Construction Loan	\$15,707	\$	\$6,923	\$6,166	\$6,192	\$
Proceeds from Sale (Net)*	\$	\$	\$	\$	\$	\$
Equity: Cash	\$	\$	\$	\$	\$	\$
Equity: Tax Credit	\$	\$2,491,487	\$	\$	\$	\$
Subordinate Debt	\$	\$	\$	\$	\$	\$
Permanent Debt	\$	\$	\$	\$	\$	\$1,500,000
Syndication Bridge Loan	\$	\$	\$	\$	\$	\$
Other Interim Loan	\$	\$	\$	\$	\$	\$
<b>SUBTOTAL</b>	\$15,707	\$2,491,487	\$6,923	\$6,166	\$6,192	\$1,500,000
Repayment: Construction Loan	\$	\$2,072,286	\$	\$	\$	\$1,488,782
Repayment: Syndication Loan	\$	\$	\$	\$	\$	\$
Repayment: Interim Loan	\$	\$	\$	\$	\$	\$
<b>TOTAL SOURCES, NET</b>	\$15,707	\$419,201	\$6,923	\$6,166	\$6,192	\$11,218
<b>Cumulative Sources</b>	\$8,613,555	\$9,032,756	\$9,039,679	\$9,045,845	\$9,052,037	\$9,063,255

\* Only relevant in the case of for-sale projects.

**Uses of Cash (Expenses)****Acquisition**

	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22
\$	\$	\$	\$	\$	\$	\$

**Hard Costs:**

Direct Construction	\$	\$	\$	\$	\$	\$
Contingency	\$	\$	\$	\$	\$	\$
<b>Total Hard Costs</b>	\$0	\$0	\$0	\$0	\$0	\$0

**Soft Costs:**

Construction Loan Interest	\$14,707	\$14,772	\$6,138	\$6,166	\$6,192	\$6,218
Architecture & Engineering	\$	\$	\$	\$	\$	\$
Survey and Permits	\$	\$	\$	\$	\$	\$
Clerk of the Works	\$	\$	\$	\$	\$	\$
Environmental Engineer	\$	\$	\$	\$	\$	\$
Bond Premium	\$	\$	\$	\$	\$	\$
Legal	\$	\$	\$	\$	\$	\$5,000
Title and Recording	\$	\$	\$	\$	\$	\$
Accounting & Cost Certificat.	\$	\$	\$	\$	\$	\$
Marketing and Rent Up	\$	\$	\$	\$	\$	\$
Real Estate Taxes	\$	\$	\$	\$	\$	\$
Insurance	\$	\$	\$	\$	\$	\$
Relocation	\$	\$	\$	\$	\$	\$
Appraisal	\$	\$	\$	\$	\$	\$
Security	\$	\$	\$	\$	\$	\$
Inspecting Engineer	\$	\$	\$	\$	\$	\$
Financing Fees	\$	\$	\$	\$	\$	\$
Development Consultant	\$	\$	\$	\$	\$	\$
Escrows	\$	\$	\$	\$	\$	\$
Other	\$	\$	\$	\$	\$	\$
Developer's Overhead	\$1,000	\$1,000	\$785			
Developer's Fee (Net)	\$	\$	\$	\$	\$	\$
Soft Cost Contingency	\$	\$	\$	\$	\$	\$
Contribution to Reserves	\$	\$403,429	\$	\$	\$	\$
<b>Sub-Total Soft Costs</b>	\$15,707	\$419,201	\$6,923	\$6,166	\$6,192	\$11,218
<b>TOTAL</b>	\$15,707	\$419,201	\$6,923	\$6,166	\$6,192	\$11,218
<b>Cumulative Uses</b>	\$8,600,954	\$9,020,155	\$9,027,078	\$9,033,244	\$9,039,436	\$9,050,654

**Percentage of Funds Expended**

0.2%	4.4%	0.1%	0.1%	0.1%	0.1%
------	------	------	------	------	------

Construction Loan Balance	\$3,545,290	\$1,473,005	\$1,479,927	\$1,486,093	\$1,492,285	\$3,503
Syndication Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0
Interim Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0

## Exhibit 11

## Construction Period Sources and Uses

Page 5

Please fill out the following table with information on each month for which the project will be under construction. "Sources" and "Uses" should equal each other every month. Indicate loan repayment during the construction period.

	Month 23	Month 24	Month 25	Month 26	Month 27	Month 28
<b>Sources of Cash:</b>						
Construction Loan						
Proceeds from Sale (Net)*						
Equity: Cash						
Equity: Tax Credit		\$415,247.76				
Subordinate Debt						
Permanent Debt						
Syndication Bridge Loan						
Other Interim Loan						
<b>SUBTOTAL</b>	\$0	\$415,248	\$0	\$0	\$0	\$0
Repayment: Construction Loan						
Repayment: Syndication Loan						
Repayment: Interim Loan						
<b>TOTAL SOURCES, NET</b>	\$0	\$415,248	\$0	\$0	\$0	\$0
<b>Cumulative Sources</b>	\$9,063,255	\$9,478,503	\$9,478,503	\$9,478,503	\$9,478,503	\$9,478,503
* Only relevant in the case of for-sale projects.						
<b>Uses of Cash (Expenses):</b>	Month 23	Month 24	Month 25	Month 26	Month 27	Month 28
<b>Acquisition</b>						
<b>Hard Costs:</b>						
Direct Construction						
Contingency						
<b>Total Hard Costs</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Soft Costs:</b>						
Construction Loan Interest						
Architecture & Engineering						
Survey and Permits						
Clerk of the Works						
Environmental Engineer						
Bond Premium						
Legal						
Title and Recording						
Accounting & Cost Certificat.						
Marketing and Rent Up						
Real Estate Taxes						
Insurance						
Relocation						
Appraisal						
Security						
Inspecting Engineer						
Financing Fees						
Development Consultant						
Escrows						
Other						
Developer's Overhead		\$125,893				
Developer's Fee (Net)		\$289,355				
Soft Cost Contingency						
Contribution to Reserves						
<b>Sub-Total Soft Costs</b>	\$0	\$415,248	\$0	\$0	\$0	\$0
<b>TOTAL</b>	\$0	\$415,248	\$0	\$0	\$0	\$0
<b>Cumulative Uses</b>	\$9,050,654	\$9,465,902	\$9,465,902	\$9,465,902	\$9,465,902	\$9,465,902
<b>Percentage of Funds Expended</b>	0.0%	4.4%	0.0%	0.0%	0.0%	0.0%
Construction Loan Balance	\$3,503	\$3,503	\$3,503	\$3,503	\$3,503	\$3,503
Syndication Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0
Interim Loan Balance	\$0	\$0	\$0	\$0	\$0	\$0

## Exhibit 11

## Construction Period Sources and Uses

Page 6

Please fill out the following table with information on each month for which the project will be under construction. "Sources" and "Uses" should equal each other every month. Indicate loan repayment during the construction period.

Sources of Cash:	Month 29	Month 30	Month 31	Month 32	Month 33	Net Balance
Construction Loan						\$35,104
Proceeds from Sale (Net)*						\$0
Equity: Cash						\$0
Equity: Tax Credit						\$0
Subordinate Debt						\$0
Permanent Debt						\$0
Syndication Bridge Loan						\$0
Other Interim Loan						\$0
<b>SUBTOTAL</b>	\$0	\$0	\$0	\$0	\$0	\$35,104
Repayment: Construction Loan						\$6,461,392
Repayment: Syndication Loan						\$0
Repayment: Interim Loan						\$0
<b>TOTAL SOURCES, NET</b>	\$0	\$0	\$0	\$0	\$0	(\$6,426,288)
<b>Cumulative Sources</b>	\$9,478,503	\$9,478,503	\$9,478,503	\$9,478,503	\$9,478,503	

\* Only relevant in the case of for-sale projects.

Uses of Cash (Expenses)	Month 29	Month 30	Month 31	Month 32	Month 33	Net Balance
<b>Acquisition</b>						\$0
<b>Hard Costs:</b>						
Direct Construction						\$0
Contingency						\$0
Total Hard Costs	\$0	\$0	\$0	\$0	\$0	\$0
<b>Soft Costs:</b>						
Construction Loan Interest						\$9,099
Architecture & Engineering						\$0
Survey and Permits						\$0
Clerk of the Works						\$0
Environmental Engineer						\$0
Bond Premium						\$0
Legal						\$0
Title and Recording						\$0
Accounting & Cost Certificat.						\$0
Marketing and Rent Up						\$0
Real Estate Taxes						\$0
Insurance						\$0
Relocation						\$0
Appraisal						\$0
Security						\$0
Inspecting Engineer						\$0
Financing Fees						(\$0)
Development Consultant						\$0
Escrows						\$0
Other						\$0
Developer's Overhead						(\$1)
Developer's Fee (Net)						\$0
Soft Cost Contingency						\$1
Contribution to Reserves						\$0
Sub-Total Soft Costs	\$0	\$0	\$0	\$0	\$0	\$9,099
<b>TOTAL</b>	\$0	\$0	\$0	\$0	\$0	\$9,099
<b>Cumulative Uses</b>	\$9,465,902	\$9,465,902	\$9,465,902	\$9,465,902	\$9,465,902	

<b>Percentage of Funds Expended</b>	0.0%	0.0%	0.0%	0.0%	0.0%
Construction Loan Balance	\$3,503	\$3,503	\$3,503	\$3,503	\$3,503
Syndication Loan Balance	\$0	\$0	\$0	\$0	\$0
Interim Loan Balance	\$0	\$0	\$0	\$0	\$0

Project to be publicly bid with appropriate outreach to women and minority and Section 3 General Contractors. The goal for Section 3 Contractors is 12%.

The bid documents will state that the selected General Contractor will have to follow state and federal Equal Opportunity laws and regulations.

The General Contractor will also be selected in accordance with all Chapter 149 requirements, including all MBE & WBE requirements.

The bid documents will require the General Contractor to prepare WBE/MBE and Section 3 Subcontractor outreach plans for review and approval by the Somerville Housing Authority and DHCD.

SHA complies with State bidding requirements that include outreach to W/MBE and Section 3 companies. All advertising is sent to State Goods and Services which has direct outreach to targeted firms.

In addition, all professional staff members at the Somerville Housing Authority have been trained regarding fair housing laws and fair marketing. Future employees will be provided training and will be monitored to maximize positive performance and results.



March 7, 2014

Mr. Joe Macaluso  
Somerville Housing Authority  
30 Memorial Road  
Somerville, Massachusetts 02145

RE: MYSTIC WATERWORKS LLC (the "Company")  
Mystic WaterWorks Apartments, Somerville, Massachusetts (the "Property")

Dear Mr. Macaluso:

On behalf of Boston Capital ("BC"), I would like to thank you for the opportunity to present a proposal for the equity financing of the Property. Certain capitalized terms are more fully defined in Exhibit A attached.

## **Project Assumptions**

Based on information we have received from you, we have made the following assumptions:

## **Development Structure**

- The Company will acquire, construct, rehabilitate, own and operate the Property, which will consist of 25 one-bedroom units in 1 building.
- BC will purchase a 99.99% member interest in the Company. An affiliate of BC will be the Special Member.
- The managing members of the Company will be Somerville Housing Authority (referred to as the "Managing Members" even if there is only one).
- All of the obligations of the Managing Members set forth in the operating agreement of the Company (the "Operating Agreement") will be guaranteed by Somerville Housing Authority ("Guarantor"). The Guarantor must demonstrate to BC, in its sole and absolute discretion, its ability to provide meaningful guarantees.
- The management agent will be Somerville Housing Authority.
- The contractor will be satisfactory to BC. Construction will be fully bonded.

### Development Schedule

- BC's agreement to purchase the member interest at the pricing, terms and conditions contained in this proposal is based on the assumption that the Company closing, and if applicable, the financing closing, will occur on or before December 31, 2014.
- Construction will begin in January 2015 and completion will occur in December 2015.
- Initial lease up will begin in December 2015.
- 100% qualified occupancy of the residential units will occur by January 2016.
- Permanent loan closing will occur by July 2016.
- Rental Achievement will occur by October 2016.

### Financing/Assistance

- The Property will receive construction financing in the minimum amount of \$6,500,000 from a lender to be determined.
- The Property will receive permanent financing from a lender to be determined in the amount of \$1,675,000, with an interest rate of approximately 6.50%, a 30-year amortization schedule and a 30-year term. The maximum amount of mortgage financing will be subject to a 1.15 DSC utilizing BC's underwritten rents, other income, operating expenses, replacement reserves and a 5% vacancy factor.
- The Property will also receive a HOME loan in the amount of \$500,000, none of which will consist of the proceeds of any tax-exempt bonds. The HOME loan will have a 39-year term with interest at 3% and no required debt service, although cash flow (after payment of the BC asset management fee) may be used to pay accrued interest. All of the loans will be non-recourse during the compliance period and will be made by lenders unaffiliated with the Managing Members.
- All of the units will benefit from a 15-year project-based Section 8 HAP contract.
- We assume the state historic credits in the amount of \$1,485,538 will be allocated to the Managing Members and that the Managing Members will sell these credits to a third party syndicator, which may include Tax Incentive Capital to general equity in the amount of approximately \$1,411,261. The historic credits will come into the deal in such a way that the tax benefits will not be allocated away from the Limited Partner.

### Reserves

- An operating reserve in the amount of \$168,428 will be funded from capital sources at or before the time of the permanent loan closing. In any event, the amount of the operating reserve must represent a minimum of six months of BC's underwritten operating expenses, replacement reserve deposits and hard debt service. The operating reserve will be held by BC. Any draws on the operating reserve will be replenished with cash flow from operations.
- A replacement reserve will be funded in the amount of at least \$350 per unit per year, or such greater amount as may be required pursuant to applicable loan documents and BC's third party A&E review.
- A construction contingency in an amount of not less than 10% of the construction contract amount will be budgeted for the sole use of the Company.

#### Tax Credits

- The Property expects to receive a reservation of tax credits for the year 2014 in the amount of \$409,106 ("Projected Credit") from Massachusetts DHCD. The Managing Members expect the Property to be eligible to receive an allocation of Federal Historic Credits in the amount of \$1,485,538. Based upon the projected development costs, the applicable fraction of the development with tax credit-qualified units and the overall qualified basis of the development, it is anticipated that the final cost certification will support full use of this reservation amount.
- The Property is eligible for the 130% basis stepup.
- Tax credits will be generated from the Property for the Company as follows:
  - a. \$409,106 per year for each of the years 2016 - 2025
  - b. \$1,485,538 for 2015 ("Projected Historic Credit")

#### Other Assumptions

- We have assumed 27.5-year depreciation for building improvements, 15 years for land improvements and 5 years for personal property.
- The tax credits, depreciation and operating profits and losses of the Company will be allocated 99.99% to BC and .01% to the Managing Members.
- Pricing is based on the material assumptions detailed in the proposal. Any change in these assumptions will have to be evaluated based on the yield to BC.

#### Investment Terms

##### Capital Contributions

Based upon these and other assumptions contained in the materials you submitted and subject to the satisfactory completion of BC's due diligence, BC will use its best efforts to raise equity to make capital contributions to the Partnership in the aggregate amount of \$5,297,768 (\$0.95 per dollar of Low Income Housing Tax Credit and \$0.95 per dollar of Historic Tax Credit) in the installments and subject to the conditions set forth below:

	Conditions	Amount	Percent
1st	on the latest to occur of (i) the tax credit reservation, (ii) closing of the construction financing, (iii) receipt of a commitment acceptable to BC for the permanent financing, (iv) Historic Preservation Certification - Parts 1 and 2, (v) receipt of all building permits and an approved set of construction drawings or (vi) admission of BC;	\$529,777	10%

2nd	on the latest to occur of (i) the Completion Date, (ii) Cost Certification, (iii) updated insurance certificates, (iv) updated title insurance policy satisfactory to BC, which policy in no event shall contain a survey exception, (v) January 1, 2016 or (vi) satisfaction of all of the conditions to the payment of all prior Installments;	\$1,059,554	20%
3rd	on the latest to occur of (i) Initial Full Occupancy Date, (ii) Permanent Mortgage Commencement, (iii) Historic Preservation Certification - Part 3, (iv) receipt of satisfactory tenant file compliance review or (v) satisfaction of all of the conditions to the payment of all prior Installments; and	\$3,178,661	60%
4th	on the latest to occur of (i) State Designation, (ii) Rental Achievement or (iii) satisfaction of all of the conditions to the payment of all prior Installments.	\$529,777	10%

#### Adjusters

The capital contributions shown above shall be subject to adjustment based on the following circumstances. Reductions in capital contributions will be affected by reductions in future installments and then, if necessary, by a payment by the Managing Members back to BC at the time of determination of any excess:

Initial Basis Shortfall Adjuster – In the event that the annual tax credit which will apply for each year in the credit period, as determined at cost certification, the issuance of 8609s or at anytime thereafter by the accountants or the IRS, is less than the Projected Credit, the capital contributions will be decreased by \$0.95 per dollar of the total credit shortfall aggregated for all ten years in the credit period and \$0.95 per credit of the total federal historic credit shortfall for the single year in the credit period.

Upward Basis Increase Adjuster – In the event that the annual tax credit which will apply for each year in the credit period, as determined at cost certification or the issuance of 8609s by the accountants, is greater than the Projected Credit, BC shall use its best efforts to raise equity to make additional capital contributions, payable at the time of the final installment, in an amount equal to the then current prevailing market price for the increased credit, as determined in its sole and absolute discretion, up to a maximum increase of 5% of the total capital contribution.

Initial Timing Adjuster – In the event that, resulting from delayed lease-up, there is an annual credit shortfall in the first or second year which is deferred and causes a corresponding increase in the credits to be delivered in the 11th and 12th years, respectively, the capital contributions will be decreased by \$0.80 per dollar of the total amount of the deferred credit and \$0.15 per dollar of the total amount of the federal historic credit.

Historic Credit Adjuster - If, as of the Completion Date and based upon Cost Certification, it is determined that the amount of Historic Tax Credits for which the Property will be eligible is less than the Projected Historic Credit, such difference being hereinafter referred to as a Historic Credit Shortfall, then there shall be a reduction in the Investment Partnership's Capital Contribution in an amount equal to the product of (i) the Historic Credit Shortfall and (ii) \$0.95.

Performance Adjuster - In the event that there is a credit shortfall or recapture of credits for any year after the Completion Date, to which the initial timing adjuster does not apply, the capital contributions will be decreased by the sum of (1) \$0.95 per dollar of the credit shortfall and \$0.95 per credit for the federal historic credits for such year, plus (2) the amount of any applicable recapture interest and penalties.

### **Managing Members Obligations**

In addition to the Adjuster obligations noted above and certain standard obligations set forth in the Partnership Agreement, the Managing Members will have the following obligations:

Development Obligation. The Managing Members will guarantee delivery of a completed, lien-free project (including all final certificates of occupancy), in accordance with plans and specifications approved by BC. The Managing Members will be obligated to fund without reimbursement any overruns or development deficiencies incurred to achieve project delivery and Rental Achievement and to pay the full development fee (provided that a portion of the development fee, up to the amount projected for deferral at investment closing, may be deferred and paid from cash flow).

Operating Obligation. If the Company incurs an Operating Deficit for any period prior to Rental Achievement, the Managing Members will furnish funds to cover the Operating Deficit on a non-reimbursable basis. Thereafter, Operating Deficits incurred after Rental Achievement will be met by Managing Member advances ("Operating Deficit Loans") up to a maximum outstanding amount of \$168,428 (to be sized so there is twelve months of coverage of operating expenses, replacement reserves and hard debt payments between the operating reserve and the guaranty). The operating obligation shall be used prior to the operating reserve. This operating obligation will be released 60 months after Rental Achievement, provided that the project has averaged 115% debt service coverage (based upon audited financials) for the twelve consecutive months occurring immediately prior to the release of this obligation and that the operating reserve is fully funded. Operating Deficit Loans will bear no interest and will be repayable from future available cash flow or sale proceeds. Notwithstanding the foregoing, the obligation to advance funds to pay the Asset Management Fee and to fund the replacement reserve shall continue for the duration of BC's investment.

Section 8 HAP Contract Operating Deficits: In the event that either the HAP Contract for Mystic WaterWorks is (i) not renewed; (ii) terminated; or (iii) limited in any way by a failure to have sufficient funds appropriated for such contract, then the Subordinated Loan Cap shall be eliminated, the Subordinated Loan Period shall mean the Compliance Period and accordingly the Managing Member shall be obligated to fund Subordinated Loans to eliminate any Operating Deficit.



Repurchase Obligation. If certain development, operational or tax credit benchmarks (such as placement in service, issuance of 8609s, Permanent Mortgage Commencement or Rental Achievement) are not achieved by outside dates to be specified in the operating agreement for the Company, or in the event of a foreclosure, the Managing Members will be obligated to repurchase BC's interest in the Company for a price equal to the excess of BC's Invested Amount less capital contributions not yet paid by BC to the Company plus any BC made to the Company to date.

#### **Fees**

Development Fee. The developer shall earn a development fee in the amount of \$900,000. Any portion thereof which is permitted to be deferred shall be paid from cash flow, provided that the Managing Members shall be obligated to provide funds to pay any deferred amount outstanding on the tenth anniversary after the Completion Date.

Company Management Fee. The Managing Members shall receive an annual fee in the amount of \$3,000 for each year starting with 2015, payable from cash flow for such year if available.

Asset Management Fee. BC or its affiliate shall receive a guaranteed annual fee in the amount of \$3,000 for each year starting with 2015 (which fee shall increase based on any annual consumer price index increases and shall be cumulative).

#### **Allocation and Distributions**

Cash flow from operations after payment of operating expenses, required mortgage debt service and funding of required replacement reserves shall be distributed as follows:

- First, To BC as payment of the Asset Management Fee for the current and any prior years;
- Second, To replenish the operating reserve;
- Third, To the developer as payment of the deferred development fee if any;
- Fourth, To the Managing Members to repay any Operating Deficit Loans;
- Fifth, To the Managing Members as payment of the Company Management Fee for the current year; and
- Sixth, The remainder, .01% to the Managing Members and 99.99% to BC.

The net proceeds of a sale or refinancing shall be distributed as follows:

- First, To BC as payment of the Asset Management Fee for the current and any prior years;
- Second, To the payment of all debts and liabilities of the Company not otherwise provided for, first those due to BC and then those due to the Managing Members or their affiliates;
- Third, To the Managing Members to repay any Operating Deficit Loans; and

Fourth, .01% to the Managing Members and 99.99% to BC.

Notwithstanding the foregoing, in the event that an adjuster payment is due and payable to BC, cash flow and/or net proceeds, as applicable, shall be applied first to repay the adjuster amount and any accrued interest prior to being distributed.

### **Disposition of the Property**

If requested by BC after the fourteenth year of the compliance period, the Managing Members shall request the credit agency to find a purchaser for the Property pursuant to a "qualified contract" or to terminate the extended use agreement, and if acceptable to BC the Property shall be sold to such purchaser:

If the Managing Members are otherwise unable to arrange a sale of the Property after the end of the tax credit compliance period on terms satisfactory to BC, then the Managing Members shall have the option ("Purchase Option") to purchase BC's interest based on the fair market value of the property. The Purchase Option will be available to the Managing Members for a nine-month period commencing six months prior to the end of the tax credit compliance period and expiring three months after the end of the tax credit compliance period; and the purchase of BC's interest must close no earlier than the end of the tax credit compliance period and no later than one year after the end of the tax credit compliance period.

In the event that the Managing Members do not exercise the Purchase Option and/or the Managing Members do not close the transaction under the Purchase Option within one year after the end of the compliance period, BC shall have the right to require ("Required Sale Notice") that the Managing Members initiate the sale of the Property to a third party. If a sale of the Property does not occur within the earlier of one year from the Required Sale Notice or the second anniversary of the expiration of the tax credit compliance period, BC shall have the option of purchasing the Managing Members interest based on the fair market value of the Property.

Right of First Refusal. For a period of one year following the end of the compliance period, if the Company receives a bona fide third-party offer to purchase the Property, the Managing Members or their 501(c)3 non-profit affiliate, if the Managing Members or their affiliate is a "qualified purchaser" as defined in Section 42(i)(7) of the Code, shall have a right of first refusal to purchase the Property (the "ROFR"). The purchase price shall be the lesser of (a) fair market value or (b) the minimum purchase price as defined in Section 42(i)(7)(B) of the Code. As to the ROFR, the purchase price shall never be less than an amount sufficient to assure payment to BC of its exit tax liability and all outstanding fees, adjusters, debts or other obligations owed to BC plus a disposition fee to BC of 1.5% of the purchase price. The ROFR may be reformed at the Managing Members' election to be a purchase of BC's interest in the Company provided that the applicable purchase price shall result in the same tax and economic consequences to BC as would have been the case had the Property been sold and the proceeds distributed to BC.

### **Reporting and Other Provisions**

The Company shall furnish BC with quarterly unaudited financial statements and annual audited financial statements and tax returns prepared by an independent firm of certified public accountants, approved by BC, who are familiar with reporting requirements applicable to tax credit properties, under a timetable to be specified in the operating agreement for the Company.

### **Due Diligence and Closing Process**

Upon receipt of an executed copy of this Proposal Letter and the Due Diligence Documents, the parties will agree upon a mutually acceptable due diligence period and closing schedule. Admission of BC to the Company is subject to a customary due diligence review, which includes, but may not be limited to, the following:

- a) Satisfactory due diligence, including a review of plans, specifications, scope of rehab work, asbestos and lead assessments/remediation plans and related construction documents.
- b) Satisfactory Phase I environmental report (ASTM Standards), addressed to the Company, dated within six months of admission and/or within six months of property conveyance, if prior to admission, and with a reliance letter in favor of BC.
- c) BC market study that will evaluate the Property's suitability and marketability as a tax credit property.
- d) Satisfactory financial statements of the Managing Members, Company, Guarantor and affiliates.
- e) Satisfactory review of the backgrounds and credit worthiness of the Managing Members and Guarantor.
- f) Site inspection by BC.
- g) Approval by BC Investment Committee in its sole and absolute discretion.
- h) Receipt of satisfactory commitment for construction and permanent financing and rental assistance.
- i) Receipt of satisfactory insurance policies.
- j) ALTA owner's policy of title insurance.
- k) Receipt of an acceptable limited liability company and local law opinion, to be provided by your counsel, and an acceptable tax opinion, to be provided by our counsel.
- l) Negotiation and execution of satisfactory limited liability company/operating agreement documentation.



Mr. Joe Macaluso  
March 7, 2014  
Page 9

### Costs and Expenses

The Company will reimburse BC in an amount not to exceed \$50,000 for costs incurred by BC to conduct its due diligence, specifically reimbursement for costs of BC's own market study, its counsel (including tax opinion) and any third party professionals hired to aid it in the performance of its due diligence. BC will deduct this amount from its first capital contribution.

If the Managing Members accept and approve the terms set forth in this letter, please have the authorized party indicate by signing below. By executing this agreement, the Managing Members are confirming to BC that the Company and its affiliates and agents will undertake the transaction set forth herein with BC, will use their best efforts to meet the conditions set forth herein, and will suspend discussions with other parties with respect to their acquisition of this investment. This agreement may only be terminated if the conditions set forth herein are not met and such termination will be effective only upon the provision of written notice by BC or the Company.

Please execute and return to us a copy of this letter agreement. The terms herein shall expire 10 business days after the date of this letter if your signed copy has not been received by us.

Please note that this letter is provided on a best efforts basis and BC reserves the right to revise the price as the market dictates and to reevaluate the feasibility of this investment.

We look forward to working with you on this exciting project. Thank you very much for your consideration.

Sincerely,



Laura Surdel  
Vice President, Acquisitions

ACCEPTED ON THE \_\_\_\_ DAY OF \_\_\_\_\_ 2014 FOR

MYSTIC WATERWORKS LLC

\_\_\_\_\_  
as Managing Member

Defined Terms

"Completion Date" means the date upon which the Property has been completed as evidenced by (i) the issuance by the inspecting architect and by each governmental agency having jurisdiction of certificates of substantial completion and certificates of occupancy with respect to all units in the Property, and (ii) satisfaction of all due diligence recommendation and receipt of lender estoppel letters, an as-built survey and a contractor's payoff letter.

"Cost Certification" means the receipt by BC of certification of the accountants as to the itemized amounts of the construction and development costs of the Property and its tax credit eligible basis and applicable percentage.

"Initial Full Occupancy Date" means the first date, after BC has received documentation evidencing that tax credits have begun to flow for all units, on which at least 95% of all units are leased and physically occupied.

"Invested Amount" means for BC, an amount equal to its total capital contribution divided by 0.88, and for any other Member, an amount equal to its capital contribution.

"Operating Deficit" means any shortfall in operating revenue necessary to pay all operating expenses (including full payment of the Asset Management Fee to BC, replacement reserve deposits of at least \$350 per unit per year or any greater amount required by the permanent lender) and debt service.

"Partial Completion" means partial completion, at the specified percentage of hard costs, of construction of the Property.

"Permanent Mortgage Commencement" means occurrence of the Completion Date, closing of the permanent financing and commencement of permanent loan debt service payments.

"Rental Achievement" means the first time, based upon three consecutive full calendar months of operation after Permanent Mortgage Commencement, with each month taken individually, that debt service coverage (based on the greater of actual or projected future operating expenses) equals or exceeds 115%.

"State Designation" means the date upon which the Company receives the final tax credit allocation for the Property pursuant to Form(s) 8609.

---

# HUDSON

## HOUSING CAPITAL

February 28, 2014

Joseph Macaluso  
Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 2145

Re: **Mystic Water Works, Somerville, MA**

Dear Mr. Macaluso:

Thank you for providing Hudson Housing Capital LLC ("Hudson", the "Company") with the opportunity to extend a purchase offer for the limited partner interest in the limited partnership (the "Partnership") that will own Mystic Water Works in Somerville, MA (the "Property") with a total of 25 units, all of which will qualify for Tax Credits.

Hudson is a Delaware limited liability company formed to directly acquire limited partnership interests in partnerships which own apartment complexes qualifying for low-income housing tax credits ("Tax Credits") under Section 42 of the Internal Revenue Code of 1986, as amended (the "Code").

Set forth is our proposal as to the basic business terms under which Hudson or its designee ("Investor") will acquire at closing ("Closing") a 98.99% limited partnership interest in the Partnership, which will own the Property. An affiliate of the Investor will be admitted to the Partnership as a special limited partner (the "Special Limited Partner", "SLP") with limited supervisory rights.

You have advised us that Somerville Housing Authority (the "Developer") will be the developer of the Property. A to-be formed single purpose entity, (the "General Partner") shall serve as the general partner of the Partnership. You have further advised us that the Property is applying for a 2013 Tax Credit allocation from the Massachusetts Department of Housing and Community Development (the "State Agency") in the amount of \$409,106 in 9% Low Income Housing Tax Credits per year. You expect the Property will qualify for and receive Federal Historic Tax Credits ("FHTCs") of approximately \$1,485,538.

Subject to review of financials, entities acceptable to Hudson shall guarantee the obligations of the General Partner (the "Guarantor").

**I. Equity Investment**

The Investor will contribute to the Partnership a total of \$5,297,768 (the "Total Equity"), or approximately \$0.95 (the "Tax Credit Ratio") per total Low Income Housing Tax Credit available to the Investor and \$0.95 (the "Historic Tax Credit Ratio") per total Federal Historic Tax Credit available to the Investor, payable in the following installments:

<b><u>Contribution</u></b>	<b><u>Contribution %</u></b>	<b><u>Timing</u></b>
First	10%	At Closing
Second	20%	Construction Completion
Third	67%	Perm Conversion / Breakeven
Fourth	3%	Issuance of 8609s

- a. First Capital Contribution.** The Investor will the First Capital Contribution at Closing and upon receipt of an AHAP covering 25 units at net rent levels expected to be \$1,230/unit per month (the "Approved Rent Levels").
- b. Second Capital Contribution.** The Second Capital Contribution will be paid upon the satisfaction of the conditions set forth in the Partnership Agreement, which are principally as follows: (i) lien-free construction completion of the Property substantially in accordance with the Plans and Specifications in a workmanlike manner approved by Hudson; (ii) issuance of Certificates of Occupancy for 100% of the units in the Property; (iii) receipt of unaudited cost certification for the Property from independent accountants to the Partnership (the "Accountants"), setting forth the eligible basis and the total available Tax Credits; (iv) if not received at the Initial Closing, receipt of a carry-over allocation; (v) receipt of a pay-off letter from the general contractor or sub-contractors, as applicable; (vi) satisfactory financial condition of the Guarantors (no event of bankruptcy); (vii) receipt of prior year's income tax returns in the event such returns are then due; (viii) funding of the State Historic Tax Credit Equity; and (ix) continued receipt of an AHAP covering 25 units at net rent levels at no less than the Approved Rent Levels.
- c. Third Capital Contribution.** The Third Capital Contribution will be paid upon the satisfaction of the conditions set forth in the Partnership Agreement, which are principally as follows: (i) closing of the permanent first mortgage loan ("Permanent Loan Closing"); (ii) receipt of final Tax Credit cost certification from the Accountants stating the eligible basis, the amount of Tax Credits the Partnership will claim for 2016/2017 and the amount allocable to each partner (the "Final Certification"); (iii) receipt of prior year's income tax returns in the event such returns are then due; (iv) satisfactory financial condition of the Guarantors (no event of bankruptcy); (v) qualification of 100% of the set-aside apartment units in the Property for Tax Credits; (vi) receipt of Part III of the application for FHTCs as approved by the Department of the Interior along with all other necessary approvals required to claim FHTCs; (vii) funding of the State LIHTC equity; (viii) continued receipt of an AHAP covering 25 units at net rent

levels at no less than Approved Rent Levels; and (ix) achievement of Breakeven level for three consecutive months (the "Breakeven Date").

**"Breakeven"** shall mean that, for each such month, occupancy is at least 95% and that Property income (including payments received from the project-based Section 8 HAP contract net of the applicable utility allowances with rents not to exceed the Approved Rent Levels) exceeds the greater of the underwritten and actual expenses, including replacement reserves, reassessed taxes, land lease payments (if applicable) and permanent loan debt service (calculated on a stabilized and accrual basis) and generates debt service coverage of not less than 1.15X (utilizing the maximum amount of the Permanent Loan which shall be fixed at Closing) assuming the greater of actual or a 5% vacancy rate.

- d. ***Fourth Capital Contribution.*** The Fourth Capital Contribution will be paid upon satisfaction of the conditions set forth in the Partnership Agreement, which are principally as follows: (i) receipt of Form 8609 with respect to all buildings constituting the Property; and (ii) receipt of a tax return and an audited financial statement for the year in which the Breakeven Date occurred.

To the extent that all the conditions for the funding of the Fourth Capital Contribution have been satisfied except for (ii) above, only \$15,000 of the Fourth Capital Contribution will be held back and released upon the receipt of a tax return and an audited financial statement for the year in which the Breakeven Date occurred.

Our offer is also contingent on the following financing and assumptions:

- a. A satisfactory Section 8 HAP contract for all twenty-five units with a term of at least 15 years.

## **II. Developer Fee**

The Developer shall receive a Developer Fee of \$900,000 to be paid on a to be agreed upon schedule. You have represented that the amount of the Developer Fee does not exceed the amount permitted to be paid by the State Agency. Deferred developer fees shall be paid from available cash flow as detailed in Section V and shall bear interest at the AFR. Principal payments on the deferred developer fees shall commence with the funding of the Fourth Capital Contribution. The General Partner agrees to make a special capital contribution to the Partnership equal to any unpaid balance of the deferred portion of the Developer Fee if such portion has not been fully paid within 12 years from the date of the payment of the Second Capital Contribution.

## **III. Property Management Fee**

The General Partner may retain First Realty Management to be the managing agent for the Property on commercially reasonable terms. The management agreement, to be approved by the Investor, shall have an initial term of 1 year and shall be renewable annually thereafter, shall provide for an annual management fee not to exceed 5% of gross effective income, and shall otherwise be on commercially reasonable terms (including a termination right by the General



Partner in the event of fraud/gross negligence or material default by the Manager). If the managing agent is affiliated with the General Partner, the management agreement shall provide for a deferral of up to 100% of the management fee in the event that the property does not generate positive Cash Flow.

**IV. Intentionally Omitted**

**V. Cash Flow Distributions**

Prior to the Permanent Loan Closing

Any Cash Flow and income generated by the Property prior to the Permanent Loan Closing (the "Net Interim Income") will be released upon the funding of the Fourth Capital Contribution first to pay and amounts owed to the Limited Partners, and then to any excess development costs, Developer Fees and the balance treated as Cash Flow.

Subsequent to the Breakeven Date

Cash flow from the Property, after payment of operating expenses (including the Administrative Expense Reimbursement, current and any deferred property management fees from prior years, debt service), replenishment of required reserves (including any reserve payments which were not made due to insufficient cash flow) and payment of any tax liability incurred by the Limited Partner ("Cash Flow"), shall be distributed annually (subsequent to the Breakeven Date) as follows:

- a. to amounts owed to the Limited Partner;
- b. to maintain the Minimum Balance in the Operating Reserve;
- c. to the payment of any Operating Deficit Loans, if any;
- d. 90% of Cash Flow after V.c. to payment of (i) the Developer Fees; and (ii) the balance (if any) to the General Partner as a preferred return with an equivalent allocation of income, and;
- e. the remainder to be split in accordance with Partnership interests.

**VI. Sale or Refinancing Proceeds**

Net sale or refinancing proceeds (i.e., after payment of, outstanding debts, liabilities other than to the General Partner and its affiliates and expenses of the Partnership and establishment of necessary reserves) shall be distributed as follows:

- a. Repayment of outstanding loans by the limited partners, if any;
- b. Payment of amounts due to the limited partners under the Tax Credit Adjuster;
- c. Repayment of outstanding loans by the General Partner, including the Deferred Developer Fee (if not paid) and Operating Deficit loans; and
- d. 10% to the Investor and 90% to the General Partner, less any amounts paid as a Developer Fee paid from sale or refinancing proceeds.

**Option**

The General Partner shall have a non-assignable option to purchase the Property and any cash assets during the period beginning at the completion of the tax credit compliance period and ending 12 months after the tax credit compliance period at a price equal to the

greater of (i) fair market value or (ii) the ROFR Price below. Payment of the Investor's tax liability must be made to the Investor concurrent with the purchase of the Property by the Developer/General Partner.

### **Right of First Refusal**

The Developer/General Partner, if a qualifying non-profit entity, shall have a right of first refusal, for a 12-month period commencing upon the expiration of the tax credit compliance period, to purchase the Project for the outstanding debt (including any outstanding loans or payments due to the limited partners) plus the Investor's exit tax liability, if any (the "ROFR Price").

## **VII. General Partner Commitments**

- a. ***Low Income Housing Tax Credit Adjustment.*** Our offer is based upon the assumption that the Partnership will qualify for and claim \$225,008 in 2016, the full amount of the Partnership's Tax Credit allocation, \$409,106 for each year from 2017 through 2025, and \$184,098 in 2026. In addition, the Partnership will qualify for and claim \$1,485,538 in 2016.

### **(i) Timing Adjuster**

In the event that the Final Certification specifies that, while the aggregate amount of Tax Credits allocable to the Partnership is unchanged, the amount of Tax Credits allocable to the Partnership in 2015/2016 is less than the amounts stated above for the corresponding years, the Second/Third/Fourth Capital Contributions will be reduced by \$.65 for each dollar by which such amounts exceed the amount of Tax Credits allocable to the Partnership for such period and by \$.20 for each dollar by which such amount exceeds the amount of Federal Historic Tax Credits allocable to the Partnership for such period.

### **(ii) Volume Adjuster**

In the event that either the Form 8609's or the Final Certification indicate that the Property will not generate the projected aggregate amount of Tax Credits (other than as specified below), the Partnership Agreement will provide for a return of such capital which shall be an adjustment in the amount of any unpaid Capital Contributions and/or a payment by the General Partner to the Investor, sufficient to restore the Tax Credit Ratio as defined above and the Federal Historic Tax Credit Ratio as defined above.

### **(iii) Compliance Adjuster**

After the Form 8609's have been issued, in the event that the actual amount of Tax Credits claimed by the Partnership is less than the amount specified in such Forms, the General Partner shall reimburse the Investor on a dollar-for-dollar basis for each lost dollar of Tax Credits and Federal Historic Tax Credits plus any

resulting penalties or taxes due. Similarly, if there is a recapture of Tax Credits (except from the sale or transfer of the Investor's interest in the Partnership, or due to a change of applicable tax law), the General Partner shall upon demand indemnify the Investor and its partners against any Tax Credit recapture liability (including interest, penalties and any reasonable related legal or accounting costs) which they may incur during the Compliance Period. Any Fees or Cash Flow payable to the General Partner, or their affiliates, will be subordinated to any required payment pursuant to this paragraph.

- b. **Construction Completion Guaranty.** The General Partner shall be responsible for completion of the Property in a workmanlike manner, in accordance with approved plans and specifications, free and clear of all liens. To the extent that the costs of construction and operations until the Breakeven Date exceed the amount of any funding by approved permanent third party lenders, any unpaid Developer Fees and the amount of the Investor's capital commitment (adjusted as set forth above), the General Partner shall pay all such costs and expenses connected with development and construction of the Property, including all operating expenses of the Property until the Breakeven Date has been achieved.

The General Contractor shall provide a 100% Payment and Performance Bond or a Letter of Credit with terms acceptable to Hudson. The development budget shall include a hard cost contingency line item of 10% of the construction contract amount which shall be out of the General Contractor's control.

- c. **Operating Deficit Guaranty.** The General Partner shall make interest free loans to the Partnership (repayable from Cash Flow and/or sale and refinancing proceeds as described above) equal to any Operating Deficits (including the Minimum Deposit described in VII e. below and the administration fee described in VIII. a. below) incurred during the period beginning on the Breakeven Date and ending on the completion of five consecutive years of Breakeven operations, in an amount not to exceed 12 months of underwritten operating expenses in the aggregate (the "Operating Deficit Guaranty").

An Operating Reserve in an amount equal to six months of underwritten operating expenses and debt service shall be funded at the time of the Third Capital Contribution. The General Partner shall be obligated to fund this reserve. Any draws from the Operating Reserve shall require Hudson's consent and shall be replenished from Net Cash Flow. The Operating Reserve shall be maintained for the duration of the compliance period and cannot be used until the expiration of the Operating Deficit Guaranty.

- d. **Obligations of General Partner/Repurchase and Removal Events.** Immediately following the occurrence of any of the following events, (x) the General Partner shall admit the Special Limited Partner or its designee as the managing general partner of the Partnership and, at the option of the Investor, withdraw from the Partnership; or, (y) at the option of the Investor with respect to any of the events described in clauses (i) through (v) below, repurchase the Investor's interest in the Partnership: (i) an IRS Form 8609 is not issued with respect to each of the buildings in the Property in a timely manner after each such building has been



placed in service; (ii) the Property is not fully placed in service by December 31, 2015; (iii) the permanent loan commitment is canceled or substantially modified, and a suitable replacement loan to be approved by the Investor is not obtained or if the Property qualifies for a permanent loan not sufficient to balance the sources and uses of funds; (iv) permanent loan closing has not occurred not later than June 30, 2016; (v) the Partnership fails to meet the minimum set aside test (as defined in Section 42 of the Code) or fails to execute and record a Tax Credit Extended Use Commitment by the close of the first year of the Credit Period; (vi) the Partnership shall have been declared in default by any mortgage lender or under the tax credit allocation or foreclosure proceedings have been commenced against the Property and such default is not cured or such proceeding is not dismissed within 30 days; or (vii) there is a material violation of the Partnership Agreement by the General Partner or if the property manager is an affiliate of the General Partner, a material violation of the management agreement by the manager which causes material adverse harm to the Investor, the Partnership or the Property.

If the Investor elects to have its interest repurchased by the General Partner, the repurchase price shall be equal to the sum of (i) 107% of the Total Equity, (ii) interest on such amount at Prime + 2%, (iii) any tax liability (if any) incurred by the Investor as a result of such repurchase, less the amount of Total Equity which has not been funded to the Partnership to date.

- e. ***Replacement Reserve.*** Commencing with the month following Completion, the Partnership will make a minimum monthly replacement reserve deposit (the "Minimum Deposit") equal to (on an annualized basis) the greater of (i) the amount required by the permanent lender, and (ii) \$350/unit. The amount of the Minimum Deposit shall be increased annually by a percentage (the "CPI Percentage"). If the sum of all lender-imposed monthly replacement reserve deposits is less than the Minimum Deposit, Investor will establish a separate account into which the General Partner will deposit the difference. Any interest earned on such account shall become a part thereof.
- f. ***Reporting.*** The Partnership will be required to furnish Investor with (a) quarterly unaudited financial statements within 45 days after the end of each quarter of the fiscal year; (b) annual audited financial statements within 60 days after the end of each fiscal year; (c) an annual budget for each fiscal year of the Partnership, not later than November 1 of the preceding year; and (d) the Partnership's tax returns and K-1 forms within 45 days after the end of each fiscal year. The penalty for any failure to deliver Partnership tax returns or K-1 forms prior to the specified deadline shall be (i) \$50 per day for the first seven days after such deadline, (ii) \$100 per day for the next seven days and (iii) \$150 per day thereafter, provided that the amount of such penalty shall not exceed \$5,000 in any year.

#### **VIII. Asset Management Fees to Affiliates of Hudson**

An affiliate of Hudson shall receive an annual Asset Management Fee from the Partnership in the amount of \$5,000 (commencing with payment of the Second Capital Contribution), which amount shall be increased annually by the CPI Percentage.

**IX. Representations, Warranties and Covenants**

The General Partner and Developer shall make certain representations and warranties as to the Partnership, the General Partner and the Property to be set forth in the Partnership Agreement.

**XII. Accountants**

The Accountants for the Partnership shall be CohnReznick, Novogradac & Co. or another firm approved by the Investor. The Accountants shall prepare tax and financial reports as set forth in the Partnership Agreement, and the Final Certification referred to in I.c., above.

**XIII. Investment Partnership Rights**

The Partnership Agreement will provide certain approval rights as to major actions proposed to be taken by the General Partner. The Investor shall have the right to remove the General Partner and the Manager for cause.

**XIV. Insurance**

At the closing, the General Partner shall provide for title insurance satisfactory to counsel to the Investor in an amount equal to the Gross Capital Contribution, all mortgage loans and the amount of any Development Fee Note. Prior to the payment of any additional installment of the Capital Contribution, a "date down" of such policy shall be provided. The General Partner shall provide for (i) liability (general and excess) insurance in an amount of at least \$6,000,000 (increased biennially by the CPI Percentage), (ii) hazard insurance (including boiler and machinery coverage) in an amount of not less than the replacement value of the Property, (iii) rental loss insurance for a period of 12 months after the date of loss and (iv) law and ordinance coverage with no sublimit, including changes in law and ordinances enacted during the course of reconstruction. Builder's risk insurance shall be provided during construction. Architects shall submit evidence of errors and omissions coverage, in amounts reasonably satisfactory to the Investor. Workers Compensation insurance shall be provided as to any entity with employees working at the Apartment Complex. All policies shall name the Investor as an additional insured and shall otherwise be subject to Investor approval.

**XV. Indemnity Agreement**

The General Partner shall indemnify the Investor, Hudson and its affiliates, and their respective officers, directors for any untrue statement of a material fact or omission to state a material fact necessary to make any such statement, in light of the circumstances under which they were made, not misleading, by the General Partner or its agents set forth in any document delivered by the General Partner or its agents in connection with the acquisition of the Property, the investment by the Investor in the Partnership and the execution of the Partnership Agreement.

**XVI. General Conditions**

Payment of the Second/Third/Fourth Capital Contributions shall be conditioned upon completion of an appropriate due diligence review by the Investor to confirm that there have

been no changes in material circumstances affecting the Property, including (i) review of title (including a "date-down" endorsement), survey, environmental and other legal and regulatory matters, (ii) receipt of a "date-down" legal opinion from counsel to the Partnership for the Fourth Capital Contribution; and (iii) certification by the General Partner as to the continued accuracy of representations and warranties made in the Partnership Agreement.

**XVII. Hudson Right of First Refusal**

The General Partner and Developer shall grant Hudson a right of first refusal to purchase any Tax Credits generated by any subsequent phase of the Property which may be developed. Any terms and conditions of such purchase (other than the price and timing of equity payments) shall be on substantially the same terms as this letter.

**XVIII. General Partner Option**

The General Partner shall have a non-assignable option to purchase the Property and any cash assets during the period beginning at the completion of the tax credit compliance period and ending 12 months after the tax credit compliance period at a price equal to the greater of (i) fair market value or (ii) all outstanding debt plus the Investor's tax liability (including outstanding loans to the limited partners under the Tax Credit Adjuster), if any. Payment of the Investor's tax liability must be made to the Investor concurrent with the purchase of the Property by the Developer/General Partner.

**XIX. Intentionally Omitted**

**XX. Conditions to Closing**

Hudson will perform, and will request the full cooperation of you and your professionals in, customary due diligence in connection with the acquisition of the Property and the Investor interest in the Partnership.

To facilitate the due diligence process, you agree to deliver to Hudson in a timely manner: (i) an appraisal; (ii) a Phase I environmental study of the Property site, prepared in accordance with ASTM standards, and any subsequent additional testing deemed necessary by Investor in its sole discretion; (iii) evidence of the required approval of the transaction by any governmental entity; (iv) evidence of the allocation/reservation of Tax Credits; (v) evidence of payment by the General Partner of any taxes imposed on the transfer of the limited Partnership interest in the Partnership; (vi) representation from a certified public accountant with regard to the tax credit basis being sufficient to support the allocated Tax Credits and the validity of depreciating real property over 27.5 years; (vii) evidence of the financial status of the Guarantor(s) by way of current financial statements prepared in accordance with A.I.C.P.A. standard; and (viii) such other materials as are reasonably required by Investor as part of its customary financial and legal due diligence review. Such items shall be prepared and furnished at your own expense. Your execution of this letter (the "Letter of Intent") will also be deemed consent to perform background checks on the principal(s) of the General Partner and Developer, as well as any individual Guarantor(s). At closing, Hudson shall be reimbursed up to \$40,000 for its legal and due diligence related expenses based on actual invoices. The General Partners understands that any engineering, environmental or other consultant, selected for the project shall be acceptable to

the lender and to the Investor and that the Partnership shall bear the cost of fees associated with pre-construction feasibility studies, structural analysis, and monthly inspections.

Additionally, approval of this transaction is subject to Investor's satisfactory completion of due diligence (including site visit) in its sole discretion. By executing this proposal and in consideration of the substantial expenses to be incurred by Hudson and its affiliates in legal and accounting fees and for due diligence, you agree that you and your affiliates will not offer any interest in the Property to any other party unless this Letter of Intent is terminated by mutual consent or unless you are notified that, pursuant to its due diligence, the Investor will not complete its investment in the Partnership, which notification shall be given not later than 45 days from our receipt of this letter executed by you, subject to extension in the event of any delay on your part in furnishing the requested due diligence materials.

If the above proposal is acceptable, please indicate your acceptance by executing two copies of this Letter of Intent and returning one to Hudson at the above address. We look forward to working with you.

Sincerely,

**Hudson Housing Capital LLC**



By: \_\_\_\_\_  
Joshua Lappen  
Assistant Vice President

ACCEPTED AND AGREED TO  
THIS \_\_\_\_ DAY OF \_\_\_\_, 2014

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_



# REDSTONE<sup>™</sup>

EQUITY PARTNERS

March 3, 2014

Somerville Housing Authority  
30 Memorial Road  
Somerville MA 02145

c/o Mr. David Koven

cc: Mr. Paul Mackey  
Mr. Daniel Gaulin  
Ms. Carole Collins  
Mr. Joseph Macaluso  
Mr. Marc Slotnick

Re: Mystic Water Works  
Somerville, MA

Dear Mr. Koven,

Red Stone Equity Partners, LLC ("Red Stone") is pleased to be given an opportunity to submit a proposal on the Mystic Water Works ("Project") located in Somerville, Massachusetts. This letter serves as an outline of the business terms regarding the acquisition of limited partnership interests in to-be-formed Limited Partnership (the "Partnership") that will own the Project. Red Stone or its designee (the "Limited Partner") will acquire a 99.99% limited partnership interest (the "LP Interest") and a 0.001% special limited partnership interest (the "SLP Interest") in the Partnership. The terms of this proposal are subject to ratification and countersignature by Red Stone's investment committee as described below. Furthermore, this proposal is neither an expressed nor implied commitment by Red Stone or any of its affiliates to provide equity financing to the Project. Any such commitment shall only be as set forth in a to-be-negotiated agreement of limited partnership and will be subject to, among other things, (i) satisfactory transaction structure and documentation, (ii) satisfactory due diligence, including third party reports and (iii) other standard conditions for transactions of this type as described more fully in Paragraphs 13 and 14 below.

1. **Project Information.** The Partnership has been formed to acquire, own, develop and operate the Project, which is anticipated to be eligible to claim Low Income Housing Tax Credits ("Housing Credits") under Section 42 of the Internal Revenue Code. The Project will consist of 25 residential units for rent to low-income seniors. The Project will consist of one residential building located at 485 Mystic Valley Parkway located in the City of Somerville, Middlesex

6000 Fairview Road, Suite 550, Charlotte, NC 28210

TEL: 704-200-9500 · WEB: [www.redstoneco.com](http://www.redstoneco.com)

Charlotte • Chicago • Cleveland • Los Angeles • New York

County, within the Commonwealth of Massachusetts. Within the Project, 25 of the units are expected to be Housing Credit compliant, with no additional units being designated as management units. The residential units mix shall reflect the detail below and shall conform to any other set-asides as required by the Massachusetts' Department of Housing and Community Development Agency. The means for such conformance shall be reviewed by and be acceptable to Red Stone.

Unit Type	Number of Units	Income Restrictions
1 BR / 1BA	10	60%AMI
1 BR / 1BA	15	60% AMI / HOME

The construction and lease-up schedule expected for the Project, and upon which the credit pricing and deal terms are contemplated herein, are as follows:

Closing Date	December 2014
Completion Date	December 2015
100% Qualified Occupancy	January 2016
Permanent Loan Closing	July 2016

2. **Project Ownership.** A to-be-formed entity controlled by the Somerville Housing Authority (the "General Partner") will be a taxable, single purpose, bankruptcy remote entity with a 0.009% ownership interest in the Partnership. Any change in the ownership of the General Partner shall be subject to Red Stone's consent. The anticipated ownership structure and other key Project participants are set forth below.

Entity	Name	Ownership Interest
General Partner*	TBD, GP	0.009%
Limited Partner	RSEP Holding LP, or its designee	99.99%
Special Limited Partner	Red Stone Equity Manager, LLC, or its designee	0.001%
Developer	Somerville Housing Authority	
Guarantors <sup>1</sup>	Somerville Housing Authority	
General Contractor	TBD	
Property Manager	Somerville Housing Authority	

\*If the General Partner is controlled by a 501(c)(3), indicate whether the General Partner will be a taxable subsidiary or whether qualified allocations are required.

<sup>1</sup> The Guarantors will guarantee certain of the General Partner's obligations set forth in Paragraph 7 herein, will do so on a joint and several basis, and will be subject to the review and approval of Red Stone.

3. **Tax Credits.** The Project expects to receive an allocation of 9% Housing Credits from the Massachusetts' Department of Housing and Community Development Agency (the "Agency") for the year 2014 in an annual amount of \$409,106. The total Housing Credits anticipated to be delivered to the Partnership is \$4,091,060 (the "Projected Federal LIHTC"). The Project has been listed as a historic building in the National Register of Historic Places or is located in a registered historic district and is certified as being of historic significance to the district and expects to undertake a certified rehabilitation that will enable the Partnership to claim federal historic rehabilitation credits (the "Historic Credits") of \$1,485,538 (the "Projected Federal HTC"), which is based on the Project incurring qualified rehabilitation expenditures of \$8,005,188 with respect to such building.

The following schedule sets forth the assumed delivery of the Projected Federal LIHTC, Projected Federal HTC, and Projected State HTC.

Year	Housing Credits	Federal Historic Credits	State Historic Credits
2015	\$204,573		
2016	\$409,147	\$1,485,538	\$1,485,538
2017	\$409,147		
2018	\$409,147		
2019	\$409,147		
2020	\$409,147		
2021	\$409,147		
2022	\$409,147		
2023	\$409,147		
2024	\$409,147		
2025	\$204,573		

Any decision to delay the commencement date of the Housing Credit period beyond 2015 is subject to Red Stone's consent. In addition, any decision to commence the Housing Credit period prior to July 1, 2015 is subject to Red Stone's consent.

4. **Capital Contribution.** Red Stone will acquire its Limited Partner Interest in the Partnership for a total capital contribution of \$6,709,029, subject to adjustment in Paragraph 5 below. This capital contribution is based on the following pricing:

Credit Type	Total amount	LP amount	Pricing Factor	Equity
Projected Federal LIHTC	\$4,091,469	\$4,091,060	\$0.95	\$3,886,507
Projected Federal HTC	\$1,485,538	\$1,485,538	\$0.95	\$1,411,261
Projected State HTC	\$1,485,538	\$1,485,538	\$0.95	\$1,411,261
			<b>Total</b>	\$6,709,029

The above pricing assumes 100% of residential depreciation being taken over 27.5 years; 100% of depreciation on site improvements being taken over 15 years; and 100% of depreciation on personal property being taken over 5 years. The allocation of the depreciable line items is subject to Red Stone's review and approval.

Red Stone will fund its capital contribution pursuant to the following schedule:

- A. 10% (\$670,875) shall be paid upon the later of (a) the execution of the Partnership Agreement, (b) receipt and approval of all due diligence items on Red Stone's due diligence checklist, (c) receipt by the Partnership of commitment for a non-recourse permanent loan acceptable to Red Stone, (d) receipt of commitments of the additional financing sources described in Paragraph 11, and (e) closing and initial funding of the construction loan and the soft loans.
- B. 20% (\$1,341,749) upon the later of (a) satisfaction of the funding conditions described in (A) above, (b) receipt of temporary certificates of occupancy, (c) receipt of an architect's certificate of lien-free substantial completion, and (d) July 1, 2015.
- C. 69.85% (\$4,686,123) upon the later of (a) satisfaction of the funding conditions described in (B) above, (b) receipt of permanent certificates of occupancy, (c) receipt of the final cost certification from an independent certified public accountant, (d) repayment of the construction loan and funding of the Project's permanent mortgage (or such condition will be met concurrently with the payment of this installment), (e) satisfaction of all funding conditions required for the permanent mortgage, including without limitation, three consecutive months of a 1.15 to 1.00 Debt Service Coverage ratio ("DSC") and 90 days of 90% occupancy, (f) achievement of 100% qualified occupancy, (g) calculations of the preliminary adjusters have been prepared, (h) receipt of Part III Historic Certification from the U.S. Department of Interior, (i) receipt of IRS Form 8609s and a recorded extended use agreement, (j) receipt and review of an acceptable initial tenant file audit, (k) calculations of final adjusters have been prepared, and (l) October 1, 2015.
- D. 0.15% (\$10,000) upon the later of (a) satisfaction of the funding conditions described in (C) above, (b) receipt of the 1st year tax return (c) October 1, 2015.

5. Adjusters.

- A. Increase or Decrease in Housing Credits. In the event that actual Housing Credits as determined by the cost certification and 8609s exceeds Projected Federal LIHTC, Red Stone will pay an additional capital contribution equal to the product of (i) \$0.95 multiplied by (ii) the difference between the actual Federal LIHTC and the Projected



Federal LIHTC. In the event that actual Housing Credits as determined by the cost certification and 8609s are less than Projected Federal LIHTC, Red Stone's capital contribution will be reduced by an amount equal to the product of (i) \$0.95 multiplied by (ii) the difference between the Projected Federal LIHTC and the actual Federal LIHTC ("Adjustment Amount"). If the Adjustment Amount exceeds the total of all unfunded capital contributions, then the General Partner will make a payment (which payment shall be guaranteed by the Guarantors) to the Partnership equal to the amount of such excess, and the Partnership will immediately distribute such amount to Red Stone as a return of its capital contribution.

- B. Timing of Housing Credit Delivery. In addition to the Adjustment Amount, Red Stone's capital contribution will be similarly reduced in the event that the actual delivery of Housing Credits is slower than the anticipated schedule set forth in Paragraph 3. The amount (the "Late Delivery Adjustment") of this reduction will equal the product of (i) \$0.60 multiplied by (ii) the difference in the Projected Federal LIHTC and actual Housing Credits for such years are less than the amounts shown in Paragraph 3. Conversely, in the event that the actual delivery of Housing Credits exceeds the anticipated schedule set forth in Paragraph 3, Red Stone will pay an additional capital contribution (the "Early Delivery Adjustment") equal to the product of (i) \$0.50 multiplied by (ii) the difference between actual Housing Credits and the Projected Federal LIHTC. Red Stone will pay such additional capital contribution at the funding of its final capital contribution installment.
- C. Increase or Decrease in Federal Historic Credits. In the event that actual Federal Historic Credits exceeds Projected Federal HTC, Red Stone will pay an additional capital contribution equal to the product of (i) \$0.95 multiplied by (ii) the difference between the actual Federal HTC and the Projected Federal HTC. In the event that actual Historic Credits are less than Projected Federal HTC, Red Stone's capital contribution will be reduced by an amount equal to the product of (i) \$0.95 multiplied by (ii) the difference between the Projected Federal HTC and the actual Federal HTC ("Adjustment Amount"). If the Adjustment Amount exceeds the total of all unfunded capital contributions, then the General Partner will make a payment (which payment shall be guaranteed by the Guarantors) to the Partnership equal to the amount of such excess, and the Partnership will immediately distribute such amount to Red Stone as a return of its capital contribution.
- D. Increase or Decrease in State Historic Credits. In the event that actual State Historic Credits exceeds Projected State HTC, Red Stone will pay an additional capital contribution equal to the product of (i) \$0.95 multiplied by (ii) the difference between the actual State HTC and the Projected State HTC. In the event that actual State Historic Credits are less than Projected State HTC, Red Stone's capital contribution will be reduced by an amount equal to the product of (i) \$0.95 multiplied by (ii) the difference between the Projected State HTC and the actual Federal HTC ("Adjustment Amount"). If the Adjustment Amount exceeds the total of all unfunded capital

contributions, then the General Partner will make a payment (which payment shall be guaranteed by the Guarantors) to the Partnership equal to the amount of such excess, and the Partnership will immediately distribute such amount to Red Stone as a return of its capital contribution.

- E. Timing of Historic Credit Delivery. If any portion of the Historic Credits are deferred to a subsequent year than set forth in Paragraph 3 ("Delayed Historic Tax Credits"), the capital contribution shall be reduced by an amount equal to 15% of the Delayed Historic Tax Credits for each year between the year in which the Delayed Historic Tax Credits are received and anticipated year.

Notwithstanding the above, in no event will the net additional Capital Contribution to be paid by Red Stone exceed 5% of the total original Capital Contribution amount, nor will any one type of credit have an upward adjuster greater than 10% of that particular credit type. The additional Capital Contribution may be further reduced to provide Red Stone with yield maintenance. The yield maintenance calculation shall be completed by Red Stone and approved by the Project accountant. Red Stone will pay such additional Capital Contribution at the funding of the Final Capital Contribution. Such additional Capital Contribution will be used to pay any outstanding fees owed to Red Stone and then will be distributed in accordance with the provisions of Paragraph 10(B), below.

6. Reserves. The Partnership will fund the following reserves:

- A. Operating Reserve. The Partnership will fund and maintain an Operating Reserve to be funded from the 3rd Capital Contribution in an amount of \$168,428. Any release of funds from the Operating Reserve will be subject to Red Stone's consent. Pursuant to Paragraph 10(B), the Operating Reserve will be replenished up to \$168,428 (the "Minimum Balance") from cash flow to the extent withdrawals are made. No withdrawals may be made from the Operating Reserve until the Maximum ODG Amount (as defined in Paragraph 7(B) below) is funded by the General Partner, as required pursuant to Paragraph 7(B)(ii) below. To the extent the balance of the Operating Reserve is less than the Minimum Balance at the expiration of the ODG Period as described in Paragraph 7(B)(ii) below, the General Partner shall cause the Operating Reserve to be replenished back to the Minimum Balance and the ODG Period shall be extended until such Operating Reserve has been replenished. The Operating Reserve shall remain an asset of the Partnership and shall be subject to distribution in accordance with Paragraph 10(C) below, subject to the approval of any project lenders.
- B. Replacement Reserve. A capitalized Replacement Reserve in the amount of \$235,000 shall be established for the benefit of the Partnership in a segregated account no later than the payment of the 3<sup>rd</sup> capital contribution. The Project operating expenses will include the funding of a Replacement Reserve in the amount of \$350 per unit or such other amount specified by the project lenders increasing by 3% per annum. Any

release of funds from the Replacement Reserve will be subject to Red Stone's consent.

7. **Guarantees.** The Guarantors will guarantee the following obligations of the General Partner:

- A. **Construction Completion Guarantee.** The Guarantors shall guarantee the General Partner's obligation of lien-free completion of the Project in accordance with the plans and specifications approved by Red Stone for the amount set forth in the approved project development budget. The Construction Completion Guarantee will provide that the Guarantors shall pay any amount in excess of the approved project development budget as well as any Project deficiency arising prior to Stabilized Operations (as defined in Paragraph 7(B) below). Payments made under this guaranty will not constitute loans to the Partnership or capital contributions and no Guarantors will have any right to receive any repayment on account of such payments.
- B. **Operating Deficit Guarantee.** The Guarantors will agree to advance to the Partnership any amounts required to fund operating deficits arising after the expiration of the Construction Completion Guarantee, if needed, as follows:
  - (i) The guarantee shall be unlimited until the Project achieves "Stabilized Operations". Stabilized Operations is to be defined as the later to occur of (i) construction loan payoff and conversion to approved non-recourse permanent financing; and (ii) rental income generated from the Project is sufficient to pay all operating expenses of the Project, including, without limitation, all actual or anticipated mandatory debt service; real estate taxes; insurance premiums; management fees; and replacement and operating reserve deposits and maintain a debt service coverage ratio of not less than 1.15 to 1.00 for 6 consecutive months after funding and commencement of amortization of the Project's permanent loan. To the extent applicable, if Project income is insufficient to enable the Project to attain the required debt service coverage necessary for the closing or conversion of all permanent loans, the Guarantors will agree to pay down the construction loan in an amount necessary to allow the Project to cause the closing or conversion of all permanent loans by the conversion date required by the lender(s). Payments made under this guarantee will not constitute loans to the Partnership or capital contributions and no Guarantors will have any right to receive any repayment on account of such payments.
  - (ii) Following (i) above, for a period of 60 months following the achievement of Stabilized Operations (the "ODG Period"), the amount shall be limited to \$167,000 (the "Maximum ODG Amount"), and will be released provided the Project maintains a minimum of 1.15 to 1.0 debt service coverage ratio over each of the last consecutive 4 quarters of the ODG Period. Any amounts so advanced will constitute interest-free loans ("Operating Deficit Loan") repayable out of future available cash flow or out of available proceeds of a sale or refinancing described in Paragraph 10.

- C. Repurchase Guarantee. The Guarantors will repurchase Red Stone's interest upon the occurrence of certain events described in the Partnership Agreement.
- D. Housing Credit Shortfall and Recapture Guarantee. In addition to the Housing Credit and Timing Adjusters set forth in Paragraph 5, if the actual amount of Housing Credits for any year is less than Projected Federal LIHTC set forth in Paragraph 3, as adjusted by Paragraph 5, the Guarantors will guarantee payment to the Limited Partner of an amount equal to the shortfall, or recapture amount, plus all applicable fees, penalties or other costs incurred by the Partnership and/or Red Stone as a result of such shortfall or recapture. The Guarantors will pay, on an after-tax basis, the Limited Partner \$1.00 for each dollar of Housing Credits lost, plus any related interest or penalties. Notwithstanding the foregoing, the Guarantors shall not be responsible for loss or recapture of Housing Credits attributable to changes to the Code after the achievement of Stabilized Operations.
- E. Historic Credit Shortfall and Recapture Guarantee. In addition to the Historic Credit and Timing Adjusters set forth in Paragraph 5, if the actual amount of Historic Credits for any year is less than Projected Federal HTC set forth in Paragraph 3, as adjusted by Paragraph 5, the Guarantors will guarantee payment to the Limited Partner of an amount equal to the shortfall, or recapture amount, plus all applicable fees, penalties or other costs incurred by the Partnership and/or Red Stone as a result of such shortfall or recapture. The Guarantors will pay, on an after-tax basis, the Limited Partner \$1.00 for each dollar of Historic Credits lost, plus any related interest or penalties. Notwithstanding the foregoing, the Guarantors shall not be responsible for loss or recapture of Historic Credits attributable to changes to the Code after the achievement of Stabilized Operations.
- F. Environmental Indemnification. The Partnership and the Guarantors, jointly and severally, shall indemnify and hold harmless the Limited Partner from and against all claims, actions, causes of action, damages, costs, liability and expense incurred or suffered based upon a violation of environmental laws, or respecting the presence of environmental hazards.
- G. Guarantors. The Guarantors will guarantee all of the General Partner's obligations including those set forth above. The Guarantors will maintain a minimum liquidity of and a minimum net worth covenants acceptable to Red Stone. The Guarantors will provide Red Stone with annual financial statements evidencing compliance with the liquidity and net worth covenants above.

- 8. Construction. The General Partner will arrange for a fixed or guaranteed maximum price construction contract in the anticipated amount of \$5,311,250. In addition, the General Partner will include a 10% construction contingency in the Project budget, outside of the construction contract. The General Partner shall cause lien-free completion to occur and shall provide either a payment and performance bond or letter of credit to secure the contractor's obligations. Red Stone may, in its sole discretion, engage a construction consultant to review



plans and specifications and evaluate the construction progress by providing monthly reports to the Partnership. The cost of the construction consultant shall be borne by the Partnership.

9. **Fees.** The following fees will be paid by the Partnership for services rendered in organizing, developing and managing the Partnership and the Project.
  - A. **Developer Fee.** The Developer will earn a developer fee of \$900,000. The portion of the developer fee that will not be paid out of the Capital Contributions, if any, will be deferred and payable by the Partnership to the Developer as a distribution of net cash flow in accordance with Paragraph 10(B). The deferred amount will accrue interest at the rate of 4% per annum, or such other interest rate acceptable to tax counsel, in effect as of the placed-in-service date of the project. The deferred amount will be payable out of available cash flow and will mature on the 15th anniversary of the placed-in-service date ("Maturity Date"). If the deferred portion of the developer fee has not been repaid upon the Maturity Date, the General Partner will be required to advance the Partnership the amount equal to the unpaid balance of the deferred amount.
  - B. **Property Management Fee.** The property management fee will not exceed a total of 4% of gross collected rents. The appointment of, and terms of the property management agreement, are subject to the prior approval of Red Stone.
  - C. **Asset Management Fee.** The Partnership will pay Red Stone an annual asset management fee in an amount equal to \$5,000 per annum. The asset management fee will be paid annually and such fee shall accrue beginning on July 1, 2014, with the first payment due and payable on or before March 1, 2015, and each anniversary thereafter. The asset management fee will increase annually by 3%.
  - E. **Incentive Management Fee.\*** An incentive management fee may be payable to the General Partner on an annual basis in an amount equal to 90% of net cash flow, or such other amount as determined by and acceptable to tax counsel to Red Stone.  
\*N/A on projects with a not for profit General Partner subject to qualified allocations or during the 5 year historic recapture period.
10. **Distribution of Tax and Cash Benefits.**
  - A. **Tax Benefits.** Tax profits, tax losses, and tax credits arising prior to the sale or other disposition of the Project will be allocated 99.99% to the Limited Partner, .001% to the Special Limited Partner and .009% to the General Partner. The Limited Partner will have the right in its sole discretion to undertake a limited deficit restoration obligation at any time during the term of the Partnership.
  - B. **Net Cash Flow Distributions.** Distributions of net cash flow, as defined in the Partnership Agreement, but generally all cash receipts less cash expenditures (e.g., payment of debt service and property management fee), will be made as follows:

- (i) to the Limited Partner in proportion to any tax liability incurred by such partner;
- (ii) to the Limited Partner, to make any payment of any unpaid tax credit adjuster or any tax credit shortfall or other debts owed to the Limited Partner;
- (iii) to the Limited Partner as payment of any unpaid Asset Management Fee;
- (iv) to replenish the Operating Reserve account to the Minimum Balance;
- (v) to the payment of any unpaid developer fee, until such fee has been paid in full;
- (vi) to the repayment of the HOME funds;
- (vii) to the payment of any debts owed to the General Partner;
- (viii) 90% to the payment of any incentive management fee, or such other amount as determined by and acceptable to tax counsel; and
- (ix) the balance, .009% to the General Partner, .001% to the Special Limited Partner, and 99.99% to the Limited Partner, or such other amount determined by and acceptable to tax counsel.

C. Distributions upon Sale or Refinance. Net proceeds resulting from any sale or refinance will be distributed as follows:

- (i) in accordance with subparagraphs 8(i) through (iii) above;
- (ii) in accordance with subparagraphs 8(v) through (vi) above;
- (iii) to the Special Limited Partner, 1% of such gross proceeds as a partnership liquidation fee;
- (iv) to the Limited Partner in an amount equal to any projected exit taxes;
- (v) the balance, 80% to the General Partner, 19.99% to the Limited Partner, and 0.01% to the Special Limited Partner, or such other amount as determined by and acceptable to tax counsel.

11. Debt Financing. As a condition to funding the capital contribution described in Paragraph 4, the General Partner will deliver the loan commitments described below. The terms of these loans and/or financing sources are subject to Red Stone's consent and all loans will be made directly from the lenders to the Partnership.

- A. Permanent Loan. The Partnership expects to receive non-recourse permanent loan commitments in the maximum amounts, and with the terms set forth below:

Name	Hard / Soft Debt	Maximum Amount	Interest Rate	Term (mos.)	Amort. (mos.)	% of cash flow	Min DSCR
MHP Fund Perm Loan	Hard	\$1,675,000	6.5%	240	360	100%	1.15
HOME Funds - Somerville	Soft	\$500,000	3.0%	480	N/A	100%	N/A
State Tax Credit Loan	Soft	\$1,411,120	2%	480	N/A	0%	N/A

- B. Construction Loan. In addition to the permanent financing sources described above, it is expected that the project will be financed with a first-lien position construction loan in the maximum amount of \$6,500,000 with an approximate interest rate of 4% and a term of no less than 18 months.

12. Purchase Option and Right of First Refusal. For a period of 2 years following the credit period, the General Partner shall have an option to purchase the Project at the end of the compliance period for a purchase price equal to the greater of (i) fair market value or (ii) the sum of the amount of indebtedness secured by the Project, which indebtedness may be assumed by the General Partner at its discretion, the amount of the federal, state, and local tax liability that the Limited Partner would incur as a result of the sale and any amount of credits below the amount stated in Paragraph 3. If the General Partner is a not for profit entity, the purchase price shall be the amount required pursuant to Section 42(i) of the Code.
13. Due Diligence, Opinions and Financial Projections. The General Partner will satisfy all of Red Stone's due diligence requirements, including an acceptable local law opinion. The Limited Partner's tax counsel will provide the tax opinion. The Partnership will reimburse the Limited Partner an amount equal to \$30,000 toward the costs incurred by the Limited Partner in conducting its due diligence review and for the costs and expenses of Red Stone's counsel and in connection with the preparation of the tax opinion, and for the costs of Red Stone's other third party reports. Red Stone may deduct this amount from its first Capital Contribution and such amount will be payable to Red Stone in the event the General Partner elects not to close the transaction for any reason. The financial projections to be attached to the Partnership Agreement and that support the tax opinion will be prepared by Red Stone based on financial projections provided by the General Partner. The General Partner financial projections will include eligible basis calculations, sources and uses, and cash flow statements.
14. Partnership Closing. Final Partnership closing will be contingent upon Red Stone's receipt, review and approval in its sole discretion of all due diligence including the items set forth on its due diligence checklist to be delivered to the General Partner. Final Partnership closing also is contingent upon (i) a satisfactory site visit conducted by Red Stone to determine overall market feasibility, including an analysis of proforma rents and expenses and (ii) Red Stone's review and approval of all third party reports. Red Stone's agreement to acquire the LP

Interest on the pricing, terms and conditions contained in this letter are further based on the assumption that the Partnership closing will occur on or before the Closing Date set forth in Paragraph 1. Terms and credit pricing herein shall be valid until the Closing Date. [Red Stone will use reasonable efforts to keep the tax credit pricing and terms outlined in this letter constant through such date, but Red Stone reserves the right in its sole discretion to modify the tax credit pricing or other terms to be consistent with market conditions.

15. **Exclusivity.** Upon the execution of this Letter of Intent, the General Partner agrees to cease its efforts to obtain financing from other sources. This exclusive arrangement shall terminate should Red Stone notify the General Partner in writing that it does not intend to proceed with this investment any time prior to ratification by the Red Stone investment committee.

[Remainder of page left intentionally blank]



Please confirm your acceptance of the terms described in this letter by signing the enclosed counterpart and returning to us at the address set forth on the first page of this letter. The terms of this letter are not binding until countersigned and accepted by an authorized officer of Red Stone.

Sincerely,

By: Lauren P. Henry  
Name: Lauren P. Henry  
Title: Vice President

The undersigned approves and accepts the terms of this letter agreement and agrees to work with Red Stone.

**GENERAL PARTNER:**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**GUARANTOR:**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

# Tax Incentive Capital, LLC

385 South Main Street, 3<sup>rd</sup> Floor  
Providence, RI 02903  
(401) 272-0225 phone  
(401) 429-6163 fax

CONFIDENTIAL

February 28, 2014

Somerville Housing Authority  
c/o Joseph Macaluso  
30 Memorial Road  
Somerville, MA 02145

## TERM SHEET

### **Authority:**

M.G.L. c. 62, § 6J and M.G.L. c. 63, § 38R et. seq. (the "**Statutes**") provides that any taxpayer that incurs "qualified rehabilitation expenditures" for the "substantial rehabilitation" of a "certified rehabilitation" on a "qualified historic structure" shall be entitled to a tax credit (the "**Tax Credits**") against the taxes imposed by Chapters 62 (Taxation of Incomes) and 63 (Taxation of Corporations) of the Massachusetts General Laws in an amount not to exceed twenty percent (20%) of the "qualified rehabilitation expenditures" made by the taxpayer with respect to a "qualified historic structure."

### **Owner; Property**

The Somerville Housing Authority, and/or its designees (collectively known as the "**Owner**"), is the developer of a certain property known as the Mystic Water Works located on Mystic Valley Parkway in Somerville Massachusetts (as described on the Applications as defined below) (the "**Property**"). The Owner is substantially rehabilitating the Property in accordance with the Statutes and the architectural plans and specifications as provided in the Owner's Part 2 of the State Historic Rehabilitation Tax Credit Program Historic Preservation Certification (the "**Application**") certified and approved by the Massachusetts Historical Commission (the "**Commission**"), and will receive allocations of Massachusetts historic tax credits from the Commission.

### **Tax Credits; Price; Transfer:**

It is estimated that the rehabilitation of the Mystic Water Works will generate approximately \$1,000,000 to \$1,600,000 of Tax Credits. Tax Incentive Capital, LLC or one of its affiliates ("**TIC**") will agree to purchase all of the Tax Credits generated by the rehabilitation of the Property for a price of \$0.87 per Tax Credit ("**Purchase Price**"), and, in exchange therefore, the Owner will transfer all of such Tax Credits to TIC or to such persons as TIC shall designate. Upon the issuance of the final certification by the Commission as described in the Statutes ("**Tax Credit Certificate**") evidencing an amount of Tax Credits earned by the Owner, the Owner will assign such Tax Credit Certificate and the corresponding Tax Credits to TIC or to such persons as TIC shall designate. In exchange therefore TIC will cause the purchase price to be paid for such Tax Credits at the time of such transfer.

TIC anticipates that the 2015 or 2016 Tax Credit Certificates will be delivered to TIC or its designee on or about April 1, 2016. If the Owner does not complete the final certification in a timely fashion, and instead delivers a 2017 Tax Credit Certificate to TIC, the Purchase Price will be reduced to \$0.82 per Tax Credit unless Owner notifies TIC no later than August 31, 2015, that there will be a substantial delay in the project

such that delivery of the Certificate will not be made timely. Upon timely delivery of such notice, the Purchase Price shall remain in effect at \$.87 per credit provided that the Certificate is delivered in 2017.

**Transfer Notice:**

Owner will timely file a transfer statement and transfer contract with the Massachusetts Department of Revenue as required by M.G.L. c. 62 § 6J(b)(2)(ii), M.G.L. c. 63 § 38R(b)(2)(ii), and 830 CMR 63.38R.1 on behalf of the Owner and TIC.

**Recapture:**

In Massachusetts there is no recapture for a person who buys the credit and does not own any interest in the real estate. If any Tax Credits transferred to TIC are recaptured, forfeited, or otherwise reduced for any reason, including but not limited to, any cost or expense incurred during the rehabilitation of the Property failing to qualify as a "qualified rehabilitation expenditure" or if the Owner's interest in the property is disposed of prior to five (5) years after the "qualified historic structure" received final certification and was placed in service, and any such event has any adverse economic effect of TIC, then the Owner will pay to TIC \$.87 for each Tax Credit recaptured, forfeited, or otherwise reduced (\$.82 if TIC paid the reduced purchase price as provided above) plus any penalties and interest incurred by TIC as a result of such recapture, forfeiture, or reduction and all reasonable out-of-pocket expenses (including legal fees and expenses) incurred by TIC in connection with such recapture, forfeiture, or reduction. The obligations in this provision are referred to as the "**Recapture Obligation.**"

**Conditions Precedent:**

The obligations of the parties hereunder, including the obligation of TIC to purchase Tax Credits, are conditioned upon the following:

- the Commission shall have issued an allocation of Massachusetts historic tax credit to the property;
- the Commission shall have issued Part 3 approval of the Application for the Property, determining that the Property as completed constitutes a "certified rehabilitation" within the meaning of the Statutes as cited above;
- the Commission shall have issued approval of any and all amendments to the Application for the Property, determining that any changes to the Property as described in the amendment(s) meet the standards for historic preservation projects, subject to any conditions set forth in such approval;
- the Commission shall have issued a Tax Credit Certificate with respect to the Tax Credits earned by the Owner in connection with the rehabilitation of the Property;
- receipt of a independent certified public accountant's cost certification regarding eligible basis;
- confirmation of the year that the Property was placed in service in 2015 or 2016 as may be the case;
- evidence of real property tax assessment; the Owner shall not have received any direct grant from a federal, state or local governmental entity or agency or instrumentality thereof in connection with the Property;
- the Property shall meet the substantial rehabilitation test such that the "qualified rehabilitation expenditures" within the meaning of M.G.L. c. 62 § 6J(a) and M.G.L. c. 63 § 38R(a) incurred with respect to the Property during the twenty-four (24) month period selected by the Owner and ending within the taxable year in which the Property was placed in service exceeds twenty-five percent (25%) of the Owner's adjusted basis in the Property as of the beginning of such period;

- execution of mutually agreeable definitive transaction documents evidencing the terms and conditions set forth in this Term Sheet, which definitive transaction documents shall include:
  - a Tax Credit Transfer Agreement pursuant to which the Owner agrees to transfer the Tax Credits generated by the rehabilitation of the Property to TIC and TIC agrees to pay the Purchase Price for such Tax Credits; and

**Expenses:**

The Owner shall be responsible for the payment of the fees and expenses of its counsel and our counsel, as well as those of the Owner's accountants. However, the aggregate reimbursable fees for our counsel will not exceed \$5,000 while aggregate expenses, which are reimbursable without your prior approval, will not exceed \$1,000.

**Confidentiality:**

The Purchase Price is strictly confidential and the Owner agrees not disclose the Purchase Price to any third party without the prior written consent of TIC, except that the Owner may disclose the Purchase Price to its officers, directors, attorneys, other advisors, and other lenders or investors, also governmental entities and other parties with a right to access such information.

\* \* \*

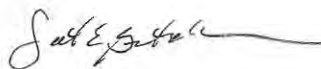
Except with respect to the provision captioned "Confidentiality" and the representations in the following paragraph, which are intended to be, and are a legally binding agreements among the parties hereto, this Term Sheet does not constitute a legally binding agreement among the parties. This Term Sheet represents the current thinking of the parties with respect to certain of the major issues relating to the transactions contemplated in this Term Sheet and is intended to form the basis for the negotiation of definitive transaction documents. This Term Sheet is not an offer or commitment to invest, loan, or purchase and is subject to completion of all the conditions set forth herein.

Each party executing this Term Sheet represents and warrants that the undersigned signatory has the authority to act on behalf of such party and to bind such party and all who may claim through it to the terms and conditions of this Term Sheet. This Term Sheet is executed as of the date first set forth above and may be executed in counterparts, each of which is deemed an original, all together constituting one and the same instrument.

This proposal shall remain valid until the close of business June 30, 2014. Please evidence your acceptance and approval by signing a copy of this letter below. Upon receipt of your acceptance, we will begin our final due diligence review and instruct you to have your counsel to commence drafting documents finalizing the transaction.

Somerville Housing Authority

Tax Incentive Capital, LLC



By: \_\_\_\_\_

By: \_\_\_\_\_  
Scot E. Butcher  
Member



CITY OF SOMERVILLE, MASSACHUSETTS

JOSEPH A. CURTATONE

MAYOR

February 24, 2014

Mr. Joseph Macaluso  
Executive Director  
Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

RE: WaterWorks  
485 Mystic Valley Parkway, Somerville, MA 02144 (the "Project")

Dear Mr. Macaluso:

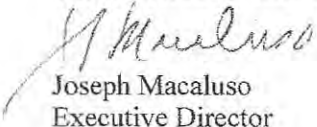
Based on the circumstances as described in Paul Mackey's correspondence of February 3, 2014, specifically the need for an updated HOME commitment letter for the Department of Housing and Community Development's rental application round and the concern that the Somerville Housing Authority would be unable to meet the deadlines of the City's previous conditional funding reservation, we are approving the request to extend the conditional reservation of \$500,000 from the City's federal HOME funds to June 30, 2015, with a closing date of no later than August 30, 2015. All other terms and conditions as set forth in our original conditional reservation letter of May 13, 2013 remain in effect.

Thank you for contacting us and we wish you continued success in construction and occupancy of this affordable housing development. Should you have any questions in this matter, please contact Dana LeWinter, Director of Housing at (617) 625-6600, ext 2565.

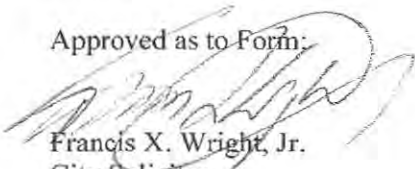
Sincerely,

  
Joseph A. Curtatone  
Mayor

ACCEPTED:  
The Somerville Housing Authority

  
Joseph Macaluso  
Executive Director

Approved as to Form:

  
Francis X. Wright, Jr.  
City Solicitor

CC: Michael F. Glavin, Executive Director, OSPCD  
Kelly Donato, Housing Counsel  
Dana LeWinter, Director of Housing  
Evelyn Persoff, Housing Grants Manager  
Jayne Gulla, Director of Administration and Finance, OSPCD





## CITY OF SOMERVILLE, MASSACHUSETTS

JOSEPH A. CURTATONE

MAYOR

May 13, 2013

Mr. Joseph Macaluso  
Executive Director  
Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

RE: WaterWorks  
485 Mystic Valley Parkway, Somerville, MA 02144 (the "Project")

Dear Mr. Macaluso:

Congratulations! On behalf of the City of Somerville, I am pleased to inform you that funds in the amount of \$500,000 from the HOME Investment Partnerships Program ("HOME") have been conditionally reserved by the Mayor's Office of Strategic Planning & Community Development ("OSPCD") to assist with construction and development of the WaterWorks project at the former site of the MWRA pumping station at 485 Mystic Valley Parkway, Somerville, MA 02144, subject to the terms stated herein. If all of the requirements of this Conditional Funding Reservation for HOME projects are satisfied, the HOME loan will be made to the Project's borrower/owner, The Somerville Housing Authority ("SHA") or the entity created by SHA to take title to the Project.

This Conditional Funding Reservation is issued pursuant to your agreement to provide twenty-five (25) units of rental housing units, of which fifteen (15) will be HOME-assisted and remain affordable rental housing for a minimum period of forty (40) years to individuals and households whose incomes are: (i) no higher than 50% of HUD area median for not less than 20% of the units (3 units); and (ii) no higher than 60% of area median income for the remaining units (12 units) (the "Eligible Use"). To accomplish this goal, the loan documents will contain appropriate restrictions on the use of the Project.

The HOME loan repayment terms will include interest at the Applicable Federal Rate ("AFR") and deferral of repayment until the expiration of the forty (40) year term (the "Maturity Date"). The Maturity Date may be extended under certain conditions with the approval of OSPCD. There will be one payment due at Maturity Date in an amount (subject to adjustment for interest, penalties, and other charges under the terms of the loan documents) representing the entire balance of the loan.

As collateral for the loan, OSPCD will take a mortgage and security agreement on the real property included in the Project. The priority position of the HOME mortgage will be determined



in an Intercreditor Agreement at the time of loan closing. A change in ownership of the Project or in the legal form of the owner of the Project, the placing of additional encumbrances on the Project without the prior written consent of OSPCD, failure to maintain the Eligible Use for the Project, or default under senior mortgage loans, shall be among the events of default under the HOME loan.

This conditional funding Reservation is contingent upon the fulfillment of the following general conditions to the satisfaction of OSPCD by June 30, 2014:

1. Submission to and approval by OSPCD of the following:
  - a) Evidence of firm commitments for construction and/or permanent mortgage financing from those entities and in those amounts shown on the development pro forma, and on such terms as are acceptable to OSPCD;
  - b) Detailed timelines for the construction of the Project, including construction completion date, funding schedule, and move-in date;
  - c) Documentation of the bid process, contractor selection process, and plan for monitoring of construction;
  - d) Documentation that the general contractor is bonded or has a Letter of Credit for a minimum of 100% of the construction contract;
2. Submission to and approval by OSPCD of a final construction budget with bid prices from the selected general contractor;
3. Submission to and approval by OSPCD of final plans and specifications;
4. Submission of documentation that the building will meet federal and state requirements for accessibility; and
5. Submission of satisfactory evidence that all other legal, design, regulatory and environmental requirements for the Project are fulfilled and approvals obtained and all site surveys required for the Project obtained;
6. Submission of satisfactory evidence that SHA has complied with HOME Program affirmative outreach requirements in the selection of consultants for the Project, including attorneys, architects, management companies, and any other professionals employed by SCC in connection with the Project.

*Notwithstanding any provision of this agreement, the parties hereto agree and acknowledge that this agreement does not constitute a commitment of funds or site approval, and that such commitment of funds or approval may occur only upon satisfactory completion of an environmental review. The parties further agree that the provision of any funds to the Project is conditioned upon the City of Somerville's determination to proceed with, modify or cancel the Project based on the results and evaluation of a subsequent environmental review.*

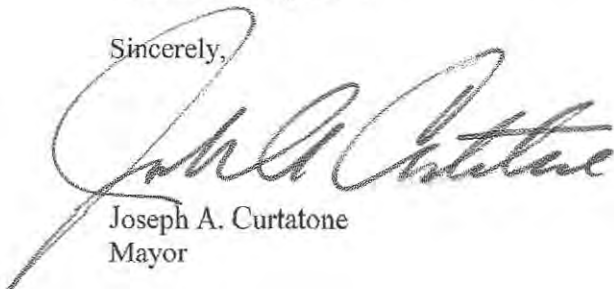


Closing and funding of the HOME loan will be conditional upon the fulfillment of this Conditional Funding Reservation and upon satisfactory submission of all documents required by the Closing Agenda. The City's attorney will be Kelly Donato. Loan Documents will be prepared by a "MassDocs" attorney to be selected by DHCD, whose fee will be paid out of the loan proceeds upon submission of invoices by the owner/borrower (similar to the procedure for payment of other eligible costs for which the loan proceeds may be spent). Funding of the HOME loan is also conditional upon the continued availability of federal HOME funds.

This Conditional Funding Reservation will be in effect until June 30, 2014 and the HOME loan for the Project shall close no later than September 30, 2014. If you become aware that the Project will not be able to meet all requirements for closing by that date, you should immediately contact Dana LeWinter, Director of Housing.

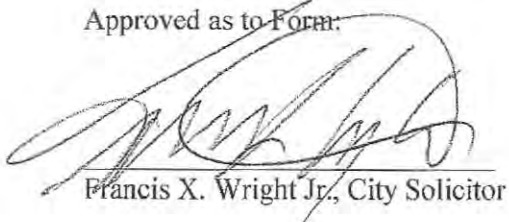
We congratulate you on receiving this Conditional Funding Reservation from the HOME Program and on your commitment to creating housing opportunities for low-income individuals and households. We look forward with anticipation to seeing this project move towards successful completion.

Sincerely,



Joseph A. Curtatone  
Mayor

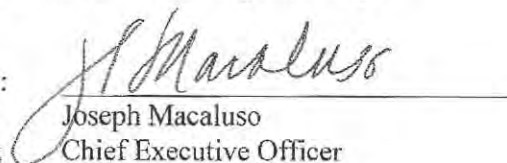
Approved as to Form:



Francis X. Wright Jr., City Solicitor

ACCEPTED BY THE BORROWER:  
The Somerville Housing Authority

By:



Joseph Macaluso  
Chief Executive Officer

ccs: Michael F. Glavin, Executive Director (OSPCD)  
Dana LeWinter, Director of Housing (OSPCD)  
Kelly Donato, Attorney and Director of Special Projects (OSPCD)  
Evelyn Persoff, Housing Grants Manager (OSPCD)





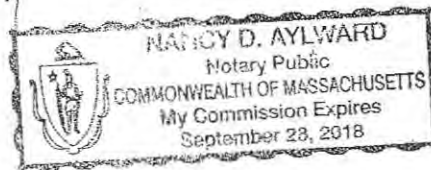
COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss

On this 14<sup>th</sup> day of May, 2013, before me, the undersigned Notary Public, personally appeared the above-named Joseph A. Curtatone, Mayor of the City of Somerville, proved to me by my own knowledge of the identity of the signatory to be the person whose name is signed above, and acknowledged the foregoing to be signed by him voluntarily for its stated purpose as Mayor of the City of Somerville.

*Nancy D. Aylward*

Notary Public  
My Commission Expires:  
Qualified in Massachusetts



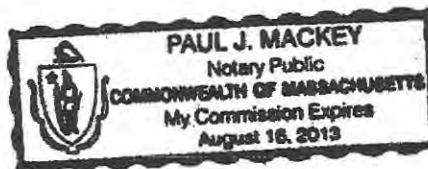
COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss

On this 15<sup>th</sup> day of May, 2013, before me, the undersigned Notary Public, personally appeared the above-named Joseph Macaluso, Chief Executive Office of The Somerville Housing Authority proved to me by OWN KNOWLEDGE to be the person whose name is signed above, and acknowledged the foregoing to be signed by him voluntarily for its stated purpose as Chief Executive Officer of the Somerville Housing Authority.

*Paul J. Mackey*

Notary Public  
My Commission Expires:  
Qualified in Massachusetts





February 24, 2014

Joseph Macaluso  
Somerville Housing Authority  
30 Memorial Road  
Somerville MA 02145

Dear Joe:

Thank you for contacting PCI regarding construction financing for Mystic WaterWorks in Somerville, a 25-unit, 100% affordable development. The following is an indicative term sheet:

<b>Sponsor:</b>	Somerville Housing Authority
<b>Borrower:</b>	To be named LLC
<b>Loan Amount:</b>	Up to \$7,500,000
<b>Interest Rate:</b>	3.5 – 4.0% fixed rate
<b>Payments:</b>	Interest only payments monthly in arrears
<b>Commitment Fee:</b>	0.5% of loan amount
<b>Loan Term:</b>	18 months – no prepayment penalty
<b>LTV:</b>	85% or less of as completed value plus the value of any deferred sources
<b>Collateral:</b>	First position mortgage on subject property and improvements.
<b>Guarantee:</b>	Construction completion guarantee from Sponsors.

The above is a preliminary statement of the terms PCI would consider for a construction loan for Mystic WaterWorks, but should not be construed in any way as a commitment of PCI funding.

Please do not hesitate to contact me if you have any questions regarding the terms outlined above.

Sincerely,

Rufus Phillips  
Vice President



Massachusetts  
Housing  
Partnership

February 28, 2014

Mr. Joseph Macaluso  
Executive Director  
Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

Re: **Mystic Waterworks Apartments**, Somerville, MA

Dear Joe:

This letter is to indicate the interest on the part of the Massachusetts Housing Partnership Fund in providing a permanent loan on the above-referenced project. I understand that the project will consists of the adaptive reuse of the Mystic Waterworks building into 25 units of housing. This project is intended to turn around this vacant building by renovating it into fully occupied and professionally managed, 100% affordable housing.

After a preliminary review of your operating projections for the project, we have determined that a loan amount of up to \$1,600,000 at an interest rate of up to 7.00% for a term of 20 years amortizing over 30 years would be feasible for the project. Please understand that this letter is not intended as a commitment to lend, and should not be interpreted as such.

We wish you well on your tax credit application and other financing efforts for this project. Please keep me informed of your progress.

Sincerely,

Richard A. Mason  
Deputy Director of Lending



*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

*William Francis Galvin*  
*Secretary of the Commonwealth*

November 13, 2012

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Rd  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House (Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC# HRC.323

Dear Mr. Mackey:

As Chairman of the Massachusetts Historical Commission, I am pleased to inform you that the above referenced project has been selected to receive \$400,000.00 of state rehabilitation tax credit funds. You remain eligible to apply for additional funds in future rounds, not exceeding a total of 20% of the qualified rehabilitation costs for the project.

This allocation is contingent upon the successful completion of the project and the approval of part three of the state rehabilitation tax credit application in accordance with the regulations (830 CMR 63.38R.1).

Once your project is complete and put into service, you may apply for a Part 3 Certification for your project. Part 3 certification and issuance of a Project Certificate by the Massachusetts Historical Commission is the final step of the tax credit process for a single-phase project. See 830 CMR 63.38R.1(4)(c). After the Project Certificate is issued, no additional credits can be allocated.

Please contact Brena Simon, Executive Director of the Massachusetts Historical Commission, if you have any questions concerning the next steps in this process.

We look forward to working with you toward the successful completion of your project. We hope that this allocation will help you to achieve your preservation goals.

Sincerely,

A handwritten signature in black ink, appearing to read "William Francis Galvin", written over a horizontal line.

William Francis Galvin  
Secretary of the Commonwealth  
Chairman, Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors



*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

*William Francis Galvin*  
*Secretary of the Commonwealth*

March 12, 2013

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Rd  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House (Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC# HRC.323

Dear Mr. Mackey:

As Chairman of the Massachusetts Historical Commission, I am pleased to inform you that the above referenced project has been selected to receive an additional \$300,000.00 of state rehabilitation tax credit funds. You remain eligible to apply for additional funds in future rounds, not exceeding a total of 20% of the qualified rehabilitation costs for the project.

This allocation is contingent upon the successful completion of the project and the approval of part three of the state rehabilitation tax credit application in accordance with the regulations (830 CMR 63.38R.1).

Once your project is complete and put into service, you may apply for a Part 3 Certification for your project. Part 3 certification and issuance of a Project Certificate by the Massachusetts Historical Commission is the final step of the tax credit process for a single-phase project. See 830 CMR 63.38R.1(4)(c). After the Project Certificate is issued, no additional credits can be allocated.

Please contact Brona Simon, Executive Director of the Massachusetts Historical Commission, if you have any questions concerning the next steps in this process.

We look forward to working with you toward the successful completion of your project. We hope that this allocation will help you to achieve your preservation goals.

Sincerely,

A handwritten signature in dark ink, appearing to read "W. Francis Galvin", written over a horizontal line.

William Francis Galvin  
Secretary of the Commonwealth  
Chairman, Massachusetts Historical Commission

cc: Albert Rex, MacRostie Historic Advisors



*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

*William Francis Galvin*  
*Secretary of the Commonwealth*

July 8, 2013

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Rd  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House (Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC# HRC.323

Dear Mr. Mackey:

As Chairman of the Massachusetts Historical Commission, I am pleased to inform you that the above referenced project has been selected to receive an additional \$300,000.00 of state rehabilitation tax credit funds. You remain eligible to apply for additional funds in future rounds, not exceeding a total of 20% of the qualified rehabilitation costs for the project.

This allocation is contingent upon the successful completion of the project and the approval of part three of the state rehabilitation tax credit application in accordance with the regulations (830 CMR 63.38R.1).

Once your project is complete and put into service, you may apply for a Part 3 Certification for your project. Part 3 certification and issuance of a Project Certificate by the Massachusetts Historical Commission is the final step of the tax credit process for a single-phase project. See 830 CMR 63.38R.1(4)(c). After the Project Certificate is issued, no additional credits can be allocated.

Please contact Brona Simon, Executive Director of the Massachusetts Historical Commission, if you have any questions concerning the next steps in this process.

We look forward to working with you toward the successful completion of your project. We hope that this allocation will help you to achieve your preservation goals.

Sincerely,

A handwritten signature in dark ink, appearing to read 'W. Galvin', with a long, sweeping horizontal line extending to the right.

William Francis Galvin  
Secretary of the Commonwealth  
Chairman, Massachusetts Historical Commission

cc: Albert Rex, MacRostie Historic Advisors





*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

*William Francis Galvin*  
*Secretary of the Commonwealth*

November 26, 2013

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Rd  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House (Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC# HRC.323

Dear Mr. Mackey:

As Chairman of the Massachusetts Historical Commission, I am pleased to inform you that the above referenced project has been selected to receive an additional \$200,000.00 of state rehabilitation tax credit funds. You remain eligible to apply for additional funds in future rounds, not exceeding a total of 20% of the qualified rehabilitation costs for the project.

This allocation is contingent upon the successful completion of the project and the approval of part three of the state rehabilitation tax credit application in accordance with the regulations (830 CMR 63.38R.1).

Once your project is complete and put into service, you may apply for a Part 3 Certification for your project. Part 3 certification and issuance of a Project Certificate by the Massachusetts Historical Commission is the final step of the tax credit process for a single-phase project. See 830 CMR 63.38R.1(4)(c). After the Project Certificate is issued, no additional credits can be allocated.

Please contact Brona Simon, Executive Director of the Massachusetts Historical Commission, if you have any questions concerning the next steps in this process.

We look forward to working with you toward the successful completion of your project. We hope that this allocation will help you to achieve your preservation goals.

Sincerely,

A handwritten signature in dark ink, appearing to read 'W. Galvin', written over the typed name and title.

William Francis Galvin  
Secretary of the Commonwealth  
Chairman, Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors



#### Exhibit 7.7

NA - This project does not utilize any MRC, DDS, or DMH funding

## Exhibit 7.8: Rental Subsidies

*NOTE: This form is required only where sponsors expect to utilize rental subsidies to support project feasibility.*

### Project Based Rental Assistance by contract:

Type of Rental Subsidy (Please circle all that apply)

Sec. 8 DHCD

Sec. 8 LHA

MRVP

VASH

McKinney

PRAC

Other: Subsidy name \_\_\_\_\_

Status of Subsidy

Not Yet Applied

Applied

Awarded

Existing

Expiration Date: None

Does this contract require HUD Layering Review: Yes or No

Status of review:

Not Yet Applied

Applied – SLA to be done after award of financing

Under Review

Completed

For each contract please fill in the below table(s).

<i>Bedrooms</i>	<i>Number</i>	<i>Rent</i>		
SRO				
0 Bedroom				
1 Bedroom	<b>25</b>	<b>1280</b>		<b>Awarded by SHA; approved by HUD</b>
2 Bedroom				

3 Bedroom				
4 Bedroom				
5 Bedroom				

<i>Bedrooms</i>	<i>Number</i>	<i>Rent</i>		
SRO				
0 Bedroom				
1 Bedroom				
2 Bedroom				
3 Bedroom				
4 Bedroom				
5 Bedroom				

<i>Bedrooms</i>	<i>Number</i>	<i>Rent</i>		
SRO				
0 Bedroom				
1 Bedroom				
2 Bedroom				
3 Bedroom				
4 Bedroom				
5 Bedroom				

<i>Bedrooms</i>	<i>Number</i>	<i>Rent</i>		
SRO				
0 Bedroom				
1 Bedroom				
2 Bedroom				
3 Bedroom				
4 Bedroom				
5 Bedroom				

*Please attach commitment letters, signed AHAP, and other relevant correspondence from agency administering the Section 8 assistance.*

# Somerville Housing Authority

30 MEMORIAL ROAD  
SOMERVILLE, MASSACHUSETTS 02145

TELEPHONE (617) 625-1152  
TDD 628-8889



November 18, 2011

Capen Court LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

Re: Conditional Project Based Voucher Award Letter  
Waterworks Senior Housing

Dear Sir or Madam:

This is to inform you that staff at the Somerville Housing Authority has reviewed your Project Based Voucher (PBV) proposal for Waterworks Senior Housing and made a determination that your project meets all basic criteria including compliance with HUD program regulations and requirements. The SHA has determined that the property will be developed as eligible housing and does not require compliance with the cap on the number of PBV units per building as you propose to assist the elderly. The SHA **conditionally** awards up to 60 PBV units to your project. The SHA will not sign an Agreement to Enter into a Housing Assistance Payments (AHAP) until the following items are provided:

- 1) Owner's Tenant Selection Policy;
- 2) Rent comparables for similar unassisted units

Because of your status as "manager" of the LLC, this project is considered "PHA-owned" housing and thus per regulations at 24 CFR 983.51 (c) requires that HUD review the selection process and determine that this proposal was appropriately selected. HUD must also be involved in the rent determination process, approve the party responsible for the Environmental Review and certify compliance with environmental regulations. Finally, HUD will conduct a Subsidy Layering Review of the project. Guidance regarding this process can be found at HUD PIH Directive Number 95-4, SLR Implementing Instructions.

We will forward your submission together with our scoring analysis to HUD for initial review. Congratulations and thank you for your proposal which will expand affordable housing opportunities in Somerville.

Sincerely,

A handwritten signature in cursive script, reading 'Linda DeProffio', is written over the typed name.  
Linda DeProffio,  
Director of Rental Assistance





New England

## U.S. Department of Housing and Urban Development

Office of Public Housing  
Boston Hub  
Thomas P. O'Neill, Jr. Federal Building  
10 Causeway Street  
Boston, Massachusetts 02222-1092

FEB 20 2014

2014 FEB 24 AM 9:08

Joseph R. Macaluso  
Executive Director  
Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

Dear Mr. Macaluso:

This letter is in response to the correspondence received by this office, dated January 6, 2014, requesting HUD approval of the Somerville Housing Authority's (SHA) selection of Project Based Voucher (PBV) projects in which the SHA has an ownership interest.

The SHA was a successful applicant under the Request for Proposals (RFP), one (1) proposal was approved for 60 units and, all 60 were SHA-owned units. Since the SHA has ownership interest in these 60 units, HUD regulations at 24 CFR 983.51(e), PHA-owned units, and 24 CFR 983.59(b), Inspection and determination of reasonable rent by independent entity, are applicable to them.

The regulation at 24 CFR 983.51(e), Owner proposal selection procedures for PHA owned units states that "A PHA-owned unit may be assisted under the PBV program only if the HUD field office or HUD-approved independent entity reviews the selection process and determines that the PHA-owned units were appropriately selected, based on the selection procedures specified in the PHA administrative plan."

Based upon our review of documentation submitted by the SHA, as well as the SHA's selection procedures and administrative plan, we find that the SHA appropriately selected the proposals in accordance with the above referenced regulation.

The regulation at 24 CFR 983.59(b), PHA-owned units – inspections and determination of reasonable rent by independent entity, states that, "In the case of PHA-owned units, the following program services may not be performed by the PHA, but must be performed instead by an independent entity approved by HUD. (1) Determination of rent to owner for the PHA-owned units. Rent to owner for PHA-owned units is determined pursuant to 24 CFR 983.301 through 983.305 in accordance with the same requirement as for other units, except that the independent entity approved by HUD must establish the initial contract rents based on an appraisal by a licensed, state-certified appraiser; and (2) Inspections of PHA-owned units as required by 24 CFR 983.103(f). You have requested that HUD approve the Framingham Housing Authority as

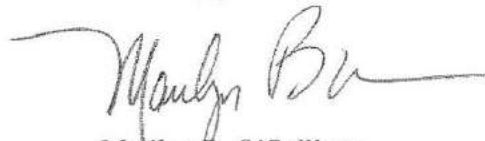
the independent entity to perform inspections and determine rent reasonableness of PHA-owned units.

We have reviewed your request and hereby approve the Framingham Housing Authority as the independent entity to perform Inspections and to determine rent reasonableness for PHA-owned units in accordance with the above referenced regulations as long as these units shall be PHA-owned or until a new independent entity is approved by HUD. Regulations at 983.103 and 983.303 require that the independent entity must furnish a copy of each inspection report and of their determination of reasonable rent to the SHA and to this office.

Please be advised that an Subsidy Layering Review (SLR) is required for projects involving new construction and rehabilitation, when PBV is combined with other governmental housing assistance, such as, tax concessions and tax credits. HUD must perform the SLR review unless a housing credit agency has submitted a notice of intent to conduct SLRs, and the Department has published the name of the housing credit agency on the Department's website.

If you have any questions, or require additional information, please contact Valarie L. Turner, Public Housing Revitalization Specialist, at (617) 994-8417 or by electronic mail to [valarie.l.turner@hud.gov](mailto:valarie.l.turner@hud.gov).

Sincerely yours,



Marilyn B. O'Sullivan  
Director

Enclosure



*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

*William Francis Galvin*  
*Secretary of the Commonwealth*

March 27, 2014

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Rd  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House (Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC# HRC.323

Dear Mr. Mackey:

As Chairman of the Massachusetts Historical Commission, I am pleased to inform you that the above referenced project has been selected to receive an additional \$150,000.00 of state rehabilitation tax credit funds. You remain eligible to apply for additional funds in future rounds, not exceeding a total of 20% of the qualified rehabilitation costs for the project.

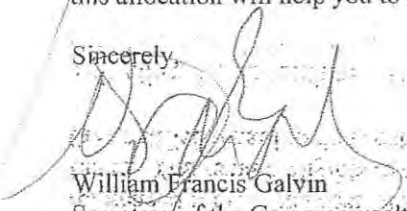
This allocation is contingent upon the successful completion of the project and the approval of part three of the state rehabilitation tax credit application in accordance with the regulations (830 CMR 63.38R.1).

Once your project is complete and put into service, you may apply for a Part 3 Certification for your project. Part 3 certification and issuance of a Project Certificate by the Massachusetts Historical Commission is the final step of the tax credit process for a single-phase project. See 830 CMR 63.38R.1(4)(c). After the Project Certificate is issued, no additional credits can be allocated.

Please contact Brona Simon, Executive Director of the Massachusetts Historical Commission, if you have any questions concerning the next steps in this process.

We look forward to working with you toward the successful completion of your project. We hope that this allocation will help you to achieve your preservation goals.

Sincerely,

  
William Francis Galvin  
Secretary of the Commonwealth  
Chairman, Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors





*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

*William Francis Galvin*  
*Secretary of the Commonwealth*

July 9, 2014

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Rd  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House (Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC# HRC.323

Dear Mr. Mackey,

As Chairman of the Massachusetts Historical Commission, I am pleased to inform you that the above referenced project has been selected to receive an additional \$50,000.00 of state rehabilitation tax credit funds.

This allocation is contingent upon the successful completion of the project and the approval of part three of the state rehabilitation tax credit application in accordance with the regulations (830 CMR 63.38R.1).

Once your project is complete and put into service, you may apply for a Part 3 Certification for your project. Part 3 certification and issuance of a Project Certificate by the Massachusetts Historical Commission is the final step of the tax credit process for a single-phase project. See 830 CMR 63.38R.1(4)(c). After the Project Certificate is issued, no additional credits can be allocated.

Please contact Brona Simon, Executive Director of the Massachusetts Historical Commission, if you have any questions concerning the next steps in this process.

We look forward to working with you toward the successful completion of your project. We hope that this allocation will help you to achieve your preservation goals.

Sincerely,

A handwritten signature in dark ink, appearing to read "W. Francis Galvin", written over a horizontal line.

William Francis Galvin  
Secretary of the Commonwealth  
Chairman, Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors



*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

*William Francis Galvin*  
*Secretary of the Commonwealth*

November 12, 2014

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Rd  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House (Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC# HRC.323

Dear Mr. Mackey:

As Chairman of the Massachusetts Historical Commission, I am pleased to inform you that the above referenced project has been selected to receive an additional \$50,000.00 of state rehabilitation tax credit funds. You remain eligible to apply for additional funds in future rounds, not exceeding a total of 20% of the qualified rehabilitation costs for the project.

This allocation is contingent upon the successful completion of the project and the approval of part three of the state rehabilitation tax credit application in accordance with the regulations (830 CMR 63.38R.1).

Once your project is complete and put into service, you may apply for a Part 3 Certification for your project. Part 3 certification and issuance of a Project Certificate by the Massachusetts Historical Commission is the final step of the tax credit process for a single-phase project. See 830 CMR 63.38R.1(4)(c). After the Project Certificate is issued, no additional credits can be allocated.

Please contact Brona Simon, Executive Director of the Massachusetts Historical Commission, if you have any questions concerning the next steps in this process.

We look forward to working with you toward the successful completion of your project. We hope that this allocation will help you to achieve your preservation goals.

Sincerely,

A handwritten signature in dark ink, appearing to read 'William Francis Galvin', written over a horizontal line.

William Francis Galvin  
Secretary of the Commonwealth  
Chairman, Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors



**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

March 15, 2012

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House  
(Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC#  
HRC.323

Dear Mr. Mackey:

The Massachusetts Historical Commission (MHC) has reviewed your application for the Massachusetts Rehabilitation Tax Credit. The information that you have submitted with your Part 1 application is complete in accordance with the regulations (830 CMR 63.38R.1). This letter constitutes the "initial certification" (830 CMR 63.38R.1(4)(a)). The MHC has determined that the subject property meets the definition of a "qualified historic structure" as the property is listed in the National Register of Historic Places as part of the Water Supply System of Metropolitan Boston (830 CMR 63.38R.1(2)).

Regrettably, the MHC is unable to assign second certification to your project (830 CMR 63.38R.1(4)(b)) and is unable to allocate credit to your project (830 CMR 63.38R.1(3)(c)) at this time because the application is incomplete and the proposed project may not meet the Secretary of the Interior's Standards for the Rehabilitation of Historic Properties (830 CMR 63.38R.1(5)(b) and (f), specifically Standards 1, 2, 5, and 10.

Standard 1 states the following:

- "A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment."

Standard 2 states the following:

- "The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize the property shall be avoided."

Standard 5 states the following:

- "Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterizes a property shall be preserved."

Standard 10 states the following:

220 Morrissey Boulevard, Boston, Massachusetts 02125  
(617) 727-8470 • Fax: (617) 727-5128  
[www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)

- "New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired."

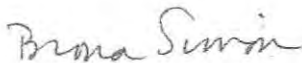
The plan presented in your application involves removing the existing mezzanine level and inserting a second floor into the character-defining two-story interior space. This proposed treatment is being remedied by modifying windows to cover the second floor, but MHC would require detailed information on how exactly this will be accomplished and possible scaled mock-ups to assure the MHC that this is actually feasible.

The MHC also requests the following information with respect to the Part 2 you submitted:

- The additional information you submitted to this office indicated that the proposed construction of the second building will now be considered the second phase of a previously unphased project. Until MHC has information on exactly how this phasing will work we cannot award your project as we cannot determine whether it will meet the Standards.

We encourage you to revise these aspects of your project and re-apply in the next application cycle. Please note that the MHC will require the following updated information to supplement your application: revised project plans, newly completed application form cover pages for Part 1 and Part 2, updated letters of support, an updated estimated project budget which includes a new pro forma detailing overall project costs and certified rehabilitation expenditures, the attachment/questionnaire regarding executive agents, and any additional information with which the existing application may be supplemented. Please be as detailed as possible in your application about the above referenced items. The next application deadline is April 30, 2012.

Sincerely,



Brona Simon  
Executive Director  
State Historic Preservation Officer  
Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors, LLC  
Jo Ellen Hensley, National Park Service



## United States Department of the Interior

### NATIONAL PARK SERVICE

1849 C Street, N.W.  
Washington, DC 20240

September 25, 2012

Mr. Paul Mackey  
Mystic Water Works LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02144

Re: **Mystic Water Works, Alewife Parkway and Capen Court, Somerville, MA**  
Project Number: 26742

Dear Mr. Mackey:

I have concluded my review of your appeal of the decision of Technical Preservation Services (TPS), National Park Service, denying certification of the rehabilitation of the property cited above. The appeal was initiated and conducted in accordance with Department of the Interior regulations (36 CFR Part 67) governing certifications for Federal income tax incentives for historic preservation as specified in the Internal Revenue Code. I thank you, Mr. Joseph Macaluso, Mr. Frank Valdes, Mr. William MacRostie, and Mr. Albert Rex, for meeting with me in Washington on June 14, 2012, and for providing a detailed account of the project. After discussing the denial issues, at the conclusion of the appeal meeting, the parties agreed that you would study the issues further and that I would defer my decision on the appeal until you had the opportunity to submit additional information for my consideration.

The additional information was received in this office on July 12, 2012. The submittal included letters from Mr. Rex and Mr. Macaluso, both dated July 5, 2012, a topographic map of the property, and seven architectural drawings (including plans, elevations, sections, details of the proposed windows, and a site-line drawing). After careful review of the complete record for this project, I have determined that the project, as amended by the revisions proposed during and subsequent to our meeting, will suffice to bring the overall impact of the proposed rehabilitation into conformance with the Secretary of the Interior's Standards for Rehabilitation (the Standards), if carried out as described. Therefore, the denial issued by TPS on May 16, 2012, is hereby reversed.

Built between 1862 and 1864, and twice enlarged, in 1870 and 1895, the Mystic Water Works Pumping Station is located in the Water Supply System of Metropolitan Boston Multiple Property District, which is listed on the National Register of Historic Places. TPS certified the building as contributing to the significance of the historic district, and determined that a second, functionally-related building on the site, a 1940s garage, did not contribute to the significance of the property, on April 3, 2012. The water works building is a rectangular brick industrial structure, a tall one story in height with a mansard roof. It still retains such original features as four-over-four light wood sash windows; several wood entrances; brownstone sills, lintels, voussoirs, and quoins; a

wood cornice; and plastered interior walls. Deactivated as a pumping station in 1912, the building was converted to public works offices in 1921 when partition walls and a mezzanine and attic were added.

TPS determined that three aspects of the proposed rehabilitation of this "certified historic structure" did not meet the Standards: 1) the insertion of a new second floor, which would cut across and alter the configuration of the historic windows, 2) the incompatible alteration of the north facade entry, and 3) the construction of a new, four-story building on the site of the former garage building. Consequently, TPS found in its May 16, 2012, decision that the overall impact of the proposed work was not consistent with the historic character of the property and the historic district in which it is located, and that the rehabilitation thus described failed to meet the Standards.

With regard to inserting a new second floor in the main volume of the water works building, TPS determined that it would alter what was "historically a large double-height open volume that originally housed pumping equipment." However, that volume has not existed in its original configuration due to the insertion of a mezzanine and attic floor into the space in 1921. Thus, for the past ninety years, it has been a multi-story building, and I note that Standard 4 states, "*Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*" Accordingly, I find that retaining the interior as a multi-story space conforms to the Standards. TPS also stated that the new second floor would cut across the building's historic window openings, "changing its appearance." Although I agree with TPS that the second floor will have an impact on the appearance of the building, I do not believe that the change will significantly impair the overall historic character of the property. The building's overall massing and exterior materials will not change; the tall window openings will still be tall window openings. What will change is that the new windows will have a horizontal bar demarcating the thickness of the new second floor, located at a different height than the meeting rail of the original windows. I have determined that the revised designs, dated June 14, 2012, which have a thinner edge to the second floor and a correspondingly thinner horizontal bar than originally proposed, would not significantly impair the overall historic character of the building.

With regard to the alteration of the north facade entry, I note that the original entrances were sized to accommodate the installation and servicing of municipal water pumps—in other words, very large objects. Indeed, I note that the later installation of overhead garage doors large enough for trucks filled only part of those openings. The new use for the building will require doors for people, not large water pumps or trucks, necessitating some reconfiguration of the historic openings. I find that this change is acceptable in concept. However, I agree with TPS that the initially proposed design for the new entrances unacceptably altered their historic character. The additional information and revised designs you submitted at our meeting further explain the design intent and improve upon the initial designs. I have determined that the revised designs for the entries, although different from the historic configuration, are nevertheless compatible with the overall historic character of a nineteenth-century building, and—albeit marginally—comply with the Standards.

With regard to the construction of the new, four-story building on the site of the two-story garage, I find that the revised design, with the new building lowered to forty-seven feet and simplified in massing and materials from the original design, is acceptable. The location is at the rear of the site and is set back from Alewife Parkway so that, even though it is taller than the water works building, the site-line drawing confirms that it will not be visible from the sidewalk on the opposite side of Alewife Parkway. It will also be set back from Capen Court, as was the former



garage, and although visible from that side, it will not significantly detract from the setting of the historic water works building. The topographic map confirms that the new building will nestle into the hill that begins to rise at the rear of the site, behind which are housing units further up the hill. As a result, although the impact on the district is a secondary consideration, I have determined that the new construction will not significantly impact the skyline of the area.

Although I have determined that the proposed rehabilitation as revised now meets the Secretary of the Interior's Standards for Rehabilitation, please note that the project will only be designated a "certified rehabilitation" after all work is approved following its completion. Should you have any questions concerning procedures for final certification, please contact Mr. Michael Auer at 202-354-2031.

As Department of the Interior regulations state, my decision is the final administrative decision with respect to the May 16, 2012, denial that TPS issued regarding rehabilitation certification. A copy of this decision will be provided to the Internal Revenue Service. Questions concerning specific tax consequences of this decision or interpretations of the Internal Revenue Code should be addressed to the appropriate office of the Internal Revenue Service.

Sincerely,

A handwritten signature in dark ink, appearing to read "John A. Burns", written in a cursive style.

John A. Burns, FAIA  
Chief Appeals Officer  
Cultural Resources

cc: SHPO-MA  
IRS



MacRostie Historic Advisors LLC

Bringing strategy, clarity, and experience  
to historic building development

May 10, 2013

Kate Racer  
Director  
Private Housing  
DHCD  
100 Cambridge Street - Suite 300  
Boston, MA 02114

Boston  
Washington  
Chicago

Re: Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA

Dear Ms. Racer:

I am writing regarding the above referenced project and the current status of historic approvals. I know you and your agency are aware of the state and federal historic tax credit process and the fact that it has three parts, with Part 1 being the historic designation, Part 2 being the design narrative and Part 3 being photographic evidence at certificate of occupancy that the project was completed as specified in the approved Part 2 or subsequent amendments. As you know, the Massachusetts Historical Commission (MHC) reviews the state application and the federal application is reviewed by the National Park Service (NPS).

*Part 1 – federal and state*

The building did not require federal Part 1 approval, as it is already a "certified historic structure" due to its individual listing on the National Register of Historic Places on September 18, 1989. This individual status comes from the fact that the building contributes to the Water Supply System of Metropolitan Boston Multiple Resource Area. The NPS Part 2 cover form has a check box to indicate this status, see the denial letter of May 16, 2012 for the cover form.

The state Part 1 approval, also known as "initial certification", was issued to the property on November 8, 2011. For purposes of the state historic credit, a project must be a "qualified historic structure", which it is based on its National Register status, as noted above.

[macrosthistoric.com](http://macrosthistoric.com)

263 Summer Street  
8th Floor  
Boston, MA 02110

T 617.498.4000  
F 617.498.4018

Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA  
May 9, 2013

2

*Part 2 – federal and state*

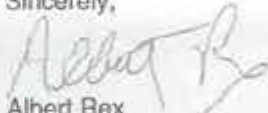
The federal Part 2, Description of Rehabilitation, was initially denied by the National Park Service (NPS) on May 16, 2012. NPS allows for an appeal of the denial if the appeal is filed within thirty-days of the denial letter. The project was appealed in the allotted time frame and new information was presented at a hearing to John Burns, Chief Appeals Officer. Mr. Burns issued a reversal of the denial on September 25, 2012. This letter constitutes a Part 2 approval and the project is eligible to receive the federal historic tax credit if the work is completed in accordance with the approval.

The state Part 2, also known as "second certification", was approved on November 11, 2012 when the project was allocated \$400,000 of state historic tax credits. The project received a subsequent allocation of \$300,000 on March 12, 2013.

Additionally, an MHC PNF was issued on September 13, 2011 with a finding of "no adverse affect".

The project is in good standing with all historic approvals. Specific letters referenced above are attached. Please let me know if there are additional questions.

Sincerely,



Albert Rex

Director – Northeast Office



**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

March 15, 2012

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House  
(Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC#  
HRC.323

Dear Mr. Mackey:

The Massachusetts Historical Commission (MHC) has reviewed your application for the Massachusetts Rehabilitation Tax Credit. The information that you have submitted with your Part 1 application is complete in accordance with the regulations (830 CMR 63.38R.1). This letter constitutes the "initial certification" (830 CMR 63.38R.1(4)(a)). The MHC has determined that the subject property meets the definition of a "qualified historic structure" as the property is listed in the National Register of Historic Places as part of the Water Supply System of Metropolitan Boston (830 CMR 63.38R.1(2)).

Regrettably, the MHC is unable to assign second certification to your project (830 CMR 63.38R.1(4)(b)) and is unable to allocate credit to your project (830 CMR 63.38R.1(3)(c)) at this time because the application is incomplete and the proposed project may not meet the Secretary of the Interior's Standards for the Rehabilitation of Historic Properties (830 CMR 63.38R.1(5)(b) and (f), specifically Standards 1, 2, 5, and 10.

Standard 1 states the following:

- "A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment."

Standard 2 states the following:

- "The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize the property shall be avoided."

Standard 5 states the following:

- "Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterizes a property shall be preserved."

Standard 10 states the following:

- "New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired."

The plan presented in your application involves removing the existing mezzanine level and inserting a second floor into the character-defining two-story interior space. This proposed treatment is being remedied by modifying windows to cover the second floor, but MHC would require detailed information on how exactly this will be accomplished and possible scaled mock-ups to assure the MHC that this is actually feasible.

The MHC also requests the following information with respect to the Part 2 you submitted:

- The additional information you submitted to this office indicated that the proposed construction of the second building will now be considered the second phase of a previously unphased project. Until MHC has information on exactly how this phasing will work we cannot award your project as we cannot determine whether it will meet the Standards.

We encourage you to revise these aspects of your project and re-apply in the next application cycle. Please note that the MHC will require the following updated information to supplement your application: revised project plans, newly completed application form cover pages for Part 1 and Part 2, updated letters of support, an updated estimated project budget which includes a new pro forma detailing overall project costs and certified rehabilitation expenditures, the attachment/questionnaire regarding executive agents, and any additional information with which the existing application may be supplemented. Please be as detailed as possible in your application about the above referenced items. The next application deadline is April 30, 2012.

Sincerely,



Brona Simon  
Executive Director  
State Historic Preservation Officer  
Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors, LLC  
Jo Ellen Hensley, National Park Service



## United States Department of the Interior

### NATIONAL PARK SERVICE

1849 C Street, N.W.  
Washington, DC 20240

September 25, 2012

Mr. Paul Mackey  
Mystic Water Works LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02144

Re: **Mystic Water Works, Alewife Parkway and Capen Court, Somerville, MA**  
Project Number: **26742**

Dear Mr. Mackey:

I have concluded my review of your appeal of the decision of Technical Preservation Services (TPS), National Park Service, denying certification of the rehabilitation of the property cited above. The appeal was initiated and conducted in accordance with Department of the Interior regulations (36 CFR Part 67) governing certifications for Federal income tax incentives for historic preservation as specified in the Internal Revenue Code. I thank you, Mr. Joseph Macaluso, Mr. Frank Valdes, Mr. William MacRostie, and Mr. Albert Rex, for meeting with me in Washington on June 14, 2012, and for providing a detailed account of the project. After discussing the denial issues, at the conclusion of the appeal meeting, the parties agreed that you would study the issues further and that I would defer my decision on the appeal until you had the opportunity to submit additional information for my consideration.

The additional information was received in this office on July 12, 2012. The submittal included letters from Mr. Rex and Mr. Macaluso, both dated July 5, 2012, a topographic map of the property, and seven architectural drawings (including plans, elevations, sections, details of the proposed windows, and a site-line drawing). After careful review of the complete record for this project, I have determined that the project, as amended by the revisions proposed during and subsequent to our meeting, will suffice to bring the overall impact of the proposed rehabilitation into conformance with the Secretary of the Interior's Standards for Rehabilitation (the Standards), if carried out as described. Therefore, the denial issued by TPS on May 16, 2012, is hereby reversed.

Built between 1862 and 1864, and twice enlarged, in 1870 and 1895, the Mystic Water Works Pumping Station is located in the Water Supply System of Metropolitan Boston Multiple Property District, which is listed on the National Register of Historic Places. TPS certified the building as contributing to the significance of the historic district, and determined that a second, functionally-related building on the site, a 1940s garage, did not contribute to the significance of the property, on April 3, 2012. The water works building is a rectangular brick industrial structure, a tall one story in height with a mansard roof. It still retains such original features as four-over-four light wood sash windows; several wood entrances; brownstone sills, lintels, voussoirs, and quoins; a



wood cornice; and plastered interior walls. Deactivated as a pumping station in 1912, the building was converted to public works offices in 1921 when partition walls and a mezzanine and attic were added.

TPS determined that three aspects of the proposed rehabilitation of this "certified historic structure" did not meet the Standards: 1) the insertion of a new second floor, which would cut across and alter the configuration of the historic windows, 2) the incompatible alteration of the north facade entry, and 3) the construction of a new, four-story building on the site of the former garage building. Consequently, TPS found in its May 16, 2012, decision that the overall impact of the proposed work was not consistent with the historic character of the property and the historic district in which it is located, and that the rehabilitation thus described failed to meet the Standards.

With regard to inserting a new second floor in the main volume of the water works building, TPS determined that it would alter what was "historically a large double-height open volume that originally housed pumping equipment." However, that volume has not existed in its original configuration due to the insertion of a mezzanine and attic floor into the space in 1921. Thus, for the past ninety years, it has been a multi-story building, and I note that Standard 4 states, "*Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*" Accordingly, I find that retaining the interior as a multi-story space conforms to the Standards. TPS also stated that the new second floor would cut across the building's historic window openings, "changing its appearance." Although I agree with TPS that the second floor will have an impact on the appearance of the building, I do not believe that the change will significantly impair the overall historic character of the property. The building's overall massing and exterior materials will not change; the tall window openings will still be tall window openings. What will change is that the new windows will have a horizontal bar demarcating the thickness of the new second floor, located at a different height than the meeting rail of the original windows. I have determined that the revised designs, dated June 14, 2012, which have a thinner edge to the second floor and a correspondingly thinner horizontal bar than originally proposed, would not significantly impair the overall historic character of the building.

With regard to the alteration of the north facade entry, I note that the original entrances were sized to accommodate the installation and servicing of municipal water pumps—in other words, very large objects. Indeed, I note that the later installation of overhead garage doors large enough for trucks filled only part of those openings. The new use for the building will require doors for people, not large water pumps or trucks, necessitating some reconfiguration of the historic openings. I find that this change is acceptable in concept. However, I agree with TPS that the initially proposed design for the new entrances unacceptably altered their historic character. The additional information and revised designs you submitted at our meeting further explain the design intent and improve upon the initial designs. I have determined that the revised designs for the entries, although different from the historic configuration, are nevertheless compatible with the overall historic character of a nineteenth-century building, and—albeit marginally—comply with the Standards.

With regard to the construction of the new, four-story building on the site of the two-story garage, I find that the revised design, with the new building lowered to forty-seven feet and simplified in massing and materials from the original design, is acceptable. The location is at the rear of the site and is set back from Alewife Parkway so that, even though it is taller than the water works building, the site-line drawing confirms that it will not be visible from the sidewalk on the opposite side of Alewife Parkway. It will also be set back from Capen Court, as was the former

garage, and although visible from that side, it will not significantly detract from the setting of the historic water works building. The topographic map confirms that the new building will nestle into the hill that begins to rise at the rear of the site, behind which are housing units further up the hill. As a result, although the impact on the district is a secondary consideration, I have determined that the new construction will not significantly impact the skyline of the area.

Although I have determined that the proposed rehabilitation as revised now meets the Secretary of the Interior's Standards for Rehabilitation, please note that the project will only be designated a "certified rehabilitation" after all work is approved following its completion. Should you have any questions concerning procedures for final certification, please contact Mr. Michael Auer at 202-354-2031.

As Department of the Interior regulations state, my decision is the final administrative decision with respect to the May 16, 2012, denial that TPS issued regarding rehabilitation certification. A copy of this decision will be provided to the Internal Revenue Service. Questions concerning specific tax consequences of this decision or interpretations of the Internal Revenue Code should be addressed to the appropriate office of the Internal Revenue Service.

Sincerely,

A handwritten signature in dark ink, appearing to read 'John A. Burns', with a long, sweeping horizontal line extending to the right.

John A. Burns, FAIA  
Chief Appeals Officer  
Cultural Resources

cc: SHPO-MA  
IRS



MacRostie Historic Advisors LLC

Bringing strategy, equity, and experience  
to historic building development

May 10, 2013

Kate Racer  
Director  
Private Housing  
DHCD  
100 Cambridge Street - Suite 300  
Boston, MA 02114

Boston  
Washington  
Chicago

Re: Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA

Dear Ms. Racer:

I am writing regarding the above referenced project and the current status of historic approvals. I know you and your agency are aware of the state and federal historic tax credit process and the fact that it has three parts, with Part 1 being the historic designation, Part 2 being the design narrative and Part 3 being photographic evidence at certificate of occupancy that the project was completed as specified in the approved Part 2 or subsequent amendments. As you know, the Massachusetts Historical Commission (MHC) reviews the state application and the federal application is reviewed by the National Park Service (NPS).

*Part 1 – federal and state*

The building did not require federal Part 1 approval, as it is already a "certified historic structure" due to its individual listing on the National Register of Historic Places on September 18, 1989. This individual status comes from the fact that the building contributes to the Water Supply System of Metropolitan Boston Multiple Resource Area. The NPS Part 2 cover form has a check box to indicate this status, see the denial letter of May 16, 2012 for the cover form.

The state Part 1 approval, also known as "initial certification", was issued to the property on November 8, 2011. For purposes of the state historic credit, a project must be a "qualified historic structure", which it is based on its National Register status, as noted above.

[macrosthistoric.com](http://macrosthistoric.com)

263 Summer Street  
8th Floor  
Boston, MA 02210

T 617.499.4009  
F 617.499.4019

Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA  
May 9, 2013

2

*Part 2 – federal and state*

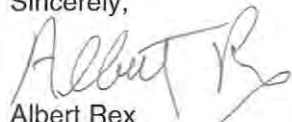
The federal Part 2, Description of Rehabilitation, was initially denied by the National Park Service (NPS) on May 16, 2012. NPS allows for an appeal of the denial if the appeal is filed within thirty-days of the denial letter. The project was appealed in the allotted time frame and new information was presented at a hearing to John Burns, Chief Appeals Officer. Mr. Burns issued a reversal of the denial on September 25, 2012. This letter constitutes a Part 2 approval and the project is eligible to receive the federal historic tax credit if the work is completed in accordance with the approval.

The state Part 2, also known as “second certification”, was approved on November 11, 2012 when the project was allocated \$400,000 of state historic tax credits. The project received a subsequent allocation of \$300,000 on March 12, 2013.

Additionally, an MHC PNF was issued on September 13, 2011 with a finding of “no adverse affect”.

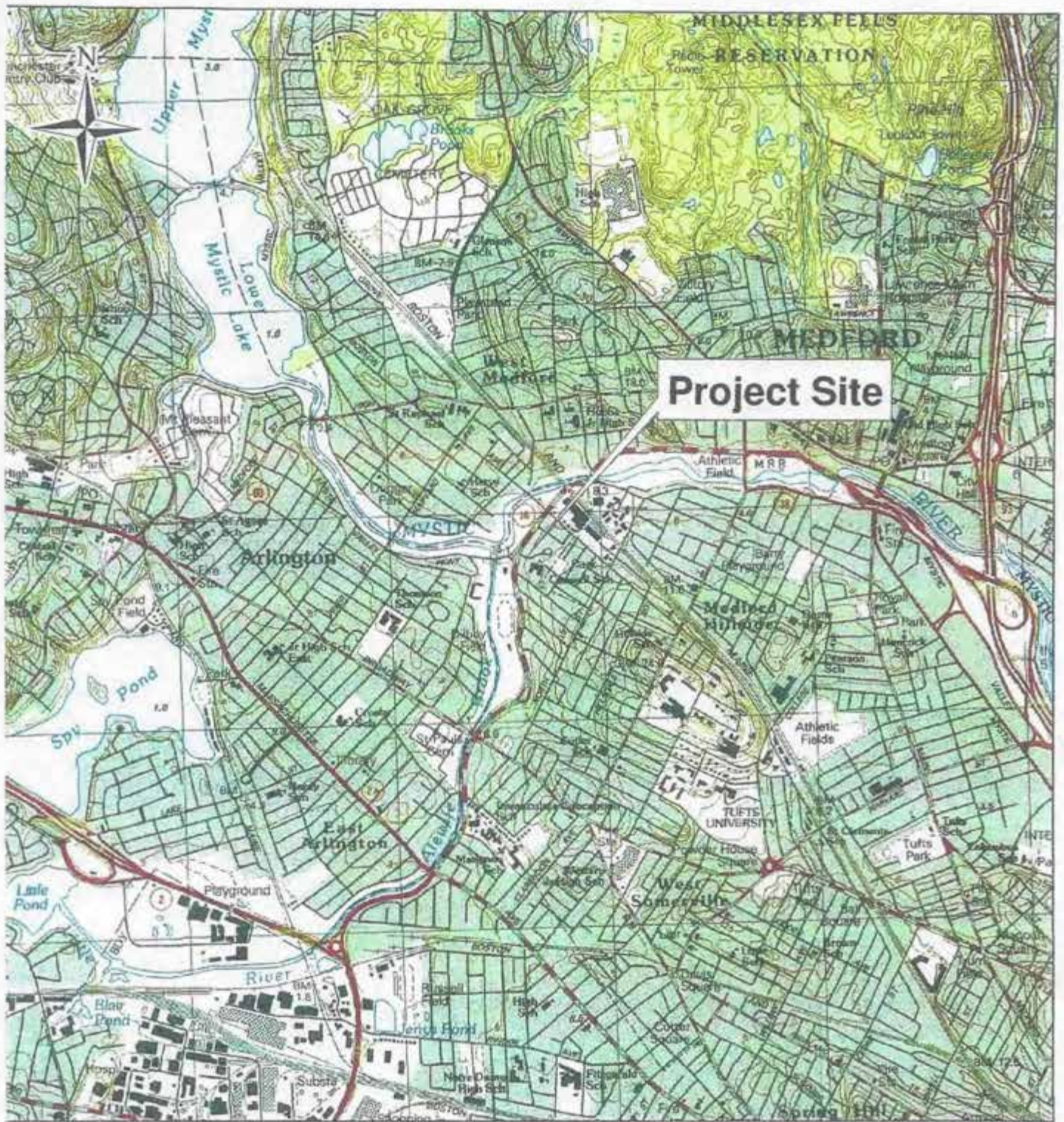
The project is in good standing with all historic approvals. Specific letters referenced above are attached. Please let me know if there are additional questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Albert Rex", written over a horizontal line.

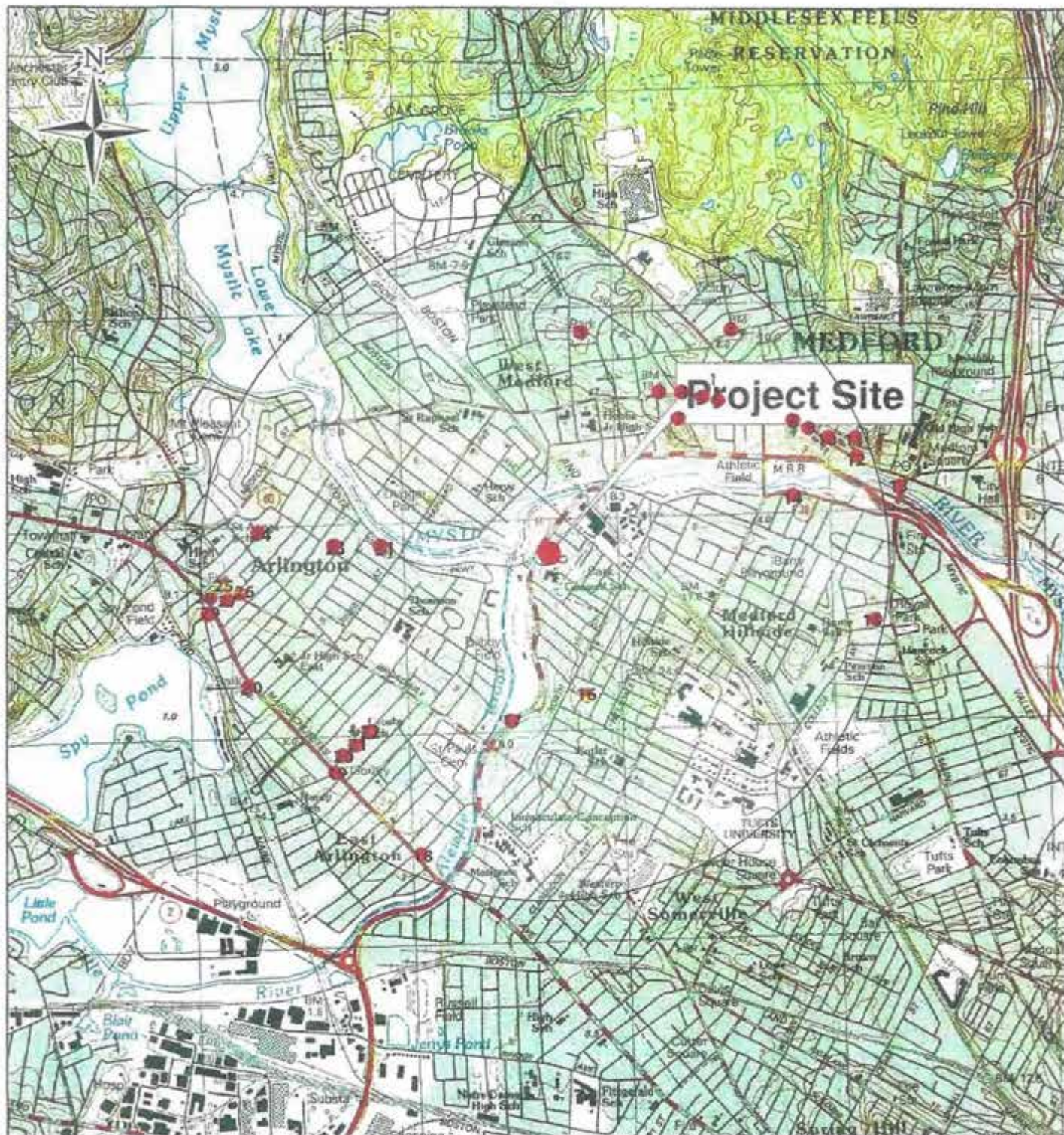
Albert Rex  
Director – Northeast Office





**149 Capen Street/485 Mystic Valley Parkway**  
**USGS Map**  
**Somerville, MA**





**149 Capen Street/485 Mystic Valley Parkway**  
**Mystic River Pump House**  
**National Register Properties (one mile radius)**  
**Somerville, MA**

**DiMella  
Shaffer**  
 Architecture | Interior Design | Planning

2,000 1,000 0 2,000 Feet



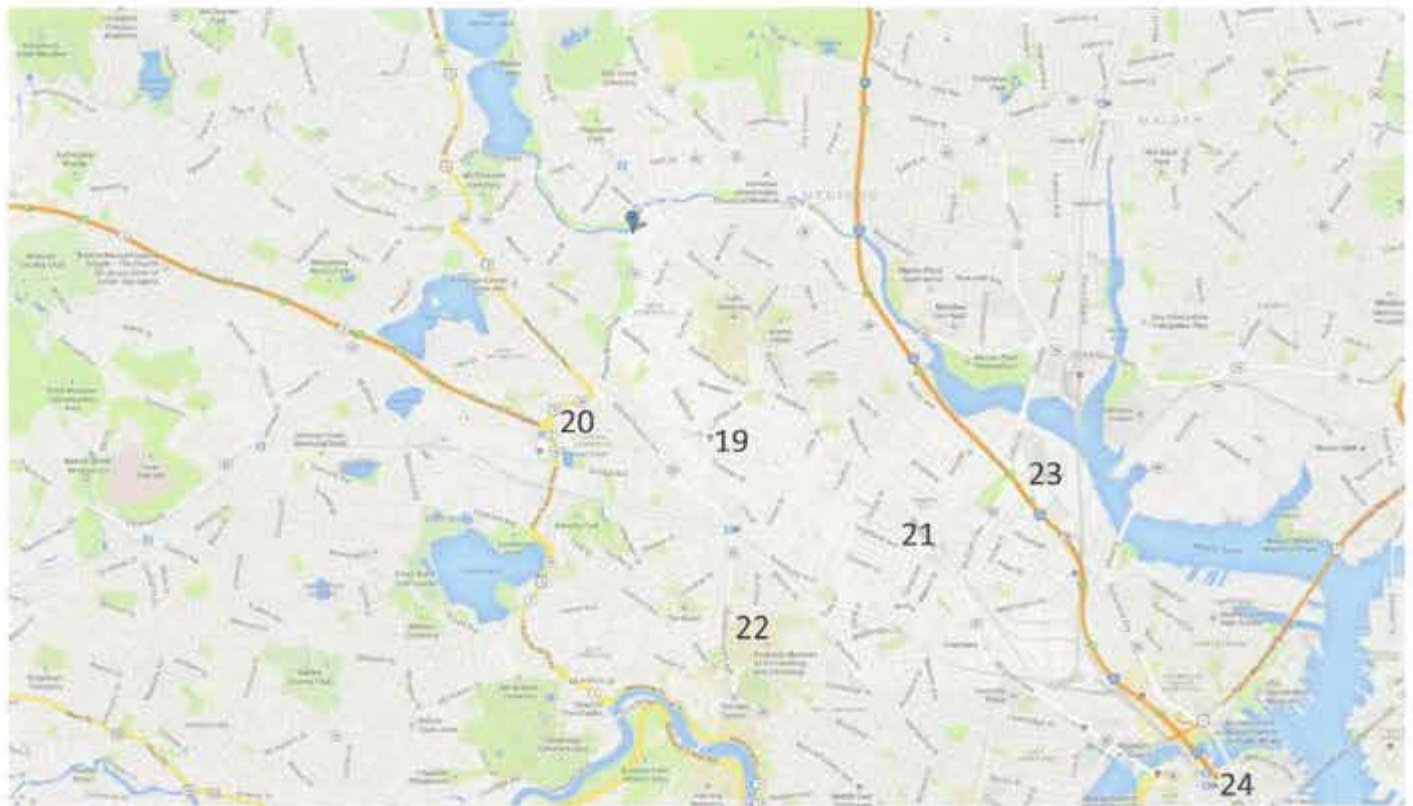




Fruit	Number of People
Apple	1
Orange	2



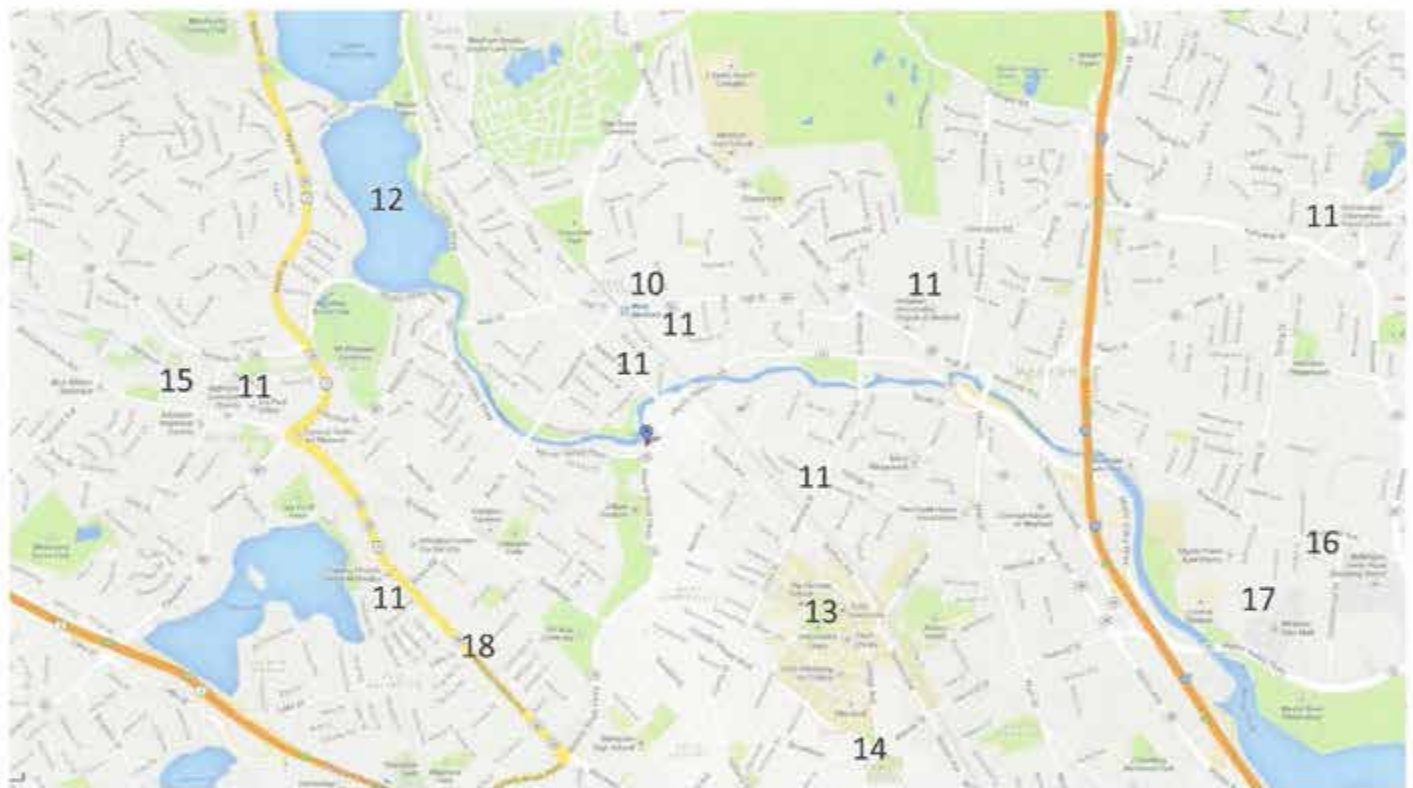
Exhibit 1.5 – Mystic Waterworks Amenities Map – Large Map



19 – Davis Square (restaurants, shops, movie theater, branch library)  
20 – MBTA to Harvard Square & Boston  
21 – Somerville City Hall & Library

22 – Harvard University & Harvard Square  
23 – Shopping Mall  
24 – Downtown Boston

Exhibit 1.5 – Mystic Waterworks Amenities Map – Medium Map



10 – West Medford restaurants  
11 – Churches  
12 – Mystic Lakes

13 – Tufts University (via bus)  
14 – Powder House Square  
15 – Arlington Center

16 – Shopping Center  
17 – Shopping Mall  
18 – Movie Theater



Exhibit 1.5 – Mystic Waterworks Amenities Map – Small Map



1 – Mystic River and park  
2 – Alewife Brook and park  
3 – Mystic River Path

4 – Capen Street Park  
5 – Alewife Greenway Bike Path  
6 – Dunkin Donuts

7 – Boston Avenue Bus  
8 – Restaurants  
9 – Whole Foods

Exhibit 1.5 – Mystic Waterworks Amenities Map – Aerial view of park amenities



1 – Mystic River and park  
2 – Alewife Brook and park  
3 – Mystic River Path

4 – Capen Street Park  
5 – Alewife Greenway Bike Path  
📍 – Mystic Waterworks





1 Capen Ct, Somerville, MA 02144, USA

© 2013 Google

Google earth

42°24'53.08" N 71°07'49.83" W elev 19 ft eye alt 423 ft





## **Ownership/Operation**

Documentation of site control **SEE DEED IN THIS SECTION**



CITY OF SOMERVILLE, MASSACHUSETTS  
Treasury Department  
JOSEPH A. CURTATONE  
MAYOR  
CERTIFICATE OF GOOD STANDING

PLEASE PRINT

NAME OF PERSON REQUESTING CERTIFICATE: Paul J. Mackey on behalf of  
Somerville Housing Authority

BUSINESS LOCATION: 30 Memorial Road Somerville MA AND/OR

TAXPAYER'S HOME ADDRESS:

TAXPAYER/APPLICANT PHONE: DAY: 617-625-1152 EVENING: N/A

BUSINESS NAME: Somerville Housing Authority

TaxExempt 046004028

BUSINESS ID NUMBER: BUSINESS PHONE: 617-625-1152

I (print name) Paul J. Mackey, the undersigned Taxpayer, do hereby certify that all the information contained herein is true and correct and all taxes and fees due to the City of Somerville have been paid or that the Taxpayer has entered into an agreement to pay all taxes and fees and is current on said agreement.

SIGNED UNDER THE PAINS AND PENALTIES OF PERJURY, this 20th day of October,

2014 (Taxpayer's Signature)

CITY'S ACKNOWLEDGEMENT

DATE OF ISSUANCE:

TAXES AND ACCOUNT NUMBER(S)

\*\*REAL ESTATE ID

\*\*WATER/SEWER ID

\*\*PERSONAL PROPERTY

\*\*OTHER

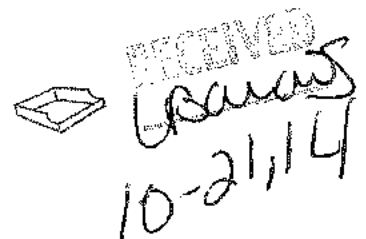
771008031

NOTES:

CLERKS INITIALS: URS

BUSINESS or BUILDING  
PERMIT

ORIGINAL STAMP



Ownership/Operations (non-City):

- 501( c ) (3) certification, if operating as a non-profit **N/A**

## QUITCLAIM DEED

The Commonwealth of Massachusetts acting by and through the Commissioner of its Division of Capital Asset Management and Maintenance, having a principal place of business at One Ashburton Place, Boston, MA 02108 ("Grantor"), in consultation with its Department of Conservation and Recreation, by virtue of the authority granted by Chapter 245 of the Acts of 2010 (the "Act"), for the consideration of \$1.00 and the additional consideration specified in the Act as more particularly described below grants to the Somerville Housing Authority, a body politic and corporate organized pursuant to Massachusetts General Laws Ch. 121B, having a principal place of business at 30 Memorial Road, Somerville, Massachusetts 02145, its successors and assigns ("Grantee"), with quitclaim covenants, the land located at 485 Mystic Valley Parkway (a/k/a 149 Capen Street), Somerville, Middlesex County, Massachusetts more particularly described on Exhibit A (the "Property").

In consideration of this grant the Property shall be utilized for, *inter alia*, affordable senior housing on the Property under certain use restriction and regulatory agreements to be entered into in connection with affordable housing subsidies granted with respect to the Property. This conveyance is made subject to the Property being utilized for the development and operation of affordable senior housing under Section 2 of Chapter 245 of the Acts of 2010. If the Property ceases to be used for such purpose, title to the Property shall, after reasonable notice and an opportunity to cure from the Grantor, revert to the Grantor.

Grantor reserves for itself and the Massachusetts Water Resources Authority ("MWRA"), and their successors in interest, a non-exclusive permanent easement located within the Property shown as the "Proposed Water Line Easement for the Benefit of the Massachusetts Water Resources Authority" (the "Easement Area") on the plan entitled "Easement Plan of Land, 149 Capen Street/485 Mystic Valley Parkway" prepared by Design Consultants, Inc. dated March 4, 2011, last revised April 8, 2011, Project No. 2011-010 (the "Easement Plan") recorded herewith and attached as Exhibit B for access, maintenance, operation, renewal, removal, repair and reconstruction of the existing water lines and any related equipment currently held by the MWRA within the Easement Area, including (i) the thirty (30) inch water line located within the Easement Area as shown on the Easement Plan, (ii) the sixty (60) inch water line located within the Easement Area as shown on the Easement Plan, (iii) the twenty-four (24) inch water line located within the Easement Area as shown on the Easement Plan, and (iv) the twelve (12) inch water line and water meter pit located within the Easement Area as shown on the Easement Plan. Grantee shall make no use of the Property that interferes with these reserved rights. Unless the written consent of the MWRA is obtained, no buildings or structures shall be erected or maintained in or upon any part of the easements nor shall any trees or shrubs be planted. Grantor shall not be responsible for any actions or inactions inconsistent with the terms of this Quitclaim Deed taken by Grantee or its successors or assigns. Subject to the prior review and approval of the MWRA, the easements and pipelines may be relocated at the sole expense of Grantee.

Grantee acknowledges that Mystic Valley Parkway and Alewife Brook Parkway are parkways which have been designated and restricted to "pleasure vehicles only" by the Department of Conservation and Recreation and that the use of Mystic Valley Parkway and Alewife Brook Parkway is subject to the generally applicable regulations for such parkways of



the Department of Conservation and Recreation, as such regulations may be amended from time to time. Nothing in this deed shall be construed to supersede such current or future regulations.

This conveyance is made subject to the following:

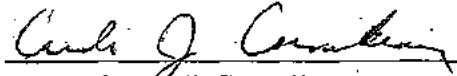
1. Agreement between the Metropolitan Water and Sewerage Board and Metropolitan Park Commission dated July 3, 1908 and recorded in Book 3381, Page 178;
2. Taking for sewer purposes by the Metropolitan District Commission dated July 15, 1948 and recorded in Book 7300, Page 1;
3. Rights to use roadway as granted by the Commonwealth of Massachusetts through its Metropolitan District Commission to Eli Fierman in deed dated July 30, 1948 recorded in Book 7318, Page 546, as affected by Taking by the City of Somerville dated July 30, 1953 and recorded in book 8120, Page 52;
4. Rights to use 20' strip for right of way purposes as granted to the City of Somerville by the Commonwealth of Massachusetts through its Metropolitan District Commission in deed dated April 8, 1954 and recorded in Book 8251, Page 193;
5. Rights and easements set forth in Deed of Access and Utility Easement and Agreement of Easement Holders by the Commonwealth of Massachusetts, acting by and through its Division of Capital Asset Management and Maintenance in favor of Conwell Capen Limited Partnership and Somerville Housing Authority dated December 5, 2008 and recorded in Book 52011, Page 354;
6. All easements, restrictions, encumbrances and other matters of record, and all licenses and permits granted to public or private utilities or cable companies.

For Grantor's title see the fee taking dated January 1, 1898 recorded with the Registry at Book 2635, Page 1.

[Signature Appears on the Following Page]

EXECUTED as a sealed instrument as of the date and year first set forth above.

COMMONWEALTH OF  
MASSACHUSETTS by and through the  
Commissioner of its Division of Capital  
Asset Management and Maintenance



Name: Carol J. Cornelison  
Title: Commissioner

Pursuant to the provisions of Section 1 of Chapter 64D of the Massachusetts General Laws (Ter. Ed.), as amended by Chapter 198 of the Acts of 1978 and Chapter 133 of the Acts of 1992, no excise stamps are affixed.

Note, with respect to the Grantor clause, Chapter 7, Section 40E of the Massachusetts General Laws provides that real property, record title to which is held in the name of a state agency or similar board of a state agency shall be deemed to be real property of the Commonwealth.

COMMONWEALTH OF MASSACHUSETTS

\_\_\_\_\_, ss.

On this 30th day of SEPTEMBER, 20 11, before me, the undersigned notary public, personally appeared CAROLE J. CORNELISON, proved to me by satisfactory evidence of identification, being (check whichever applies): ☐ driver's license or other state or federal governmental document bearing a photographic image, ☐ oath or affirmation of a credible witness known to me who knows the above signatory, or ☒ my own personal knowledge of the identity of the signatory, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Notary Public: 

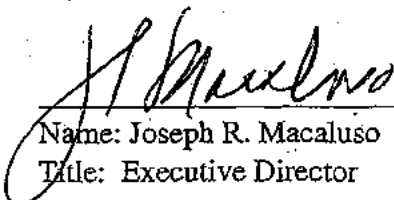
My Commission Expires:



MARVA J. RUOT  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
June 8, 2018

Acknowledged and agreed as of the date and year first set forth above:

Somerville Housing Authority

  
Name: Joseph R. Macaluso  
Title: Executive Director

COMMONWEALTH OF MASSACHUSETTS

Thompson, ss.

On this 21<sup>st</sup> day of September, 2011, before me, the undersigned notary public, personally appeared Joseph R. Macaluso, Executive Director of Somerville Housing Authority, proved to me by satisfactory evidence of identification, being (check whichever applies): ☐ driver's license or other state or federal governmental document bearing a photographic image, ☐ oath or affirmation of a credible witness known to me who knows the above signatory, or ☒ my own personal knowledge of the identity of the signatory, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Notary Public: 

My Commission Expires:

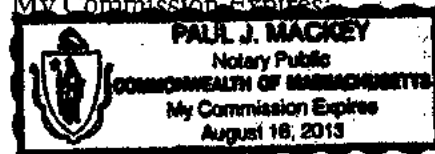


Exhibit A

Legal Description:

That certain parcel of land situated in Somerville, Middlesex County, Commonwealth of Massachusetts, bounded and described as follows:

Beginning at a stone bound in the boundary line between land of the Commonwealth of Massachusetts and land now or formerly of Charles & Molly Dicecca which point is one hundred ninety six and 08/100 (196.08) feet distant S  $53^{\circ} 15' 38''$  E measuring along said intersection of said boundary line with the southeasterly side line of Mystic Valley Parkway as shown on a plan hereinafter mentioned, thence;

N  $53^{\circ} 15' 38''$  W by said land of Charles & Molly Dicecca, a distance of one hundred ninety six and 08/100 (196.08) feet to a point on the easterly line of Mystic Valley Parkway, thence;

S  $36^{\circ} 44' 22''$  W by said easterly street line of Mystic Valley Parkway, a distance of one hundred ninety seven and 37/100 (197.37) to a point, thence;

Southerly, by the easterly street line of Mystic Valley Parkway and easterly street line of Alewife Brook Parkway, on a curve to the left with a radius of one hundred fifty and 00/100 (150.00) feet and a length of eight seven and 47/100 (87.47) feet to a point on the Easterly street line of Alewife Brook Parkway, thence:

S  $03^{\circ} 19' 38''$  W by easterly street line of Alewife Brook Parkway, a distance of one hundred nine and 98/100 (109.98) feet to a point, thence;

S  $56^{\circ} 28' 48''$  E, by land now or formerly of G E & M auto Service, a distance of fifty one and 38/100 (51.38) feet to a point; thence;

N  $36^{\circ} 44' 22''$  E, by land now or formerly of Conwell Capen, LLC, a distance of ninety five and 00/100 (95.00) feet to a point; thence;

Easterly, by land now or formerly of Conwell Capen, LLC, on a curve to the left with a radius of four hundred forty four and 53/100 (444.53) feet and a length of fifty nine and 70/100 (59.70) feet with a chord bearing of S  $58^{\circ} 08' 29''$  E and a chord distance of fifty nine and (65/100) feet, to a point, thence;

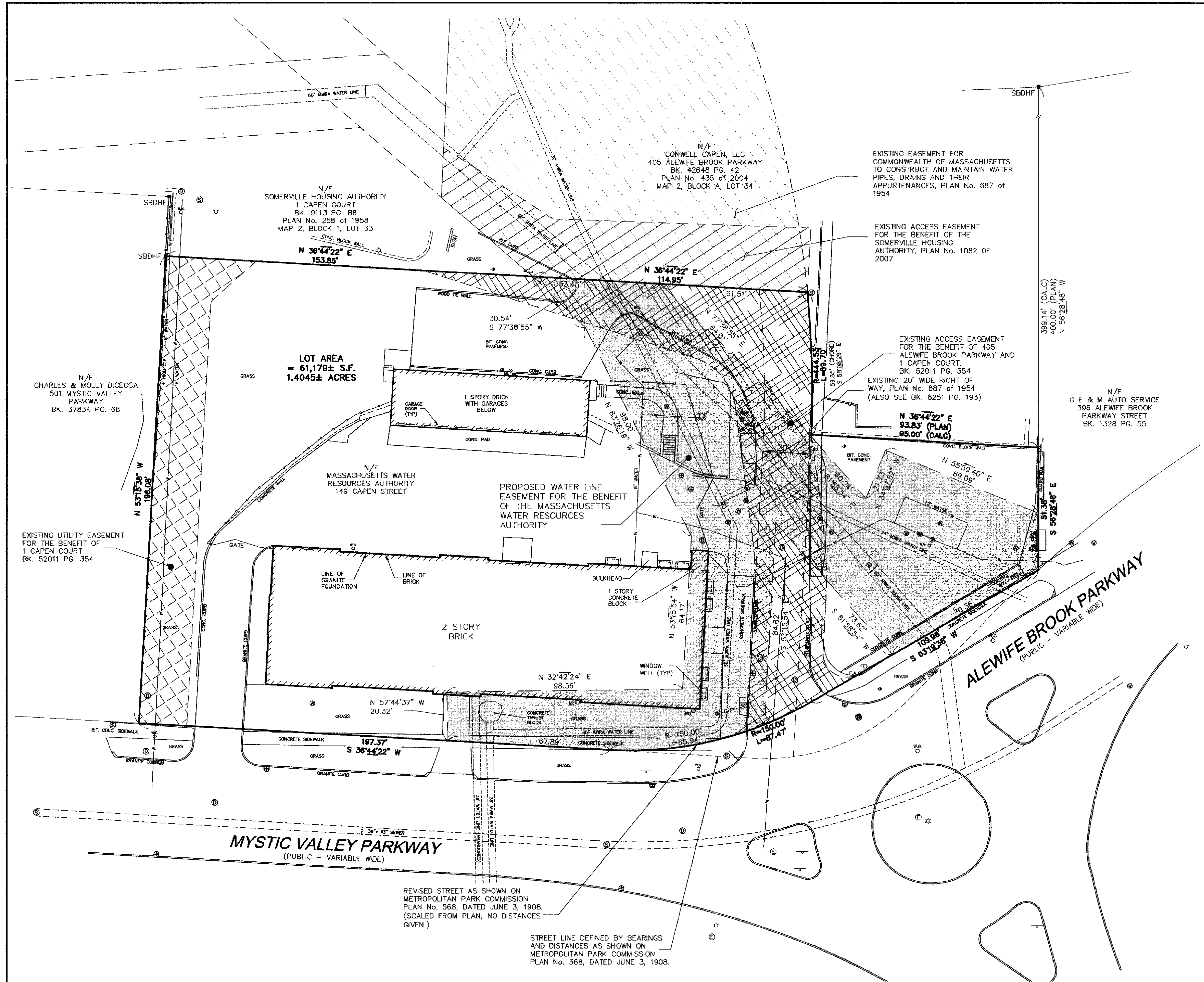
N  $36^{\circ} 44' 22''$  E, by land now or formerly of Conwell Capen, LLC, a distance of one hundred fourteen and 95/100 (114.95) feet, to a point, thence;

N  $36^{\circ} 44' 22''$  E, by land now or formerly of Somerville Housing Authority, a distance of one hundred fifty three and 85/100 (153.85) feet to the point of beginning.

Containing sixty one thousand one seventy-nine (61,179) square feet more or less. Being shown on a plan entitled "Easement Plan of Land, 149 Capen Street/ 485 Mystic Valley Parkway, Somerville, Massachusetts" Dated Mar. 4, 2011, last revised 4-08-11 and recorded as plan no. \_\_\_\_\_ of 2011.

Exhibit B





RESERVED FOR REGISTERS USE ONLY

PLAN REFERENCES

PLAN No. 435 of 2004  
PLAN No. 968 of 1995  
PLAN No. 258 of 1958  
PLAN No. 436 of 1957  
PLAN No. 1433 of 1953  
PLAN No. 687 of 1954  
PLAN No. 1770 of 1951  
PLAN No. 1013 of 1948  
PLAN No. 492 of 1940  
PLAN BK. 255 plan 38  
L.C.C. 50448  
L.C.C. 2046D  
L.C.C. 14374A  
L.C.C. 14314A  
METROPOLITAN PARK COMMISSION PLAN No. 568,  
DATED JUNE 3, 1908.

THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED WATER LINE EASEMENT FOR THE BENEFIT OF MASSACHUSETTS WATER RESOURCE AUTHORITY OVER LAND TO BE CONVEYED TO THE SOMERVILLE HOUSING AUTHORITY PROPERTY AT 149 CAPEN STREET.

THIS PLAN SHOWS THE PROPERTY LINES OF EXISTING OWNERSHIPS, AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIPS OR NEW WAYS ARE SHOWN.

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

P.L.S.   
EVERETT J. CHANDLER, P.L.S. MASS. REGISTRATION NO. 41783

DATE: 7/28/11

EVERETT J. CHANDLER  
P.L.S.  
PROFESSIONAL  
LAND SURVEYOR

**LOCUS TITLE INFORMATION**

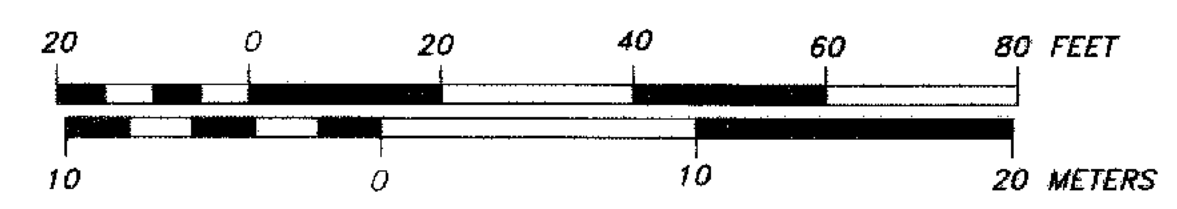
OWNER: COMMONWEALTH OF MASSACHUSETTS

DEED REFERENCE:

PLAN REFERENCE: PLAN No. 258 of 1958

ADDRESS: 149 CAPEN STREET

ASSESSORS: MAP 2, BLOCK A, LOT 31





CITY OF SOMERVILLE, MASSACHUSETTS  
JOSEPH A. CURTATONE  
MAYOR

February 10, 2014

Aaron Gornstein, Undersecretary  
Department of Housing and Community Development  
100 Cambridge Street  
Boston, MA 02114

Re: Re-Use and development of Mystic Waterworks.

Dear Mr. Gornstein:

I am writing to express the strong support of the City of Somerville for the proposed re-use and development of the Mystic Water Works. The development will convert the former pumping station into 25-units of affordable housing for seniors and the disabled. This award is critical to the Somerville Housing Authority's ability to complete Phase III of the planned "senior campus" that surrounds the site and provides access to a variety of supportive health services.

I believe the proposal which will rehabilitate and reuse this historically significant building will improve the surrounding community and become a valuable asset to our senior population. The importance of receiving an award in this current round cannot be understated. As resources decline and the costs of redeveloping important historic structures continue to rise, The Somerville Housing Authority will be challenged to identify additional funding and maintain and safeguard reusable historic components. I am very pleased that we have an opportunity to restore this vacated historic structure and provide additional affordable housing and services for Somerville seniors and the disabled.

During the past seven years, the Somerville Housing Authority (SHA) and the Visiting Nurse Association (VNA) have successfully developed 195 units of affordable senior/disabled housing and an assisted living facility respectively directly abutting the historic Water Works site. Although the two properties are individually owned and operated, a long-term agreement provides SHA residents with valuable health resources and services that allow residents to age in place. It is anticipated that those services will be extended to the new residents occupying the rehabilitated historic building.







Aaron Gornstein, Undersecretary  
Department of Housing and Community Development  
February 10, 2014  
Page 2

Equally important, this development will complete the "Senior Campus" style site envisioned by the agencies and all of us who have supported its development throughout these past years.

The new units will become part of the senior campus community with all the units designed specifically for seniors and the disabled. The building site will connect to existing walking paths within the campus and the site plans will create additional open green space for all. When complete, this Senior Campus will provide a range of options for low-income seniors and the disabled. The Water Works residents will join other SHA independent residents in a supportive setting with available services as they age in place with the VNA providing full assisted living care for those in need of daily assistance. This "continuum of care" housing has, until now, only been available to the most affluent of seniors. Thanks to the collaboration of the Somerville Housing Authority and the Visiting Nurses Association it will now be available to seniors of all means in Somerville and surrounding communities.

I strongly urge you to provide support for the proposed rehabilitation of the Water Works building. If you need any additional information, please feel free to contact me. Thank you for your consideration of this request.

Sincerely,

A handwritten signature in blue ink, which appears to read "Joe Curtatone".

Joseph A. Curtatone  
Mayor

WASHINGTON

1414 Longworth Building  
Washington, DC 20515-2108  
202-225-5111  
Fax 202-225-9322

Committee on Financial Services  
Ranking Democratic Member  
Subcommittee on Housing  
& Insurance

Committee on Transportation &  
Infrastructure

Committee on Ethics



## Congress of the United States House of Representatives

Michael E. Capuano

7th District, Massachusetts

MASSACHUSETTS

110 First Street  
Cambridge, MA 02141-2109  
617-621-6208  
Fax 617-621-8628

Roxbury Community College  
Campus Library  
Room 211

Stetson Hall  
Room 124  
Randolph

Aaron Gornstein, Undersecretary  
Department of Housing and Community Development  
100 Cambridge Street  
Boston, MA 02114

February 11, 2014

Dear Undersecretary Gornstein:

I am writing to express my support for the Somerville Housing Authority's (SHA) proposed re-use and development of the Mystic Water Works. The development will convert the former pumping station into 25-units of affordable housing for seniors and the disabled. This award is critically important to the SHA's ability to complete Phase III of the planned "senior campus" that surrounds the site and provides access to a variety of supportive health services as well as restore and reuse this vacated historic site.

During the past seven years, the SHA and the Visiting Nurses Association have successfully developed 195 units of affordable housing for the disabled and an assisted living facility directly abutting the historic Water Works site. While the properties are individually owned and operated, a long term agreement provides SHA residents with valuable health resources and services that allow residents to age in place.

The 25 proposed units will become part of the senior campus community with all the units designed specifically for seniors and the disabled. The building site will connect to existing walking paths within the campus and the site plans will create additional open green space for all. When complete, this Senior Campus will provide a range of options for low-income seniors and the disabled. The Water Works residents will join other SHA independent residents in a supportive setting with available services as they age in place with the VNA providing full assisted living care for those in need of daily assistance. This "continuum of care" housing has, until now, only been available to the most affluent of seniors. Thanks to the collaboration of the Somerville Housing Authority and the Visiting Nurses Association it will now be available to seniors of all means in Somerville and surrounding communities.

I urge you give all due consideration to SHA's funding request. If you need any additional information, please feel free to contact me. Thank you for your consideration.

Sincerely,

Michael E. Capuano  
Member of Congress

Please visit our website to sign up for our newsletter  
[www.house.gov/capuano](http://www.house.gov/capuano)



Printed on recycled paper





The Commonwealth of Massachusetts  
MASSACHUSETTS SENATE

**SENATOR PATRICIA D. JEHLLEN**

*Second Middlesex District*

Medford, Somerville, Cambridge and Winchester

STATE HOUSE, ROOM 513

BOSTON, MA 02133-1053

OFFICE TEL: (617) 722-1578

FAX: (617) 722-1117

PATRICIA.JEHLLEN@MASENATE.GOV

WWW.MASENATE.GOV

February 3, 2014

Aaron Gomstein, Undersecretary  
Department of Housing and Community Development  
100 Cambridge Street  
Boston, MA 02114

Re: Re-Use and development of Mystic Water Works

Dear Mr. Gomstein:

I am writing to express the strong support of the City of Somerville for the proposed re-use and development of the Mystic Water Works. The development will convert the former pumping station into 25-units of affordable housing for seniors and the disabled. This award is critical to the Somerville Housing Authority's ability to complete Phase III of the planned "senior campus" that surrounds the site and provides access to a variety of supportive health services.

I believe the proposal which will rehabilitate and reuse this historically significant building will improve the surrounding community and become a valuable asset to our senior population. The importance of receiving an award in this current round cannot be understated. As resources decline and the costs of redeveloping important historic structures continue to rise, The Somerville Housing Authority will be challenged to identify additional funding and maintain and safeguard reusable historic components. I am very pleased that we have an opportunity to restore this vacated historic structure and provide additional affordable housing and services for Somerville seniors and the disabled.

During the past seven years, the Somerville Housing Authority (SHA) and the Visiting Nurse Association (VNA) have successfully developed 195 units of affordable senior/disabled housing and an assisted living facility respectively directly abutting the historic Water Works site. Although the two properties are individually owned and operated, a long-term agreement provides SHA residents with valuable health resources

*Chair*  
ELDER AFFAIRS

*Vice Chair*  
EDUCATION

SENATE WAYS AND MEANS  
HEALTHCARE FINANCING

JUDICIARY  
HOUSING



and services that allow residents to age in place. It is anticipated that those services will be extended to the new residents occupying the rehabilitated historic building.

Equally important, this development will complete the "Senior Campus" style site envisioned by the agencies and all of us who have supported its development throughout these past years.

The new units will become part of the senior campus community with all the units designed specifically for seniors and the disabled. The building site will connect to existing walking paths within the campus and the site plans will create additional open green space for all. When complete, this Senior Campus will provide a range of options for low-income seniors and the disabled. The Water Works residents will join other SHA independent residents in a supportive setting with available services as they age in place with the VNA providing full assisted living care for those in need of daily assistance. This "continuum of care" housing has, until now, only been available to the most affluent of seniors. Thanks to the collaboration of the Somerville Housing Authority and the Visiting Nurses Association it will now be available to seniors of all means in Somerville and surrounding communities.

I strongly urge you to provide support for the proposed rehabilitation of the Water Works building. If you need any additional information, please feel free to contact me. Thank you for your consideration of this request.

Sincerely,



Senator Patricia Jehlen  
25<sup>th</sup> Middlesex District



**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

March 15, 2012

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House  
(Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC#  
HRC.323

Dear Mr. Mackey:

The Massachusetts Historical Commission (MHC) has reviewed your application for the Massachusetts Rehabilitation Tax Credit. The information that you have submitted with your Part 1 application is complete in accordance with the regulations (830 CMR 63.38R.1). This letter constitutes the "initial certification" (830 CMR 63.38R.1(4)(a)). The MHC has determined that the subject property meets the definition of a "qualified historic structure" as the property is listed in the National Register of Historic Places as part of the Water Supply System of Metropolitan Boston (830 CMR 63.38R.1(2)).

Regrettably, the MHC is unable to assign second certification to your project (830 CMR 63.38R.1(4)(b)) and is unable to allocate credit to your project (830 CMR 63.38R.1(3)(c)) at this time because the application is incomplete and the proposed project may not meet the Secretary of the Interior's Standards for the Rehabilitation of Historic Properties (830 CMR 63.38R.1(5)(b) and (f), specifically Standards 1, 2, 5, and 10.

Standard 1 states the following:

- "A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment."

Standard 2 states the following:

- "The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize the property shall be avoided."

Standard 5 states the following:

- "Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterizes a property shall be preserved."

Standard 10 states the following:

- "New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired."

The plan presented in your application involves removing the existing mezzanine level and inserting a second floor into the character-defining two-story interior space. This proposed treatment is being remedied by modifying windows to cover the second floor, but MHC would require detailed information on how exactly this will be accomplished and possible scaled mock-ups to assure the MHC that this is actually feasible.

The MHC also requests the following information with respect to the Part 2 you submitted:

- The additional information you submitted to this office indicated that the proposed construction of the second building will now be considered the second phase of a previously unphased project. Until MHC has information on exactly how this phasing will work we cannot award your project as we cannot determine whether it will meet the Standards.

We encourage you to revise these aspects of your project and re-apply in the next application cycle. Please note that the MHC will require the following updated information to supplement your application: revised project plans, newly completed application form cover pages for Part 1 and Part 2, updated letters of support, an updated estimated project budget which includes a new pro forma detailing overall project costs and certified rehabilitation expenditures, the attachment/questionnaire regarding executive agents, and any additional information with which the existing application may be supplemented. Please be as detailed as possible in your application about the above referenced items. The next application deadline is April 30, 2012.

Sincerely,



Brona Simon  
Executive Director  
State Historic Preservation Officer  
Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors, LLC  
Jo Ellen Hensley, National Park Service



## United States Department of the Interior

### NATIONAL PARK SERVICE

1849 C Street, N.W.  
Washington, DC 20240

September 25, 2012

Mr. Paul Mackey  
Mystic Water Works LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02144

Re: **Mystic Water Works, Alewife Parkway and Capen Court, Somerville, MA**  
Project Number: **26742**

Dear Mr. Mackey:

I have concluded my review of your appeal of the decision of Technical Preservation Services (TPS), National Park Service, denying certification of the rehabilitation of the property cited above. The appeal was initiated and conducted in accordance with Department of the Interior regulations (36 CFR Part 67) governing certifications for Federal income tax incentives for historic preservation as specified in the Internal Revenue Code. I thank you, Mr. Joseph Macaluso, Mr. Frank Valdes, Mr. William MacRostie, and Mr. Albert Rex, for meeting with me in Washington on June 14, 2012, and for providing a detailed account of the project. After discussing the denial issues, at the conclusion of the appeal meeting, the parties agreed that you would study the issues further and that I would defer my decision on the appeal until you had the opportunity to submit additional information for my consideration.

The additional information was received in this office on July 12, 2012. The submittal included letters from Mr. Rex and Mr. Macaluso, both dated July 5, 2012, a topographic map of the property, and seven architectural drawings (including plans, elevations, sections, details of the proposed windows, and a site-line drawing). After careful review of the complete record for this project, I have determined that the project, as amended by the revisions proposed during and subsequent to our meeting, will suffice to bring the overall impact of the proposed rehabilitation into conformance with the Secretary of the Interior's Standards for Rehabilitation (the Standards), if carried out as described. Therefore, the denial issued by TPS on May 16, 2012, is hereby reversed.

Built between 1862 and 1864, and twice enlarged, in 1870 and 1895, the Mystic Water Works Pumping Station is located in the Water Supply System of Metropolitan Boston Multiple Property District, which is listed on the National Register of Historic Places. TPS certified the building as contributing to the significance of the historic district, and determined that a second, functionally-related building on the site, a 1940s garage, did not contribute to the significance of the property, on April 3, 2012. The water works building is a rectangular brick industrial structure, a tall one story in height with a mansard roof. It still retains such original features as four-over-four light wood sash windows; several wood entrances; brownstone sills, lintels, voussoirs, and quoins; a

wood cornice; and plastered interior walls. Deactivated as a pumping station in 1912, the building was converted to public works offices in 1921 when partition walls and a mezzanine and attic were added.

TPS determined that three aspects of the proposed rehabilitation of this "certified historic structure" did not meet the Standards: 1) the insertion of a new second floor, which would cut across and alter the configuration of the historic windows, 2) the incompatible alteration of the north facade entry, and 3) the construction of a new, four-story building on the site of the former garage building. Consequently, TPS found in its May 16, 2012, decision that the overall impact of the proposed work was not consistent with the historic character of the property and the historic district in which it is located, and that the rehabilitation thus described failed to meet the Standards.

With regard to inserting a new second floor in the main volume of the water works building, TPS determined that it would alter what was "historically a large double-height open volume that originally housed pumping equipment." However, that volume has not existed in its original configuration due to the insertion of a mezzanine and attic floor into the space in 1921. Thus, for the past ninety years, it has been a multi-story building, and I note that Standard 4 states, "*Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*" Accordingly, I find that retaining the interior as a multi-story space conforms to the Standards. TPS also stated that the new second floor would cut across the building's historic window openings, "changing its appearance." Although I agree with TPS that the second floor will have an impact on the appearance of the building, I do not believe that the change will significantly impair the overall historic character of the property. The building's overall massing and exterior materials will not change; the tall window openings will still be tall window openings. What will change is that the new windows will have a horizontal bar demarcating the thickness of the new second floor, located at a different height than the meeting rail of the original windows. I have determined that the revised designs, dated June 14, 2012, which have a thinner edge to the second floor and a correspondingly thinner horizontal bar than originally proposed, would not significantly impair the overall historic character of the building.

With regard to the alteration of the north facade entry, I note that the original entrances were sized to accommodate the installation and servicing of municipal water pumps—in other words, very large objects. Indeed, I note that the later installation of overhead garage doors large enough for trucks filled only part of those openings. The new use for the building will require doors for people, not large water pumps or trucks, necessitating some reconfiguration of the historic openings. I find that this change is acceptable in concept. However, I agree with TPS that the initially proposed design for the new entrances unacceptably altered their historic character. The additional information and revised designs you submitted at our meeting further explain the design intent and improve upon the initial designs. I have determined that the revised designs for the entries, although different from the historic configuration, are nevertheless compatible with the overall historic character of a nineteenth-century building, and—albeit marginally—comply with the Standards.

With regard to the construction of the new, four-story building on the site of the two-story garage, I find that the revised design, with the new building lowered to forty-seven feet and simplified in massing and materials from the original design, is acceptable. The location is at the rear of the site and is set back from Alewife Parkway so that, even though it is taller than the water works building, the site-line drawing confirms that it will not be visible from the sidewalk on the opposite side of Alewife Parkway. It will also be set back from Capen Court, as was the former



garage, and although visible from that side, it will not significantly detract from the setting of the historic water works building. The topographic map confirms that the new building will nestle into the hill that begins to rise at the rear of the site, behind which are housing units further up the hill. As a result, although the impact on the district is a secondary consideration, I have determined that the new construction will not significantly impact the skyline of the area.

Although I have determined that the proposed rehabilitation as revised now meets the Secretary of the Interior's Standards for Rehabilitation, please note that the project will only be designated a "certified rehabilitation" after all work is approved following its completion. Should you have any questions concerning procedures for final certification, please contact Mr. Michael Auer at 202-354-2031.

As Department of the Interior regulations state, my decision is the final administrative decision with respect to the May 16, 2012, denial that TPS issued regarding rehabilitation certification. A copy of this decision will be provided to the Internal Revenue Service. Questions concerning specific tax consequences of this decision or interpretations of the Internal Revenue Code should be addressed to the appropriate office of the Internal Revenue Service.

Sincerely,

A handwritten signature in dark ink, appearing to read "John A. Burns", with a long, sweeping horizontal line extending to the right.

John A. Burns, FAIA  
Chief Appeals Officer  
Cultural Resources

cc: SHPO-MA  
IRS



MacRostie Historic Advisors LLC

Bringing strategy, equity, and experience  
to historic building development

May 10, 2013

Kate Racer  
Director  
Private Housing  
DHCD  
100 Cambridge Street - Suite 300  
Boston, MA 02114

Boston  
Washington  
Chicago

Re: Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA

Dear Ms. Racer:

I am writing regarding the above referenced project and the current status of historic approvals. I know you and your agency are aware of the state and federal historic tax credit process and the fact that it has three parts, with Part 1 being the historic designation, Part 2 being the design narrative and Part 3 being photographic evidence at certificate of occupancy that the project was completed as specified in the approved Part 2 or subsequent amendments. As you know, the Massachusetts Historical Commission (MHC) reviews the state application and the federal application is reviewed by the National Park Service (NPS).

*Part 1 – federal and state*

The building did not require federal Part 1 approval, as it is already a "certified historic structure" due to its individual listing on the National Register of Historic Places on September 18, 1989. This individual status comes from the fact that the building contributes to the Water Supply System of Metropolitan Boston Multiple Resource Area. The NPS Part 2 cover form has a check box to indicate this status, see the denial letter of May 16, 2012 for the cover form.

The state Part 1 approval, also known as "initial certification", was issued to the property on November 8, 2011. For purposes of the state historic credit, a project must be a "qualified historic structure", which it is based on its National Register status, as noted above.

[macrosthistoric.com](http://macrosthistoric.com)

263 Summer Street  
8th Floor  
Boston, MA 02210

T 617.499.4009  
F 617.499.4019

Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA  
May 9, 2013

2

*Part 2 – federal and state*

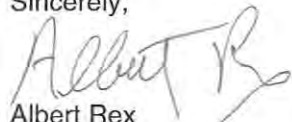
The federal Part 2, Description of Rehabilitation, was initially denied by the National Park Service (NPS) on May 16, 2012. NPS allows for an appeal of the denial if the appeal is filed within thirty-days of the denial letter. The project was appealed in the allotted time frame and new information was presented at a hearing to John Burns, Chief Appeals Officer. Mr. Burns issued a reversal of the denial on September 25, 2012. This letter constitutes a Part 2 approval and the project is eligible to receive the federal historic tax credit if the work is completed in accordance with the approval.

The state Part 2, also known as “second certification”, was approved on November 11, 2012 when the project was allocated \$400,000 of state historic tax credits. The project received a subsequent allocation of \$300,000 on March 12, 2013.

Additionally, an MHC PNF was issued on September 13, 2011 with a finding of “no adverse affect”.

The project is in good standing with all historic approvals. Specific letters referenced above are attached. Please let me know if there are additional questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Albert Rex", written over a horizontal line.

Albert Rex  
Director – Northeast Office



**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

March 15, 2012

Paul Mackey  
Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

RE: Massachusetts Historic Rehabilitation Tax Credit Application, Mystic River Pump House  
(Mystic Water Works), Alewife Brook Parkway at Capen Court, Somerville, MA; MHC#  
HRC.323

Dear Mr. Mackey:

The Massachusetts Historical Commission (MHC) has reviewed your application for the Massachusetts Rehabilitation Tax Credit. The information that you have submitted with your Part 1 application is complete in accordance with the regulations (830 CMR 63.38R.1). This letter constitutes the "initial certification" (830 CMR 63.38R.1(4)(a)). The MHC has determined that the subject property meets the definition of a "qualified historic structure" as the property is listed in the National Register of Historic Places as part of the Water Supply System of Metropolitan Boston (830 CMR 63.38R.1(2)).

Regrettably, the MHC is unable to assign second certification to your project (830 CMR 63.38R.1(4)(b)) and is unable to allocate credit to your project (830 CMR 63.38R.1(3)(c)) at this time because the application is incomplete and the proposed project may not meet the Secretary of the Interior's Standards for the Rehabilitation of Historic Properties (830 CMR 63.38R.1(5)(b) and (f), specifically Standards 1, 2, 5, and 10.

Standard 1 states the following:

- "A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment."

Standard 2 states the following:

- "The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize the property shall be avoided."

Standard 5 states the following:

- "Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterizes a property shall be preserved."

Standard 10 states the following:

- "New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired."

The plan presented in your application involves removing the existing mezzanine level and inserting a second floor into the character-defining two-story interior space. This proposed treatment is being remedied by modifying windows to cover the second floor, but MHC would require detailed information on how exactly this will be accomplished and possible scaled mock-ups to assure the MHC that this is actually feasible.

The MHC also requests the following information with respect to the Part 2 you submitted:

- The additional information you submitted to this office indicated that the proposed construction of the second building will now be considered the second phase of a previously unphased project. Until MHC has information on exactly how this phasing will work we cannot award your project as we cannot determine whether it will meet the Standards.

We encourage you to revise these aspects of your project and re-apply in the next application cycle. Please note that the MHC will require the following updated information to supplement your application: revised project plans, newly completed application form cover pages for Part 1 and Part 2, updated letters of support, an updated estimated project budget which includes a new pro forma detailing overall project costs and certified rehabilitation expenditures, the attachment/questionnaire regarding executive agents, and any additional information with which the existing application may be supplemented. Please be as detailed as possible in your application about the above referenced items. The next application deadline is April 30, 2012.

Sincerely,



Brona Simon  
Executive Director  
State Historic Preservation Officer  
Massachusetts Historical Commission

xc: Albert Rex, MacRostie Historic Advisors, LLC  
Jo Ellen Hensley, National Park Service





## United States Department of the Interior

### NATIONAL PARK SERVICE

1849 C Street, N.W.  
Washington, DC 20240

September 25, 2012

Mr. Paul Mackey  
Mystic Water Works LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02144

Re: **Mystic Water Works, Alewife Parkway and Capen Court, Somerville, MA**  
Project Number: **26742**

Dear Mr. Mackey:

I have concluded my review of your appeal of the decision of Technical Preservation Services (TPS), National Park Service, denying certification of the rehabilitation of the property cited above. The appeal was initiated and conducted in accordance with Department of the Interior regulations (36 CFR Part 67) governing certifications for Federal income tax incentives for historic preservation as specified in the Internal Revenue Code. I thank you, Mr. Joseph Macaluso, Mr. Frank Valdes, Mr. William MacRostie, and Mr. Albert Rex, for meeting with me in Washington on June 14, 2012, and for providing a detailed account of the project. After discussing the denial issues, at the conclusion of the appeal meeting, the parties agreed that you would study the issues further and that I would defer my decision on the appeal until you had the opportunity to submit additional information for my consideration.

The additional information was received in this office on July 12, 2012. The submittal included letters from Mr. Rex and Mr. Macaluso, both dated July 5, 2012, a topographic map of the property, and seven architectural drawings (including plans, elevations, sections, details of the proposed windows, and a site-line drawing). After careful review of the complete record for this project, I have determined that the project, as amended by the revisions proposed during and subsequent to our meeting, will suffice to bring the overall impact of the proposed rehabilitation into conformance with the Secretary of the Interior's Standards for Rehabilitation (the Standards), if carried out as described. Therefore, the denial issued by TPS on May 16, 2012, is hereby reversed.

Built between 1862 and 1864, and twice enlarged, in 1870 and 1895, the Mystic Water Works Pumping Station is located in the Water Supply System of Metropolitan Boston Multiple Property District, which is listed on the National Register of Historic Places. TPS certified the building as contributing to the significance of the historic district, and determined that a second, functionally-related building on the site, a 1940s garage, did not contribute to the significance of the property, on April 3, 2012. The water works building is a rectangular brick industrial structure, a tall one story in height with a mansard roof. It still retains such original features as four-over-four light wood sash windows; several wood entrances; brownstone sills, lintels, voussoirs, and quoins; a

wood cornice; and plastered interior walls. Deactivated as a pumping station in 1912, the building was converted to public works offices in 1921 when partition walls and a mezzanine and attic were added.

TPS determined that three aspects of the proposed rehabilitation of this "certified historic structure" did not meet the Standards: 1) the insertion of a new second floor, which would cut across and alter the configuration of the historic windows, 2) the incompatible alteration of the north facade entry, and 3) the construction of a new, four-story building on the site of the former garage building. Consequently, TPS found in its May 16, 2012, decision that the overall impact of the proposed work was not consistent with the historic character of the property and the historic district in which it is located, and that the rehabilitation thus described failed to meet the Standards.

With regard to inserting a new second floor in the main volume of the water works building, TPS determined that it would alter what was "historically a large double-height open volume that originally housed pumping equipment." However, that volume has not existed in its original configuration due to the insertion of a mezzanine and attic floor into the space in 1921. Thus, for the past ninety years, it has been a multi-story building, and I note that Standard 4 states, "*Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*" Accordingly, I find that retaining the interior as a multi-story space conforms to the Standards. TPS also stated that the new second floor would cut across the building's historic window openings, "changing its appearance." Although I agree with TPS that the second floor will have an impact on the appearance of the building, I do not believe that the change will significantly impair the overall historic character of the property. The building's overall massing and exterior materials will not change; the tall window openings will still be tall window openings. What will change is that the new windows will have a horizontal bar demarcating the thickness of the new second floor, located at a different height than the meeting rail of the original windows. I have determined that the revised designs, dated June 14, 2012, which have a thinner edge to the second floor and a correspondingly thinner horizontal bar than originally proposed, would not significantly impair the overall historic character of the building.

With regard to the alteration of the north facade entry, I note that the original entrances were sized to accommodate the installation and servicing of municipal water pumps—in other words, very large objects. Indeed, I note that the later installation of overhead garage doors large enough for trucks filled only part of those openings. The new use for the building will require doors for people, not large water pumps or trucks, necessitating some reconfiguration of the historic openings. I find that this change is acceptable in concept. However, I agree with TPS that the initially proposed design for the new entrances unacceptably altered their historic character. The additional information and revised designs you submitted at our meeting further explain the design intent and improve upon the initial designs. I have determined that the revised designs for the entries, although different from the historic configuration, are nevertheless compatible with the overall historic character of a nineteenth-century building, and—albeit marginally—comply with the Standards.

With regard to the construction of the new, four-story building on the site of the two-story garage, I find that the revised design, with the new building lowered to forty-seven feet and simplified in massing and materials from the original design, is acceptable. The location is at the rear of the site and is set back from Alewife Parkway so that, even though it is taller than the water works building, the site-line drawing confirms that it will not be visible from the sidewalk on the opposite side of Alewife Parkway. It will also be set back from Capen Court, as was the former

garage, and although visible from that side, it will not significantly detract from the setting of the historic water works building. The topographic map confirms that the new building will nestle into the hill that begins to rise at the rear of the site, behind which are housing units further up the hill. As a result, although the impact on the district is a secondary consideration, I have determined that the new construction will not significantly impact the skyline of the area.

Although I have determined that the proposed rehabilitation as revised now meets the Secretary of the Interior's Standards for Rehabilitation, please note that the project will only be designated a "certified rehabilitation" after all work is approved following its completion. Should you have any questions concerning procedures for final certification, please contact Mr. Michael Auer at 202-354-2031.

As Department of the Interior regulations state, my decision is the final administrative decision with respect to the May 16, 2012, denial that TPS issued regarding rehabilitation certification. A copy of this decision will be provided to the Internal Revenue Service. Questions concerning specific tax consequences of this decision or interpretations of the Internal Revenue Code should be addressed to the appropriate office of the Internal Revenue Service.

Sincerely,

A handwritten signature in dark ink, appearing to read 'John A. Burns', with a long, sweeping horizontal line extending to the right.

John A. Burns, FAIA  
Chief Appeals Officer  
Cultural Resources

cc: SHPO-MA  
IRS



MacRostie Historic Advisors LLC

Bringing strategy, equity, and experience  
to historic building development

May 10, 2013

Kate Racer  
Director  
Private Housing  
DHCD  
100 Cambridge Street - Suite 300  
Boston, MA 02114

Boston  
Washington  
Chicago

Re: Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA

Dear Ms. Racer:

I am writing regarding the above referenced project and the current status of historic approvals. I know you and your agency are aware of the state and federal historic tax credit process and the fact that it has three parts, with Part 1 being the historic designation, Part 2 being the design narrative and Part 3 being photographic evidence at certificate of occupancy that the project was completed as specified in the approved Part 2 or subsequent amendments. As you know, the Massachusetts Historical Commission (MHC) reviews the state application and the federal application is reviewed by the National Park Service (NPS).

*Part 1 – federal and state*

The building did not require federal Part 1 approval, as it is already a "certified historic structure" due to its individual listing on the National Register of Historic Places on September 18, 1989. This individual status comes from the fact that the building contributes to the Water Supply System of Metropolitan Boston Multiple Resource Area. The NPS Part 2 cover form has a check box to indicate this status, see the denial letter of May 16, 2012 for the cover form.

The state Part 1 approval, also known as "initial certification", was issued to the property on November 8, 2011. For purposes of the state historic credit, a project must be a "qualified historic structure", which it is based on its National Register status, as noted above.

[macrosthistoric.com](http://macrosthistoric.com)

263 Summer Street  
8th Floor  
Boston, MA 02210

T 617.499.4009  
F 617.499.4019

Historic Approvals – Mystic River Pump House -  
Mystic Water Works, Somerville, MA  
May 9, 2013

2

*Part 2 – federal and state*

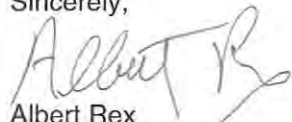
The federal Part 2, Description of Rehabilitation, was initially denied by the National Park Service (NPS) on May 16, 2012. NPS allows for an appeal of the denial if the appeal is filed within thirty-days of the denial letter. The project was appealed in the allotted time frame and new information was presented at a hearing to John Burns, Chief Appeals Officer. Mr. Burns issued a reversal of the denial on September 25, 2012. This letter constitutes a Part 2 approval and the project is eligible to receive the federal historic tax credit if the work is completed in accordance with the approval.

The state Part 2, also known as “second certification”, was approved on November 11, 2012 when the project was allocated \$400,000 of state historic tax credits. The project received a subsequent allocation of \$300,000 on March 12, 2013.

Additionally, an MHC PNF was issued on September 13, 2011 with a finding of “no adverse affect”.

The project is in good standing with all historic approvals. Specific letters referenced above are attached. Please let me know if there are additional questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Albert Rex", written over a horizontal line.

Albert Rex  
Director – Northeast Office



# Massachusetts Cultural Resource Information System

## Scanned Record Cover Page

<b>Inventory No:</b>	SMV.142
<b>Historic Name:</b>	Mystic Pumping Station
<b>Common Name:</b>	
<b>Address:</b>	
<b>City/Town:</b>	Somerville
<b>Village/Neighborhood:</b>	West Somerville
<b>Local No:</b>	104; 1024; 15-4
<b>Year Constructed:</b>	
<b>Architect(s):</b>	Baldwin, George N.; Stevenson, Charles L.
<b>Architectural Style(s):</b>	Second Empire
<b>Use(s):</b>	Business Office; Maintenance Facility; Pumping Station; Shop Other
<b>Significance:</b>	Architecture; Community Planning; Engineering
<b>Area(s):</b>	SMV.AY: Somerville Multiple Resource Area SMV.AZ: Water Supply System of Metropolitan Boston
<b>Designation(s):</b>	Local Historic District (3/11/1985); Nat'l Register Individual Property (1/18/1990); Nat'l Register Individual Property (9/18/1989); Nat'l Register MRA (9/18/1989); Nat'l Register TRA (1/18/1990)



The Massachusetts Historical Commission (MHC) has converted this paper record to digital format as part of ongoing projects to scan records of the Inventory of Historic Assets of the Commonwealth and National Register of Historic Places nominations for Massachusetts. Efforts are ongoing and not all inventory or National Register records related to this resource may be available in digital format at this time.

The MACRIS database and scanned files are highly dynamic; new information is added daily and both database records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

Users of this digital material acknowledge that they have read and understood the MACRIS Information and Disclaimer (<http://mhc-macris.net/macrisdisclaimer.htm>)

Data available via the MACRIS web interface, and associated scanned files are for information purposes only. THE ACT OF CHECKING THIS DATABASE AND ASSOCIATED SCANNED FILES DOES NOT SUBSTITUTE FOR COMPLIANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL LAWS AND REGULATIONS. IF YOU ARE REPRESENTING A DEVELOPER AND/OR A PROPOSED PROJECT THAT WILL REQUIRE A PERMIT, LICENSE OR FUNDING FROM ANY STATE OR FEDERAL AGENCY YOU MUST SUBMIT A PROJECT NOTIFICATION FORM TO MHC FOR MHC'S REVIEW AND COMMENT. You can obtain a copy of a PNF through the MHC web site ([www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)) under the subject heading "MHC Forms."

Commonwealth of Massachusetts  
Massachusetts Historical Commission  
220 Morrissey Boulevard, Boston, Massachusetts 02125  
[www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)

This file was accessed on:

Friday, January 14, 2011 at 11:58 AM

LHD-3/11/85 (20)  
MHC# 1074

OFFICE COPY  
DO NOT REMOVE

FORM B - BUILDING

NRMRA/IND 9/18/89 (IC, INC)  
NRTRA/IND 1/18/90 (IC)

AREA

FORM NO.

MASSACHUSETTS HISTORICAL COMMISSION  
80 BOYLSTON STREET  
BOSTON, MA 02116

AY, AZ

104  
142

PI-W.SOM.  
USGS-LEX



in Somerville  
Address Alewife Brook Parkway at SECT A  
Historic Name Capen Court  
Mystic Water Works  
Present utilitarian/water & sewer  
Original water works building

DESCRIPTION

Date 1863-1864  
Source Samuels' Somerville Past & Present.  
Style Romanesque Revival/Mansard roof

Architect unknown

Exterior Wall Fabric brick

Outbuildings brick warehouse/offices

Major Alterations (with dates) \_\_\_\_\_

Condition good

Moved no Date n/a

Acreage one acre +

Setting East side of Parkway, across from brook and wooded area, some

residential surroundings. Main through route

Recorded by Gretchen G. Schuler

Organization Mass. Historical Commission

Date September, 1988

Sketch Map: Draw map showing property's location in relation to nearest cross streets and/or geographical features. Indicate all buildings between inventoried property and nearest intersection(s).  
Indicate north

See Attached Assessor's Map.

UTM REFERENCE 19 - 324/660 - 4697/830  
USGS QUADRANGLE Boston North  
SCALE 1:25,000

**NATIONAL REGISTER CRITERIA STATEMENT (if applicable)**

The Mystic Water Works retains integrity of location, design, materials, workmanship, and association with the development of the public water system in Somerville. It is significant for its importance in the history of Somerville and for its architectural integrity. The Mystic Water Works fulfills Criteria A and C of the National Register of Historic Places on the local level.

**ARCHITECTURAL SIGNIFICANCE Describe important architectural features and evaluate in terms of other buildings within the community.**

Built on a granite block foundation the long low brick building with Mansard roof retains its massing, scale and materials as well as the early windows and double-hung sash with round headed glazed fans. The slate roof has been replaced with asphalt shingles. The double doors that are panelled and have a fan-like transom from the south facade entrance.

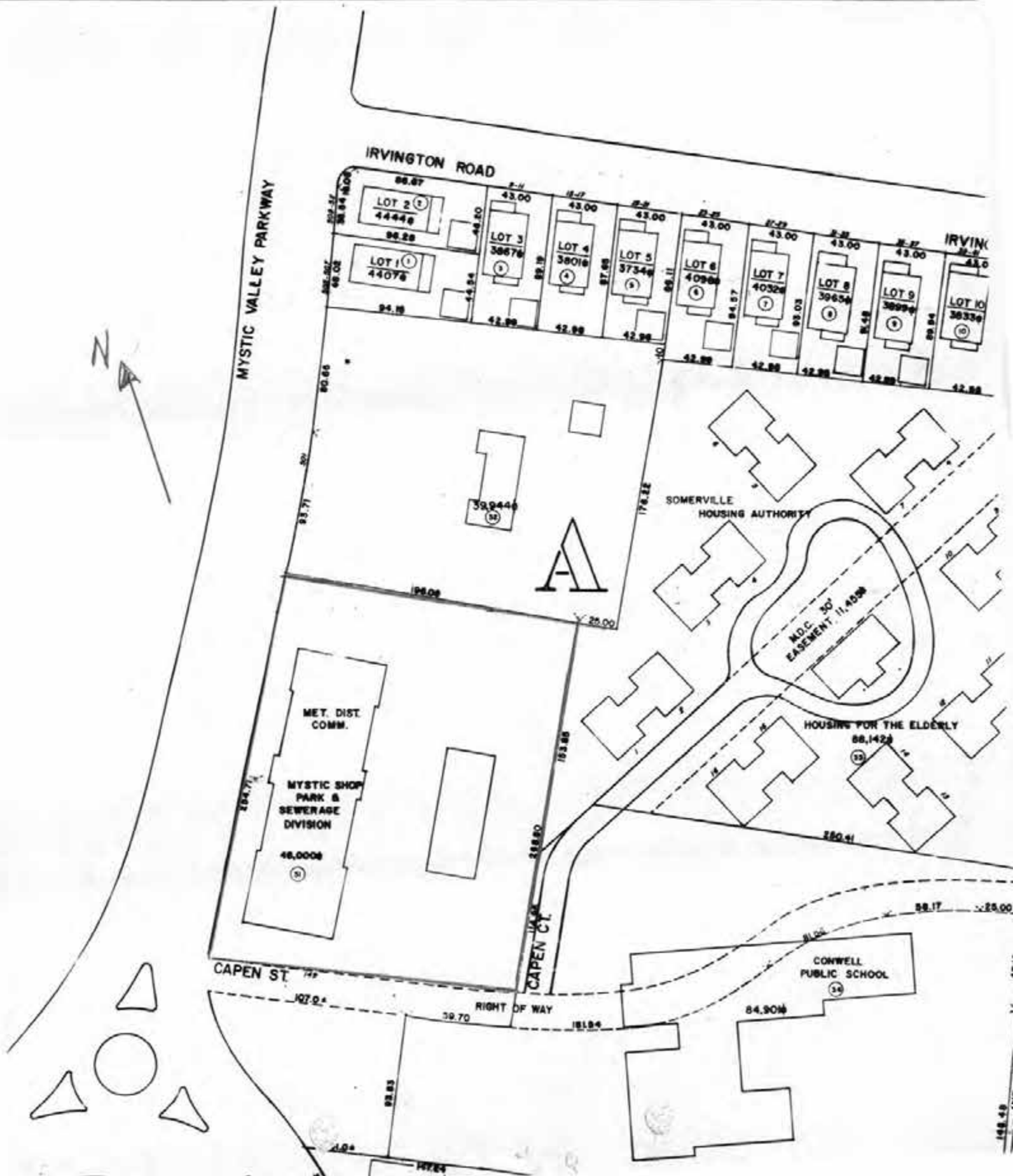
**HISTORICAL SIGNIFICANCE Explain the role owners played in local or state history and how the building relates to the development of the community.**

The Mystic Water Works was Somerville's first water supply. The system was authorized in 1861 when the City of Charlestown was granted the right (over much opposition) to construct a dam at Mystic Lake, an engine house, and a reservoir to supply Charlestown with water. Initially only a small area of Somerville was supplied by the newly constructed system for Charlestown, however, in 1868 the State Legislature authorized Somerville to connect its lines with those of Charlestown. The availability of this water supply and a high service plant built in 1889-1890 (since demolished) contributed to the City's tremendous growth in the last quarter of the 19th century.

In the 1880s, Charlestown became part of Boston and the Mystic Water System was taken over by the City of Boston. In 1898 Somerville's water supply became unified with that of Boston under the Metropolitan Water Board.

**BIBLIOGRAPHY and/or REFERENCES**

- Hopkins, G.M. Atlas of the City of Somerville, 1874.  
Samuels, Edward, Somerville: Past and Present, 1897.





SMV.142

## FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION  
294 WASHINGTON STREET, BOSTON, MA 02108

AREA	FORM NO.
154	154

Town SomervilleAddress Alewife Brook ParkwayHistoric Name Mystic Pumping StationUse: Present maintenance shopOriginal pumping station

## DESCRIPTION:

Date 1862-64Source Boston Water Works, Mystic Supply 1862-65Style Second EmpireArchitect George N. Baldwin, Charles L StevensonExterior wall fabric brickOutbuildings original demolished, replaced in 1940's w/flat-roofed brick office structureMajor alterations (with dates) 1870: addition; 1895: addition; both for housing additional steam engines

Moved \_\_\_\_\_ Date \_\_\_\_\_

Approx. acreage 2Setting urban, on edge of greenbelt

## SKETCH MAP

Show property's location in relation to nearest cross streets and/or geographical features. Indicate all buildings between inventoried property and nearest intersection. Indicate north.

Recorded by Jane CarolanOrganization Louis Berger & AssociatesDate January 1984

(Staple additional sheets here)



ARCHITECTURAL SIGNIFICANCE (Describe important architectural features and evaluate in terms of other buildings within the community.)

The former Mystic Pumping Station is a 1½ story, mansard-roofed structure of load bearing masonry. The symmetrically arranged 9-bay main block is flanked on the west by a 4-bay wing (1895) and on the east by a two-bay wing (1870), both of which conform stylistically to the main block. Only a cupola and some decorative iron work on the roofs has been removed.

HISTORICAL SIGNIFICANCE (Explain the role owners played in local or state history and how the building relates to the development of the community.)

The Mystic Pumping Station was built between 1862 and 1865. It was built smaller than originally designed due to construction costs. The building contained two Worthington steam engines, one with a capacity of 8,000,000 mgd; the other, 5,000,000 mgd. A 100 foot chimney was connected to the station by an underground flue.

With the addition of the city of Everett to the system a third engine was added which required construction of the east addition. A fourth engine, added in 1895, soon after the Metropolitan Water Board took over the works, required construction of the west wing. Between these expansions, the Water Board noted that the roof trusses in the station were "old and distorting". In 1887 most of these trusses were replaced by triangular wood trusses reinforced with iron tie rods. Several of the original trusses remain near the middle of the main block. They are about one foot in diameter, and are built up from thirteen narrow strips of laminated wood and connected to the building's walls with tie buckles.

In 1912 the remaining engines were sold for scrap. During World War I the building was renovated into offices and used for research. In 1921 the building was again renovated and the chimney demolished. Today the building is used for shops.

BIBLIOGRAPHY and/or REFERENCES (name of publication, author, date and publisher)

Boston Water Works Mystic Supply 1862-5, Record Description of the Mystic Water Works kept at the time of their construction during the year 1862-3-4-5 by Roberdeau Buchanan, S.B. Asst. Eng. Copied 1878.  
Manual of American Waterworks, 1890.  
1887 Report of the Metropolitan Water Board.  
Tablet in building commemorating construction completion.  
1912 Annual Report of Metropolitan Water Board.  
1918, 1920, 1923, 1933 Annual Reports of Metropolitan District Commission.





1 Capen Ct, Somerville, MA 02144, USA

© 2013 Google

Google earth

42°24'53.08" N 71°07'49.83" W elev 19 ft eye alt 423 ft







July 16, 2013

**Frank Valdes**

DiMella Shaffer Associates, Inc.  
281 Summer Street  
Boston, Massachusetts 02210

**RE: *Mystic Water Works at Capen Court  
Renovation and Rehabilitation of Former Metropolitan District Commission Water Division  
Somerville, Massachusetts  
Chapter 34 Report / Investigation and Evaluation***

Dear Frank:

In accordance with your request we have visited the building located at the intersection of Mystic Valley Parkway and Capen Court in Somerville, Massachusetts with the objective to provide a limited and general assessment of the existing structural conditions and to comment on the existing building code provisions as they may affect the design parameters applicable to the existing structure due to the proposed change of use and planned renovations.

Description of the Existing Building

The building is 1-story structure with partial attic and partial basement on the western half of the building. According to the ground floor plan dated January 10, 1922 (Photo #8) we understand this building formerly housed the Metropolitan District Commission Water Division. With the exception of some snow removal equipment being stored in a room on the eastern half of the building, the building is not being occupied.

Observations from our site visit include

- The foundation was observed to be a combination of stone block and unreinforced masonry (URM) walls.
- Flowing water was observed in open well/drain in the basement (photo #4)
- The ground floor over the partial basement consists of a combination of wood decking on wood floor framing supported on steel columns (photo #3) or reinforced concrete slab on steel beams and brick piers. (photo #2).
- The attic framing appears to have been an addition and not constructed with the original building. The western half of the attic consists of wood framing. The center portion of the building utilizes steel and concrete framing. The attic did not continue to the eastern portion of the building.
- The existing structural system utilizes heavy timber roof truss framing spaced at 13 feet on center spanning the short direction (approximately 60ft) and are supported by URM walls at the perimeter. The roof framing is completed by wood purlins spanning between the heavy timber wood roof trusses.

Assessment on the condition of the building's structural systems

- Overall the building appears to be in moderate condition.
- There are no visible signs of major wall cracks indicating settlement of the foundation system, however we did observe deterioration in several areas of the exterior brick façade, minor cracking in the brick and water flowing on an open pit in the basement.
- Heavy vegetation was observed growing on the exterior walls, which may be creating a path for water intrusion and deterioration in the wall cavity (photo #6)
- The ground floor reinforced concrete slab supported on steel beams in the basement was observed to have severe deterioration in several areas (photos #2 and #5)
- The heavy timber roof trusses appear to be in good condition but are currently supporting areas of the attic framing, likely not part of the original building.

Planned Modifications





Page 2 of 7  
July 16, 2013

The proposed building is planned to be converted to a residential facility. The planned modifications specify maintaining the exterior walls and roof framing but completely removing and replacing all of the interior partitions, attic and floor framing with new framing reconfigure to support residential use.

#### Applicable Building Code

This project is governed by the "Base Code" portion of the Massachusetts State Building Code, Eighth Edition (2010), which for structural requirements incorporates the provisions of the 2009 International Building Code (2009) and the 2009 International Existing Building Code (2009 IEBC) with Massachusetts Amendments

#### Some Design Parameters that Affect Structural Systems and Seismic Upgrade Requirements

1. Scope of Proposed Renovation: the proposed renovation involves a change of occupancy and extensive interior alterations to the existing building.
2. Seismic Design Parameter – After Renovation: Although no specific geotechnical data has been made available, it has been assumed that the site soil properties would qualify under the definition of Site Class D. Based on the seismic design parameters specified for Somerville, site class D and Occupancy Category II the project falls under Seismic Design Category B.

#### Code Evaluation

The 2009 IEBC defines three possible compliance methods for use in the repair, alteration, change of occupancy, addition or relocation of existing buildings. Only one compliance method may be selected by the design team (based on the project scope and construction cost considerations) and it cannot be combined with any of the other methods. Based on the planned renovations we anticipate the *Work Area Compliance Method* will be utilized.

Chapter 34 defines three "levels of alterations" and triggers the need for structural upgrades if the planned renovations, including architectural, mechanical and structural modifications and additions, exceed a certain threshold. Based on planned modifications, we anticipate the building will be required to comply with the level 3 alteration provisions, which are outlined below.

- Section 707.2 - New structural elements: This section states that all new structural members and construction are designed in accordance with 2009 IBC.
- Section 707.4 - Existing Structural Elements Carrying Gravity Loads: This section states that any structural element supporting additional gravity loads as result of the alterations, including the effects of snow drift, shall comply with the International Building Code
  - Exception 1: Structural elements whose stress is not increased by more than 5 percent (note; the roof trusses and exterior URM bearing walls will qualify for this exception)
- Section 807.4 –Substantial Structural Alteration: This section states that a building where more than 30 percent of the total floor and roof areas of the building or structural are proposed to be involved in structural alteration, the altered building shall comply with the 2009 IBC provisions for wind loading and with reduced 2009 IBC seismic forces (note the lateral load resisting system for the planned modification will utilize a intermediate reinforced masonry shear walls)

#### Anticipated Scope of Structural Work – Existing Building

- a) The new interior foundations that are anticipated to consist of shallow footings bearing on modified or improved native soils

Page 3 of 7  
July 16, 2013

- b) The first floor and second floor systems are anticipated to utilize a concrete slab over composite deck spanning between reinforced masonry bearing walls.
- c) The corridor masonry bearing walls will extend to the underside of the existing roof trusses and provide an intermediate bearing support
- d) The existing exterior bearing walls will be connected to the new floor systems, bracing the existing walls system.
- e) The new masonry bearing walls will provide the lateral support for the building.

Please let us know if you have any questions, or would like to discuss our evaluation in more detail.

Yours truly,

**L.A. FUESS PARTNERS** *Structural Engineers*





Aaron A. Ford, PE  
Principal





L.A. FUESS PARTNERS, INC.

Page 4 of 7  
July 16, 2013



	<p>Photo #2</p> <p>Reinforced concrete floor Picture taken from basement.</p>
	<p>Photo #3</p> <p>Wood floor framing. Picture taken from basement.</p>





L.A. FUESS PARTNERS, INC.

Page 5 of 7  
July 16, 2013

	<p>Photo #4</p> <p>Concrete slab in basement with open drain and flowing water. Picture taken in basement.</p>
	<p>Photo #5</p> <p>Deteriorated concrete slab supported on steel beam. Picture taken in basement.</p>



L.A. FUESS PARTNERS, INC.

Page 6 of 7  
July 16, 2013



Photo #6

Vegetation  
observed on the  
exterior wall.



Photo #7

Attic floor framing  
consisting of steel  
and concrete with  
modifications to  
the framing.





L.A. FUESS PARTNERS, INC.

Page 7 of 7  
July 16, 2013

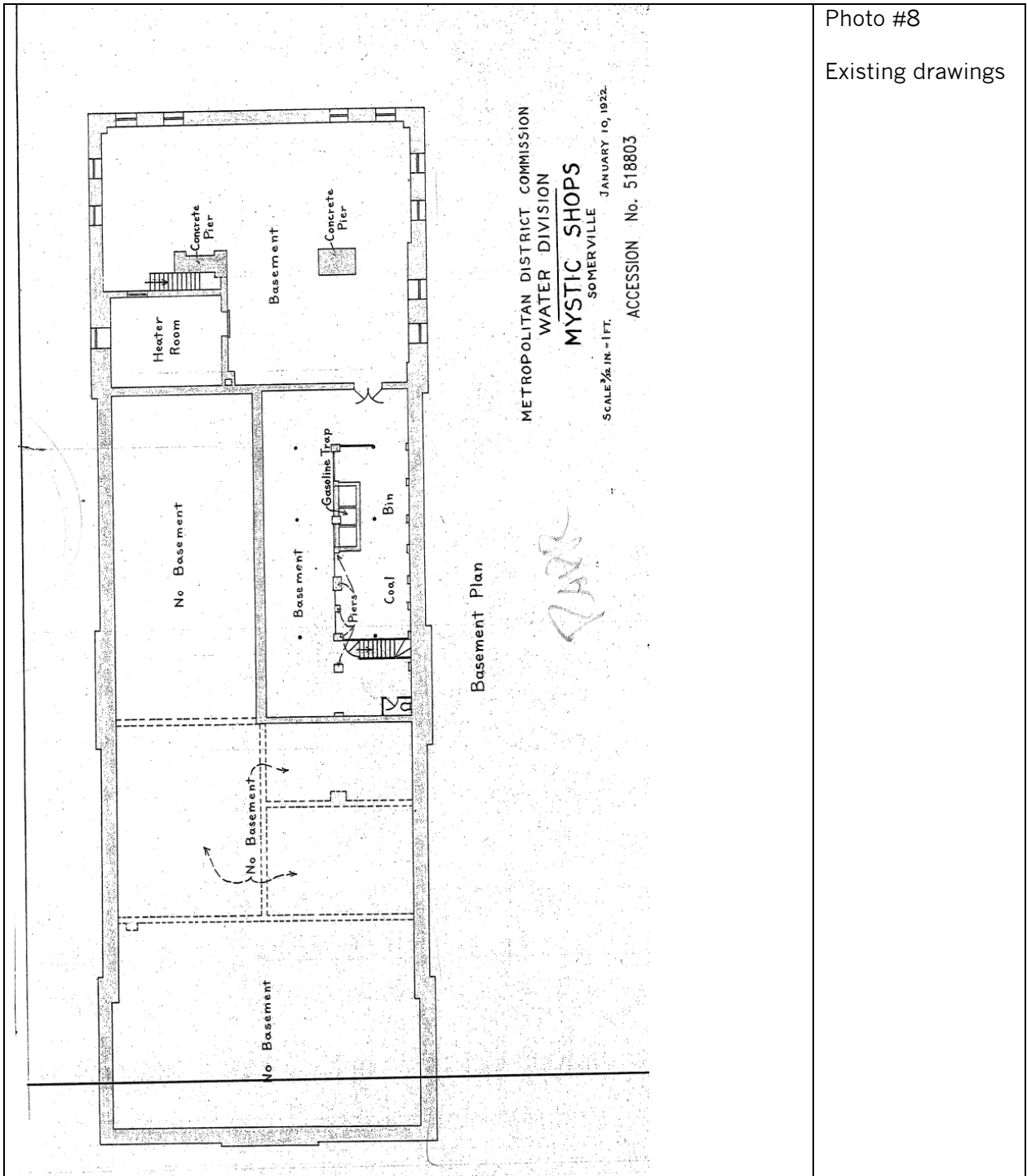


Photo #8

Existing drawings

**Client**  
Somerville Housing Authority  
Tel: 617-625-1125

**MEP/FP Engineer**  
R.W. Sullivan Engineering  
Tel: 617-523-8227  
Fax: 617-523-8016

**Structural Engineer**  
L.A. Fuess Partners  
Tel: 617-948-5700  
Fax: 617-948-5710

**Civil Engineer**  
Nitsch Engineering  
Tel: 617-338-0063  
Fax: 617-338-6472

**Landscape Consultant**  
Copley Wolff Design Group  
Tel: 617-654-9000  
Fax: 617-654-9002

**Code Consultant**  
R.W. Sullivan Engineering  
Tel: 617-523-8227  
Fax: 617-523-8016

**Cost Estimator**  
VJ Associates  
Tel: 781-444-8200  
Fax: 781-444-8242

**Historical Consultant**  
MacRostie Historic Advisors  
Tel: 617-499-4009  
Fax: 617-499-4019

Fall 2014 DHCD Resubmission

**Issue Description**  
**Date**

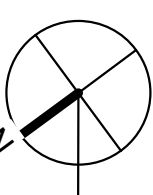
**Scale:**  
1/8" = 1'-0"  
**Drawn By:**  
Author  
**Checked By:**  
Checker  
**Reviewed By:**

**Project No.** 2010080.00

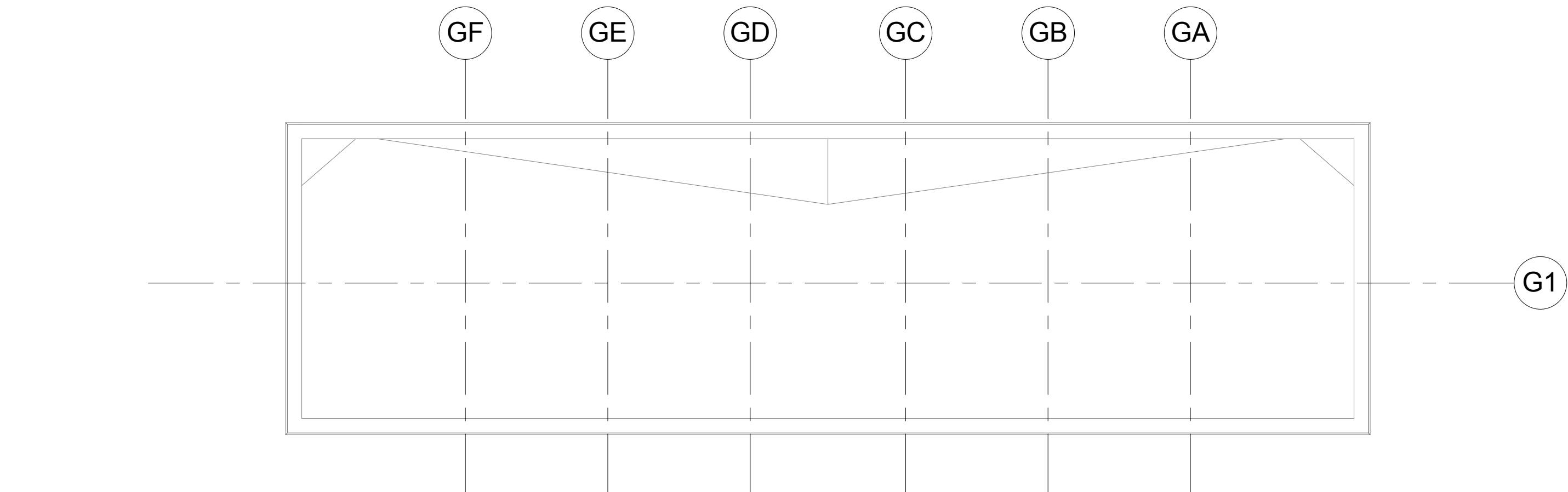
## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

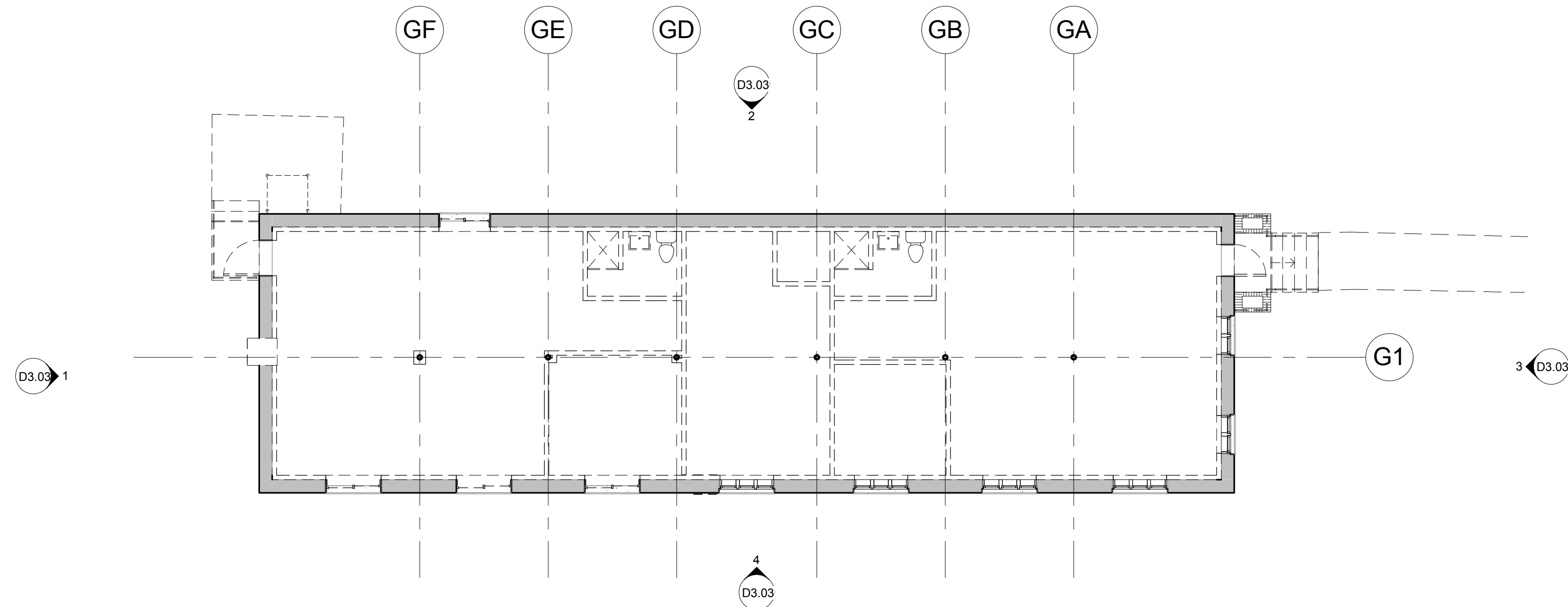
DEMO FLOOR PLANS &  
DEMO ROOF PLAN --  
GARAGE BUILDING



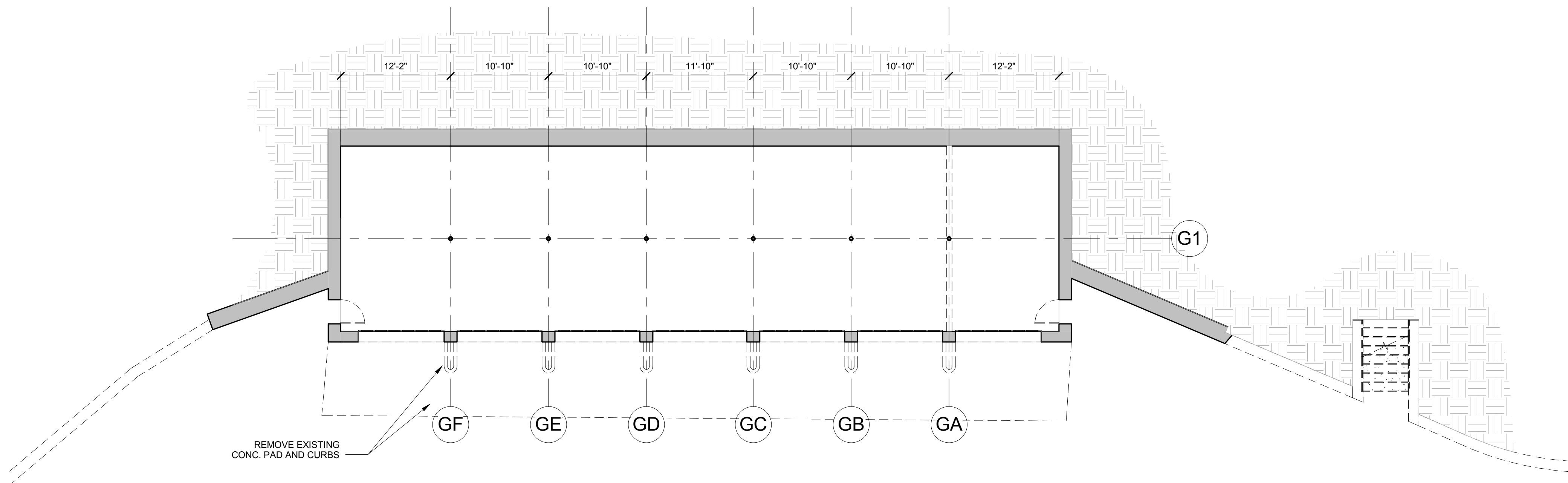
D1.04



3 Roof Demo Plan (Garage)  
1/8" = 1'-0"



2 Second Floor Demo Plan (Garage)  
1/8" = 1'-0"



1 First Floor Demo Plan (Garage)  
1/8" = 1'-0"

**Client**  
Somerville Housing Authority  
Tel: 617-625-1125

**MEP/FP Engineer**  
R.W. Sullivan Engineering  
Tel: 617-523-8227  
Fax: 617-523-8016

**Structural Engineer**  
L.A. Fuess Partners  
Tel: 617-948-5700  
Fax: 617-948-5710

**Civil Engineer**  
Nitsch Engineering  
Tel: 617-338-0063  
Fax: 617-338-6472

**Landscape Consultant**  
Copley Wolff Design Group  
Tel: 617-654-9000  
Fax: 617-654-9002

**Code Consultant**  
R.W. Sullivan Engineering  
Tel: 617-523-8227  
Fax: 617-523-8016

**Cost Estimator**  
VJ Associates  
Tel: 781-444-8200  
Fax: 781-444-8242

**Historical Consultant**  
MacRostie Historic Advisors  
Tel: 617-499-4009  
Fax: 617-499-4019

**DEMOLITION GENERAL NOTES:**

- A. REMOVE ALL EXISTING WINDOWS, FRAMES AND BLOCKING TO MASONRY. (CONTRACTOR TO INSPECT BLOCKING AND DETERMINE IF IT CAN BE REUSED FOR REPLACEMENT WINDOWS)  
B. REMOVE ALL EXISTING FURRED FINISH TO MASONRY AT EXTERIOR WALLS.  
C. REMOVE ALL PLASTER AND LATH APPLIED DIRECTLY TO MASONRY.  
D. REMOVE ALL EXISTING FLOOR ASSEMBLIES, INCLUDING STRUCTURAL BEAMS  
E. DEMO EXISTING SLAB ON GRADE IN ACCORDANCE WITH STRUCTURAL DRAWINGS  
F. REMOVE ALL EXISTING CONDUIT, GUTTER AND ELEC. FIXTURES ON BUILDING EXTERIOR  
G. REMOVE ALL VEGETATION FROM EXTERIOR WALLS.  
H. REMOVE ALL ROOF PENETRATIONS AND VENTS AND PROVIDE FRAMING AT OPENINGS  
I. REMOVE ALL EXTERIOR WALL PENETRATIONS AND VENTS, REPAIR WITH MASONRY TO MATCH EXISTING  
J. REPAIR EXISTING EXTERIOR WOOD CORNICE  
K. REMOVE METAL TRIM AT ROOF EDGES. SALVAGE PORTION FOR REPLICATION.  
L. REMOVE ALL ROOFING MATERIAL TO SUBSTRATE. REPAIR AS NECESSARY.  
M. CLEAN EXTERIOR WALL MASONRY AND REPOINT WHERE NECESSARY.  
N. REPLACE STONE SILLS AND HEADERS WHERE DETERIORATION EVIDENT.  
O. REPAIR AREAS OF EXTERIOR WALL WHERE DETERIORATION WITH MASONRY TO TO MATCH EXISTING  
P. REMOVE ALL INTERIOR FIXTURES AND PARTITIONS, INCLUDING FIREWALLS

11. PROVIDE TEMPORARY COVER OVER WINDOW OPENINGS THAT WILL REMAIN OPEN FOR MORE THAN ONE WEEK.  
12. CAREFULLY REMOVE ALL ITEMS SURFACE-MOUNTED ON MASONRY ASSEMBLIES WHICH WILL BE VISIBLE IN THE COMPLETED WORK. REMOVE ALL EMBEDMENTS WITHIN 4" OF EXTERIOR SURFACE OF MASONRY EXCEPT ITEMS SPECIFICALLY INDICATED TO REMAIN AND ITEMS EMBEDDED AND BUILT INTO MASONRY. ITEMS EMBEDDED OR BUILT INTO MASONRY SHALL BE REMOVED BY THE MASONRY SUBCONTRACTOR.  
WITHOUT LIMITATION, REMOVE THE FOLLOWING: BOTS, ANCHOURS, FASTENERS, CLIPS, SCREWS, BUT NOT ITEMS THAT REQUIRE MASONRY CHIPPING OR CUTTING. REMOVE PIPES, CONDUITS, BACK BOXES, FITTINGS, SIGNS AND ALL ITEMS AS NOTED. ALL OTHER ITEMS NOT INDICATED TO REMAIN SHALL BE REMOVED.

8. ENGINEER AND PROVIDE TEMPORARY SHORING AND BRACING FOR ALL CUTTING OF NEW OPENINGS INTO EXISTING CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS, METHODS AND TECHNIQUES OF CONSTRUCTION AND FOR SAFETY OF PERSONS AND PROPERTY.

9. COORDINATE MASONRY CUTTING WITH THE MASONRY SUBCONTRACTOR. ENSURE THAT MASONRY IS STRUCTURALLY STABLE AND THAT ONLY FINISHED MASONRY SURFACES WILL BE EXPOSED IN THE FINISHED WORK.

10. CUT APART OR DISASSEMBLE LARGE ITEMS SO THAT THE ITEM CAN BE MOVED OUT OF THE BUILDING THROUGH AVAILABLE OPENINGS.

5. OWNER AND ARCHITECT ASSUME NO RESPONSIBILITY NOR MAKES ANY CLAIM AS TO THE ACTUAL CONDITION OR STRUCTURAL ADEQUACY OF ANY EXISTING CONSTRUCTION TO BE DEMOLISHED. THE CONTRACTOR SHALL INVESTIGATE AND ASSURE HIMSELF OF THE CONDITION OF THE WORK TO BE DEMOLISHED AND SHALL TAKE ALL PRECAUTIONS TO ENSURE SAFETY OF PERSONS AND PROPERTY.

6. CUT AND PROVIDE ALL NEW OPENINGS NEEDED TO ACCOMMODATE WORK OF THE CONTRACT. USE METHODS LEAST LIKELY TO DAMAGE ADJOINING WORK. PROTECT ADJACENT WORK FROM DAMAGE DUE TO CUTTING OPERATIONS. DO NOT CUT STRUCTURAL MEMBERS OR BEARING WALLS NOT INDICATED ON THE CONTRACT DRAWINGS WITHOUT PRIOR APPROVAL FROM ARCHITECT.

7. ALL MATERIALS AND EQUIPMENT TO BE REMOVED SHOULD BE DISPOSED PROPERLY.

**DEMOLITION GENERAL REQUIREMENTS:**

1. ALL DEMOLITION AND SELECTIVE REMOVAL WORK INDICATED ON DEMOLITION DRAWINGS TO BE COORDINATED WITH ALL OTHER PROJECT DOCUMENTATION.

2. EXISTING AREAS TO REMAIN ARE AS INDICATED PER THE LEGEND BELOW AND REFERRED TO AS "BASE BUILDING". ALL OTHER INTERIOR AREAS ARE CONSIDERED "AREAS OF WORK."

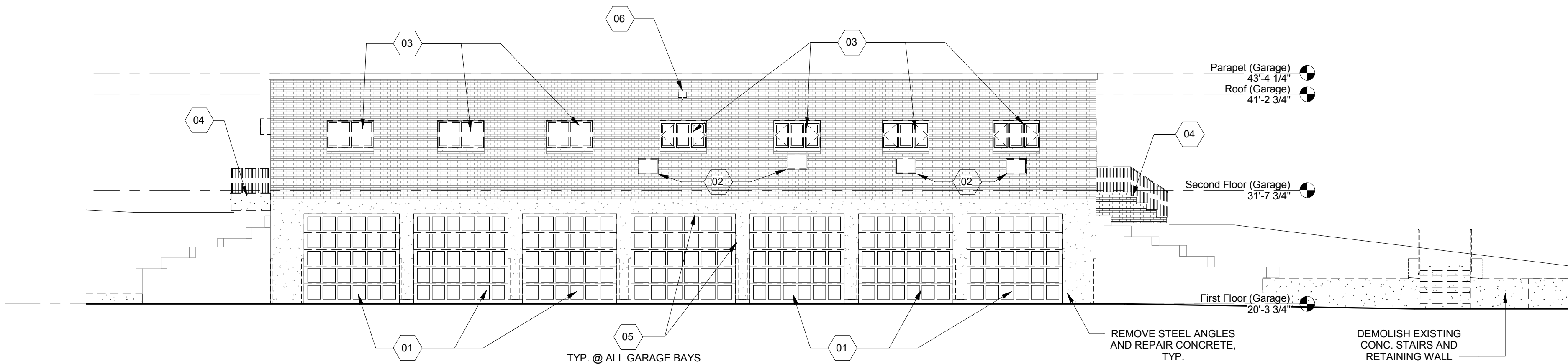
3. REMOVE ALL EQUIPMENT, UTILITIES AND SYSTEMS IN THEIR ENTIRETY, ABANDONED IN PLACE IS NOT ACCEPTABLE, EXCEPT WHERE AN ITEM IS SPECIFICALLY INDICATED TO BE ABANDONED IN PLACE.

4. IDENTIFY ALL EXISTING STRUCTURE WHICH IS DAMAGED OR UNSUITABLE FOR REUSE AND NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY.

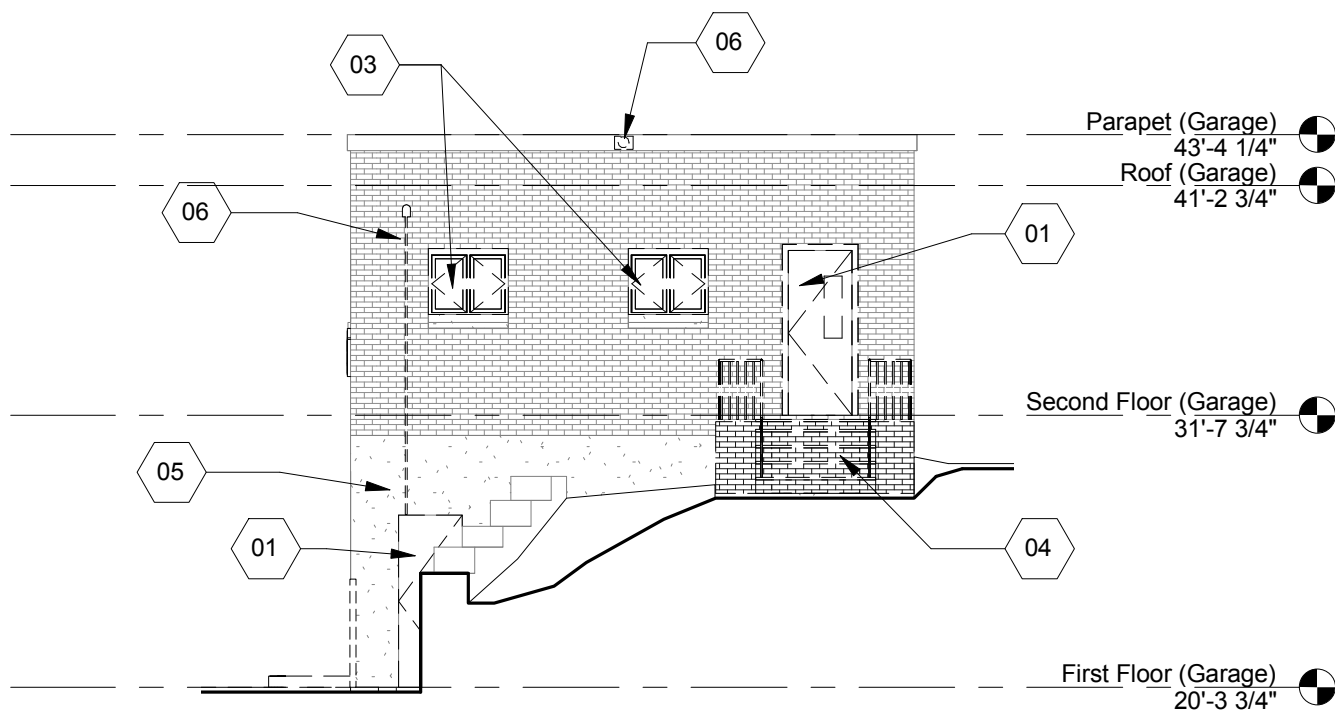
**DEMOLITION KEY NOTES:**

- 01 REMOVE EXISTING DOOR, JAMB ASSEMBLY AND ASSOCIATED BLOCKING TO ROUGH MASONRY OPENING  
02 REMOVE THRU-WALL A/C UNIT AND REPAIR WALL WITH MASONRY TO MATCH EXISTING  
03 REMOVE EXISTING WINDOW ASSEMBLY TO MASONRY ROUGH OPENING. PRECAST SILL TO REMAIN.

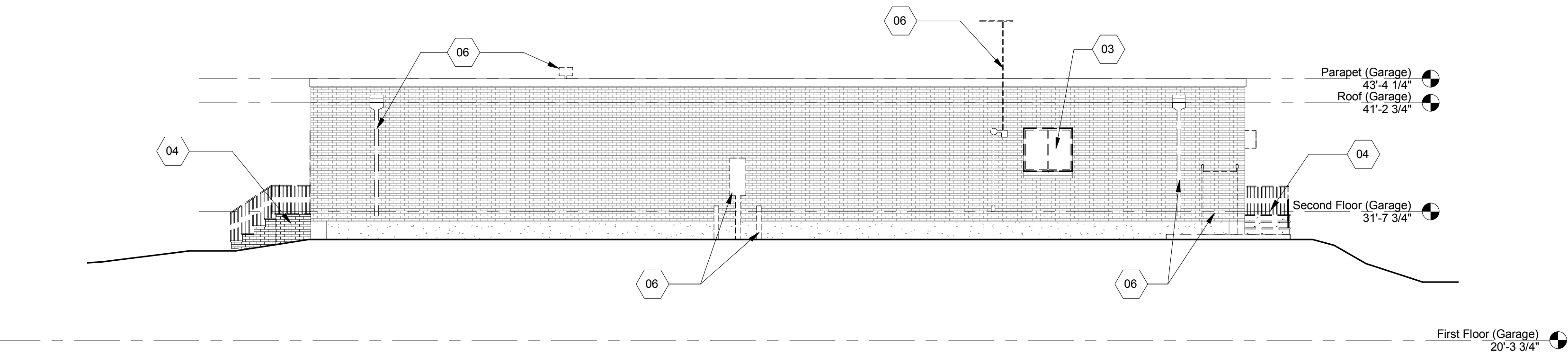
- 04 REMOVE EXISTING EXTERIOR STAIR ASSEMBLY  
05 REPAIR CONCRETE AND REINFORCING WHERE DETERIORATION OR CRACKING VISIBLE  
06 REMOVE EQUIPMENT OR STURCTURE MOUNTED ON EXTERIOR WALL. REPAIR ANY PENETRATIONS



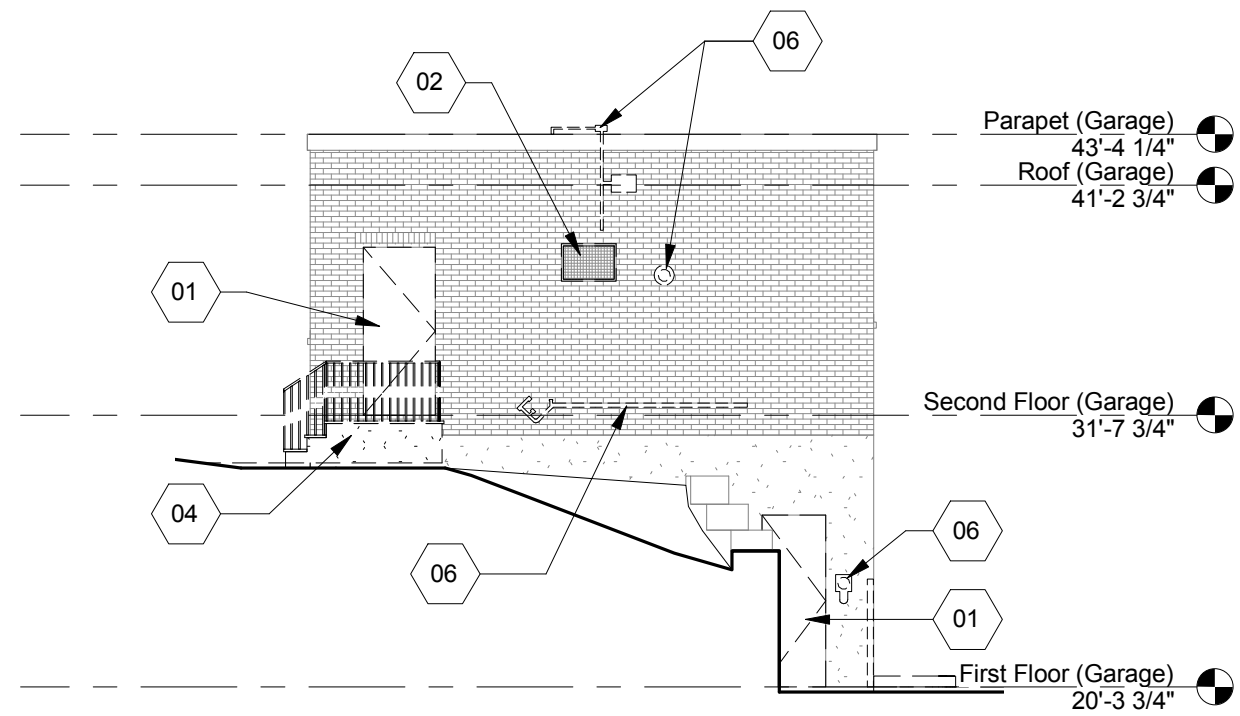
4 Demo North Elevation (Garage)  
1/8" = 1'-0"



3 Demo West Elevation (Garage)  
1/8" = 1'-0"



2 Demo South Elevation (Garage)  
1/8" = 1'-0"



1 Demo East Elevation (Garage)  
1/8" = 1'-0"

Fall 2014 DHCD Resubmission

Issue Description Date

Scale:  
As indicated  
Drawn By: Author  
Checked By: Checker  
Reviewed By:

Project No. 2010080.00

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

### GARAGE BUILDING DEMO ELEVATIONS

# D3.03



<b>Client</b> Somerville Housing Authority	Tel: 617-625-1125
<b>MEP/FP Engineer</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Structural Engineer</b> L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
<b>Civil Engineer</b> Nitsch Engineering	Tel: 617-338-0063 Fax: 617-338-6472
<b>Landscape Consultant</b> Copley Wolff Design Group	Tel: 617-654-9000 Fax: 617-654-9002
<b>Code Consultant</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Cost Estimator</b> VJ Associates	Tel: 781-444-8200 Fax: 781-444-8242
<b>Historical Consultant</b> MacRostie Historic Advisors	Tel: 617-499-4009 Fax: 617-499-4019


Fall 2014 DHCD Resubmission	
Comprehensive Permit Submission	Sept. 16, 2011
<b>Issue Description</b>	<b>Date</b>

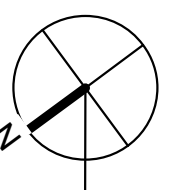
Scale:  
1/8" = 1'-0"  
Drawn By: Author  
Checked By: Checker  
Reviewed By:

Project No. 2010080.00

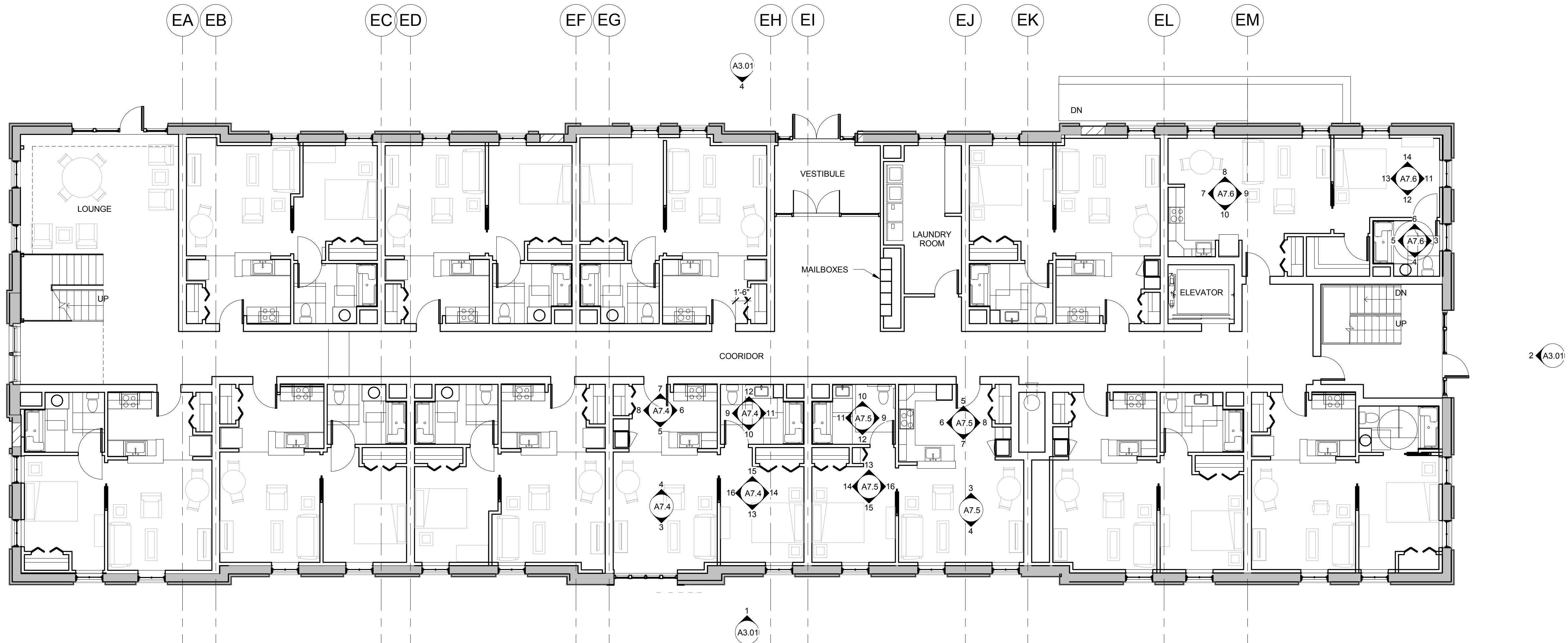
## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

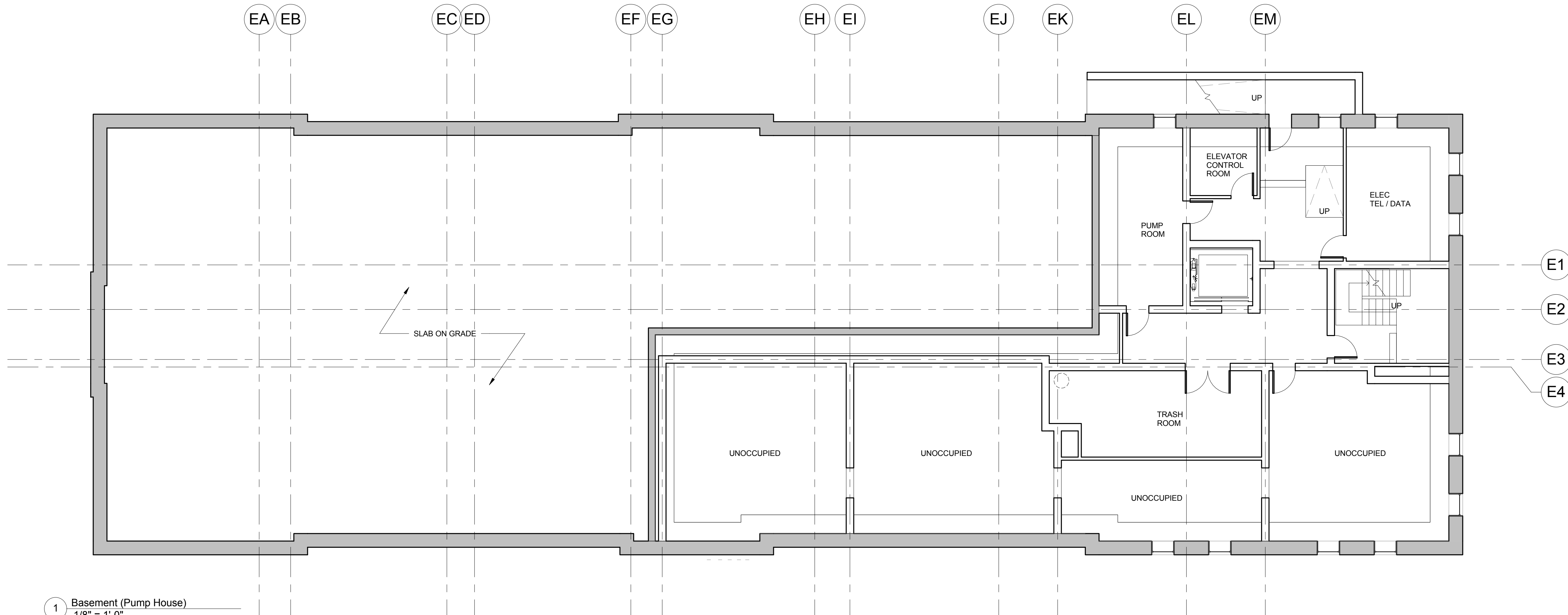
### BASEMENT & FIRST FLOOR PLAN - PUMP HOUSE BUILDING



# A1.00

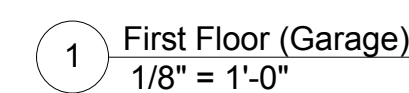
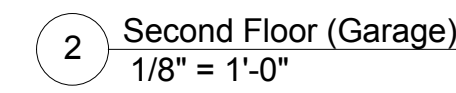
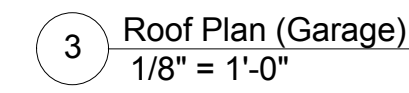


2 First Floor (Pump House)  
1/8" = 1'-0"



1 Basement (Pump House)  
1/8" = 1'-0"

**Historical Consultant** Tel: 617-499-4009  
MacRostie Historic Advisors Fax: 617-499-4019



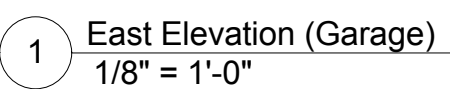
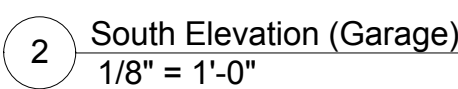
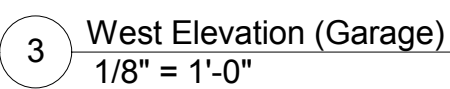
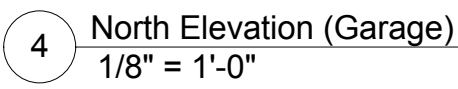
Issue Description	Date
-------------------	------

Project No. 2010080.00

Capen St.  
Somerville, MA 02144



**Historical Consultant** Tel: 617-499-4009  
MacRostie Historic Advisors Fax: 617-499-4019



Fall 2014 DHCD Resubmission

Issue Description		Date
<b>Scale:</b> $1/8" = 1'-0"$		
<b>Drawn By:</b> Author	<b>Checked By:</b> Checker	<b>Reviewed By:</b>

**Project No. 2010080.00**

# Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

## EXTERIOR ELEVATIONS - GARAGE BUILDING





<b>Client</b> Somerville Housing Authority	Tel: 617-625-1125
<b>MEP/FP Engineer</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Structural Engineer</b> L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
<b>Civil Engineer</b> Nitsch Engineering	Tel: 617-338-0063 Fax: 617-338-6472
<b>Landscape Consultant</b> Copley Wolff Design Group	Tel: 617-654-9000 Fax: 617-654-9002
<b>Code Consultant</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Cost Estimator</b> VJ Associates	Tel: 781-444-8200 Fax: 781-444-8242
<b>Historical Consultant</b> MacRostie Historic Advisors	Tel: 617-499-4009 Fax: 617-499-4019

Fall 2014 DHCD Resubmission	
Comprehensive Permit Submission	Nov. 18, 2011
<b>Issue Description</b>	<b>Date</b>

<b>Scale:</b>		
<b>Drawn By:</b> Author	<b>Checked By:</b> Checker	<b>Reviewed By:</b>

**Project No. 2010080.00**

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

PERSPECTIVE VIEWS

**A3.04**





<b>Client</b> Somerville Housing Authority	Tel: 617-625-1125
<b>MEP/FP Engineer</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Structural Engineer</b> L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
<b>Civil Engineer</b> Nitsch Engineering	Tel: 617-338-0063 Fax: 617-338-6472
<b>Landscape Consultant</b> Copley Wolff Design Group	Tel: 617-654-9000 Fax: 617-654-9002
<b>Code Consultant</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Cost Estimator</b> VJ Associates	Tel: 781-444-8200 Fax: 781-444-8242
<b>Historical Consultant</b> MacRostie Historic Advisors	Tel: 617-499-4009 Fax: 617-499-4019

Fall 2014 DHCD Resubmission	
Comprehensive Permit Submission	Nov. 18, 2011
<b>Issue Description</b>	<b>Date</b>

<b>Scale:</b>		
<b>Drawn By:</b> Author	<b>Checked By:</b> Checker	<b>Reviewed By:</b>

**Project No. 2010080.00**

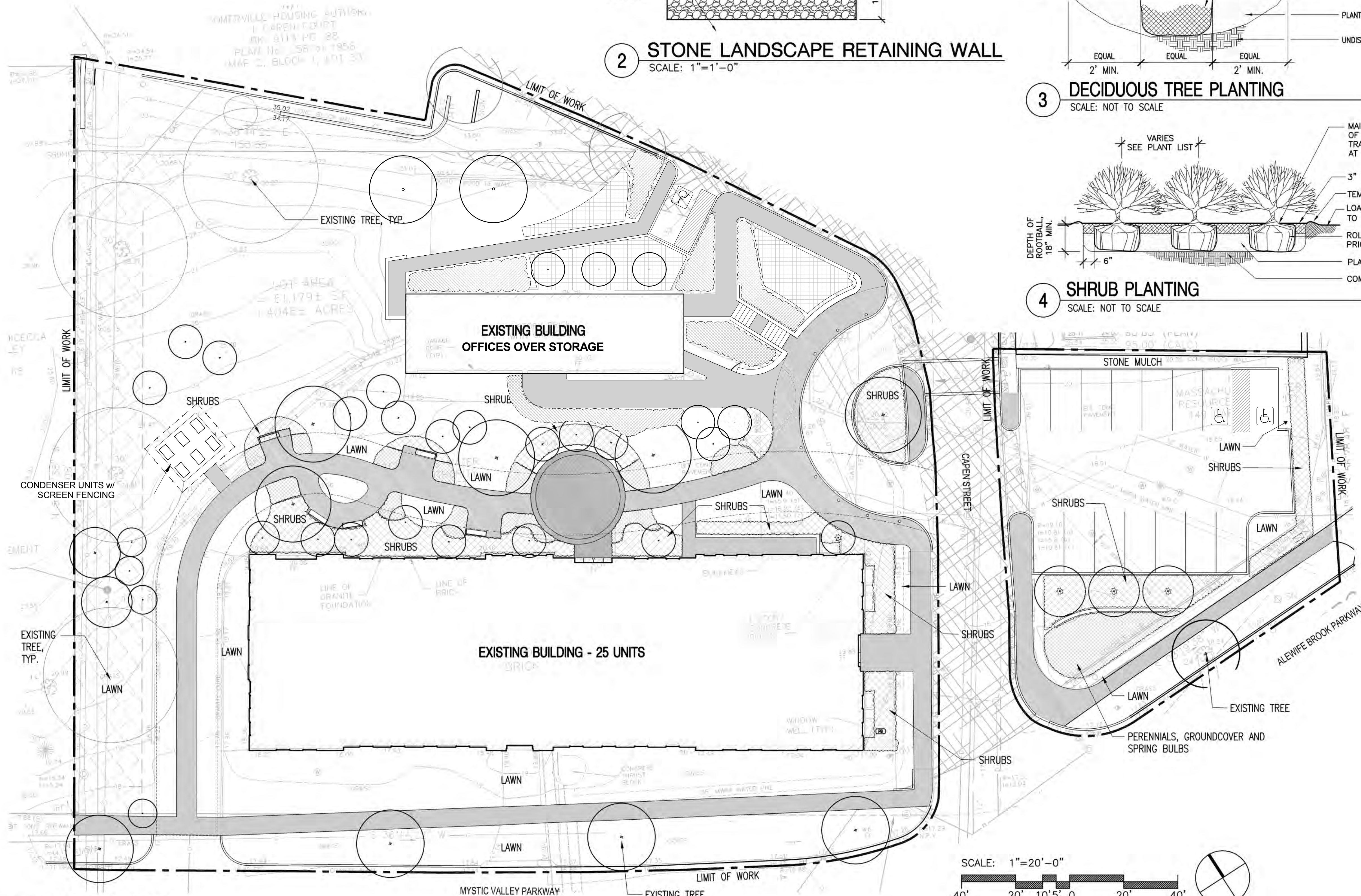
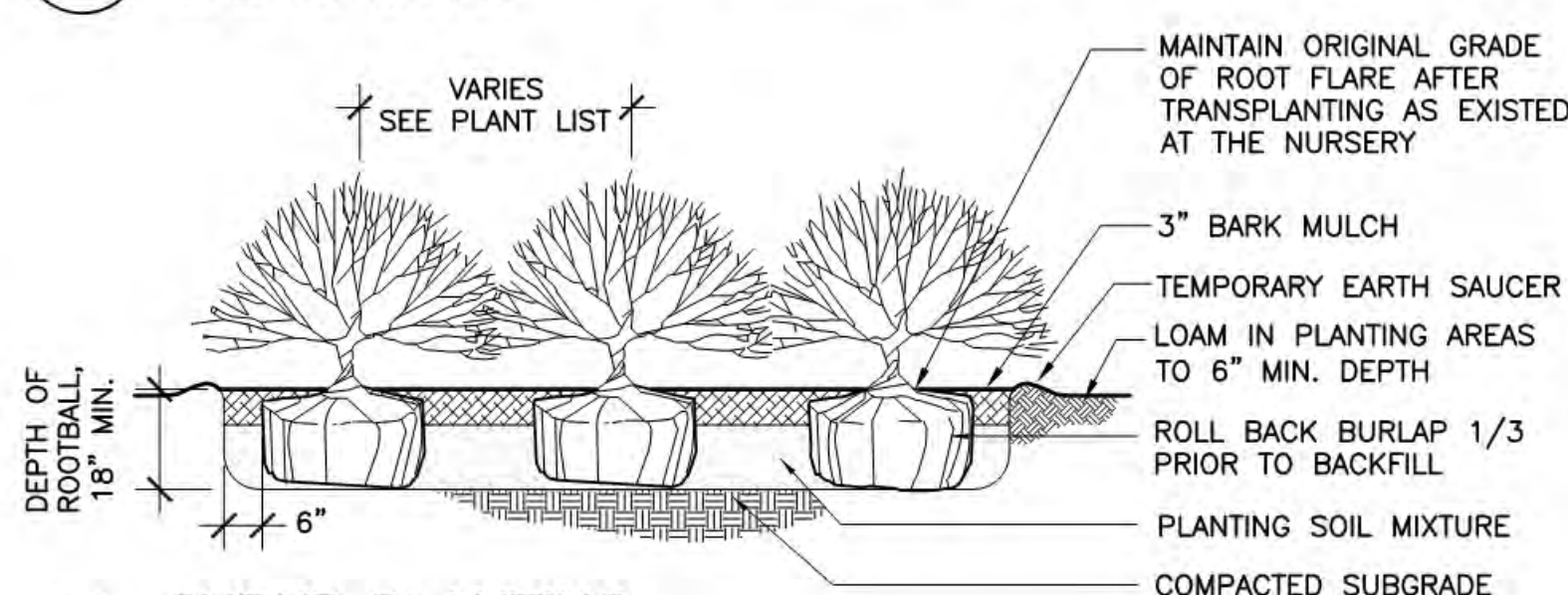
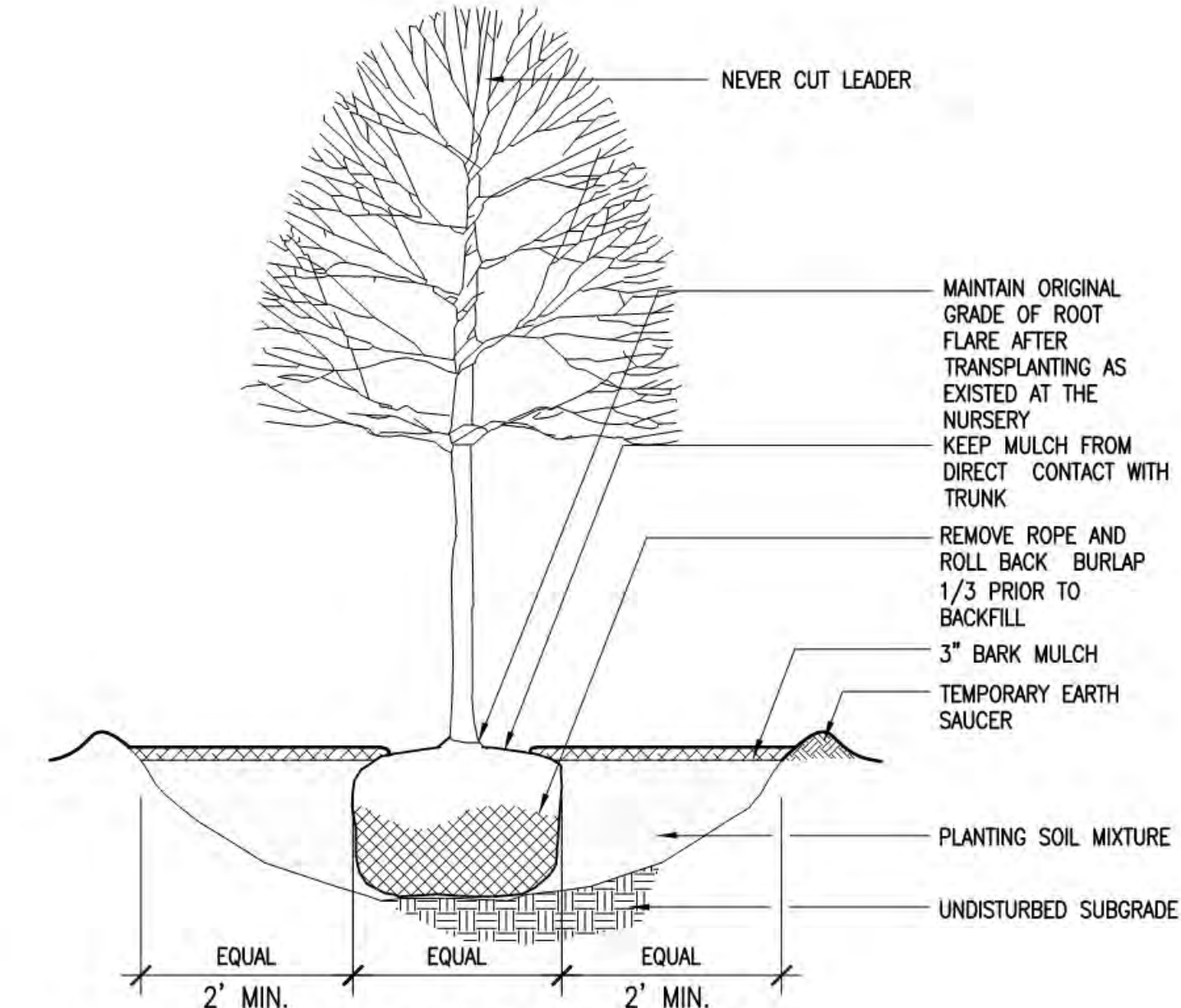
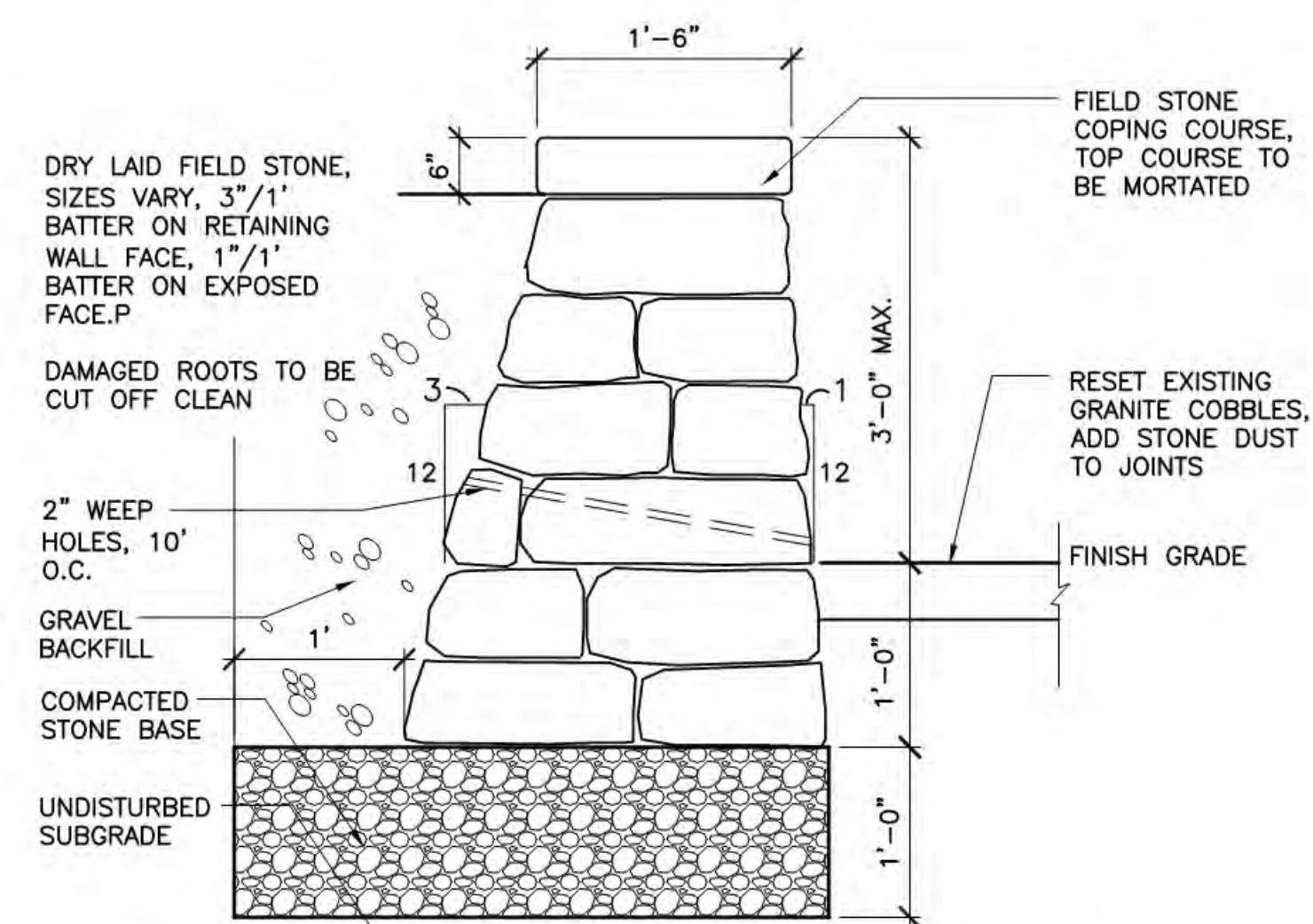
## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

PERSPECTIVE VIEWS

**A3.05**

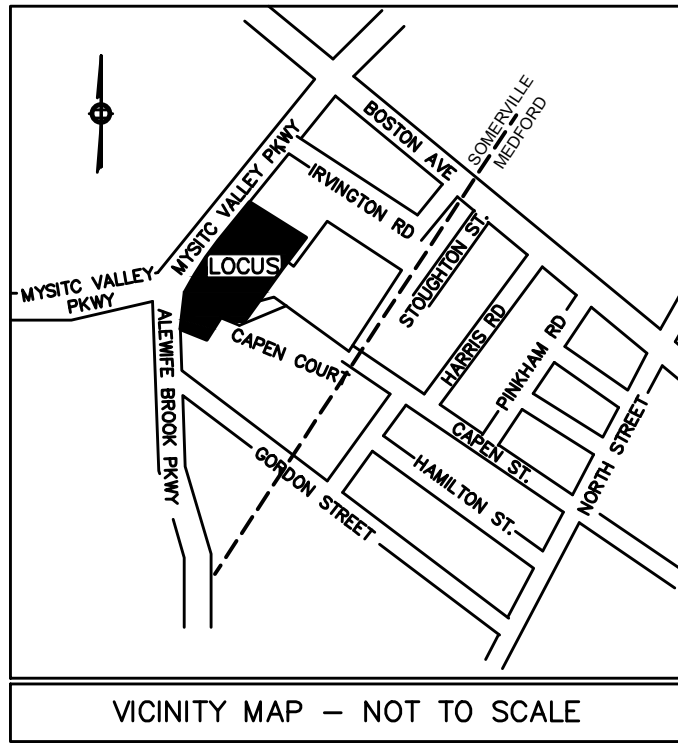
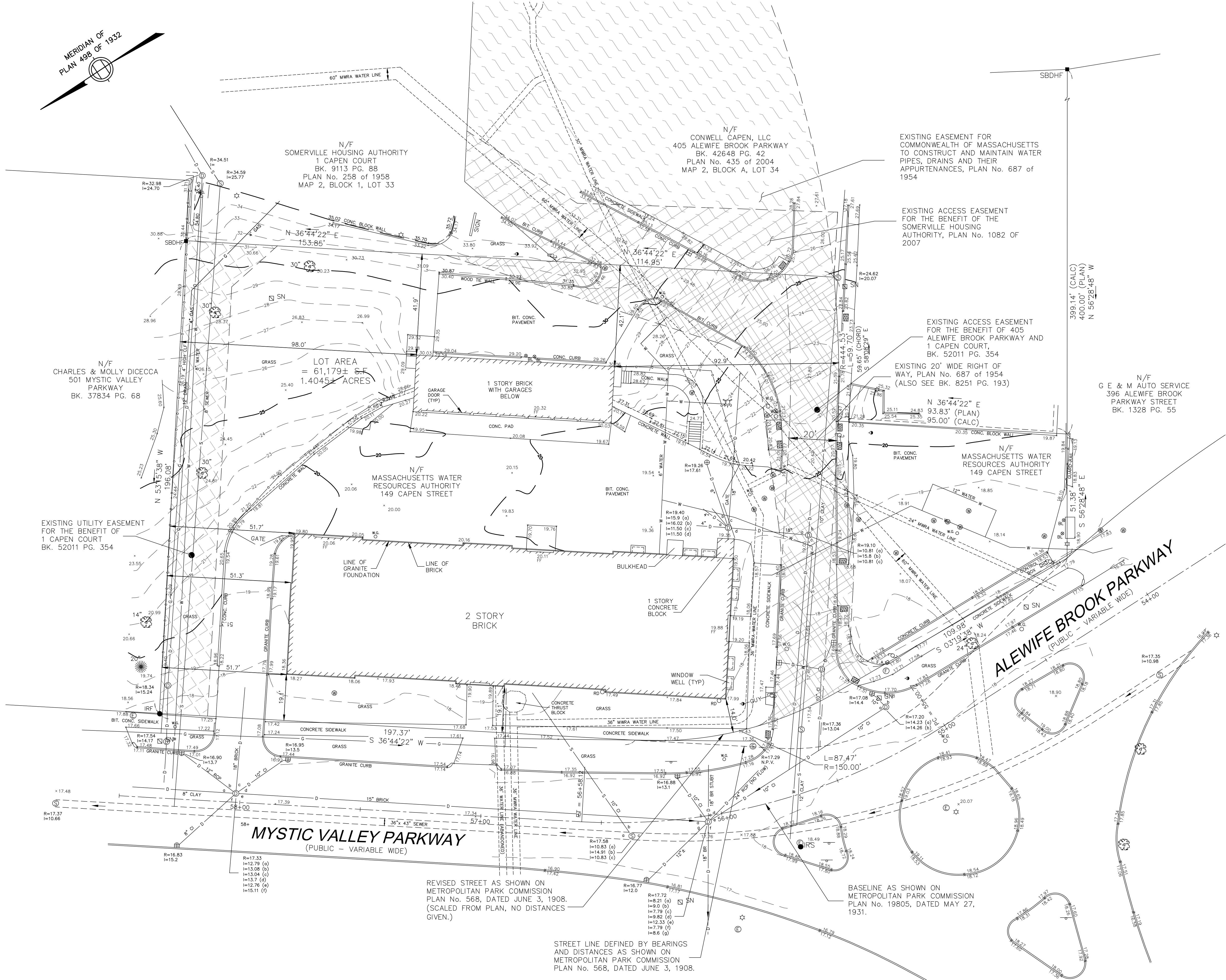




**Historical Consultant** Tel: 617-499-400  
MacRostie Historic Advisors Fax: 617-499-401

**L3.00**





LEGEND	
—○—	CHAIN LINK FENCE
—S—	SANITARY SEWER
—CS—	COMBINED SEWER & DRAIN
—D—	DRAIN LINE
—W—	WATER LINE
—E—	ELECTRIC LINE
—G—	GAS LINE
⊙	SANITARY SEWER MANHOLE
⊙	DRAIN MANHOLE
⊙	UNKNOWN MANHOLE
⊙	ELECTRIC MANHOLE
☆	LIGHT POLE
⊙	FIRE HYDRANT
⊙	UTILITY POLE
⊙	GUY WIRE
⊙	WATER GATE
⊙	GAS GATE
⊙	DECIDUOUS TREE
⊙	CONIFEROUS TREE
⊙	DETECTABLE WARNING PANEL
⊙	SPOT ELEVATION

**NOTES**

LOCATION OF UTILITIES SHOWN HEREON ARE THE RESULT OF SURFACE EVIDENCE AS LOCATED BY FIELD SURVEY, PLANS OF RECORD, INFORMATION FURNISHED BY THE RESPECTIVE UTILITY COMPANIES, AND OTHER AVAILABLE SOURCES IN POSSESSION OF DESIGN CONSULTANTS INC. AS OF THIS DATE. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME WITHIN THE PREMISES SURVEYED.

THIS PLAN IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY TO DEPICT THE PROPERTY LINES AND THE EXISTING CONDITIONS FOR DESIGN PURPOSES, AND WAS PERFORMED BETWEEN FEBRUARY 7, 2008 AND JUNE 22, 2011, BY DESIGN CONSULTANTS, INC. (DCI).

THE CITY OF SOMERVILLE MUNICIPAL UTILITIES (WATER, SEWER & DRAIN) ARE NOT PART OF DIG-SAFE. CONTACT THE CITY OF SOMERVILLE FOR THE MARKING OF SOMERVILLE MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.

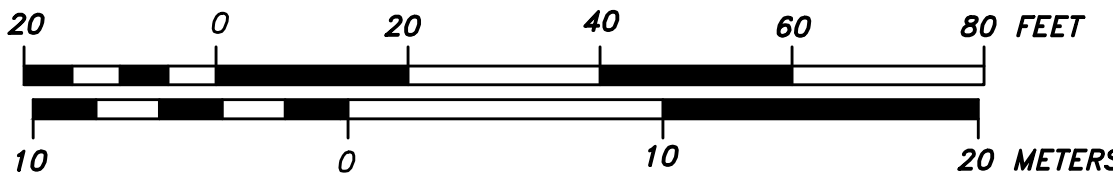
OWNERSHIP INFORMATION USED IN THE PREPARATION OF THIS PLAN WAS OBTAINED FROM THE CITY OF SOMERVILLE ASSESSOR'S OFFICE.

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THIS PLAN CONFORMS TO THE TECHNICAL AND PROCEDURAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

P.L.S. EVERETT J. CHANDLER, P.L.S. MASS. REGISTRATION NO. 41783

DATE:

LOCUS TITLE INFORMATION			
OWNER:	COMMONWEALTH OF MASSACHUSETTS		
DEED REFERENCE:			
PLAN REFERENCE:	PLAN No. 258 of 1958		
ADDRESS:	149 CAPEN STREET		
ASSESSORS:	MAP 2, BLOCK A, LOT 31		



REV	DATE	BY	COMMENT
2	10-24-11	ML	Added Building Offsets to Property Lines
1	6-24-11	ML	Added Utility Inverts and Road Baseline



281 Summer Street  
Boston, MA 022  
Tel 617.426.5004  
Fax 617.426.0046

**Client**  
Somerville Housing Authority  
Tel: 617-625-1125

**MEP/FP Engineer**  
R.W. Sullivan Engineering  
Tel: 617-523-8227  
Fax: 617-523-8016

**Structural Engineer**  
L.A. Fuess Partners  
Tel: 617-948-5700  
Fax: 617-948-5710

**Civil Engineer**  
Nitsch Engineering  
Tel: 617-338-0063  
Fax: 617-338-6472

**Landscape Consultant**  
Copley Wolff Design Group  
Tel: 617-654-9000  
Fax: 617-654-9002

**Code Consultant**  
R.W. Sullivan Engineering  
Tel: 617-523-8227  
Fax: 617-523-8016

**Cost Estimator**  
VJ Associates  
Tel: 781-444-8200  
Fax: 781-444-8242

**Historical Consultant**  
MacRostie Historic Advisors  
Tel: 617-499-4009  
Fax: 617-499-4019

## Project Status

Revision 2	Sept. 3, 2014
Revision 1	Jan. 6, 2014
Comprehensive Permit Set	Sept. 16, 2011
Issue Description	Date
Scale: 1"=20'	March 5, 2011

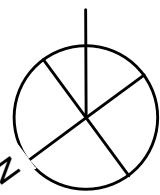
Drawn By: Checked By: Reviewed By:

Project No. 2010080.00

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

## EXISTING CONDITIONS PLAN

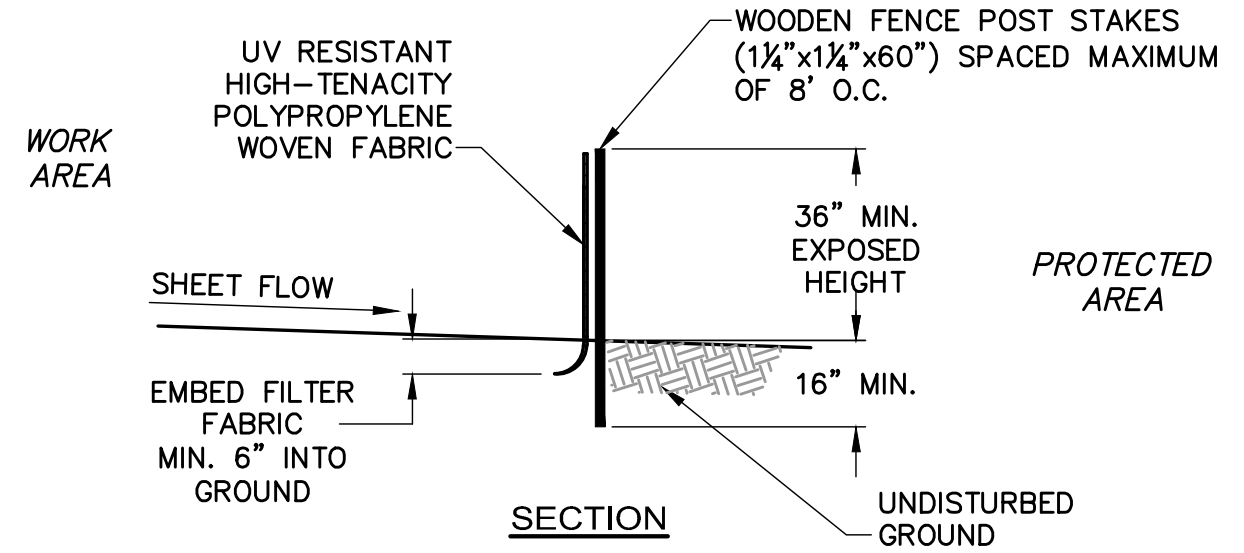
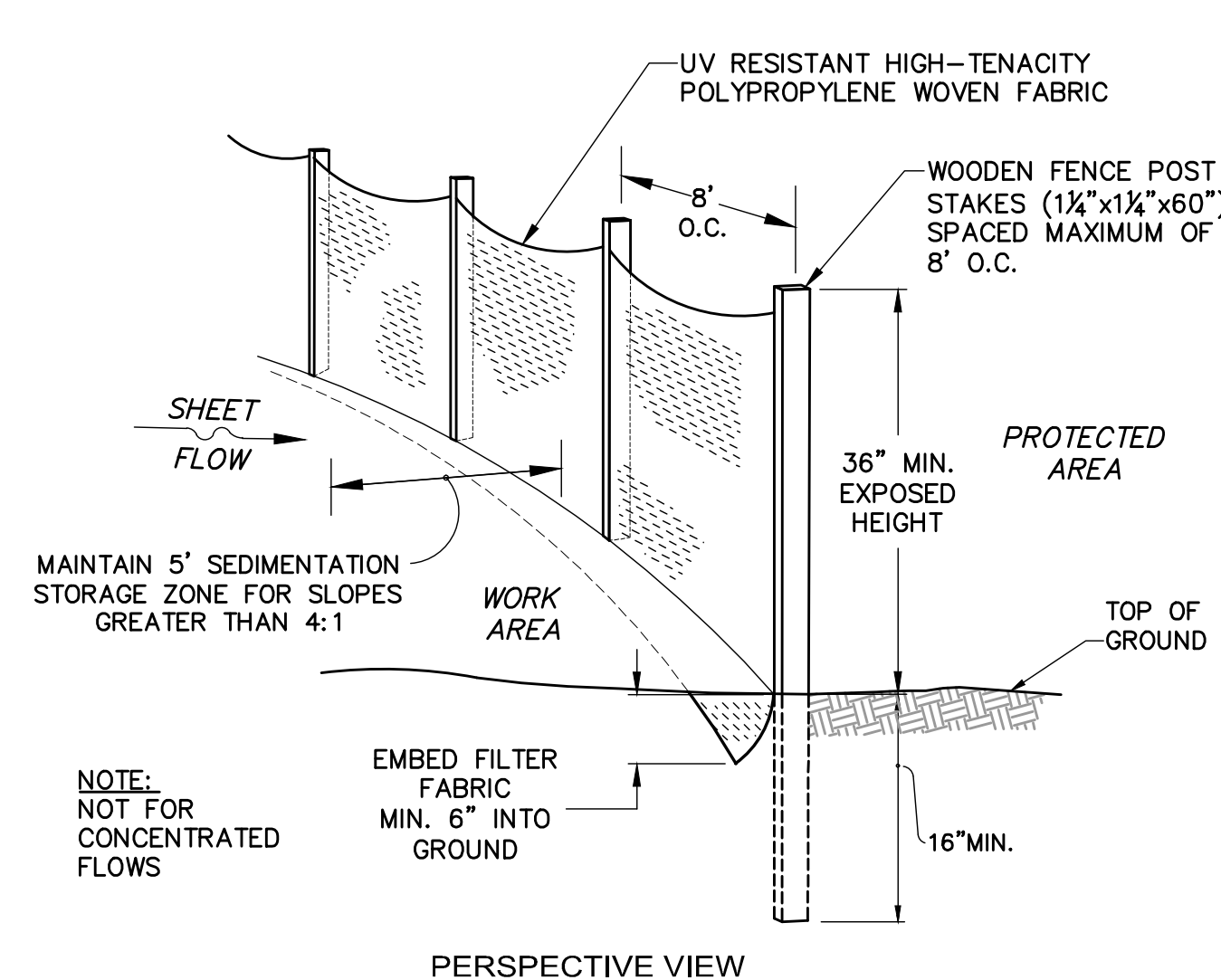


# C100

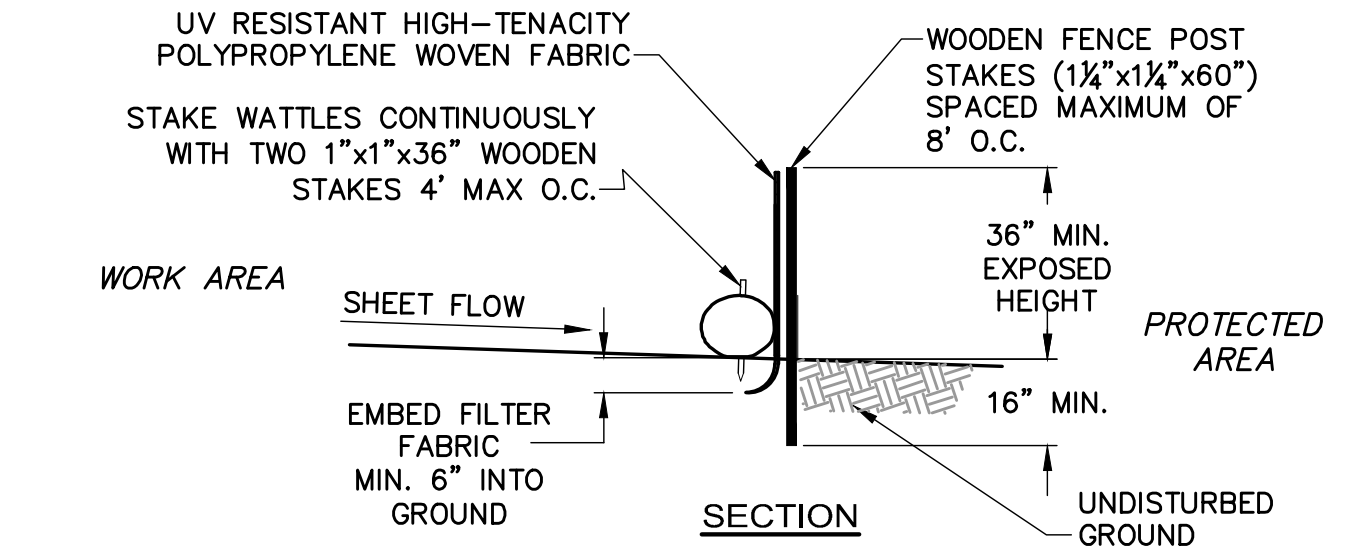
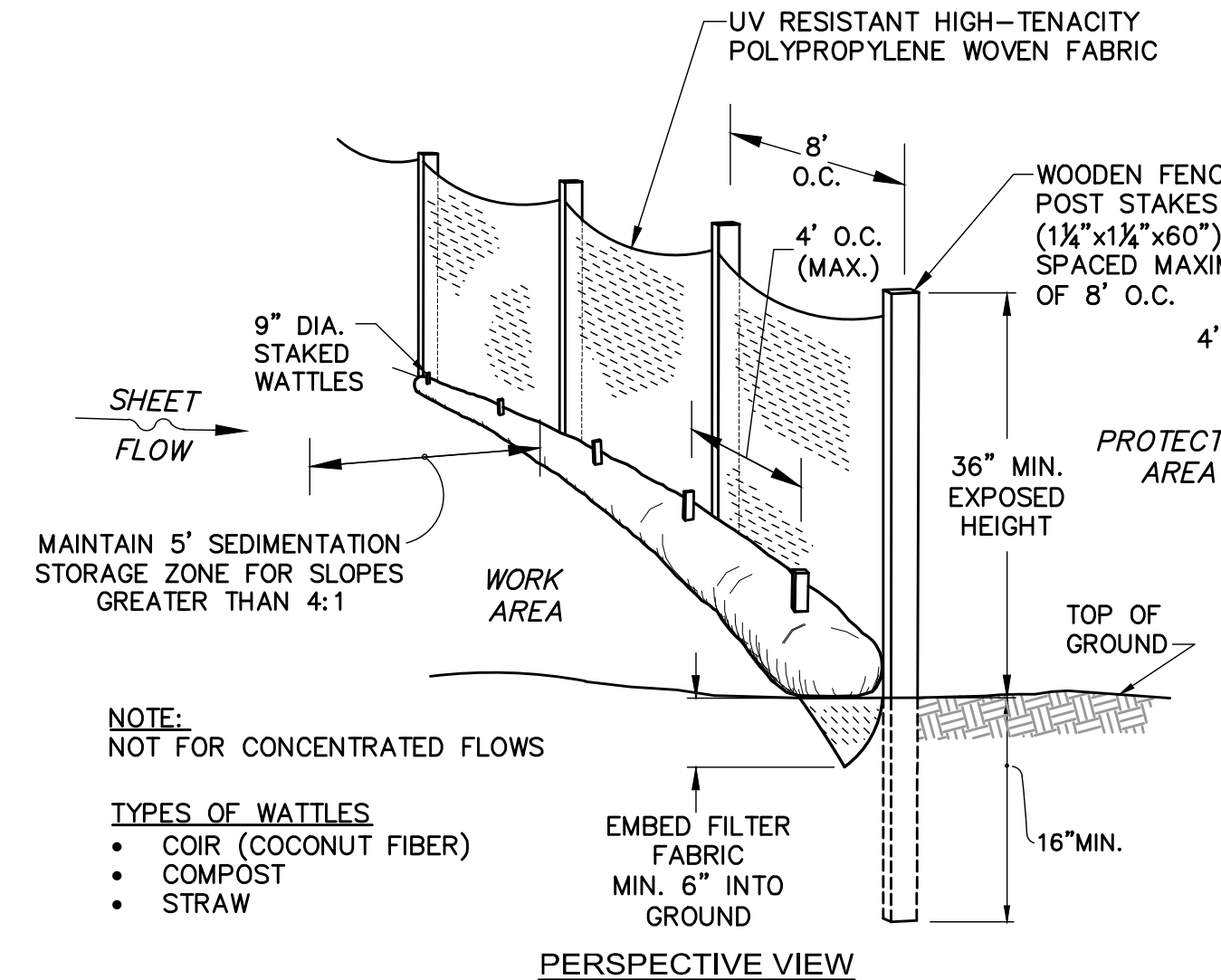




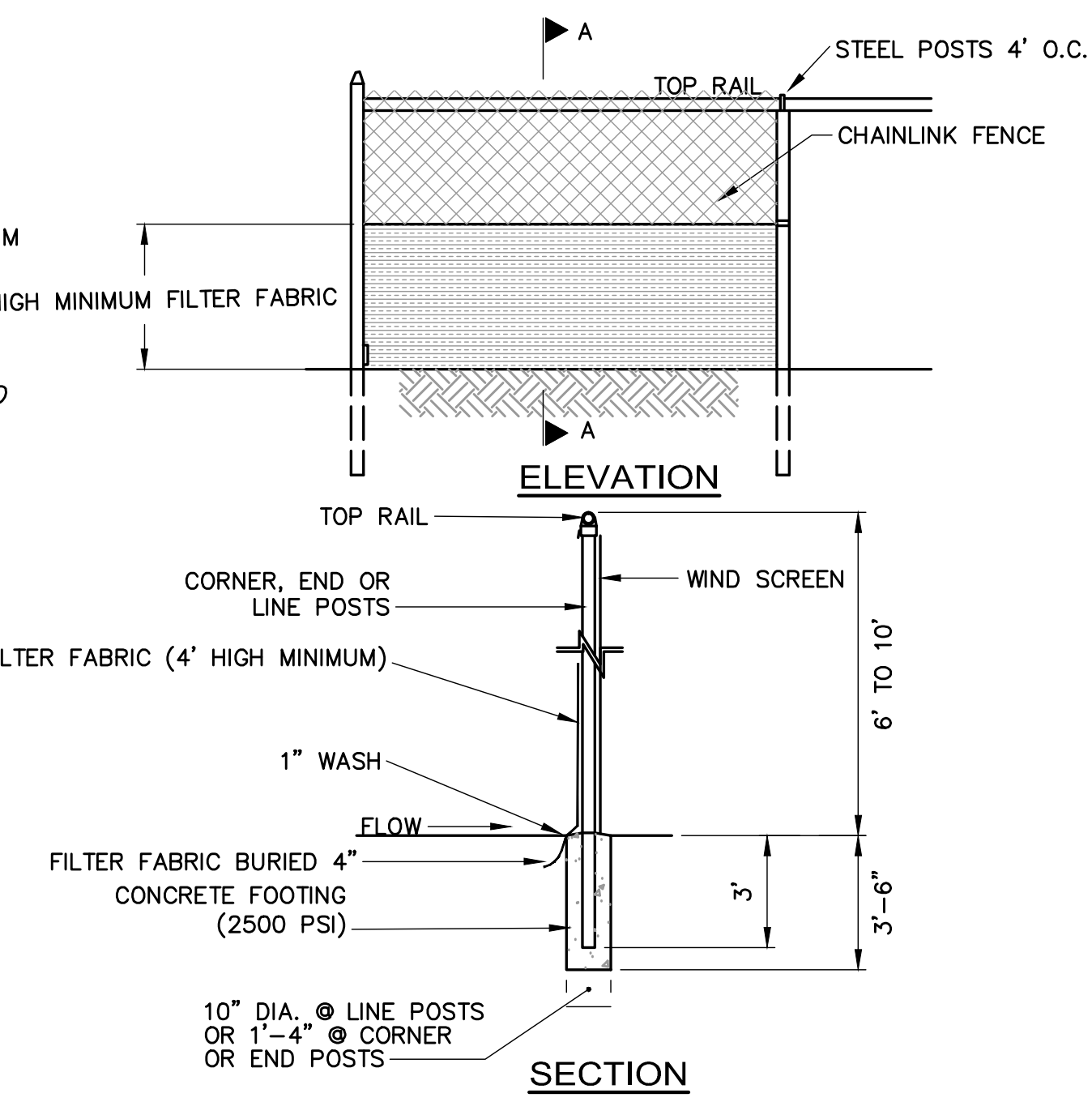




PERIMETER PROTECTION BARRIER (A)  
SILT FENCE DETAIL  
NOT TO SCALE

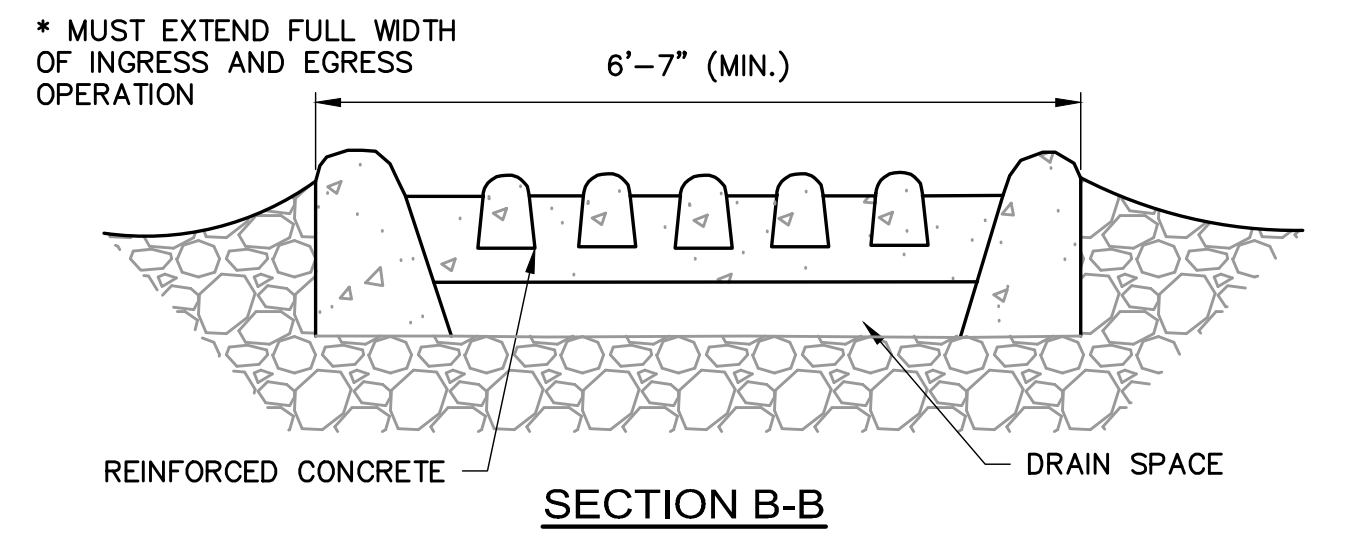
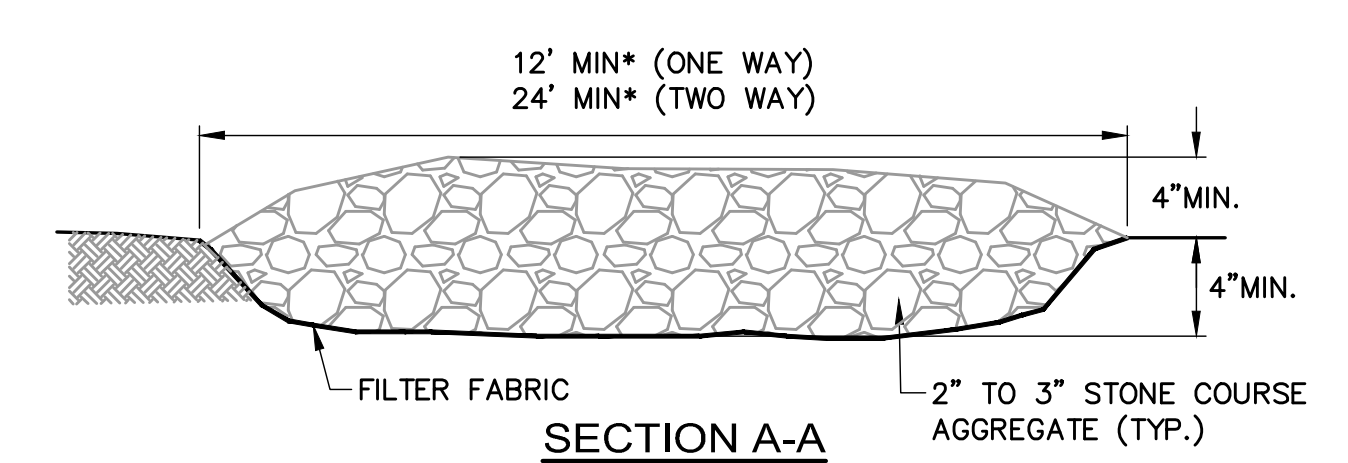
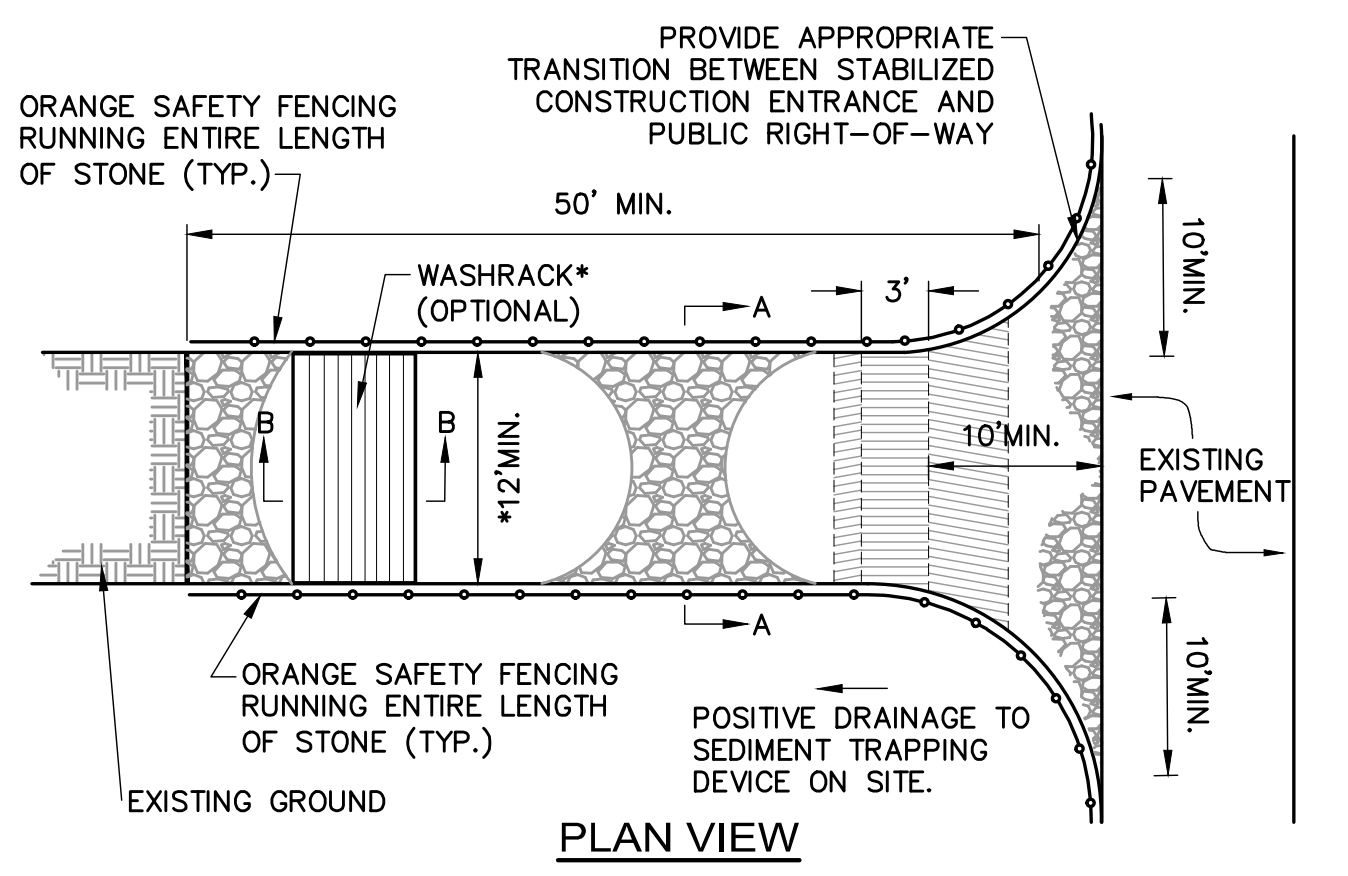
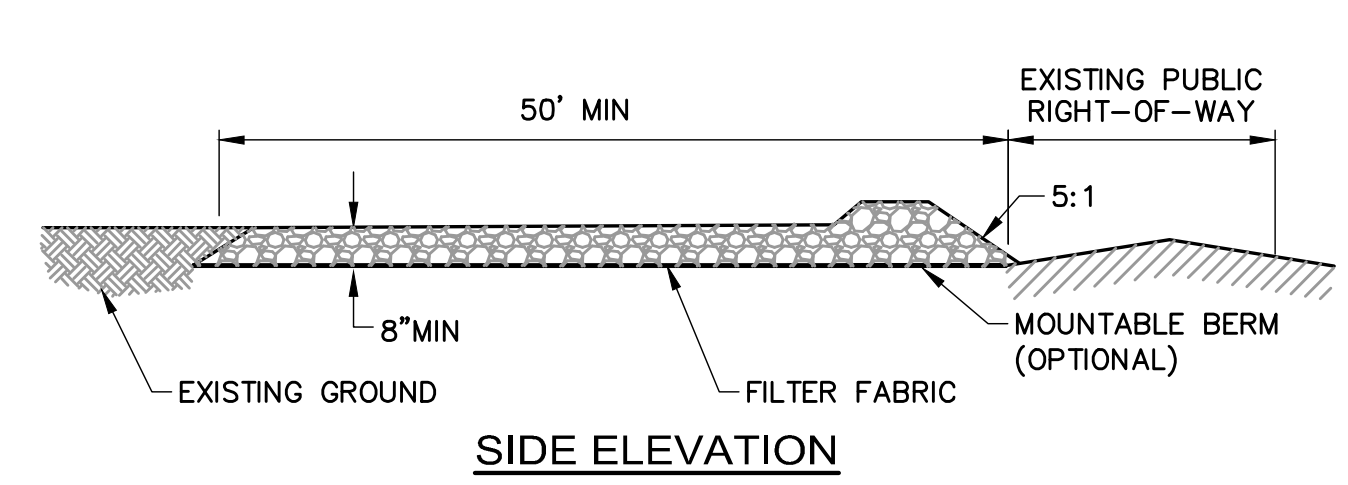


PERIMETER PROTECTION BARRIER (B)  
SILT FENCE DETAIL WITH STRAW BALE  
NOT TO SCALE



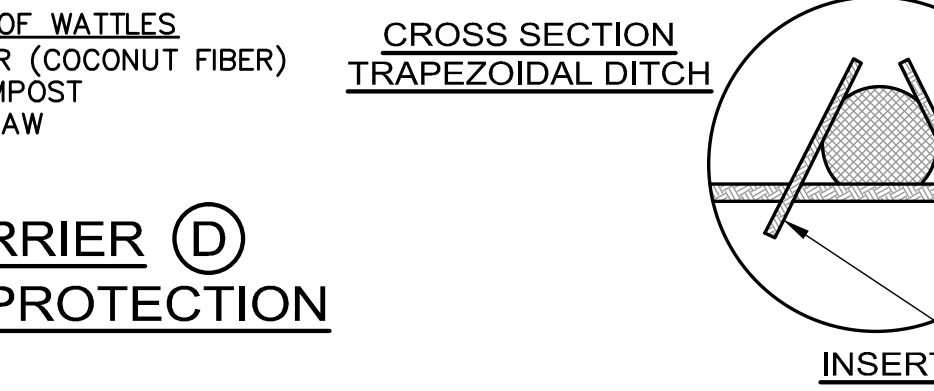
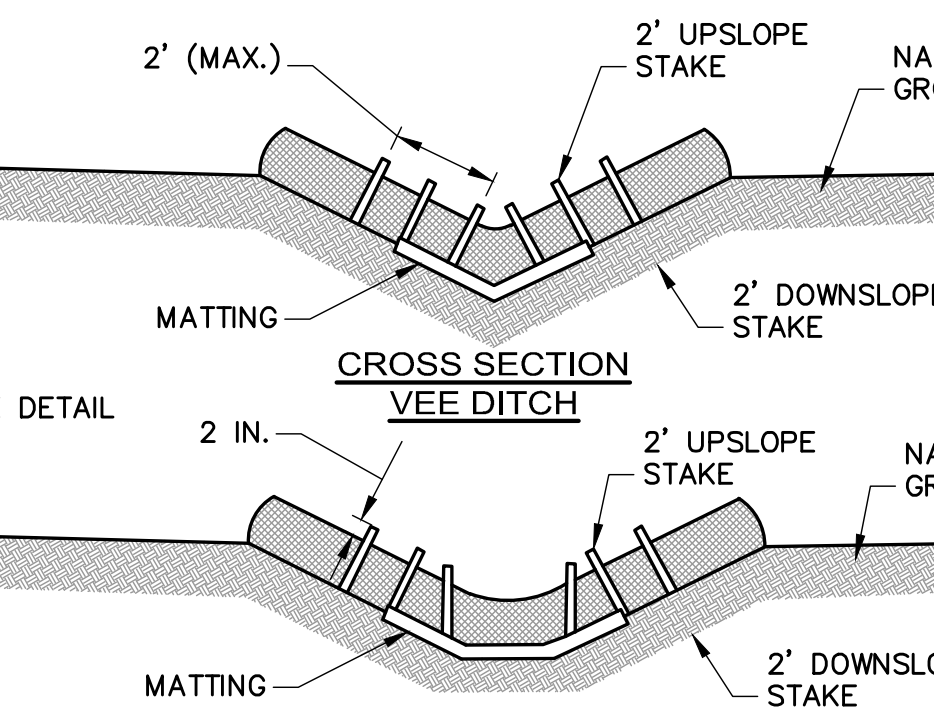
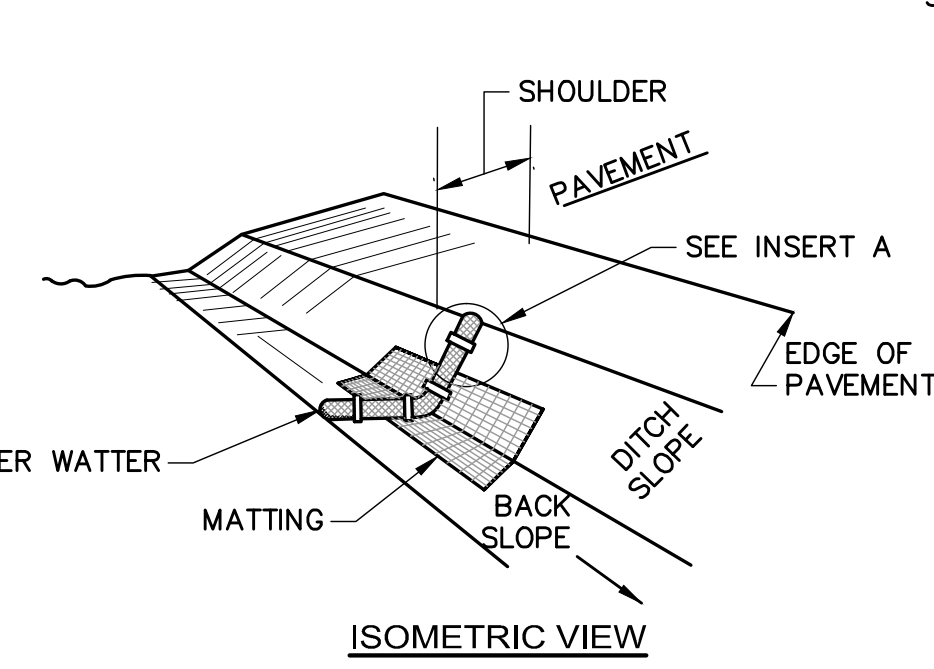
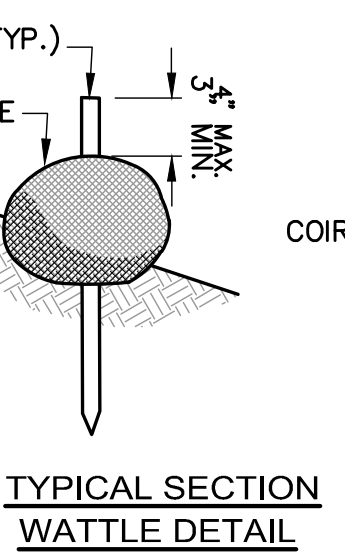
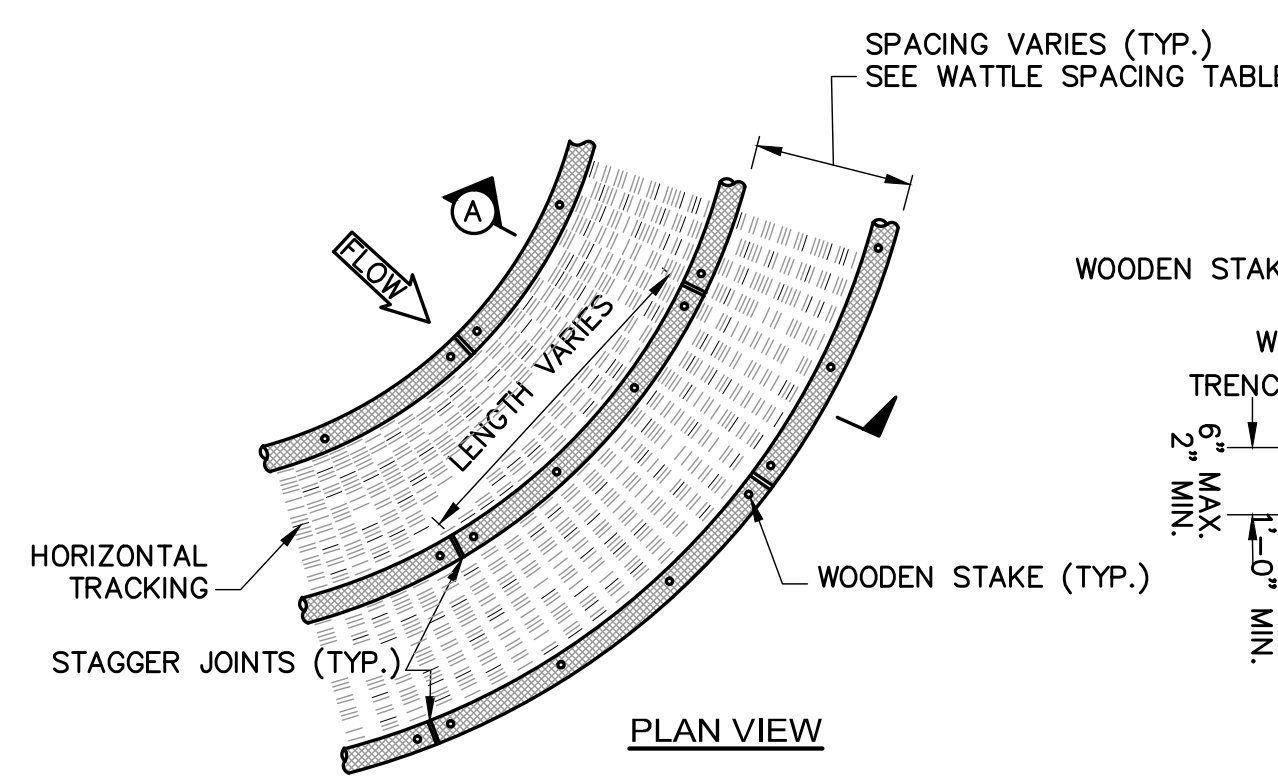
- CHAINLINK FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES.
- FILTER FABRIC SHALL BE FASTENED SECURELY TO CHAINLINK FENCE WITH TIES SPACED HORIZONTALLY 24" AS THE TOP AND MIDSECTION.
- WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6"
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 50% OF THE HEIGHT OF THE FILTER FABRIC.
- MAINTENANCE OF SILT FENCE SHALL BE RECORDED TO IN THE SWPPP

EROSION CONTROL BARRIER (C)  
SUPER SILT FENCE  
NOT TO SCALE



- CONSTRUCTION SPECIFICATIONS
- STONE SIZE - USE 2" TO 3" STONE.
  - LENGTH - GREATER THAN OR EQUAL TO 50 FEET
  - THICKNESS - 8"
  - WIDTH - TWELVE FOOT MINIMUM (ONE WAY), TWENTY FOUR FOOT MINIMUM (TWO WAY), BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
  - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE PERMITTED.
  - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

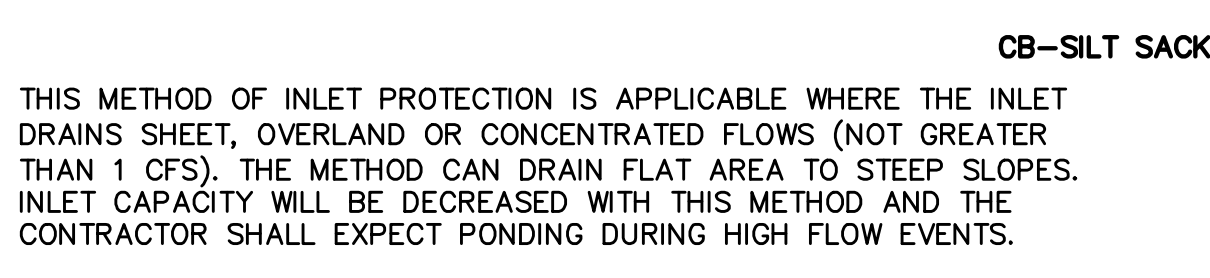
STABILIZED CONSTRUCTION ENTRANCE  
NOT TO SCALE



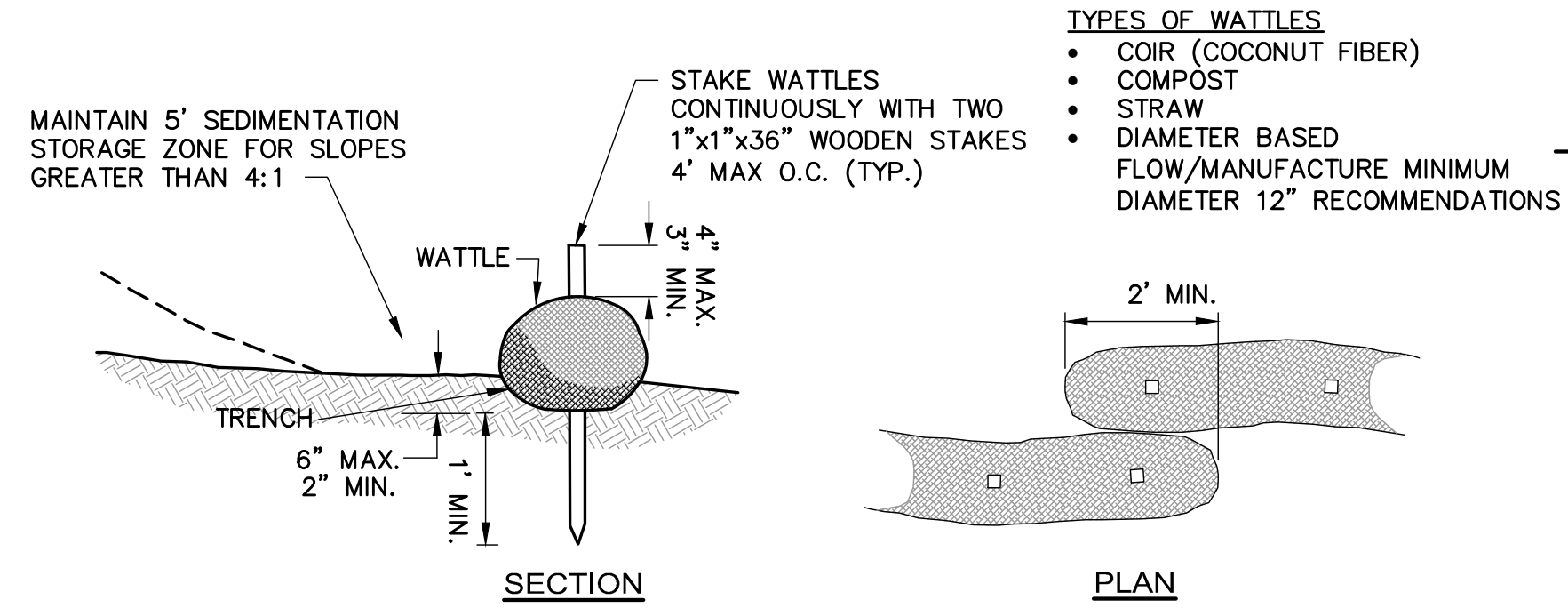
WATTLE SPACING TABLE	
SLOPE	MAX. SPACING
1:1	10'-0"
2:1	20'-0"
3:1	30'-0"
4:1	40'-0"

- WATTLE SLOPE PROTECTION NOTES:
- SECURELY KNOT EACH END OF WATTLE. ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
  - PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE
  - WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

EROSION CONTROL BARRIER (D)  
WATTLES - STEEP SLOPE PROTECTION  
NOT TO SCALE



INLET PROTECTION  
CATCH BASIN W/ SILTATION SACK  
NOT TO SCALE



WATTLES - SLOPE PROTECTION FOR  
SLOPES LESS THAN 10:1  
NOT TO SCALE

Client	Somerville Housing Authority	Tel: 617-625-1125
MEP/FP Engineer	R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
Structural Engineer	L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
Civil Engineer	Nitsch Engineering	Tel: 617-338-0063 Fax: 617-338-6472
Landscape Consultant	Copley Wolff Design Group	Tel: 617-654-9000 Fax: 617-654-9002
Code Consultant	R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
Cost Estimator	VJ Associates	Tel: 781-444-8200 Fax: 781-444-8242
Historical Consultant	MacRostie Historic Advisors	Tel: 617-499-4009 Fax: 617-499-4019

Project Status	

Revision 2	Sept. 3, 2014
Revision 1	Jan. 6, 2014
Comprehensive Permit Set	Sept. 20, 2011
Issue Description	Date

Scale: NOT TO SCALE

Drawn By: OMW  
Checked By: DMC  
Reviewed By:      

Project No. 2010080.00

## Mystic Water Works at Capen Court

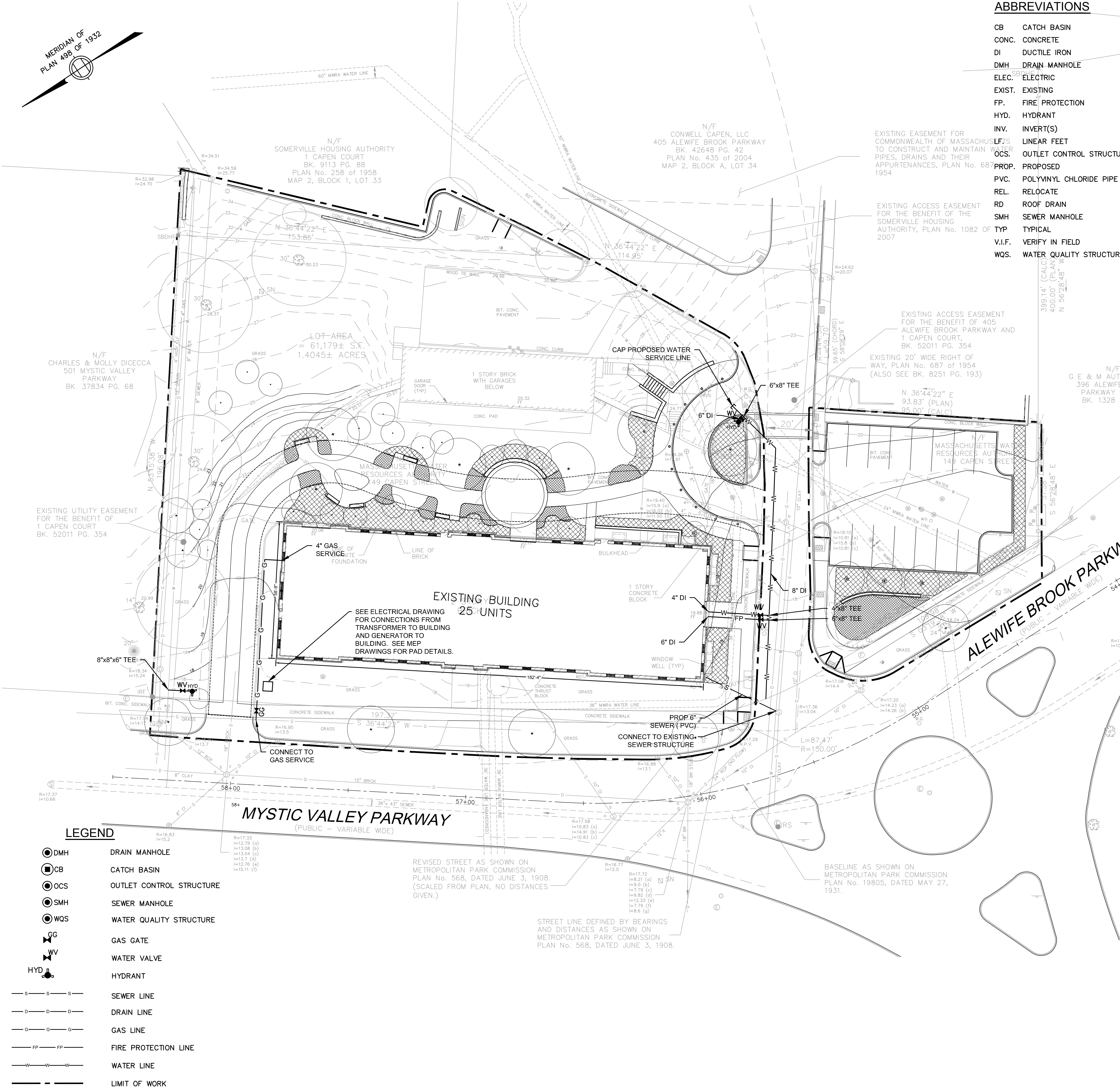
Capen St.  
Somerville, MA 02144

## EROSION AND SEDIMENTATION CONTROL DETAILS









ABBREVIATIONS

CB	CATCH BASIN
CONC.	CONCRETE
DI	DUCTILE IRON
DMH	DRAIN MANHOLE
ELEC.	ELECTRIC
EXIST.	EXISTING
FP.	FIRE PROTECTION
HYD.	HYDRANT
INV.	INVERT(S)
LF.	LINEAR FEET
OCS.	OUTLET CONTROL STRUCTURE
PROP.	PROPOSED
PVC.	POLYVINYL CHLORIDE PIPE
REL.	RELOCATE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
TYP	TYPICAL
V.I.F.	VERIFY IN FIELD
WQS.	WATER QUALITY STRUCTURE

GENERAL NOTES

- TOPOGRAPHIC DATA, PROPERTY LINE INFORMATION, AND EXISTING SITE FEATURES WERE OBTAINED FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN", PREPARED BY DESIGN CONSULTANTS, INC. DATED SEPTEMBER, 2011
- THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY UTILITY CONNECTIONS OR CROSSINGS OF PROPOSED UTILITIES AND EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO NITSCH ENGINEERING.
- THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82, SECTION 40, AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, TO NATURAL GAS PIPELINE COMPANIES, AND MUNICIPAL UTILITY DEPARTMENTS THAT SUPPLY GAS, ELECTRICITY, TELEPHONE, OR CABLE TELEVISION SERVICE OR TO THE CITY OR TOWN WHERE THE EXCAVATION IS TO BE MADE. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE.
- THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, ALSO REFERRED TO AS JACKIE'S LAW, AS DETAILED IN SECTION 520 CMR 14.00 OF THE CODE OF MASSACHUSETTS REGULATIONS.
- ALL UTILITY CONNECTIONS ARE SUBJECT TO THE APPROVAL OF, AND GRANTING OF PERMITS BY, THE CITY OF SOMERVILLE. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO SEE THAT ALL PERMITS AND APPROVALS ARE OBTAINED BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAKING ALL NECESSARY ARRANGEMENTS FOR AND FOR PERFORMING ANY NECESSARY WORK INVOLVED IN CONNECTION WITH THE DISCONTINUANCE OF ANY UTILITIES OR WITHIN THE JURISDICTION OF ANY UTILITY COMPANIES, SUCH AS ELECTRICITY, TELEPHONE, WATER, GAS, AND ANY SYSTEM OR SYSTEMS WHICH WILL BE AFFECTED BY THE WORK TO BE PERFORMED UNDER THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES, DEPARTMENTS, AND UTILITY COMPANIES, IN WRITING, AT LEAST 48 HOURS AND NOT MORE THAN 30 DAYS PRIOR TO ANY CONSTRUCTION. CONSTRUCTION SHALL NOT INTERFERE WITH OR INTERRUPT UTILITIES WHICH ARE TO REMAIN IN OPERATION.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, REGULATIONS AND SAFETY CODES IN THE CONSTRUCTION OF ALL IMPROVEMENTS.
- THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, GRADING, SIDEWALKS AND SITE DETAILS OUTSIDE OF THE LIMITS OF REGRADING AND WORK AS SHOWN ON THE DRAWINGS AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AS DIRECTED BY THE ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE ANY SUCH OR OTHER DAMAGE SO CAUSED.
- THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL RUBBISH AND DEBRIS FOUND THEREON. STORAGE OF SUCH MATERIALS ON THE PROJECT SITE WILL NOT BE PERMITTED. THE CONTRACTOR SHALL LEAVE THE SITE IN SAFE, CLEAN, AND LEVEL CONDITION UPON COMPLETION OF THE SITE CLEARANCE WORK.
- THE CONTRACTOR SHALL REMOVE FROM THE AREA OF CONSTRUCTION PAVEMENT, CONCRETE, GRANITE CURBING, CEMENT CURBING, POLES AND FOUNDATIONS, ISLANDS, TREE BERMS AND OTHER FEATURES WITHIN THE LIMITS OF CONSTRUCTION AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WHETHER SPECIFIED ON THE DRAWINGS OR NOT.
- FOR SITE LAYOUT, GRADING, MATERIALS, PLANTINGS, AND GROUND COVER SEE LANDSCAPE ARCHITECT'S DRAWINGS.
- FOR STRUCTURAL DETAILS AND INFORMATION SEE STRUCTURAL DRAWINGS.
- ALL WATER, SEWER, AND DRAIN WORK SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS AND STANDARD SPECIFICATIONS OF THE CITY OF SOMERVILLE.
- ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM.
- GAS, TELEPHONE AND ELECTRIC SERVICES ARE TO BE DESIGNED BY EACH UTILITY COMPANY IN COORDINATION WITH THE MECHANICAL, ELECTRIC AND PLUMBING CONSULTANTS. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES AND DESIGN OF NEW UTILITIES WITH ELECTRIC, CABLE TELEVISION AND TELECOMMUNICATION UTILITIES.
- INSTALL WATER LINES WITH A MINIMUM OF FIVE FEET OF COVER AND A MAXIMUM OF SEVEN FEET.
- MAINTAIN 10 FEET HORIZONTAL SEPARATION AND 18" VERTICAL SEPARATION (WATER OVER SEWER) BETWEEN SEWER AND WATER LINES. WHEREVER THERE IS LESS THAN 10 FEET OF HORIZONTAL SEPARATION AND 18" OF VERTICAL SEPARATION BETWEEN A PROPOSED OR EXISTING SEWER LINE TO REMAIN AND A PROPOSED OR EXISTING WATER LINE TO REMAIN BOTH WATER MAIN AND SEWER MAIN SHALL BE CONSTRUCTED OF MECHANICAL JOINT CEMENT LINED DUCTILE IRON PIPE FOR A DISTANCE OF 10- FEET ON EITHER SIDE OF THE CROSSING. ONE (1) FULL LENGTH OF WATER PIPE SHALL BE CENTERED OVER THE SEWER AT THE CROSSING.
- UTILITY STRUCTURES TO BE ABANDONED SHALL BE REMOVED TO A DEPTH OF NO LESS THAN 3 FEET BELOW FINISHED GRADE, THE BOTTOMS OF THE STRUCTURES SHALL BE BROKEN AND THE STRUCTURES SHALL BE BACKFILLED WITH GRAVEL BORROW AND COMPACTED.
- CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED OR REMOVED & DISPOSED.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR TRENCHING, BACKFILLING, AND SURFACE RESTORATION FOR THE GAS LINE INSTALLATION.



281 Summer Street Boston, MA 02210 Tel 617.426.5004 Fax 617.426.0046

<b>Client</b> Somerville Housing Authority	Tel: 617-625-1125
<b>MEP/FP Engineer</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Structural Engineer</b> L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
<b>Civil Engineer</b> Nitsch Engineering	Tel: 617-338-0063 Fax: 617-338-6472
<b>Landscape Consultant</b> Copley Wolff Design Group	Tel: 617-654-9000 Fax: 617-654-9002
<b>Code Consultant</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Cost Estimator</b> VJ Associates	Tel: 781-444-8200 Fax: 781-444-8242
<b>Historical Consultant</b> MacRostie Historic Advisors	Tel: 617-499-4009 Fax: 617-499-4019

Project Status


Revision 2	Sept. 3, 2014
Revision 1	Jan. 6, 2014
Comprehensive Permit Set	Sept. 16, 2011
Issue Description	Date

Scale: 1"=20'

Drawn By: OMW Checked By: DMC Reviewed By:

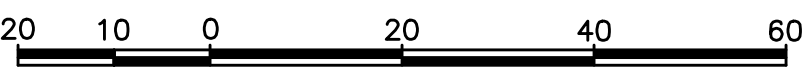
Project No. 2010080.00

Mystic Water Works at Capen Court

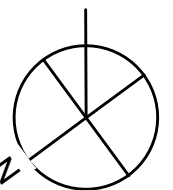
Capen St.  
Somerville, MA 02144

SITE UTILITY PLAN  
PHASE 1

GRAPHIC SCALE

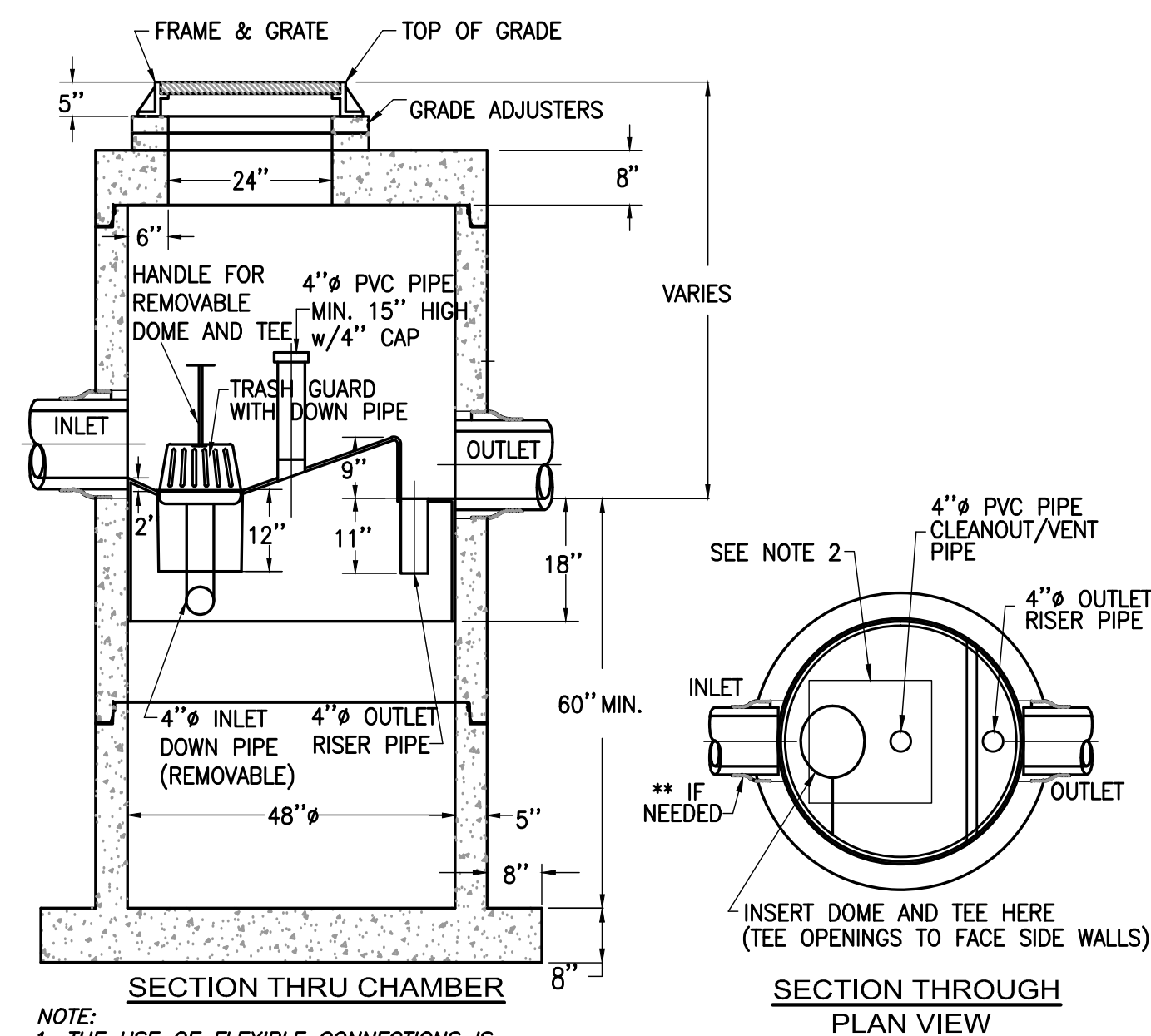


SCALE: 1"=20'

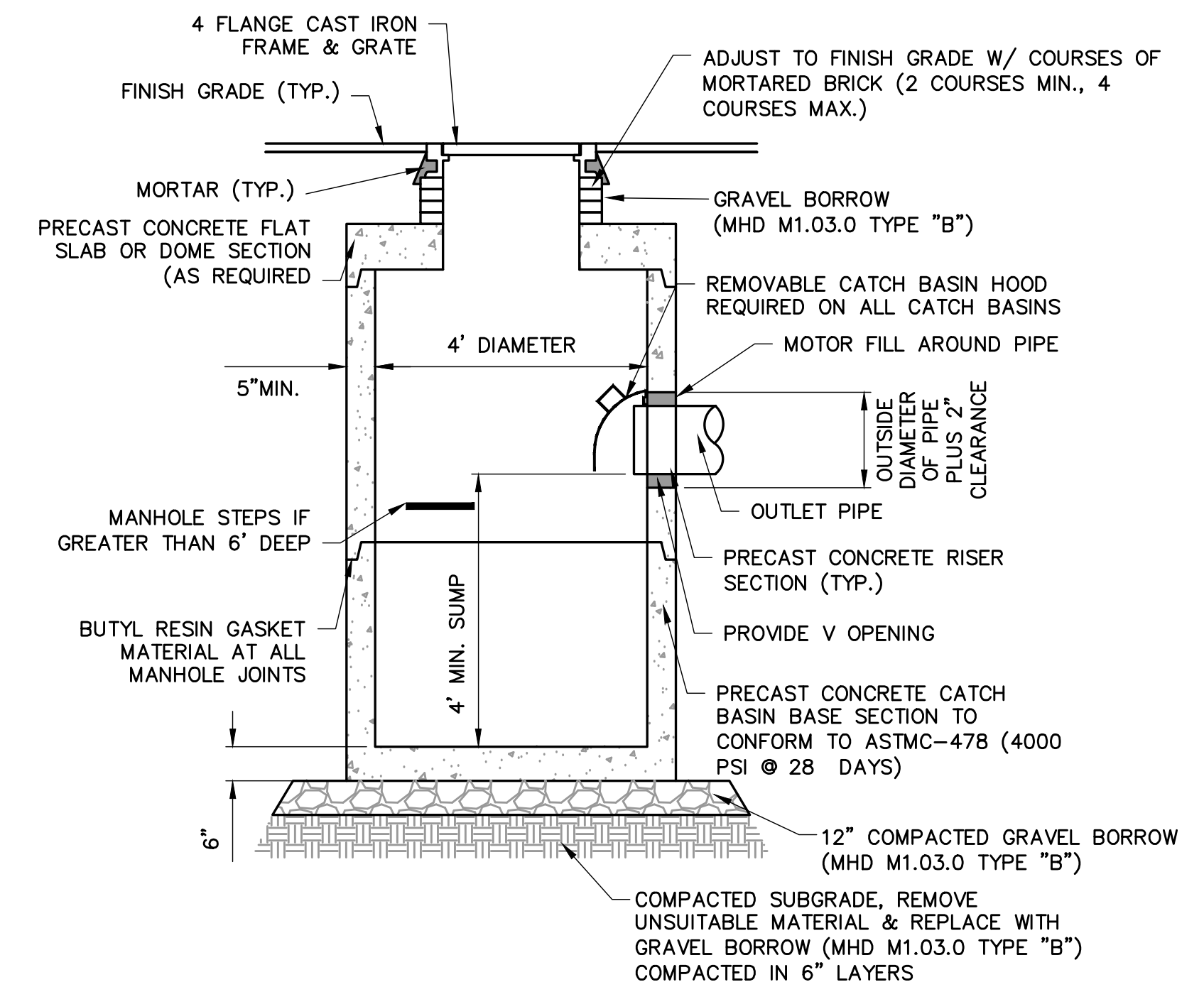


C201

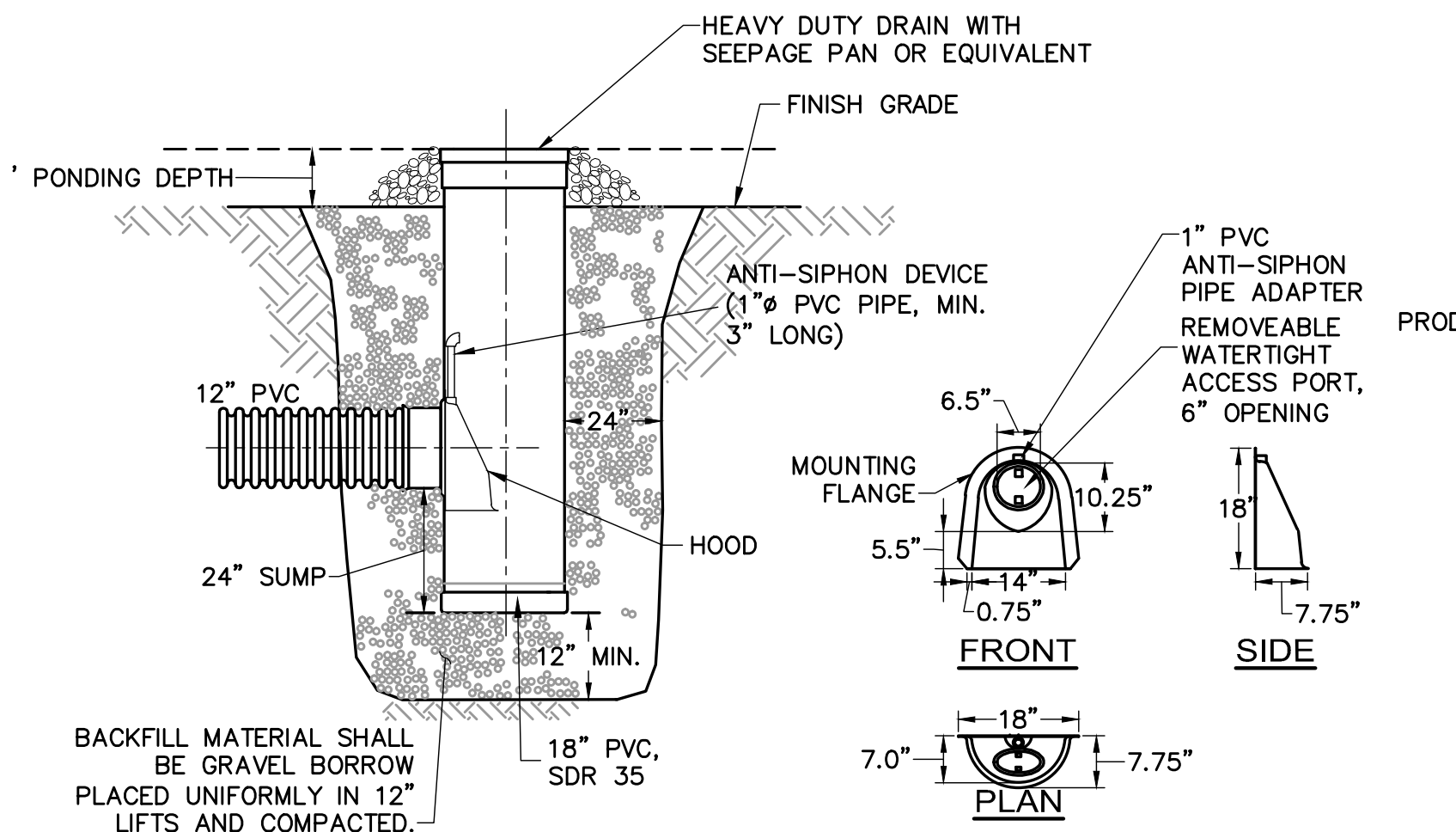




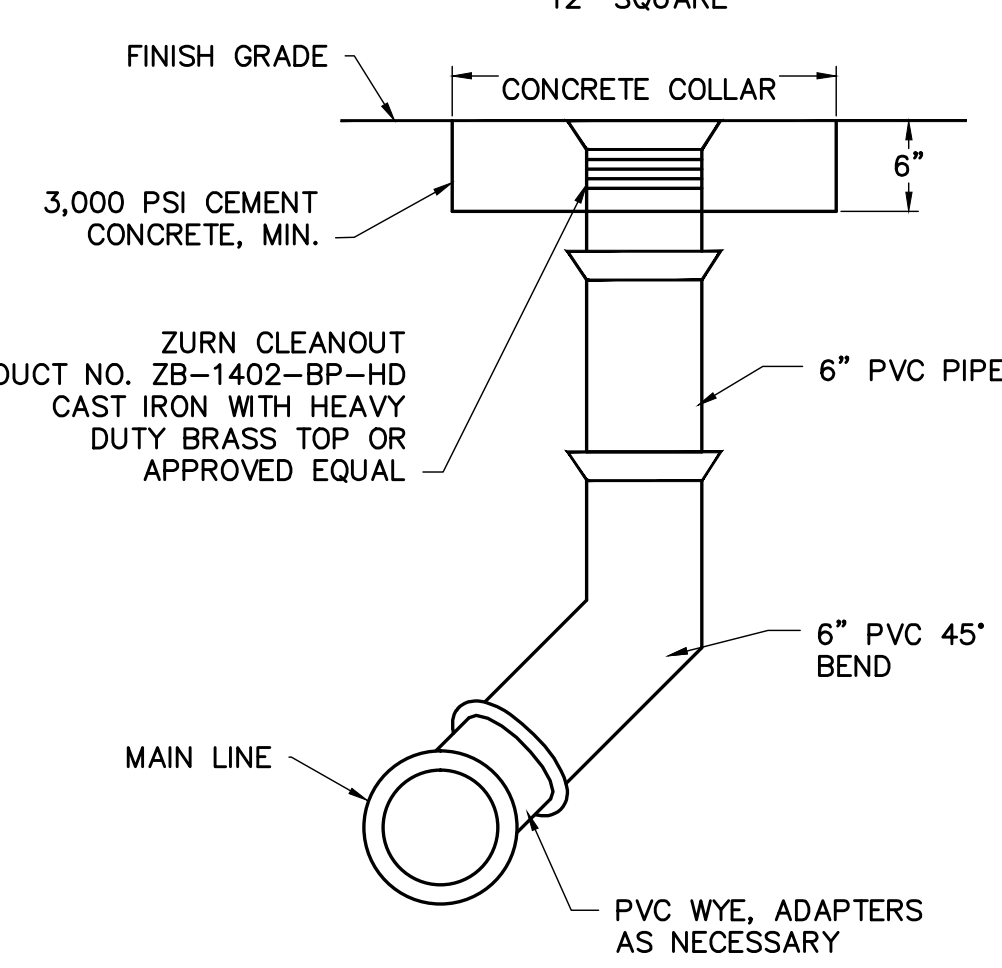
450 GALLON WATER QUALITY CATCH BASIN  
NOT TO SCALE  
STC450I-CB



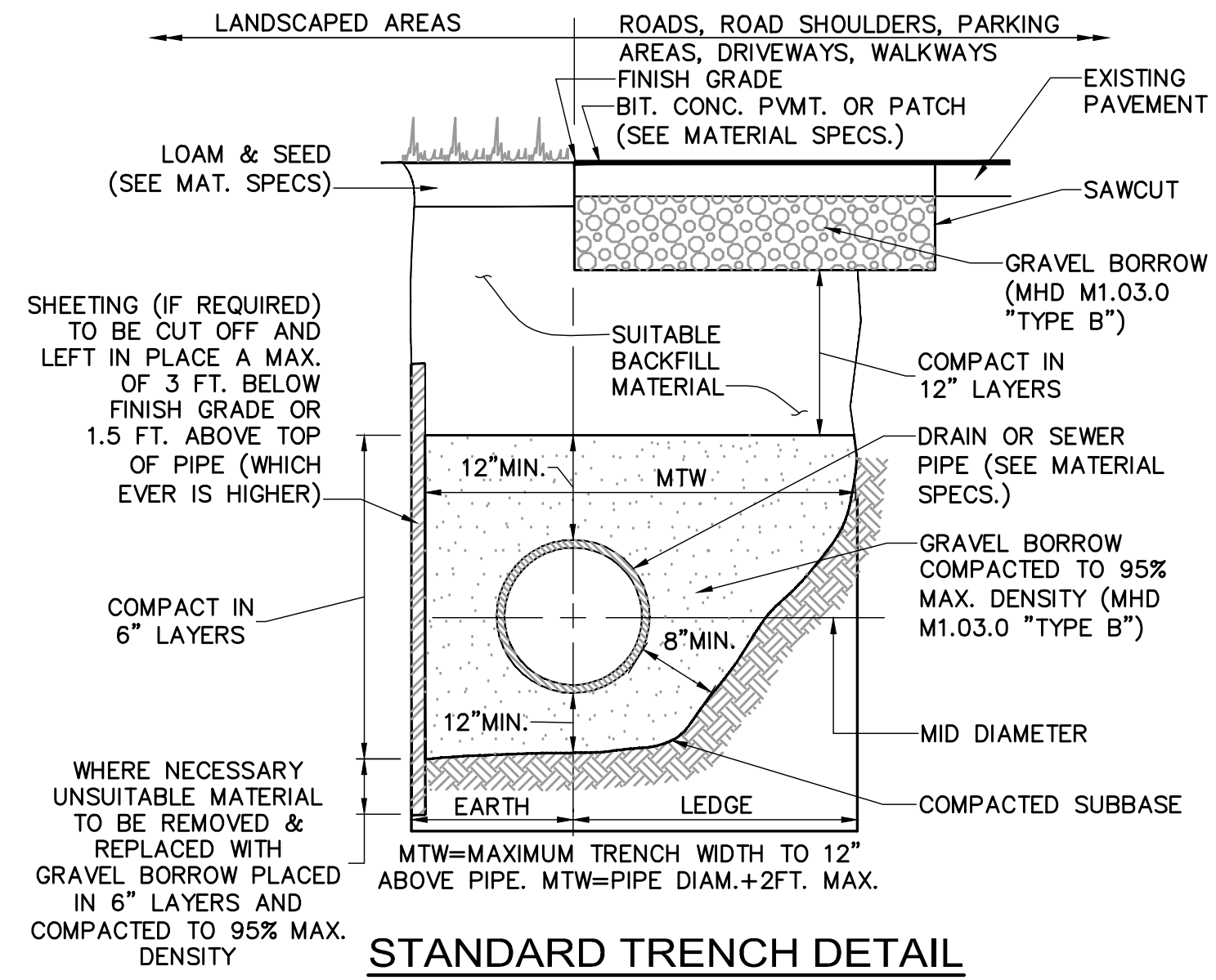
TYPICAL CATCH BASIN DETAIL  
NOT TO SCALE  
CATCH BASIN



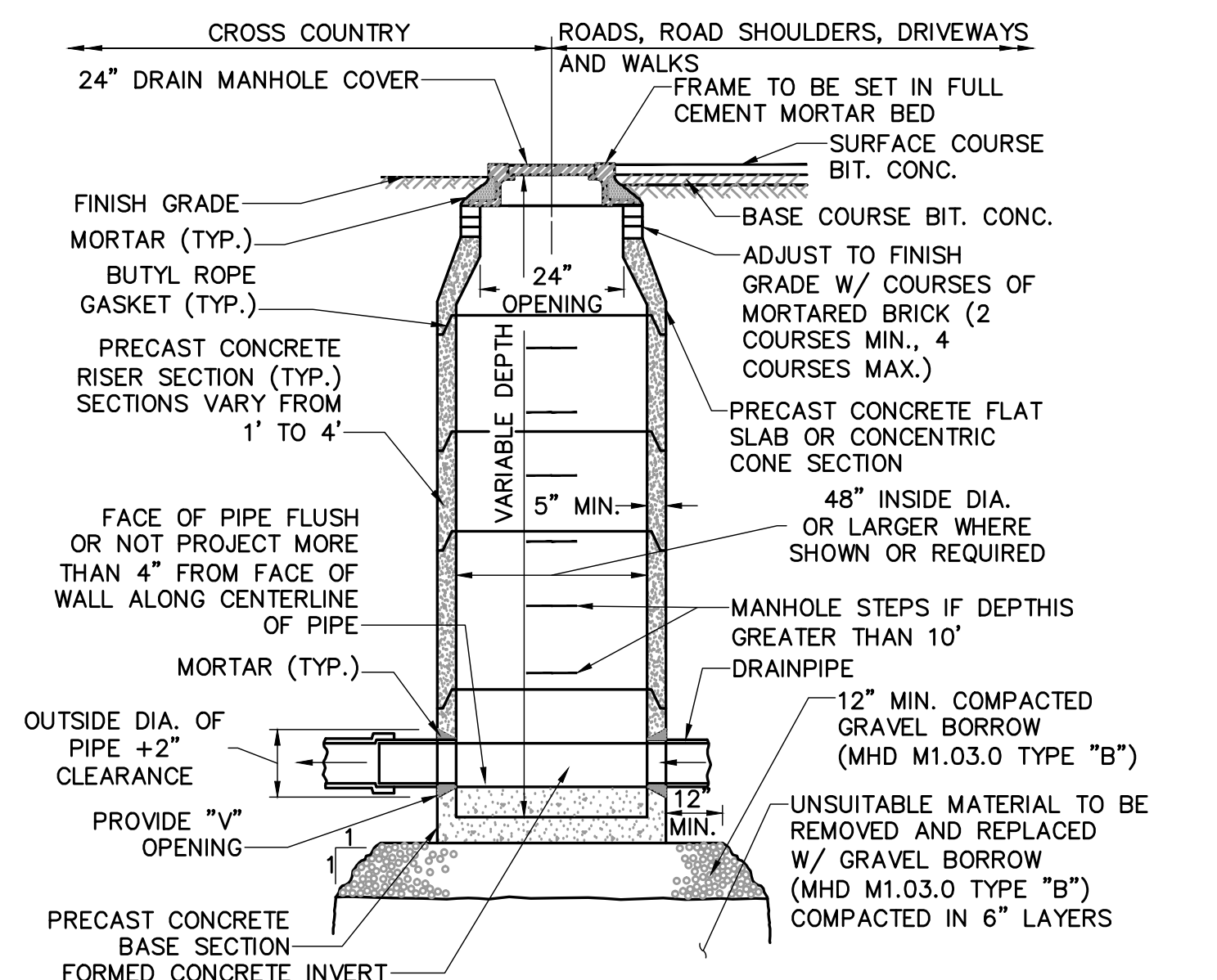
TYPICAL AREA DRAIN WITH HOOD  
NOT TO SCALE  
HOOD



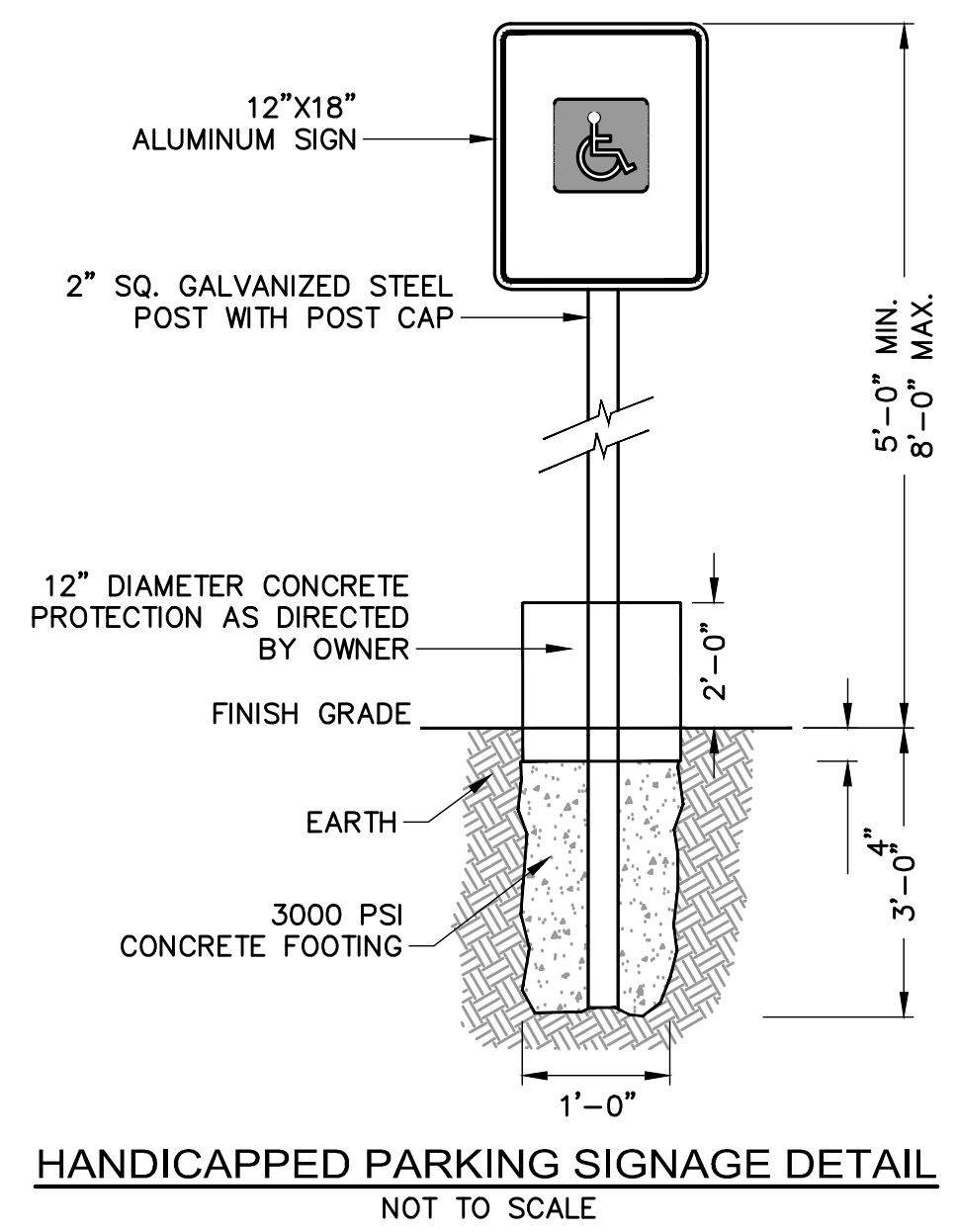
TYPICAL CLEANOUT DETAIL  
NOT TO SCALE  
CLEANOUT



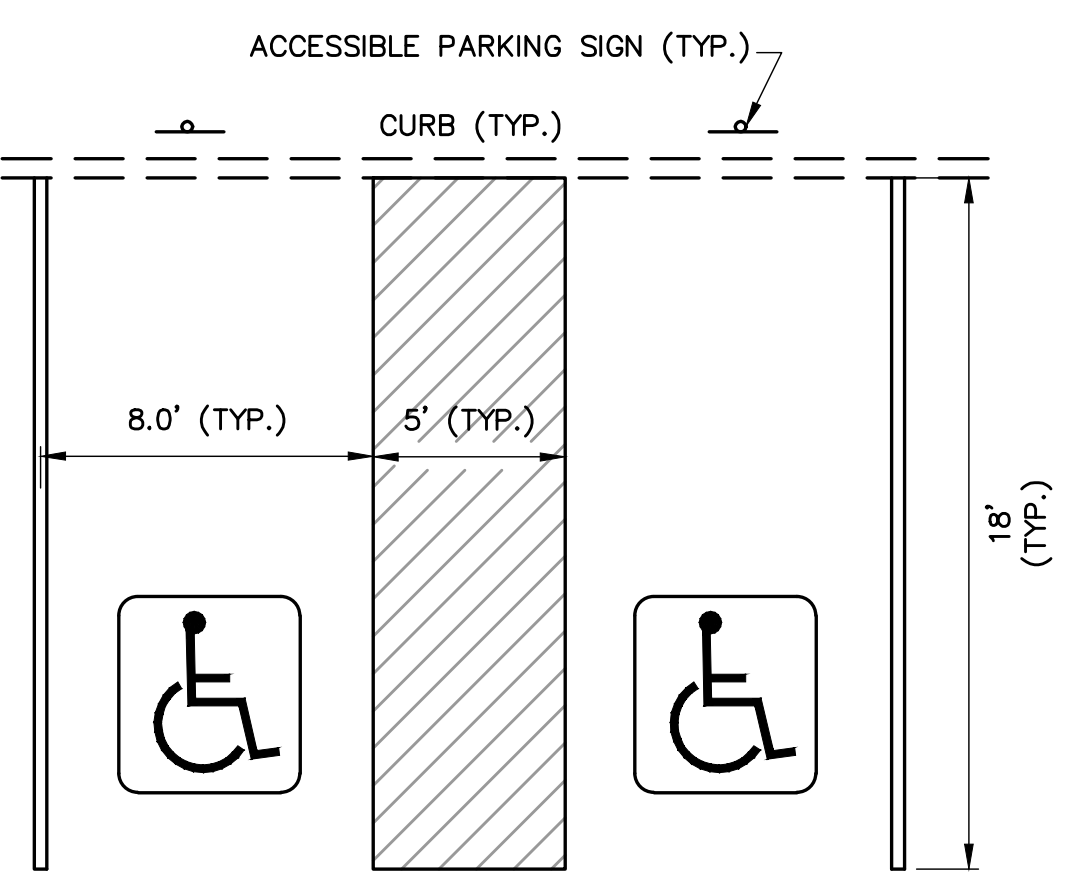
STANDARD TRENCH DETAIL  
FOR UTILITY PIPE  
NOT TO SCALE  
STTRENCH



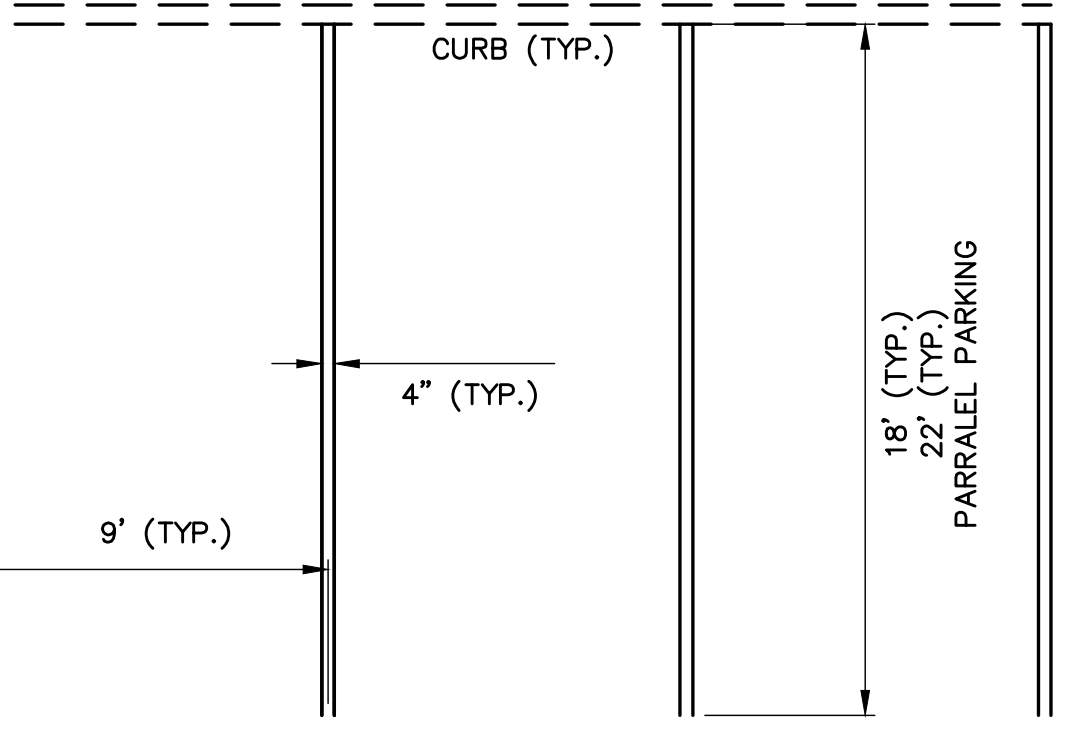
TYPICAL DRAIN MANHOLE DETAIL  
NOT TO SCALE  
DMH



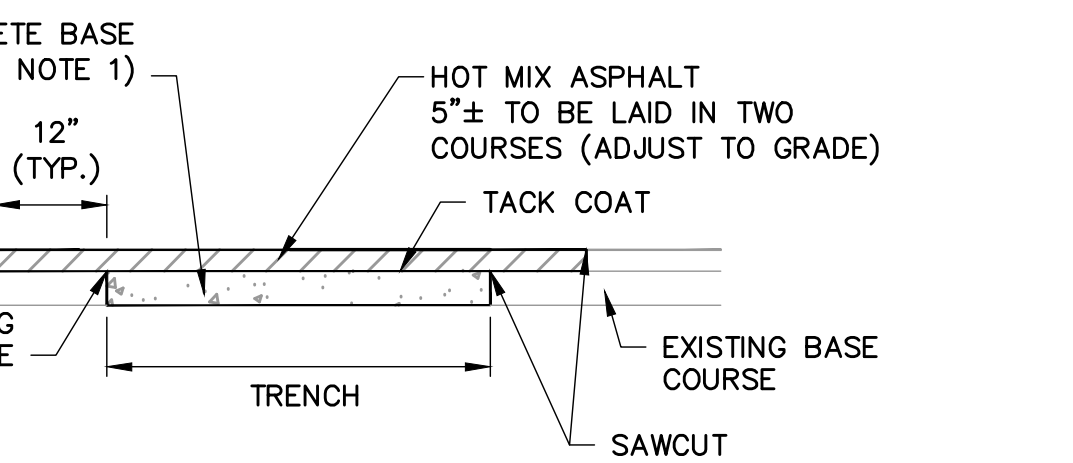
HANDICAPPED PARKING SIGNAGE DETAIL  
NOT TO SCALE



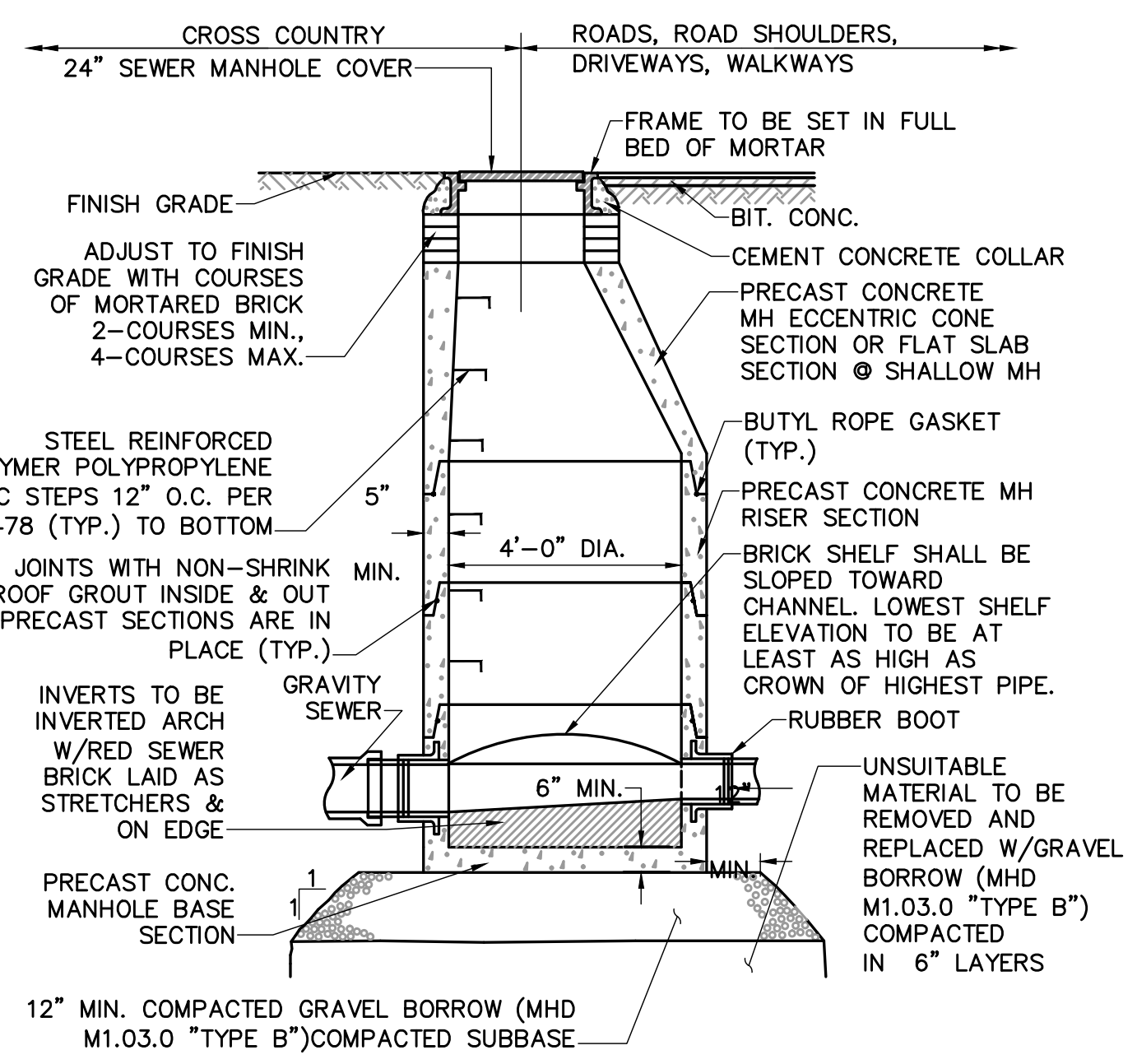
ACCESSIBLE PARKING SIGN (TYP.)  
NOT TO SCALE  
ACCESSIBLE PARKING



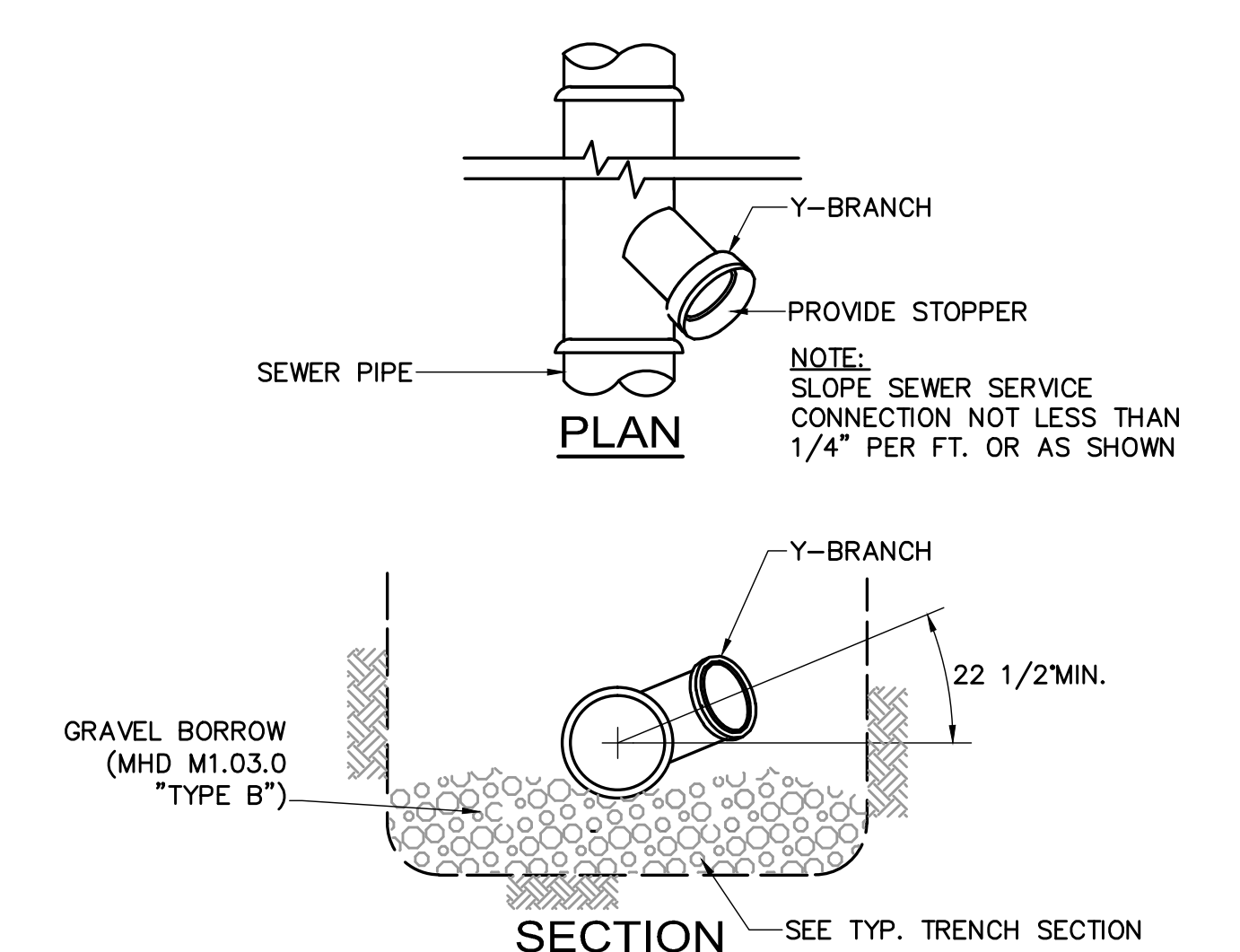
TYPICAL PARKING STRIPING DETAIL  
NOT TO SCALE  
PARKING STRIPING



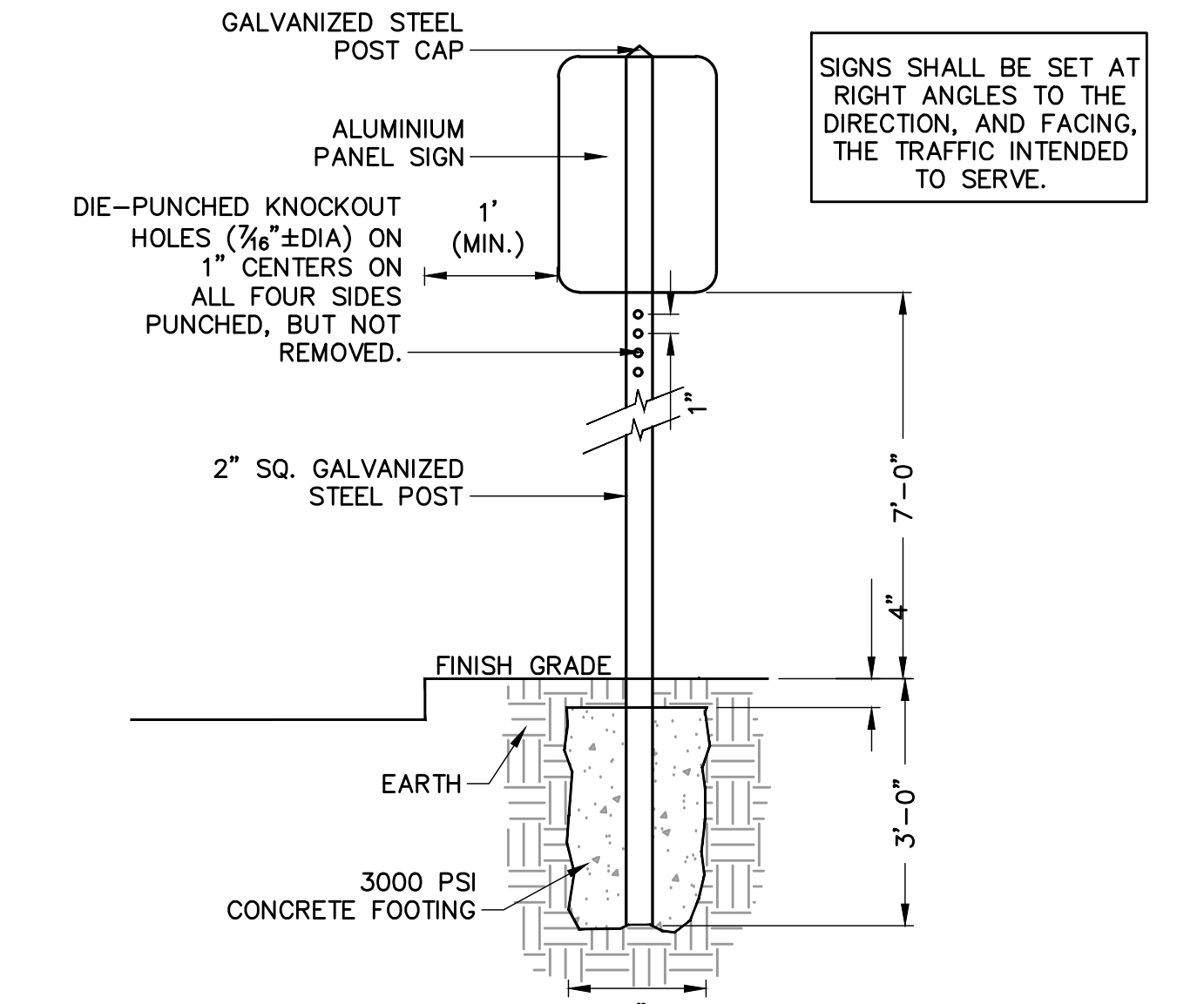
PAVEMENT RESTORATION OVER TRENCH  
NOT TO SCALE



TYPICAL SEWER MANHOLE DETAIL  
NOT TO SCALE  
SMH



WYE BRANCH FOR PIPE SERVICE CONNECTION DETAIL  
NOT TO SCALE  
Y-BRANCH



SIGN POST SETTING DETAIL  
NOT TO SCALE  
(SIGN PANEL UNDER 10 SF IN AREA)  
SIGN POST SETTING



281 Summer Street  
Boston, MA 022  
Tel 617.426.5004  
Fax 617.426.0046

Client	Somerville Housing Authority	Tel: 617-625-1125
MEP/FP Engineer	R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
Structural Engineer	L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
Civil Engineer	Nitsch Engineering	Tel: 617-338-0063 Fax: 617-338-6472
Landscape Consultant	Copley Wolff Design Group	Tel: 617-654-9000 Fax: 617-654-9002
Code Consultant	R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
Cost Estimator	VJ Associates	Tel: 781-444-8200 Fax: 781-444-8242
Historical Consultant	MacRostie Historic Advisors	Tel: 617-499-4009 Fax: 617-499-4019

## Project Status


Revision 2	Sept. 3, 2014
Revision 1	Jan. 6, 2014
Comprehensive Permit Set	Sept. 20, 2011
Issue Description	Date

Scale: 1"=20'

Drawn By:	Checked By:	Reviewed By:
OMW	DMC	

Project No. 2010080.00

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

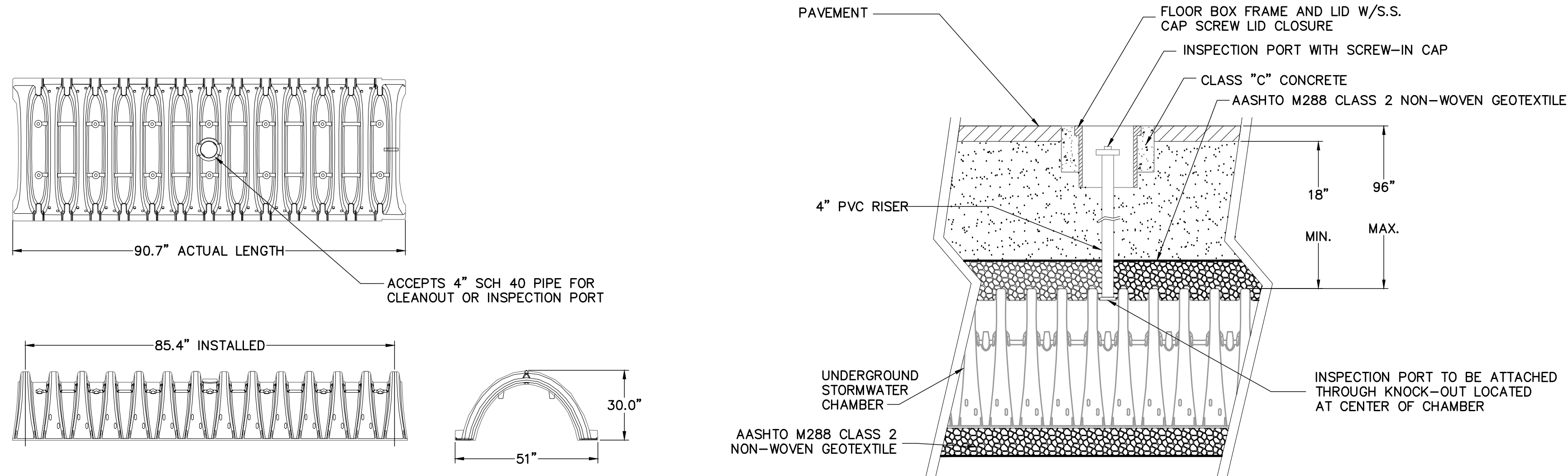
## SITE UTILITY DETAILS







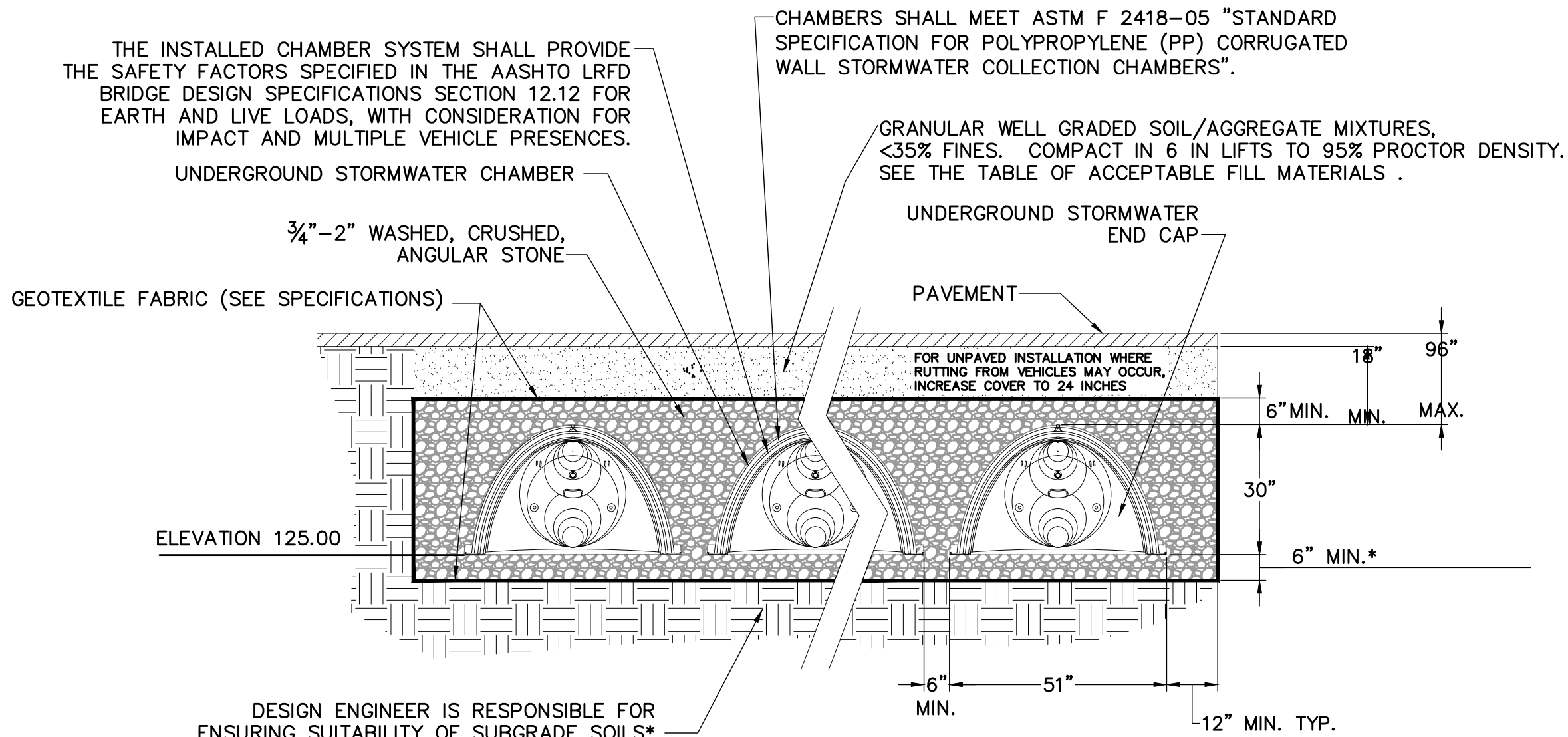




**UNDERGROUND STORMWATER CHAMBER**  
NOT TO SCALE

**UNDERGROUND STORMWATER INSPECTION PORT DETAIL**  
NOT TO SCALE

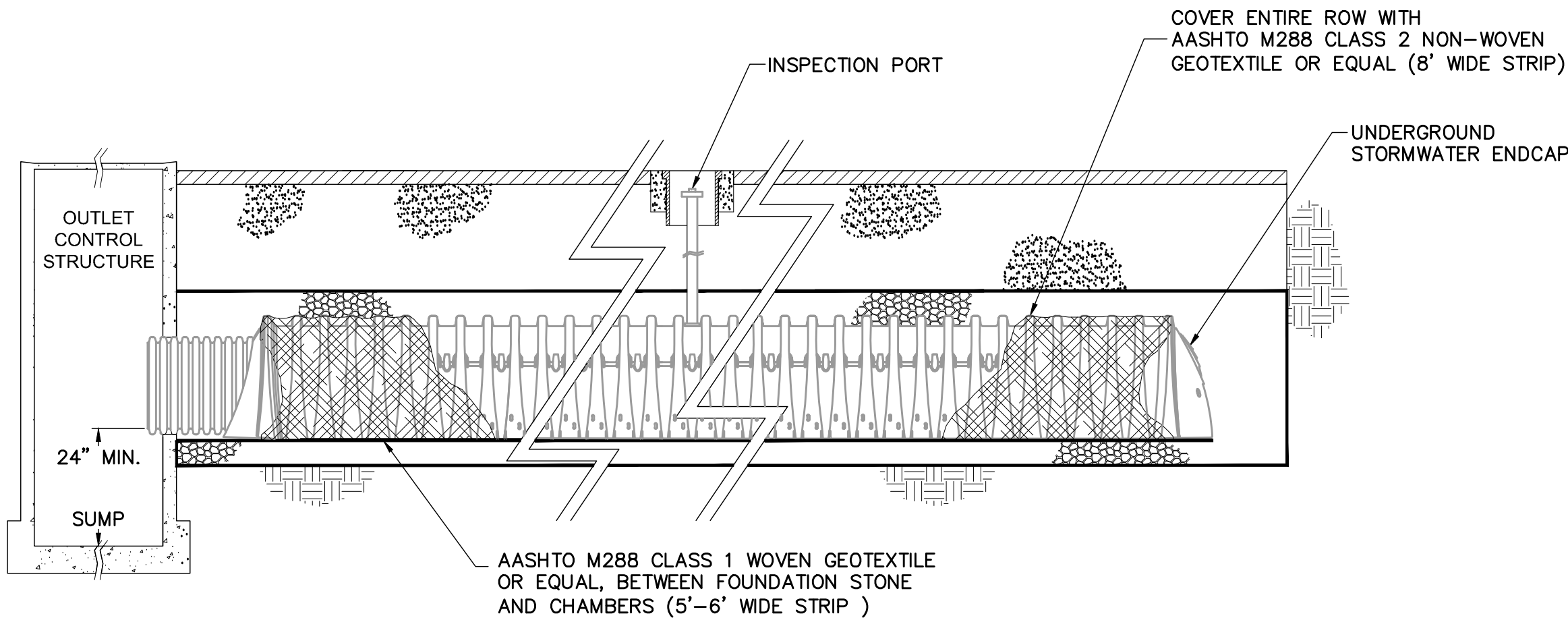
NOMINAL CHAMBER SPECIFICATIONS  
SIZE (W x H x INSTALLED LENGTH) 51.0" x 30.0" x 85.4"  
CHAMBER STORAGE 45.9 CUBIC FEET  
MINIMUM INSTALLED STORAGE 74.9 CUBIC FEET  
WEIGHT 74 LBS.



NOTE:  
CONTRACTOR TO REMOVE EXISTING TOPSOIL, SUBSOIL, FILL AND ANY OTHER IMPERVIOUS LAYERS WITHIN THE LAYOUT OF THE SYSTEM TO THE BOTTOM OF STONE ELEVATION OF SYSTEM. INSTALL SAND FILL IN ACCORDANCE WITH TITLE V REQUIREMENTS.

THIS CROSS SECTION DETAILS THE REQUIREMENTS NECESSARY TO SATISFY THE SAFETY FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS USING STORMTECH CHAMBERS

**UNDERGROUND STORMWATER SECTION**  
NOT TO SCALE



**UNDERGROUND STORMWATER ISOLATION ROW DETAIL**  
NOT TO SCALE



281 Summer Street  
Boston, MA 022  
Tel 617.426.5004  
Fax 617.426.0046

<b>Client</b> Somerville Housing Authority	Tel: 617-625-1125
<b>MEP/FP Engineer</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Structural Engineer</b> L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
<b>Civil Engineer</b> Nitsch Engineering	Tel: 617-338-0063 Fax: 617-338-6472
<b>Landscape Consultant</b> Copley Wolff Design Group	Tel: 617-654-9000 Fax: 617-654-9002
<b>Code Consultant</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Cost Estimator</b> VJ Associates	Tel: 781-444-8200 Fax: 781-444-8242
<b>Historical Consultant</b> MacRostie Historic Advisors	Tel: 617-499-4009 Fax: 617-499-4019

## Project Status

Revision 2	Sept. 3, 2014
Revision 1	Jan. 6, 2014
Comprehensive Permit Set	Sept. 20, 2011
Issue Description	Date

Scale: 1"=20'

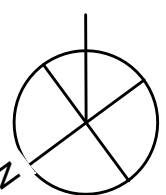
Drawn By: OMW  
Checked By: DMC  
Reviewed By:

Project No. 2010080.00

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

## SITE UTILITY DETAILS



# C303

February 10, 2014  
File No. 01.0171883.00

Mr. Frank Valdes  
DiMella Shaffer  
281 Summer Street  
Boston, Massachusetts 02210



133 Federal Street  
3<sup>rd</sup> Floor  
Boston  
Massachusetts  
02110  
617-963-1000  
FAX 617-482-6868  
<http://www.gza.com>

Re: Groundwater Evaluation Report  
Mystic Water Works at Capen Court  
149 Capen Street  
Somerville, Massachusetts

Dear Mr. Valdes:

In accordance with our proposal dated January 14, 2013, GZA GeoEnvironmental, Inc. (GZA) is pleased to submit this report summarizing the results of our groundwater evaluation at the Mystic Water Works pump house at 149 Capen Street in Somerville, Massachusetts. The objective of our work was to evaluate groundwater conditions within the existing basement area and develop recommendations for long term groundwater control systems for the proposed renovations. This letter report is subject to the Limitations set forth in Appendix A and the Terms and Conditions of our agreement. The elevations cited in this letter report are referenced to the Somerville City Base Datum.

## **BACKGROUND**

Our understanding of the project is based on discussions with you and architectural, civil and structural plans from the comprehensive permit submission set, dated November 18, 2011, provided by DiMella Shaffer.

The existing Mystic Water Works building is unused and is located at the corner of Capen Street and the Mystic Valley Parkway (Route 16) in Somerville, Massachusetts (see Figure 1, Site Locus). The site is about 1.4 acres in area and is occupied by a one-story, existing pump house building with a footprint of approximately 10,000 square feet (SF) and a one-story brick garage. The existing pump house has a basement of about 4,000 SF over the southern portion of the building footprint. The remainder of the site includes relatively flat paved areas and grassy areas generally rising towards the east. Exterior site grade around the basement area varies from about 17.5 to 20 feet.

The proposed development consists of renovating the existing pump house into 2 floors of residential housing and lowering the basement slab by one foot. The existing slab grade will remain against the basement wall, and then be dropped by about a foot one to two feet inside the wall, thus creating a stepped slab. The existing basement floor is about 8 feet below exterior grades, at an elevation of approximately 12.0 feet. We understand that standing water is sometimes observed in the existing basement and is therefore a concern for the renovation. A new 3-story residential apartment building, adjacent to the water works building, will be constructed at a later date.





## **SCOPE OF SERVICES**

GZA performed the following scope of work:

1. Visited the site to observe groundwater conditions in the basement of the existing building.
2. Developed and executed a subsurface exploration program consisting of three soil borings and three groundwater observation wells to evaluate soil and groundwater conditions.
3. Developed recommendations for long term groundwater control systems for the existing structure to be renovated.

## **SITE OBSERVATIONS**

GZA visited the site on January 16, 2014 to observe groundwater conditions in the basement of the existing pump house building. On this date, approximately 1 inch of water was observed above the basement slab in the southwest corner of the building, where the slab must have been lower. Below the standing water was a sump pit with an inoperable pump. Two other smaller pits were located along the western side of the basement. One of the pits also had an inoperable pump in it. None of the pumps were operating because there was no electricity to the outlets. The water level in these western-side pits was at approximately slab elevation at the time. All of the pits were approximately 1 foot deep. A small trough in the slab, approximately 4-inches-wide and 2-inches-deep, was observed running along the southwest basement wall between the pits. The locations of the pits and the trough are shown on Figure 2. The water elevation in the pits during our site visits on January 16, 23 and 31, 2014 was between approximate elevations of 11.8 and 12.1 feet. Table 1 summarizes the recent groundwater level measurements in the basement.

## **SUBSURFACE EXPLORATIONS**

Drillex Environmental of West Boylston, Massachusetts performed three borings (GZ-1, GZ-2, and GZ-3) in the landscaped areas and parking area around the existing pump house on January 23, 2014 at the locations shown on Figure 2. The borings were advanced with a truck-mounted drill rig using hollow-stem-augers. The borings extended to a depth of approximately 17 to 20 feet below existing ground surface. Standard Penetration Tests (SPTs) and split-spoon samples were generally performed continuously to a depth of approximately 13 feet and at approximately 5-foot intervals thereafter. A groundwater observation well was installed in each borehole.

A GZA representative observed the borings, classified the soil samples using the Modified Burmister Soil Classification System and prepared exploration logs. Boring logs are attached in Appendix B.

## **SUBSURFACE CONDITIONS**

### **Soil**

Below the existing asphalt in paved areas and topsoil in the landscaped areas, subsurface conditions encountered in the borings generally consisted of fill over clayey silt and/or glacial till. Refer to the boring logs in Appendix B for detailed information. The soil strata encountered are discussed in further detail below in order of increasing depth.



Topsoil: Topsoil was encountered in borings GZ-1 and GZ-2 in the landscaped areas to a depth of approximately 1 foot below ground surface (bgs). This layer generally consisted of dark brown silt with between about 35 and 50 percent fine to coarse sand and up to about 10 percent gravel, roots and other organic matter.

Fill: Fill was encountered in the borings to a depth between 5 to 8 feet below bgs, corresponding to approximate elevations of between 9.5 and 13 feet. The fill generally consisted of very loose to medium dense, fine to coarse sand and up to 50 percent silt, with some samples containing more than 50 percent silt. The fill generally included up to 20 percent gravel and up to 10 percent roots, brick, asphalt and cinders. Additionally, in boring GZ-3 a petroleum-like smell was noted within the fill, and also noted the clayey silt and glacial till below, between depths of 5 and 11 feet.

A possible buried topsoil layer was encountered below/within the fill in boring GZ-1 at an approximate depth of 5 feet bgs, corresponding to an approximate elevation of 13 feet. The buried topsoil was approximately 2 inches thick and consisted of dark brown silt with up to 20 percent fine sand and up to 10 percent roots.

Clayey Silt: Clayey silt was encountered below the fill in borings GZ-1 and GZ-3 at depths of between approximately 4 and 5 feet bgs, corresponding to approximate elevations of 12 and 13 feet. The clayey silt layer was approximately 4 to 5 feet thick and consisted of stiff to very stiff, tan, clayey silt with up to 35 percent fine to coarse sand and up to 20 percent gravel.

Glacial Till: Glacial till was encountered below the fill or clayey silt at approximate depths of between 8 to 10 feet bgs, corresponding to approximate elevations of between 8 and 10.5 feet. The glacial till generally consisted of medium dense to very dense, tan, brown or gray, fine to coarse sand with up to 50 percent gravel and up to 35 percent clayey silt. However, glacial till is commonly a heterogeneous stratum, and some samples consisted of very stiff to hard clayey silt with up to 50 percent fine to coarse sand and up to 50 percent gravel. The borings were terminated in the glacial till stratum.

### **Groundwater**

Groundwater readings were taken in all borings after installing the groundwater observation wells and again on January 31, 2014. Table 1 summarizes the recent groundwater level measurements in the basement and in the installed groundwater wells.

It should be recognized that groundwater observations have been made at the times and under the conditions stated in the logs. Groundwater readings made during drilling may not represent stabilized groundwater conditions. Fluctuations in groundwater levels will occur due to variations in precipitation, temperature, and other factors different from those at the time the measurement were taken.

### **RESULTS**

Groundwater measurements taken in the observation wells on January 31, 2014 were between 6.9 and 7.4 feet bgs, corresponding to elevations of between 10.6 and 11.1 feet. Water level measurements taken in the basement sump pits on the same day were at elevations of between 11.8



and 12.1 feet. Therefore, water levels in the basement were between 7 to 16 inches higher than the groundwater levels in the observation wells at the time measurements were made. Because the sump pumps were not observed to be operating, any water infiltrating into the basement will accumulate and could cause temporary higher water levels in the basement than the surrounding groundwater. On the date of our site visit on January 16, 2014, we observed snow melt running into the basement through the basement access hatch adjacent to Capen Street.

## **RECOMMENDATIONS**

Based on our observations, the existing groundwater level in the basement area is at about the existing slab grade of elevation 12.0 feet, which may be about a foot higher than that observed in observation wells installed around the basement. The difference may be due to snow melt and stormwater runoff running into the basement through the bulkhead and across the slab to the sump in the southwest corner of the basement, and possibly other locations. To maintain groundwater below the proposed slab grade, which will be 1 foot below the existing slab grade, groundwater and surface water control will be required. Based on the available information and the subsurface conditions encountered, we recommend a sub-slab drainage system and basement sumps to help control groundwater. We also recommend that the bottom of the proposed basement slab and the basement walls be water-proofed to prevent seepage through the basement walls and slab. Perimeter grades should be designed to carry surface water away from the building as well.

The current proposed step in the basement slab may be able to be eliminated if the existing basement wall footing is bearing just below the proposed bottom of slab grade. Test pits will be required through the basement slab to evaluate the existing basement wall footing grade.

Excavation for the new slab grade should not be within the bearing area of the existing basement wall footings. The footing bearing area is described by a line drawn out and down from the footing edge at the one-horizontal to one-vertical (1H:1V) slope.

The sub-slab drainage system should consist of:

1. The basement slab base course should consist of at least 6 inches of  $\frac{3}{4}$ -inch crushed stone placed over non-woven filter fabric (Mirafi 140N or similar). The filter fabric should extend up the sides of the excavation to the bottom of slab grade.
2. Install perforated 4-inch-diameter Schedule 40 PVC piping along the new basement slab perimeter and at approximately 20-foot-lateral-spacing or less under the slab.
3. The pipe should be laid flat and within an annulus of at least 4 inches of  $\frac{3}{4}$ -inch crushed stone.
4. The excavated slab grade should be undisturbed natural soil, roughly horizontal but draining towards the slab sumps.
5. Provide at least two pumped sump locations at opposite ends of the slab area. The sumps should be hydraulically connected to the sub-slab drainage system. The intent of a second pump is to provide redundancy in case the other pump location malfunctions. Also, to provide redundancy, the owner may choose to provide an auxiliary power supply, with automatic switching, should the street utility fail.





6. Discharge from a groundwater control system should go to a dedicated stormwater drain and will need to be approved by the City of Somerville's water and sewer departments.
7. The float switch for the sump pumps should be set as high as possible to limit the time the pump is operating, but should be no higher than 3 inches below the top of slab grade.

The slab design should consider including a small trough along the basement wall that will be hydraulically connected to the sump locations. The intent of the trough is to collect any water that seeps through the basement wall and prevent it running over the basement slab.

We appreciate the opportunity to assist you on this phase of the project and look forward to assisting you in the future. Please call Jennifer Lenz at (617) 963-1014 or Bruce Fairless (617) 963-1002 should you have any questions.

Sincerely,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read "J. Lenz".

Jennifer A Lenz, P.E.  
Assistant Project Manager

A handwritten signature in blue ink, appearing to read "William H. Hover".

William H. Hover  
Consultant/ Reviewer

A handwritten signature in blue ink, appearing to read "Bruce W. Fairless".

Bruce W. Fairless, P.E.  
Associate Principal

Attachment:     Table  
                     Figures  
                     Appendix A – Limitations  
                     Appendix B – GZA Boring Logs

## TABLE

**TABLE 1****GROUNDWATER DEPTHS/ELEVATIONS**

**Mystic Water Works  
149 Capen Street  
Somerville, Massachusetts**

	<b>Measured Water Depth (ft, from existing ground surface)</b>				
Well I.D.:	GZ-1	GZ-2	GZ-3	West Basement Pits	SW Basement Pit
01/16/13	-	-	-	N/A	N/A
01/23/13	6.5	9.2	7.3	N/A	N/A
01/31/13	6.9	7.4	7.4	N/A	N/A

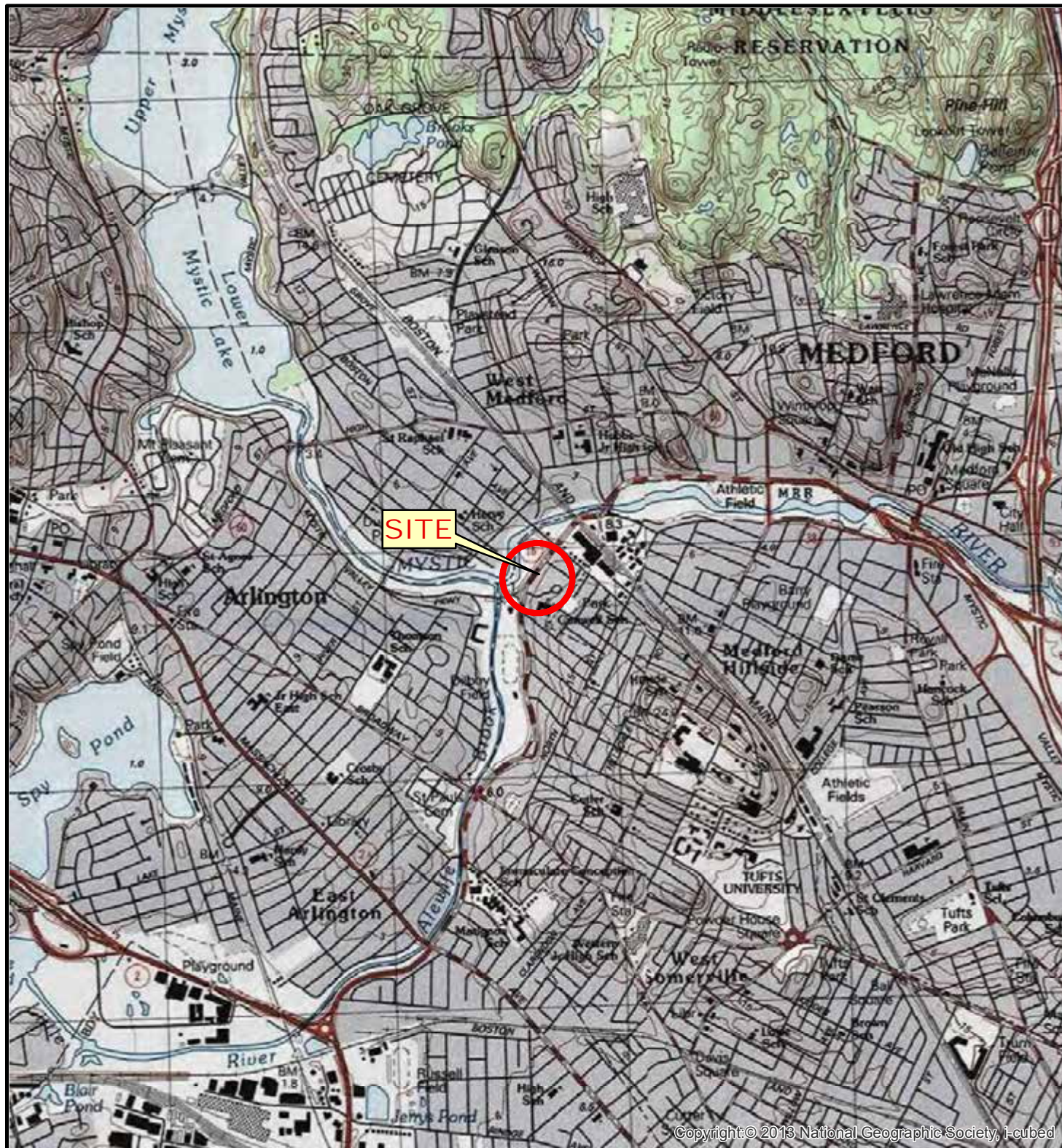
	<b>Approximate Groundwater Elevations (ft)</b>				
Well I.D.:	GZ-1	GZ-2	GZ-3	West Basement Pits	SW Basement Pit
Surface Elevations (ft):	18.0	17.5	19.4	12.0 <sup>3</sup>	12.0 <sup>3</sup>
01/16/13	-	-	-	12.0	12.1
01/23/13	11.5	8.8	10.7	11.8	12.0
01/31/13	11.1	10.6	10.6	11.8	12.0

Notes:

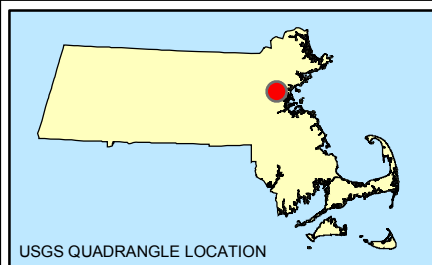
1. Ground surface elevations are approximate and estimated from a drawing entitled "Mystic Water Works at Capen Court" prepared by DiMella Shaffer of Boston, MA and dated September 16, 2013.
2. Ground surface elevations are referenced to City of Somerville Datum and should be considered approximate.
3. Estimated elevation of basement floor slab at 12 feet is based: on first floor elevation of 19.88 feet from drawing "Mystic Water Works at Capen Court - Existing Conditions Plan, dated September 16, 2011; a measured basement ceiling height of 7.5 feet; and an assumed first floor slab thickness of 6 inches. Water levels are measured from slab elevation.
4. Fluctuations in groundwater levels may occur due to variations in season, rainfall, site features and other factors different from those existing at the time of the measurements.



## FIGURES

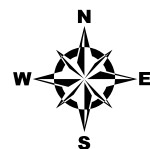


Copyright © 2013 National Geographic Society, i-cubed



SOURCE : THIS MAP CONTAINS THE ESRI ARCGIS ONLINE USA TOPOGRAPHIC MAP SERVICE, PUBLISHED DECEMBER 12, 2009 BY ESRI ARCGIS SERVICES AND UPDATED AS NEEDED. THIS SERVICE USES UNIFORM NATIONALLY RECOGNIZED DATUM AND CARTOGRAPHY STANDARDS AND A VARIETY OF AVAILABLE SOURCES FROM SEVERAL DATA PROVIDERS.

Data Supplied by :



PROJ. MGR.: JL  
DESIGNED BY: ZKB  
REVIEWED BY: JL  
OPERATOR: SMW  
DATE: 02-05-2014

LOCUS PLAN  
SHOWING 500 FOOT RADIUS  
GROUNDWATER EVALUATION  
149 CAPEN STREET  
SOMERVILLE, MASSACHUSETTS

JOB NO.  
01.0171883.00  
FIGURE NO.  
1



LEGEND:

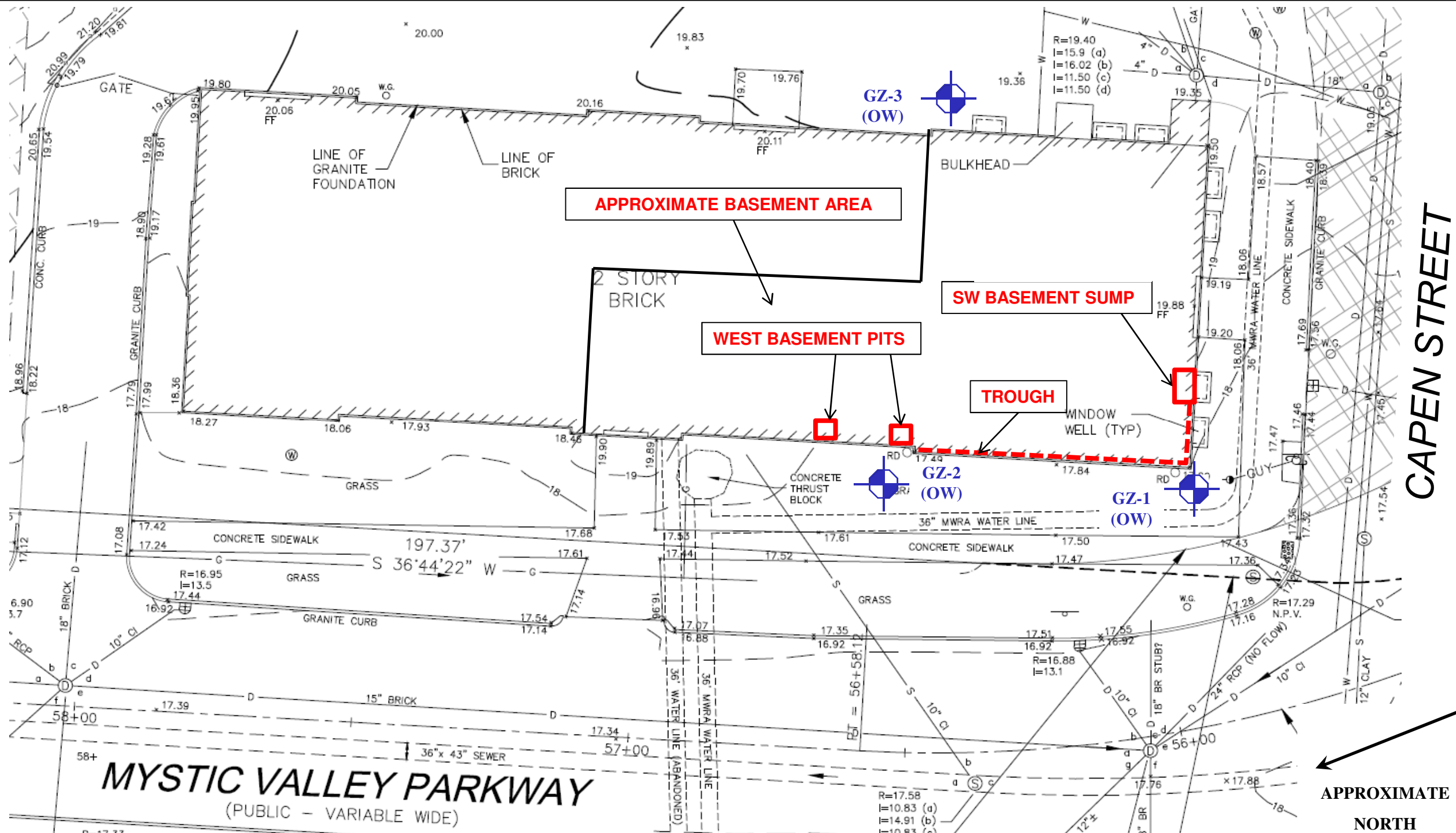




BORINGS PERFORMED BY DRILEX ENVIRONMENTAL OF WEST BOYLSTON, MASSACHUSETTS ON JANUARY 23, 2014. OBSERVED AND LOGGED BY GZA PERSONNEL. "OW" INDICATES THAT GROUNDWATER OBSERVATION WELLS WERE INSTALLED.

NOTES:

1. THE BASE MAP WAS DEVELOPED FROM A PLAN PREPARED BY DIMELLA SHAFFER OF BOSTON, MASSACHUSETTS, ENTITLED "MYSTIC WATER WORKS AT CAPEN COURT - EXISTING CONDITIONS PLAN", DATED SEPTEMBER 16, 2011.
2. THE BORING LOCATIONS WERE APPROXIMATELY DETERMINED BY TAPE MEASUREMENT FROM EXISTING FEATURES. THESE LOCATIONS SHOULD ONLY BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.
3. ELEVATIONS ARE REFERENCED TO SOMERVILLE CITY BASE DATUM.

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL INC. (GZA). THE INFORMATION SHOWN ON THIS DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR MODIFIED IN WHOLE OR IN PART FOR ANY OTHER PURPOSE OR PROJECT. REUSE, OR MODIFICATION TO THE DRAWING, SHALL BE AT THE USER'S OR SUCH OTHER PARTIES' SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.



GROUNDWATER EVALUATION MYSTIC WATER WORKS AT 149 CAPEN STREET CAPEN STREET SOMERVILLE, MASSACHUSETTS		APPROXIMATE SCALE  1" = 20'  	PROJ MGR: JAL DESIGNED BY: ZKB REVIEWED BY: BWF DATE: JANUARY 27, 2014	OPERATOR: ZKB
EXPLORATION LOCATION PLAN				
JOB NO. 171883.00		 GZA GeoEnvironmental, Inc.		
FIGURE NO. 2				



**APPENDIX A**  
**LIMITATIONS**



## **GEOTECHNICAL LIMITATIONS**

### Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the contract documents, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

### Standard of Care

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in Proposal for Services and/or Report, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. If conditions other than those described in this report are found at the subject location(s), or the design has been altered in any way, GZA shall be so notified and afforded the opportunity to revise the report, as appropriate, to reflect the unanticipated changed conditions .
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.
4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

### Subsurface Conditions

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
6. In preparing this report, GZA relied on certain information provided by the Client, state and local officials, and other parties referenced therein which were made available to GZA at the time of our evaluation. GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.
7. Water level readings have been made in test holes (as described in this Report) and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this Report. Fluctuations in the level of the groundwater however

occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The water table encountered in the course of the work may differ from that indicated in the Report.

8. GZA's services did not include an assessment of the presence of oil or hazardous materials at the property. Consequently, we did not consider the potential impacts (if any) that contaminants in soil or groundwater may have on construction activities, or the use of structures on the property.
9. Recommendations for foundation drainage, waterproofing, and moisture control address the conventional geotechnical engineering aspects of seepage control. These recommendations may not preclude an environment that allows the infestation of mold or other biological pollutants.

#### Compliance with Codes and Regulations

10. We used reasonable care in identifying and interpreting applicable codes and regulations. These codes and regulations are subject to various, and possibly contradictory, interpretations. Compliance with codes and regulations by other parties is beyond our control.

#### Additional Services

11. GZA recommends that we be retained to provide services during any future: site observations, design, implementation activities, construction and/or property development/redevelopment. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.



**APPENDIX B**  
**BORING LOGS**

# TEST BORING LOG



**GZA**  
**GeoEnvironmental, Inc.**  
Engineers and Scientists

**Groundwater Evaluation**  
**Mystic Water Works**  
**149 Capen Street**  
**Somerville, Massachusetts**

**EXPLORATION NO.:** GZ-1  
**SHEET:** 1 of 1  
**PROJECT NO:** 01.0171883.00  
**REVIEWED BY:** JAL

**Logged By:** Zachary Boswell  
**Drilling Co.:** Drilex Environmental  
**Foreman:** Chris Hogan

**Type of Rig:** Truck Mounted  
**Rig Model:** CME-75  
**Drilling Method:** HSA

**Boring Location:** See Plan  
**Ground Surface Elev. (ft.):** 18  
**Final Boring Depth (ft.):** 17  
**Date Start - Finish:** 1/23/2014 - 1/23/2014

**H. Datum:**  
See Exploration Plan  
**V. Datum:**  
City of Somerville

**Hammer Type:** Automatic Hammer  
**Hammer Weight (lb.):** 140  
**Hammer Fall (in.):** 30  
**Auger or Casing O.D./I.D Dia (in.):** 8.25"/4.25"

**Sampler Type:** Split Spoon  
**Sampler O.D. (in.):** 2"  
**Sampler Length (in.):** 24"  
**Rock Core Size:** N/A

## Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
1/23/14	1020	14.2	30 min.
1/23/14	1300	9.42	3 hr. 10 min.
1/23/14	1542	6.5	5 hr. 52 min.
1/31/14	1456	6.90	8 days

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows per 6"	SPT Value	Sample Description Modified Burmister	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)	Roadway Box
5		S-1	1-3	24	15	2 4 12 12	16	S-1 : Moist, medium dense, brown, SILT, little fine to coarse Sand, trace Gravel, trace Roots, trace Brick, Gravel in spoon tip	1		1	TOPSOIL	17.0	Concrete (0-1')
		S-2	3-5	24	13	4 3 5 7	8	S-2 : Moist, loose, brown, fine to medium SAND, some Silt, little Gravel, trace Roots	2					Drill Cuttings (1-2')
		S-3	5-7	24	16	2 8 8 7	16	S-3 : Top 2": Dark brown, SILT, little fine Sand, trace Roots	3		5	BURIED TOPSOIL	12.8	PVC Riser (0-5')
		S-4	7-9	24	13	5 6 7 8	13	Bottom 14": Tan, Clayey SILT, some fine to coarse Sand, little Gravel						Bentonite (2-4')
10		S-5	9-11	24	17	5 8 15 16	23	S-4 : Moist, stiff, tan, Clayey SILT, little to some fine to coarse Sand, little Gravel, fine to coarse Sand lens ~8" from spoon tip			10	CLAYEY SILT	8.0	Sand (4-15')
		S-6	11-13	24	16	14 19 18 17	37	S-5 : Wet, very stiff, tan, Clayey SILT, some fine to coarse Sand, little Gravel						PVC Screen (5-15')
15		S-7	15-17	24	8	2 7 33 34	40	S-6 : Wet, hard, tan, Clayey SILT and fine to coarse SAND, little Gravel, fine to coarse Sand lens ~7" from spoon tip			17	TILL	1.0	
20								S-7 : Wet, very dense, tan-gray, GRAVEL, some fine to coarse Sand, trace Clayey Silt	4					
25								End of exploration at 17 feet.						
30														

**REMARKS**

1 - Ground surface elevation was estimated from a plan entitled "Mystic Water Works at Capen Court - Existing Conditions Plan" prepared by DiMella Shaffer, and dated September 16, 2011.  
2 - Soil was frozen from 0 to 1 foot below ground surface. Drillers augered to 1 foot below ground surface before taking first sample.  
3 - Hard drilling was observed from approximately 2.5 to 3 feet below ground surface due to possible cobble.  
4 - Installed groundwater observation well from 15 feet below ground surface to ground surface.

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

**Exploration No.:**  
**GZ-1**

# TEST BORING LOG



**GZA**  
**GeoEnvironmental, Inc.**  
Engineers and Scientists

**Groundwater Evaluation**  
**Mystic Water Works**  
**149 Capen Street**  
**Somerville, Massachusetts**

**EXPLORATION NO.:** GZ-2  
**SHEET:** 1 of 1  
**PROJECT NO:** 01.0171883.00  
**REVIEWED BY:** JAL

**Logged By:** Zachary Boswell  
**Drilling Co.:** Drilex Environmental  
**Foreman:** Chris Hogan

**Type of Rig:** Truck Mounted  
**Rig Model:** CME-75  
**Drilling Method:** HSA

**Boring Location:** See Plan  
**Ground Surface Elev. (ft.):** 17.5  
**Final Boring Depth (ft.):** 17  
**Date Start - Finish:** 1/23/2014 - 1/23/2014

**H. Datum:**  
See Exploration Plan  
**V. Datum:**  
City of Somerville

**Hammer Type:** Automatic Hammer  
**Hammer Weight (lb.):** 140  
**Hammer Fall (in.):** 30  
**Auger or Casing O.D./I.D Dia (in.):** 8.25"/4.25"

**Sampler Type:** Split Spoon  
**Sampler O.D. (in.):** 2"  
**Sampler Length (in.):** 24"  
**Rock Core Size:** N/A

## Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
1/23/14	1315	13.32	30 min.
1/23/14	1536	9.17	1 hr. 50 min.
1/31/14	1505	7.43	8 days

Depth (ft)	Casing Blows/ Core Rate	Sample						Sample Description Modified Burmister	Remark	Field Test Data	Stratum		Roadway Box	
		No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows per 6"	SPT Value				Depth (ft.)	Description Elev. (ft.)		
5		S-1	1-3	24	9	7 6 3 2	9	S-1 : Moist, loose, dark brown, SILT, little fine to coarse Sand, trace Gravel, trace Roots, trace Brick, trace Cinders, Gravel in spoon tip	1		1	TOPSOIL	16.5	Concrete (0-1')
		S-2	3-5	24	2	2 2 2 1	4	S-2 : Moist, loose, brown, fine to coarse SAND, some Silt, trace Roots	2					Drill Cuttings (1-2')
		S-3	5-7	24	10	1 1 1 4	2	S-3 : Wet, very loose, brown, SILT, some fine to coarse Sand, trace Gravel, trace Brick						PVC Riser (0-5')
		S-4	7-9	24	20	4 6 14 18	20	S-4 : Wet, medium dense, brown, fine to coarse SAND, some Clayey Silt, little Gravel, soil mottling seam in sample ~16" from spoon tip, ~1" thick Gravel lens ~3" from spoon tip			8		9.5	Bentonite (2-4')
		S-5	9-11	24	17	10 14 17 25	31	S-5 : Wet, dense, brown, fine to coarse SAND, some Gravel, little Clayey Silt						Sand (4-15')
		S-6	15-17	24	16	9 30 31 15	61	S-6 : Wet, hard, brown-gray, Clayey SILT and GRAVEL, some fine to coarse Sand, mottling observed	3		17		0.5	PVC Screen (5-15')
10														
15														
20								End of exploration at 17 feet.						
25														
30														

**REMARKS**  
1 - Ground surface elevation was estimated from a plan entitled "Mystic Water Works at Capen Court - Existing Conditions Plan" prepared by DiMella Shaffer, and dated September 16, 2011.  
2 - Soil was frozen from 0 to 1 foot below ground surface. Drillers augered to 1 foot below ground surface before taking first sample.  
3 - Installed groundwater monitoring well from approximately 15 feet below ground surface to ground surface.

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

**Exploration No.:**  
**GZ-2**



# TEST BORING LOG



**GZA**  
**GeoEnvironmental, Inc.**  
Engineers and Scientists

**Groundwater Evaluation**  
**Mystic Water Works**  
**149 Capen Street**  
**Somerville, Massachusetts**

**EXPLORATION NO.:** GZ-3  
**SHEET:** 1 of 1  
**PROJECT NO:** 01.0171883.00  
**REVIEWED BY:** JAL

**Logged By:** Zachary Boswell  
**Drilling Co.:** Drilex Environmental  
**Foreman:** Chris Hogan

**Type of Rig:** Truck Mounted  
**Rig Model:** CME-75  
**Drilling Method:** HSA

**Boring Location:** See Plan  
**Ground Surface Elev. (ft.):** 19.40  
**Final Boring Depth (ft.):** 20  
**Date Start - Finish:** 1/23/2014 - 1/23/2014

**H. Datum:**  
See Exploration Plan  
**V. Datum:**  
City of Somerville

**Hammer Type:** Automatic Hammer  
**Hammer Weight (lb.):** 140  
**Hammer Fall (in.):** 30  
**Auger or Casing O.D./I.D Dia (in.):** 8.25"/4.25"

**Sampler Type:** Split Spoon  
**Sampler O.D. (in.):** 2"  
**Sampler Length (in.):** 24"  
**Rock Core Size:** N/A

## Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
1/23/14	1511	7.32	30 min.
1/31/14	1513	7.38	8 days

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows per 6"	SPT Value	Sample Description Modified Burmister	Remark	Field Test Data	Stratum Description Elev. (ft.)	Roadway Box
		S-1	1-3	24	7	4 3 2 2	5	S-1 : Moist, loose, dark brown, fine to coarse SAND and SILT, trace Gravel, trace Asphalt, trace Brick, trace Cinders	1		0.1 19.3	Concrete (0-1')
		S-2	3-5	24	12	4 8 14 9	22	S-2 : Moist, medium dense, brown, fine to coarse SAND and Clayey SILT, some Gravel	2			Drill Cuttings (1-5')
5		S-3	5-7	24	4	5 8 7 8	15	S-3 : Wet, medium dense, dark brown, fine to coarse SAND, some Silt, little Gravel, slight petroleum-like odor			7 12.4	PVC Riser (0-8')
		S-4	7-9	24	6	8 12 17 8	29	S-4 : Wet, very stiff, tan, Clayey SILT, some fine to coarse Sand, trace Gravel, Gravel in spoon tip, petroleum odor			9 10.4	Bentonite (5-7')
10		S-5	9-11	24	7	7 11 12 14	23	S-5 : Wet, medium dense, gray, fine to coarse SAND and GRAVEL, little Silt, petroleum odor				
		S-6	11-13	24	13	15 17 15 22	32	S-6 : Wet, dense, gray, fine to coarse SAND and GRAVEL, little Silt				
15		S-7	18-20	24	14	11 9 9 9	18	S-7 : Wet, very stiff, gray, Clayey SILT, some Gravel, little fine to coarse Sand				
20								End of exploration at 20 feet.	3		20 -0.6	Sand (7-18') PVC Screen (8-18')
25												
30												

**REMARKS**

1 - Ground surface elevation was estimated from a plan entitled "Mystic Water Works at Capen Court - Existing Conditions Plan" prepared by DiMella Shaffer, and dated September 16, 2011.  
2 - Soil was frozen from 0 to 1 foot below ground surface. Drillers augered to 1 foot below ground surface before taking first sample.  
3 - Installed groundwater observation well from approximately 18 feet below ground surface to ground surface.

Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

**Exploration No.:**  
**GZ-3**



HVAC

Electrical

Plumbing

Fire Protection

Code

## **R.W. Sullivan Engineering**

The Schrafft Center  
529 Main Street  
Suite 203  
Boston, MA 02129

617.523.8227  
[www.rwsullivan.com](http://www.rwsullivan.com)

# **Mystic Waterworks at Capen Court Boston, Massachusetts**

## **Existing Building Code Report**

**July 28, 2011**

**Prepared By:** Andrew P. Schwalbenberg  
**Reviewed By:** A. Vernon Woodworth, AIA, LEED AP

## **Table of Contents**

Introduction .....	1
International Existing Building Code .....	1
1. Work Area and Classification of Work:.....	1
2. Occupancy Classification:.....	2
3. Construction Type: .....	2
4. Height and Area Limitations:.....	2
5. Fire Resistance Ratings:.....	2
6. Exterior Wall Rating:.....	3
7. Vertical Openings: .....	3
8. Interior Finishes: .....	4
9. Means of Egress:.....	4
10. Required Fire Protection Systems: .....	6
11. Energy Code Provisions for Existing Buildings .....	7
12. Structural Provisions for Existing Buildings .....	7
Massachusetts Architectural Access Board Regulations .....	8
Americans with Disabilities Act Guidelines .....	9
Appendix A: Egress Plans.....	11
Appendix B: City Assessment .....	15



### **Introduction**

This existing historic building, located at 149 Capen Street in Somerville, Massachusetts, currently sits vacant after serving as a public waterworks building. This project includes creating apartment housing through the conversion of the existing Mystic Waterworks building and the construction of an adjacent new apartment building. This report covers the code compliance for the conversion of the existing waterworks building into new residential units. There will be a change in use as part of this renovation from Use Group B and F-1 to Use Group R-2. This code summary is based on architectural drawings received July 22, 2011. Following is a list of applicable codes:

<b>Code Type</b>	<b>Applicable Code (Model Code Basis)</b>
<b>Building</b>	780 CMR: Massachusetts State Building Code, 8 <sup>th</sup> Edition (2009 International Building Code) (2009 International Existing Building Code)
<b>Fire Prevention</b>	527 CMR: Massachusetts Fire Prevention Regulations
<b>Accessibility</b>	521 CMR: Massachusetts Architectural Access Board Regulations
<b>Electrical</b>	527 CMR 12.00: Massachusetts Electrical Code (2011 National Electrical Code)
<b>Elevators</b>	524 CMR: Massachusetts Elevator Code (2004 ASME A17.1)
<b>Mechanical</b>	2009 International Mechanical Code (IMC)
<b>Plumbing</b>	248 CMR: Massachusetts Plumbing Code
<b>Energy Conservation</b>	2009 International Energy Conservation Code & Stretch Energy Code <sup>1</sup>

1. The City of Somerville has adopted the Stretch Energy Code (780 CMR Appendix AA) which will become effective on January 1, 2012.

### **International Existing Building Code**

The 2009 International Existing Building Code with Massachusetts amendments allows for 3 separate compliance methods, the Prescriptive Method (in general, altered areas must comply with the code for new construction), Work Area Method (level of compliance is based on the classification of work), and Compliance Alternative Method (numerical method that allows tradeoffs for deficiencies). This report is based on the Work Area Method.

#### **1. Work Area and Classification of Work:**

The proposed work includes a change in use, and alterations to the existing building. For the purposes of this report the renovations in the existing building will be classified as Level 3 alterations, which includes the reconfiguration of spaces, the addition or elimination of doors and windows, the reconfiguration or extension of systems, and/or the installation of additional equipment in more than 50% of the aggregate area of the building. Therefore, the work must comply with IEBC Chapters 6, 7, 8 & 9.

**2. Occupancy Classification:**

- R-2 (Apartments and Accessory Storage and Mechanical Spaces)

**3. Construction Type:**

It is our understanding that the existing building is solid load bearing brick with wood beams. Since this includes combustibile structural members, the construction type is likely either Type VA or VB. The minimum construction type of the overall building must be Type VB as shown in Section 4 of this report.

**4. Height and Area Limitations:**

Since there is a change in use to a higher height and area hazard category and there is an addition planned as part of this renovation, the building is required to comply with the height and area limitations for the construction type of the building (IEBC 912.5.1 & 1002.1).

Code Reference	Type VB – R-2	
	Height	Area
<u>780 CMR Table 503:</u> Tabular Value	2 St. (40 ft)	7,000 ft <sup>2</sup>
<u>780 CMR Section 506.3:</u> Sprinkler Height Increase	1 St. (20 ft)	-
<u>780 CMR Section 506.2</u> Frontage Increase (100% Open) <sup>A</sup>	-	5,250 ft <sup>2</sup>
<u>780 CMR Section 506.3:</u> Sprinkler Area Increase	-	14,000 ft <sup>2</sup>
<b>Total Height and Area Allowed</b>	<b>3 St. (60 ft)</b>	<b>26,250 ft<sup>2</sup></b>
<b>Actual Height and Area</b>	<b>2 St. (30 ft)</b>	<b>9,750 ft<sup>2</sup></b>

*As shown above, the building is permitted to remain as Type VB construction.*

**5. Fire Resistance Ratings:**

The following table summarizes the required fire resistance ratings for the building elements of Type VB construction, based on 780 CMR Table 601 and other applicable code provisions:

Building Element	Fire Resistance Rating (Hrs)	Opening Protectives (Hrs)
Structural Frame	0 <sup>A</sup>	-
Exterior Bearing Walls including columns along the exterior wall	0	-
Interior Bearing Walls	0 <sup>A</sup>	-

Floor Construction	0 <sup>A</sup>	-
Roof Construction	0	-
Stair Enclosures, Shafts, Exit Enclosures < 4 stories (IEBC 912.7.2, 780 CMR 708.2)	1	1
Dwelling Unit Separation (780 CMR 420.2)	1	$\frac{3}{4}$
Residential Corridors (780 CMR Table 1018.1)	$\frac{1}{2}$	$\frac{1}{3}$
New Trash Rooms > 100 ft <sup>2</sup> in Area (780 CMR Table 508.2.5)	Smoke Partitions	Self-Closing
New Laundry Rooms > 100 ft <sup>2</sup> in Area (780 CMR Table 508.2.5)	Smoke Partitions	Self-Closing
Emergency Electrical Room (527 CMR 12.00 700-9(D)(1))	2 <sup>B</sup>	1 $\frac{1}{2}$

<sup>A</sup>. Not less than the rating of the assembly supported.

<sup>B</sup>. No rating is required for the room when fully sprinklered, however, a 2-hr rating is still required for the emergency feeder-circuit wiring.

New fire walls, fire barriers, fire partitions, smoke barriers, and smoke partitions, or any other wall required to have protected openings or penetrations must be identified with signs or stenciling within concealed spaces (i.e. floor-ceiling, attic spaces) at 30 ft intervals (780 CMR 703.6).

**The laundry room and trash room are both over 100 ft<sup>2</sup>, therefore they need to be enclosed with smoke partitions and provided with self-closing doors.**

## 6. Exterior Wall Rating:

Since the renovation includes a change in use from B and F-1 to R-2, the exterior walls of the building are permitted to remain unaltered since this is a change in use to an equal or lesser hazard category (IEBC 912.6.2).

*The existing building is not required to comply with the exterior wall rating requirements due to the change in use, but it is required to do so based on the adjacent construction of a new building. Since this existing building and the new building will be located on the same lot an imaginary lot line must be drawn between the buildings to determine the fire separation distance of each wall and the required rating and opening limitations. The buildings are located 42 ft apart. Since the existing building is not required to comply with the exterior wall rating requirements the imaginary lot line can be placed 12 ft from the existing building and 30 ft from the new building, thereby not requiring ratings for the new building's exterior.*

## 7. Vertical Openings:

All existing vertical openings connecting two or more floors must be enclosed with 1-hour rated construction and approved opening protectives, unless the



openings meet one of the exceptions in IEBC 703.2.1. New vertical openings are required to comply with 780 CMR 708.2.

*Both stairs connecting the first and second stories are permitted to be unenclosed in accordance with 780 CMR Section 1016.1 Ex 4. These open stairs must be separated from the basement level by a one hour fire partition.*

## 8. Interior Finishes:

The existing interior finish of walls and ceilings in the work area and in all exits and corridors serving the work area must comply with the code requirements for new construction (IEBC 703.4, 803.3, & 912.3). All newly installed wall and ceiling finishes, and interior trim materials must also comply with 780 CMR Table 803.9 (IEBC 602.1, 602.2, 602.3). The requirements are summarized below:

Walls & Ceilings (IBC Table 803.9)

Use Group:	R-2
Exit Stair	Class C
Exit Access Corridors	Class C
Rooms & Enclosed Spaces	Class C

### New Floor Finishes

Since the building will be equipped with an automatic sprinkler system, traditional floor coverings such as wood, vinyl, carpeting, and other resilient floor coverings passing the DOC FF-1 pill test are allowed throughout the building, including all exits, exit passageways and exit access corridors (IBC Section 804.4.1).

## 9. Means of Egress:

The means of egress including the number of exits and egress capacity must be sufficient for the number of occupants on all floors (IEBC MA Amendment Section 102.2.2.1). As shown in the following table and detailed calculations at the end of this report, the building is generally compliant with these egress requirements with the exception of the basement space.

### **Means of Egress**

Floor	Occupant Load	Number of Exits		Exit Capacity (persons)
		Required	Provided	
0	13	2	1	2,427
1	70	2	2	907
2	67	2	2	460

**As shown above, the building is provided with sufficient egress capacity with the exception of the basement storage/laundry area. The basement is permitted to have one means of egress if the travel distance is less than 100 ft and there are fewer than 29 occupants (780**

**CMR Table 1021.2). As designed, the travel distance from the furthest storage unit to the exit stair is 105 ft. Since two means of egress are required they must be remotely located (minimum separation of 39'-4"). The proposed service exit is not remotely spaced therefore it cannot be considered a second means of egress. Therefore the second means of egress must be relocated or the maximum travel distance reduced to 100 ft.**

#### General Egress Requirements

The means of egress throughout the building is required to comply with the code for new construction due to an increase in hazard category, including some of the following requirements (IEBC 912.4.1):

- 9.1 Maximum exit access travel distance must be less than 250 feet (780 CMR Table 1016.1).
- 9.2 Maximum Dead End Corridor Length must be < 50 feet or 2.5 times the least width of space (780 CMR 1018.4 Exception 2).

**The basement storage area contains a dead end corridor measuring 80 ft. A door should be installed within 50 ft of the end of the corridor to eliminate this non-compliant condition.**

- 9.3 All rooms or spaces with an occupant load greater than 50 people must be provided with two egress doors swinging in the direction of egress and illuminated exit signs at each exit (780 CMR Sections 1015.1, 1008.1.2, & 1011.1). Boiler rooms require two means of egress if the room is greater than 500 sqft. and includes individual fuel-fired equipment greater than 400,000 Btuh input capacity (780 CMR 1015.3).
- 9.4 The clear width of all doors must be at least 32" (780 CMR 1008.1.1).

*All egress doors measured 32" minimum in clear width.*

- 9.5 Horizontal sliding doors are permitted to be used as a means of egress in areas serving less than 10 occupants (780 CMR 1008.1.2 Ex 9).

*The horizontal sliding doors in the dwelling units are compliant as designed.*

- 9.6 Egress doors must swing in the direction of egress travel where serving an occupant load of 50 or more people (780 CMR 1008.1.2).

*Door swings throughout the building are compliant.*

- 9.7 All rooms or spaces with a travel distance of over 125 feet (100 ft for basement areas) must be provided with two egress doors and

illuminated exit signs at each exit (780 CMR Sections 1015.1 & 1011.1).

**If the travel distance in the basement is not reduced to less than 100 ft two remote means of egress are required.**

- 9.8 All dwelling units that contain over 4000 square feet (20 occupants) or have a travel distance over 125 feet must be provided with two means of egress (780 CMR 1015.1, 104.3 Ex 4).
- 9.9 Remote means of egress must be separated by  $\frac{1}{3}$  of the diagonal dimension of the room or space they serve (780 CMR 1015.2.1). The distance between exits may be measured along 1-hour fire resistance rated corridors complying with 780 CMR 1018 but must otherwise be measured in a straight line between exit doors.
- 9.10 All exits must discharge to the exterior of the building except that a maximum of 50% of the number and capacity of the exit enclosures are allowed to exit through areas on the level of discharge if the egress path fully conforms with the requirements of 780 CMR 1027.1.
- As designed 50% of the exits discharge directly to the exterior, if both stairs will be open they are permitted to discharge through the first floor in accordance with 780 CMR 1016.1 Ex 4.*
- 9.11 Doors into exit stairs must be self closing or automatically closing by listed closing devices (IEBC 705.4.3; 780 CMR 1022.3).
- 9.12 All means of egress lighting and exit signs throughout the building must be provided with an emergency power supply to assure continued illumination for not less than 1.5 hours in case of primary power loss (IEBC 805.2 & 805.3; and 780 CMR 1006.1 & 1011.1).
- 9.13 A stairway in an exit enclosure is not permitted to continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge (780 CMR 1022.7).

**The enclosed stair continues below the level of exit discharge, therefore a barrier is required.**

## 10. Required Fire Protection Systems:

The following fire protection systems are required in the areas noted:

- Automatic sprinkler system throughout entire building (IEBC 704.2.2, 912.2.1)
- Fire alarm system (780 CMR 907.2.9)
- Single and multiple station smoke detectors in the R-2 areas (780 CMR 907.2.11.2)



- Fire extinguishers (780 CMR 906.1)
- Carbon monoxide detection throughout (780 CMR 916.1)

If required, fire pumps must be located in a dedicated room protected with 2 hour fire rated construction and accessed by directly from the exterior or through a 2 hour fire rated enclosure (780 CMR 913.2.1 & 913.2.2).

**The fire pump room must have direct access to the exterior of the building or be provided with a 2 hour rated enclosure to the exterior.**

## **11. Energy Code Provisions for Existing Buildings**

The building must comply with the 2009 International Energy Conservation Code (IECC) with Massachusetts Amendments (Massachusetts Energy Conservation Code). Alternatively, the provisions of ASHRAE 90.1-2007 can be met in lieu of the IECC. The IECC 101.4.3 also requires all new or altered systems or portions thereof within the existing building to comply with the code requirements applicable to new construction without requiring the unaltered portions to be upgraded.

Additionally, the City of Somerville has adopted the Stretch Energy Code (780 CMR Appendix AA) which goes into effect on January 1, 2012. Renovation of a 2 story building for residential occupancy is required to meet a HERS rating of 85 (780 CMR Appendix AA 401.6.2) or the prescriptive option for alterations or repairs (Appendix AA 401.6).

## **12. Structural Provisions for Existing Buildings**

Alterations to buildings must be evaluated by a registered structural engineer to determine compliance with the IBC; however, for a Level 3 alteration, some of the major thresholds for seismic and wind load compliance are as follows:

1. Where not more than 30 percent of the total floor and roof areas of the building are involved in structural alteration within a 12-month period, the evaluation and analysis shall demonstrate that the altered building or structure complies with the loads applicable at the time of the original construction or of the most recent substantial structural alteration as defined by Section 807.4.2 (IEBC 807.4.3).
2. Where more than 30 percent of the total floor and roof areas of the building or structure have been or are proposed to be involved in structural alteration within a 12-month period, the evaluation and analysis shall demonstrate that the altered building or structure complies with the 780 CMR for wind loading and with reduced 780 CMR level seismic forces as specified in Section 101.5.4.2 for seismic loading (IEBC 807.4.2). The areas to be counted toward the 30 percent shall be those areas tributary to the vertical load-carrying components, such as joists, beams, columns, walls and other structural components that have been

or will be removed, added or altered, as well as areas such as mezzanines, penthouses, roof structures and in-filled courts and shafts.

3. Where a permit is issued for reroofing more than 25 percent of the roof area of a building assigned to Seismic Design Category B, C, D, E or F with a structural system consisting of concrete or reinforced masonry walls with a flexible roof diaphragm or unreinforced masonry walls with any type of roof diaphragms, the work shall include installation of wall anchors at the roof line to resist the reduced 780 CMR level seismic forces as specified in Section 101.5.4.2 of this code and design procedures of Section 101.5.4, unless an evaluation demonstrates compliance of existing wall anchorage (IEBC 606.2.1 MA Amendment).
4. Where a permit is issued for reroofing for more than 25 percent of the roof area of a building assigned to Seismic Design Category B, C, D, E or F that has parapets constructed of unreinforced masonry, the work shall include installation of parapet bracing to resist the reduced 780 CMR seismic forces specified in Section 101.5.4.2 of this code, unless an evaluation demonstrates compliance of such items (IEBC 606.3.1 MA Amendment).
5. Where roofing materials are removed from more than 100 percent of the roof diaphragm of a building, and the basic wind speed is greater than 90 mph and the occupancy category is type III or type IV or the basic wind speed is 105 or greater, the roof diaphragms and connections that are part of the main wind-force resisting system shall be evaluated for the wind loads specified in the 780 CMR, including wind uplift (IEBC 606.3.2 MA Amendment).

#### **Massachusetts Architectural Access Board Regulations**

Alterations to the building must comply with the requirements of the Massachusetts Architectural Access Board Regulations (521 CMR). For existing building alterations the requirements of 521 CMR are based on the cost of the proposed work:

- A. If the cost of the proposed work is **less than \$100,000**, only the new work must comply.
- B. If the cost of the proposed work is **greater than \$100,000** then all new work must comply and the existing building must include an accessible public entrance, toilet room, telephone and drinking fountain (if public phones and drinking fountains are provided) (521 CMR Section 3.3.1(b)). Exempt work when calculating the cost of work includes roof repair or replacement, window repair or replacement, and repointing and masonry repair work.
- C. If the cost of the proposed work is **greater than 30% of the full and fair cash value** of the existing building, the entire building is required to fully comply with 521 CMR (521 CMR Section 3.3.2). There is no exempt

work, i.e. the entire project costs apply to determining the 30% criteria.

The cost of all work performed on a building in any 36 month period must be added together in determining the applicability of 521 CMR (521 CMR Section 3.5). The full and fair cash value of the existing building is determined by using the 100% equalized assessed value of the building on record with the city assessor's office. The City of Somerville lists the value of the building at \$572,900. The assessment has been included as Appendix B of this report.

The cost of work to complete the alteration is expected to exceed the 30% threshold; therefore all portions of the building open to the public must be upgraded to comply in full with the current requirements of 521 CMR. Major upgrades required to meet full compliance with the provisions of 521 CMR will likely include the following building features:

- All public entrances must be accessible (521 CMR 25.1 & 3.4)
- Accessible routes throughout the building (521 CMR 20.1)
- Vertical access to all floor levels including basement tenant storage and laundry areas (521 CMR 28.1)
- Accessible toilet rooms (521 CMR 30)
- A total of 5% of the residential units must be Group 2A units (521 CMR Section 9.4). The Group 2A units must be proportionally distributed across the total number of units according to number of bedrooms, size, quality, prices and location. The remainder of the units must be Group 1 units.
- A total of 2% of the residential units must be capable of being provided with accommodations for persons who are deaf or hard of hearing (521 CMR Section 9.7).
- In Group 1 units, the refrigerator door must open 180 degrees, if the door cannot open 180 degrees, a minimum of 30" of counter space must be provided next to the refrigerator (521 CMR 43.7).
- Group 2 kitchens require 60" turning circle clearance (521 CMR 45.3)
- Refrigerator doors in Group 2 units must open 180 degrees and have a minimum of 30" of counter space next to the refrigerator (521 CMR 45.10).
- Accessible laundry facilities must be provided (521 CMR 10.8).

#### **Americans with Disabilities Act Guidelines**

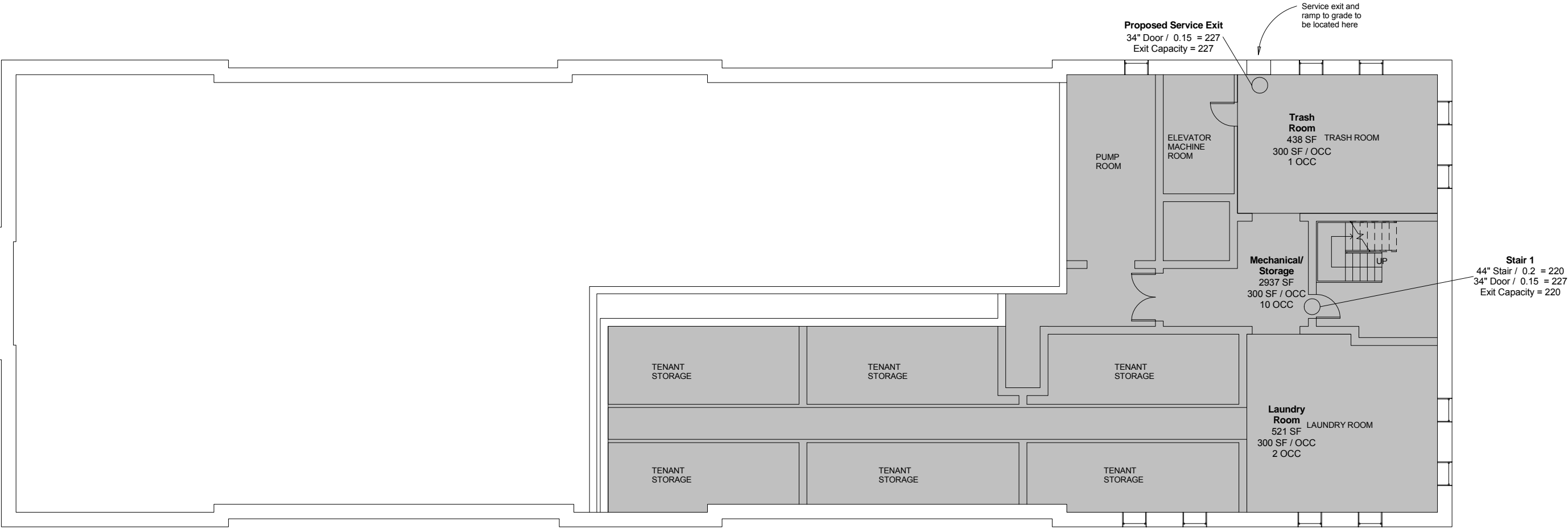
The ADA Guidelines are not enforced by the Commonwealth of Massachusetts, they can only be enforced through a civil lawsuit or complaint filed with the U.S. Department of Justice. Compliance with the ADA Guidelines is triggered by renovations to the existing building. All renovations to the building must be made



to ensure that, to the maximum extent feasible, the altered portions of the facility are readily accessible to and usable by individuals with disabilities (28 CFR Part 36 Section 36.402(a)). Alterations made to provide an accessible path of travel to altered areas and accessible facilities (i.e. provide accessible toilet facilities) are not required if the cost exceeds 20% of the total cost of the alteration (28 CFR Part 36 Section 36.403(f)). However, if the cost to meet these accessibility requirements does exceed 20%, alterations are still required to the maximum extent that the area can be made accessible without exceeding the 20% criteria (28 CFR Part 36 Section 36.403(g)). The ADA also contains less stringent dimensional requirements for some building elements in an existing building where it is infeasible to meet the requirements for new construction (ADA Section 4.1.6). In general, the majority of the dimensional requirements in the ADA are equivalent to those in the 521 CMR.

*It should be noted that the 2010 ADA standards were published September 15, 2010. There is currently a 1.5 year concurrency period where the project can comply with either the 2010 standards or the 1991 ADA standards. Mandatory compliance is required after March 15, 2012.*

## **Appendix A: Egress Plans**



Occupant Load Level 0			
Use	Floor Area	Floor Area Per Occupant (SF / OCC)	Occupant Load
Laundry Room	521 SF	300	1.7
Mechanical/ Storage	2937 SF	300	9.8
Trash Room	438 SF	300	1.5
	3896 SF		13.0

Exit Capacity Level 0 (780 CMR 1005.1)							
Exit	Stair Width	Stair Exit Allowance (in / person)	Stair Capacity (persons)	Door Width	Door Exit Allowance (in / person)	Door Capacity (persons)	Exit Capacity (persons)
Proposed Service Exit				34"	0.15	227	227
Stair 1	44"	0.2	220	34"	0.15	227	220
							447

Occupant Load Densities (780 CMR TABLE 1004.1.1)	
15 Net S.F. / Occ.	Assembly without Fixed Seats - Unconcentrated (Tables and Chairs)
200 Gross S.F. / Occ.	Residential Areas
300 Gross S.F. / Occ.	Storage / Mechanical



R. W. Sullivan Engineering  
HVAC . Electrical . Plumbing . Fire Protection . Code  
The Schrafft Center, 529 Main St., Suite 203  
Boston, Massachusetts 02129-1107  
Phone: (617) 523-8227 Fax: (617) 523-8016  
www.rwsullivan.com  
RWS JOB # 10980.00

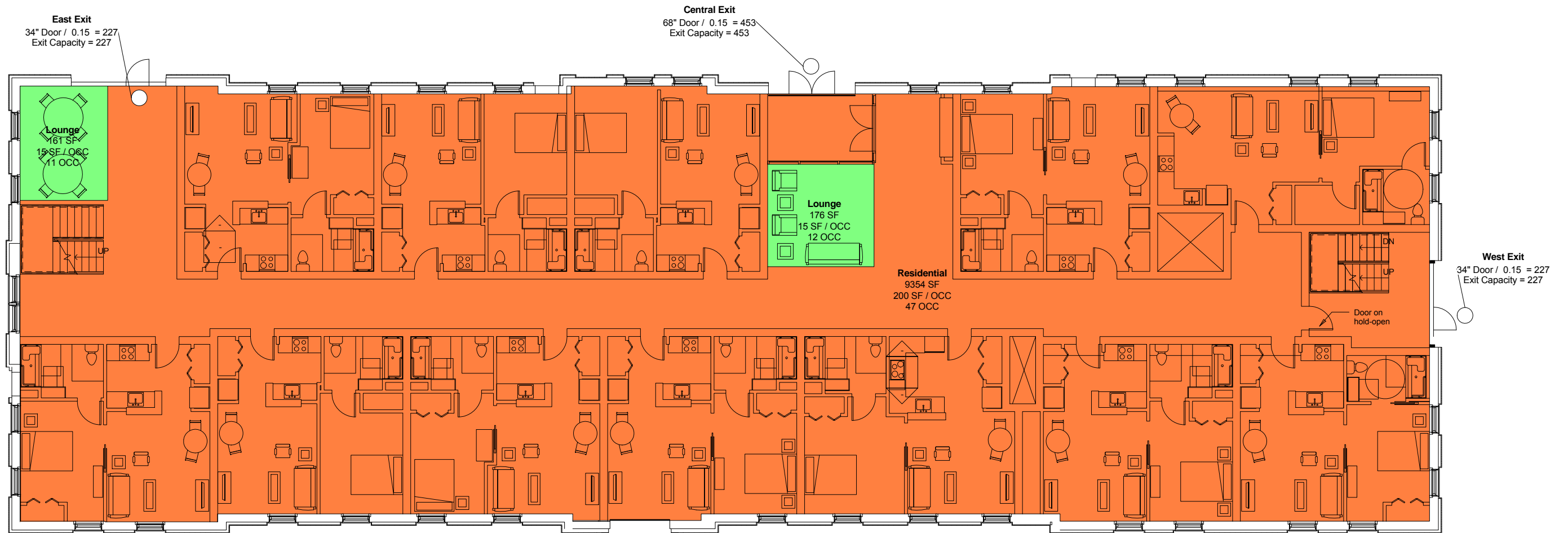
Project: Mystic Waterworks - Existing Building

Date: July 25, 2011

Scale: N.T.S.

Level 0  
Egress





Occupant Load Level 1			
Use	Floor Area	Floor Area Per Occupant (SF / OCC)	Occupant Load
Lounge	337 SF	15	22.5
Residential	9354 SF	200	46.8
	9691 SF		69.2

Exit Capacity Level 1 (780 CMR 1005.1)							
Exit	Stair Width	Stair Exit Allowance (in / person)	Stair Capacity (persons)	Door Width	Door Exit Allowance (in / person)	Door Capacity (persons)	Exit Capacity (persons)
Central Exit				68"	0.15	453	453
East Exit				34"	0.15	227	227
West Exit				34"	0.15	227	227
907							

Occupant Load Densities (780 CMR TABLE 1004.1.1)	
15 Net S.F. / Occ.	Assembly without Fixed Seats - Unconcentrated (Tables and Chairs)
200 Gross S.F. / Occ.	Residential Areas
300 Gross S.F. / Occ.	Storage / Mechanical



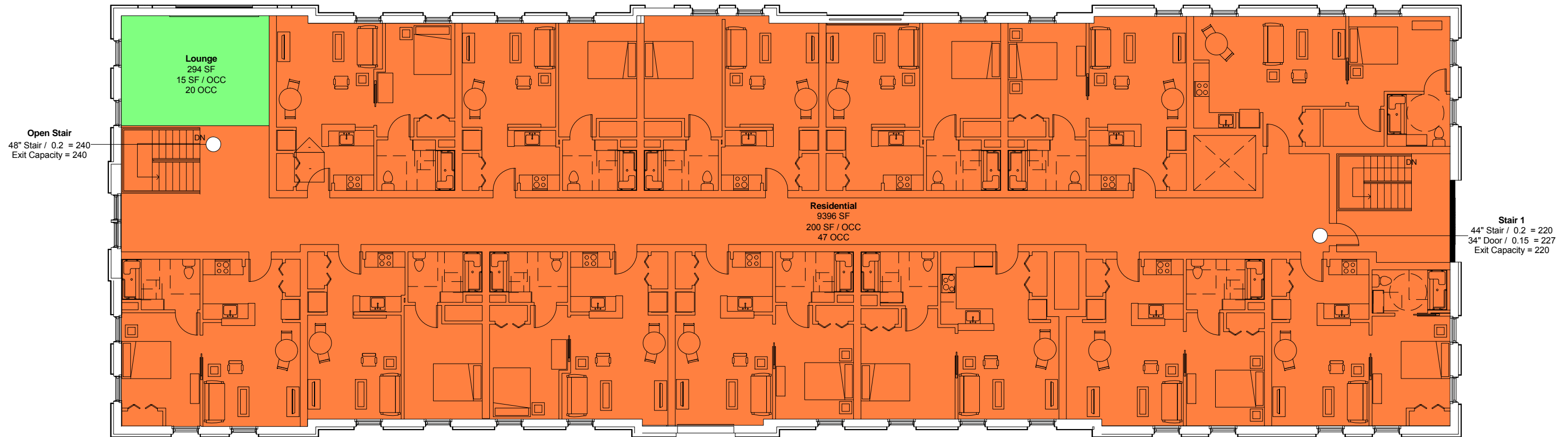
R. W. Sullivan Engineering  
HVAC . Electrical . Plumbing . Fire Protection . Code  
The Schrafft Center, 529 Main St., Suite 203  
Boston, Massachusetts 02129-1107  
Phone: (617) 523-8227 Fax: (617) 523-8016  
www.rwsullivan.com  
RWS JOB # 10980.00

Project: Mystic Waterworks - Existing Building

Date: July 25, 2011

Scale: N.T.S.

Level 1  
Egress



Occupant Load Level 2			
Use	Floor Area	Floor Area Per Occupant (SF / OCC)	Occupant Load
Lounge	294 SF	15	19.6
Residential	9396 SF	200	47.0
	9690 SF		66.6

Exit Capacity Level 2 (780 CMR 1005.1)							
Exit	Stair Width	Stair Exit Allowance (in / person)	Stair Capacity (persons)	Door Width	Door Exit Allowance (in / person)	Door Capacity (persons)	Exit Capacity (persons)
Open Stair	48"	0.2	240				240
Stair 1	44"	0.2	220	34"	0.15	227	220
							460

Occupant Load Densities (780 CMR TABLE 1004.1.1)	
15 Net S.F. / Occ.	Assembly without Fixed Seats - Unconcentrated (Tables and Chairs)
200 Gross S.F. / Occ.	Residential Areas
300 Gross S.F. / Occ.	Storage / Mechanical



**R. W. Sullivan Engineering**  
 HVAC . Electrical . Plumbing . Fire Protection . Code  
 The Schrafft Center, 529 Main St., Suite 203  
 Boston, Massachusetts 02129-1107  
 Phone: (617) 523-8227 Fax: (617) 523-8016  
 www.rwsullivan.com  
 RWS JOB # 10980.00

# Project: Mystic Waterworks - Existing Building

Date: July 25, 2011

Scale: N.T.S.

# Level 2 Egress

## **Appendix B: City Assessment**





**MBLU:** 2/A/31///  
**Location:** 149 CAPEN ST  
**Owner Name:** COMM OF MASS  
**Account Number:** 99731040

### Parcel Value

Item	Appraised Value	Assessed Value
Buildings	572,900	572,900
Xtra Bldg Features	0	0
Outbuildings	4,000	4,000
Land	974,400	974,400
<b>Total:</b>	<b>1,551,300</b>	<b>1,551,300</b>

### Owner of Record

COMM OF MASS  
 20 SOMERSET ST  
 BOSTON, MA 02108

### Ownership History

Owner Name	Book/Page	Sale Date	Sale Price
COMM OF MASS			0

### Land Use

Land Use Code	Land Use Description
9710	UTILITY WATER SEWER

### Land Line Valuation

Size	Zone	Appraised Value	Assessed Value
48000 SF	RA	974,400	974,400

### Construction Detail

<b>Building # 1</b>		
<b>STYLE</b> Warehouse	<b>MODEL</b> Industrial	<b>Grade</b> Average
<b>Stories:</b> 1	<b>Occupancy</b> 1	<b>Exterior Wall 1</b> Brick/Masonry
<b>Roof Structure</b> Flat	<b>Roof Cover</b> T&G/Rubber	<b>Interior Wall 1</b> Minim/Masonry
<b>Interior Floor 1</b> Concr-Finished	<b>Heating Fuel</b> Gas	<b>Heating Type</b> Forced Air-Duc
<b>AC Type</b> None	<b>Bldg Use</b> UTILITY WATER SEWER	<b>Total Rooms</b> 00
<b>Heat/AC</b> NONE	<b>Frame Type</b> MASONRY	<b>Baths/Plumbing</b> AVERAGE
<b>Ceiling/Wall</b> CEILING ONLY	<b>Rooms/Prtns</b> AVERAGE	<b>Wall Height</b> 12

### Building Valuation

<b>Living Area:</b> 13,110 square feet	<b>Year Built:</b> 1858	<b>Depreciation:</b> 26%
<b>Building Value:</b> 506,700		

### Extra Features

Code	Description	Units	Appraised Value
	No Extra Building Features		

### Outbuildings

Code	Description	Units	Appraised Value
SHD1	SHED FRAME	120 S.F.	1000

**Building Sketch****Subarea Summary**

Code	Description	Gross Area	Living Area
AOF	Office, (Average)	2850	2850
BAS	First Floor	10260	10260
UBM	Basement, Unfinished	2850	0

**Construction Detail****Building # 2****STYLE** Service Shop**Grade** Average**Occupancy** 1**Roof Structure** Flat**Interior Wall 1** Minim/Masonry**Heating Fuel** Gas**AC Type** None**Total Rooms** 02**Frame Type** MASONRY**MODEL** Serv Station**Stories:** 1**Exterior Wall 1** Brick/Masonry**Roof Cover** T&G/Rubber**Interior Floor 1** Concr-Finished**Heating Type** Hot Air-no Duc**Bldg Use** UTILITY WATER SEWER**Heat/AC** NONE**Building Valuation****Living Area:** 1,600 square feet**Year Built:** 1955**Depreciation:** 48%**Building Value:** 66,200**Extra Features**

Code	Description	Units	Appraised Value
No Extra Building Features			

**Outbuildings**

Code	Description	Units	Appraised Value
TNK1	TANK-UNDERGRND	2000 GALS	2000

Building Sketch



Subarea Summary

Code	Description	Gross Area	Living Area
BAS	First Floor	1600	1600
UBM	Basement, Unfinished	1600	0



October 3, 2014

## **Mystic Waterworks at Capen Court Heating/Cooling Narrative**

### **Variable Refrigerant Flow (VRF) System:**

This type of HVAC system will provide heating and cooling by a variable refrigerant flow heat pump system capable of simultaneous heating and cooling to all the units, as well as the public spaces. The system consists of outdoor mounted condensing units with variable speed compressors, centrally located refrigerant metering controllers, indoor apartment air handling units and interconnecting refrigerant piping. These systems are capable of connecting multiple indoor units with one outdoor unit versus conventional split systems which would utilize one indoor unit with one outdoor condensing unit. The VRF system is typically 20% more energy efficient than conventional heating and cooling systems. These systems, also called heat recovery systems, use a branch circuit (BC) controller to control energy. The BC controller can remove energy from one zone that doesn't need it, and apply it to a different zone that does. The BC controller performs all the work, bypassing the compressor unit and saving electricity. The VRF compressor technology is highly responsive and efficient. The technology allows for compact, quiet units, flexibility of placement and gives architects and owners more design freedom with Integrated, simple to use controls.

### **Domestic hot water:**

Domestic hot water will be generated by (2) gas fired, storage type, stainless steel, high efficiency, water heaters. The heaters are up to 97% thermal efficiency from 40f degrees to 140f degrees at full firing rate. These heaters would easily qualify for LEED certification. This type of water heater utilizes a stainless steel tank and is highly resistant to aqueous, crevice, and pitting corrosion. It also exhibits excellent resistance to stress corrosion cracking. The thermal efficiency is accomplished through a completely submerged single pass down fired design, which includes an array of enhanced fire tubes. Combustion gases are counter-flow to the direction of the potable water. This enables the coolest flue gases to contact the coldest water and raises thermal efficiency to 97%.

# CITYMULTI® Outdoor Unit: 14-TON PURY-P168TSKMU-A (-BS) MITSUBISHI ELECTRIC

(Consists of One PURY-P96TKMU-A (-BS), One PURY-P72TKMU-A (-BS), and One CMY-R100CBK2 Twinning Kit)

Job Name: Benfield Farms, Carlisle MA

Schedule Reference: ACCU-3

Date: 03-29-13

## OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- INVERTER-driven compressor
- Air-source, simultaneous cooling and heating
- Long line lengths - for details see Engineering Manual
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

## UNIT OPTION

- Standard Model.....PURY-P168TSKMU-A
- Sea Coast (BS) Model.....PURY-P168TSKMU-A-BS

## OPTIONAL PARTS

- Twinning Kit\*.....CMY-R100CBK2
  - T-Branch Joint (≤ 72,000 Btu/h).....CMY-Y102SS-G2
  - T-Branch Joint (73,000 - 144,000 Btu/h).....CMY-Y102LS-G2
  - Branch Joint (T-Branch: 145,000-234,000 Btu/h).....CMY-Y202S-G2
  - Joint Adapter (Port Connector > 54,000 Btu/h).....CMY-R160C-J
  - Main BC Controller.....CMB-P108/1010/1013/1016NU-GA/1016NU-HA
  - Sub BC Controller.....CMB-P104/108NU-GB/1016NU-HB
  - Low Ambient Kit .....for details see Low Ambient Kit Submittal
- \* Twinning Kit is necessary to combine the refrigerant flows of the modules and included in the outdoor unit set.

Specifications		System	Module 1	Module 2
Unit Type		PURY-P168TSKMU-A (-BS)	PURY-P96TKMU-A (-BS)	PURY-P72TKMU-A (-BS)
Nominal Cooling Capacity	Btu/h	168,000	96,000	72,000
Nominal Heating Capacity	Btu/h	188,000	108,000	80,000
Operating Temperature Range	Cooling (Outdoor) *1	Refer to Module Data	23~115° F (-5~46° C) DB	
	Heating (Outdoor)		-4~60° F (-20~15.5° C) WB	
External Dimensions (H x W x D)	In. mm	Refer to Module Data	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1,041 (472)	538 (244)	503 (228)
External Finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3-Phase, 60Hz	
Cooling Power Input	kW	12.8	Refer to System Data	
Heating Power Input	kW	14.91		
Cooling Current (208/230V)	R.L.A.	39.4-35.7		
Heating Current (208/230V)	R.L.A.	45.9-41.5		
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	34 / 31	23 / 21
Recommended Fuse/Breaker Size	A	Refer to Module Data**	35	25
Maximum Fuse Size (MOCP)	A	Refer to Module Data**	50	35
Piping Diameter				
From Twinning Kit to Indoor Units (Braze) (In. / mm)	Liquid (High Pressure)	7/8 (22.2) Braze	Refer to System Data	
	Gas (Low Pressure)	1-1/8 (28.58) Braze		
Max. Total Refrigerant Line Length	Ft.	1,969	Refer to System Data	
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541		
Max. Control Wiring Length	Ft.	1,650		
Indoor Unit	Total Capacity	50~150% of ODUs	Refer to System Data	
	Model / Quantity	P06~P96/1~42	Refer to System Data	
Sound Pressure Level	dB(A)	61	Refer to System Data	
Fan				
Type x Quantity		Refer to Module Data	Propeller fan x 1	Propeller fan x 1
Airflow Rate	CFM		6,200	6,200
External Static Pressure	In. WG (Pa)	Refer to Module Data	Selectable; 0, 0.12 or 0.24"WG; factory set to 0"W.G.	
Compressor Operating Range		7% to 100%	Refer to System Data	
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 26 lbs + 1 oz (11.8 kg)	R410A x 26 lbs + 1 oz (11.8 kg)
Protection Devices	High Pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)		Over-current protection	Over-current protection
	Fan Motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	12.1 / 12.9	Refer to System Data	
	IEER	19.4 / 19.1		
	COP	3.63 / 3.52		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *2	19.96 / 22.6	Refer to System Data	
Blue Fin Anti-corrosion Protection: Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants				
Standard: ≥1μm thick; Salt Spray Test Method - no unusual rust development to 480 hours.				
Sea Coast (BS): ≥1μm thick; Salt Sprav Test Method - no unusual rust development to 960 hours.				

## NOTES:

\*1. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

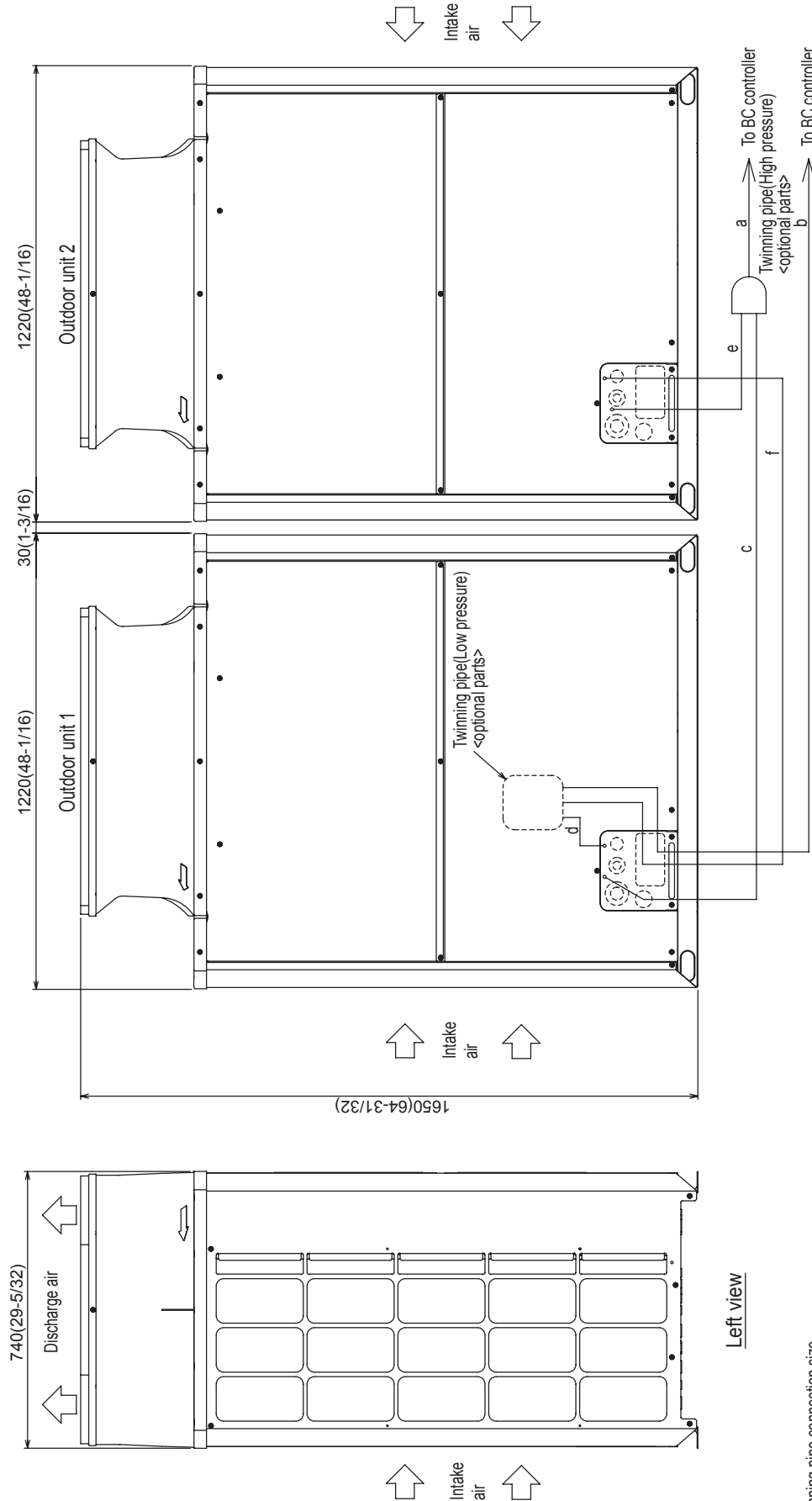
\*2. Simultaneous Cooling and Heating Efficiency

\*\* Each individual module requires a separate electrical connection.  
Refer to electrical data for each individual module.

# Outdoor Unit: PURY-P168TSKMU-A (-BS) – DIMENSIONS

## PURY-P168,192TSKMU-A(-BS)

Unit : mm(in.)



Front view

Twinning pipe connection size					
Package unit name		PURY-P168TSKMU-A(-BS)    PURY-P192TSKMU-A(-BS)			
Component unit name	Outdoor unit 1	PURY-P68TKMU-A(-BS)    PURY-P66TKMU-A(-BS)			
	Outdoor unit 2	PURY-P72TKMU-A(-BS)    PURY-P96TKMU-A(-BS)			
Outdoor Twinning Kit(optional parts)		CMY-R100CBK2			
BC controller~Twinning pipe	High pressure	ø22.2(7/8)			
	Low pressure	ø28.58(1-1/8)			

Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.

2. Twinning pipe (High pressure) should not be tilted more than 15 degrees from the horizontal plane.

Be sure to see the Installation Manual for details of Twinning pipe installation.

3. The pipe section before the Twinning pipe (section "a" in the figure) must have at least 500mm(19-11/16) of straight section

(\*including the straight pipe that is supplied with the Twinning pipe).

4. Only use the Twinning pipe by Mitsubishi (optional parts).

5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).

Unit model		P168	P192
Component unit model	P96	P72	P96
		P96	P96
Twinning Kit ~Outdoor unit	High pressure	c	e
		ø19.05(3/4)	ø19.05(3/4)
	Low pressure	d	f
		- (Note 5)	ø22.2(7/8)

# Model: PURY-P96TKMU-A (-BS) – DIMENSIONS

## PURY-P72,96TKMU-A(-BS)

Unit : mm(in.)

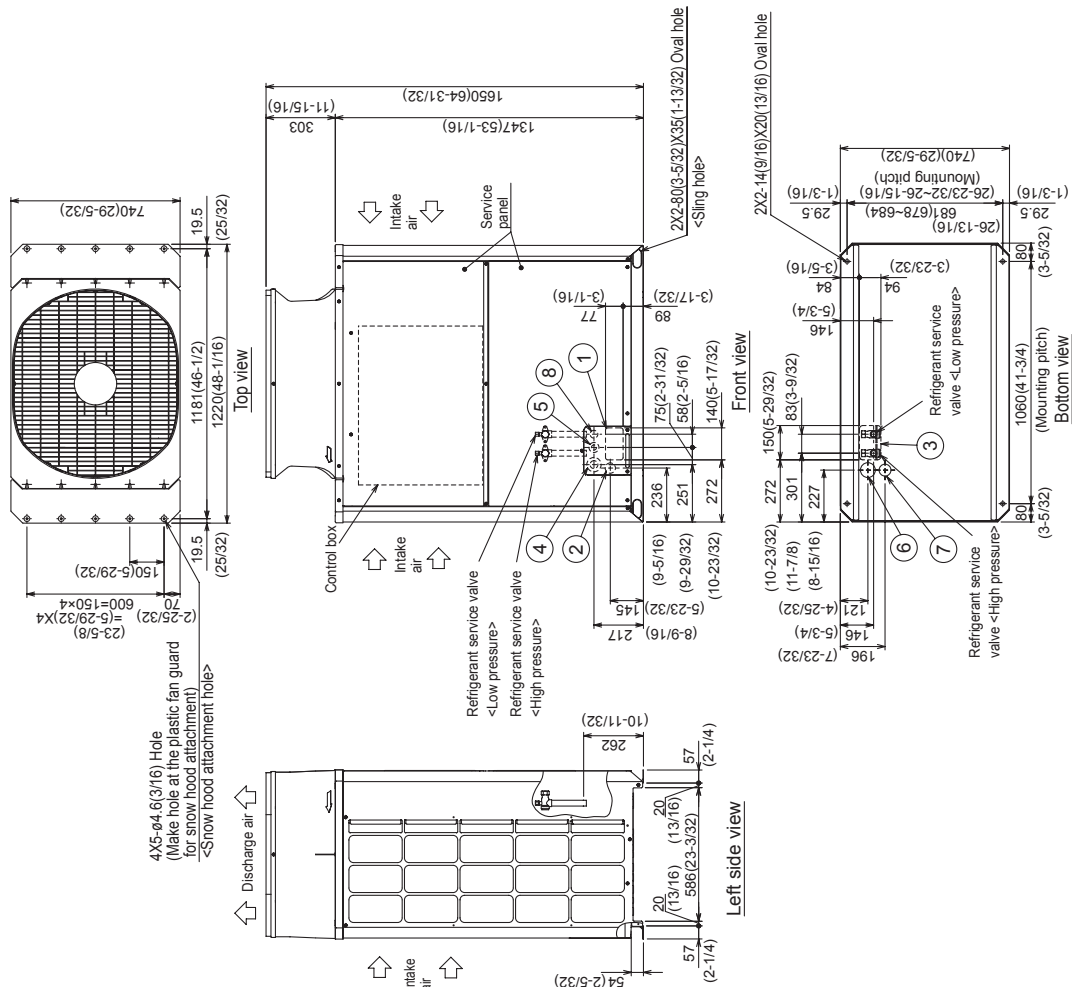
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.  
2. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

### Connecting pipe specifications

Model	Diameter		
	Refrigerant pipe	Service valve	
	High pressure	Low pressure	High pressure
PURY-P72TKMU	ø15.88 Braze (5/8) *1	ø19.05 Braze (3/4)	ø25.4 (1)
PURY-P96TKMU	ø19.05 Braze (3/4) *1	ø22.2 Braze (7/8) *1	ø25.4 (1)

\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

NO.	Usage	Specifications
①	Front through hole	140 x 77 Knockout hole (5-17/32)(3-11/16)
②	Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 x 94 Knockout hole (5-29/32)(3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32)(1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	For transmission cables	ø34 Knockout hole (1-11/32)





## Model: PURY-P72TKMU-A (-BS) – DIMENSIONS

PURY-P72,96TKMU-A(-BS)

Unit : mm(in.)

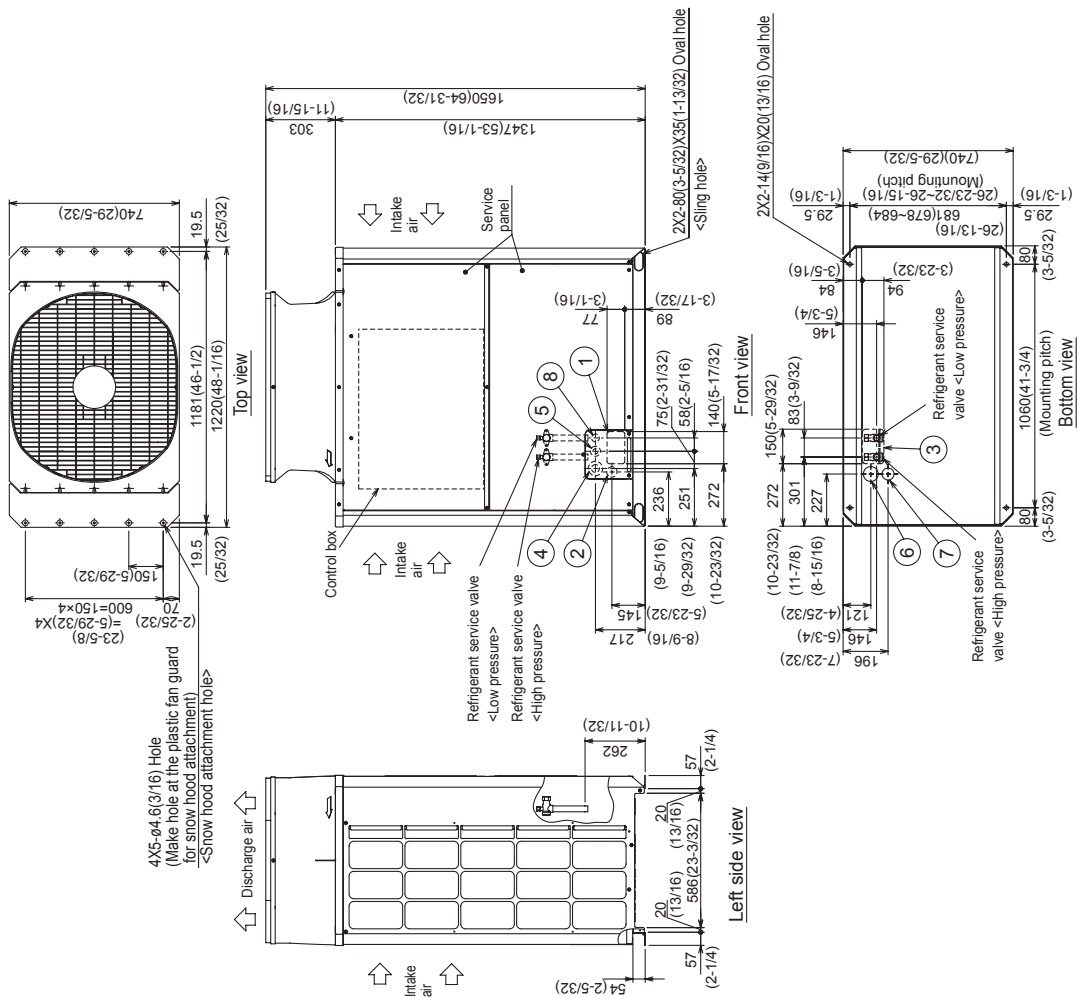
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

2. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

## Connecting pipe specifications

Model	Refrigerant pipe			Diameter	
	High pressure	Low pressure		High pressure	Low pressure
PURP727KMU	ø15.88 (5/8) *1	ø19.05 (3/4) *		ø25.4 (1)	ø25.4 (1)
PURP565KMU	ø19.05 (3/4) *1	ø22.22 (7/8) *1		ø25.4 (1)	ø25.4 (1)

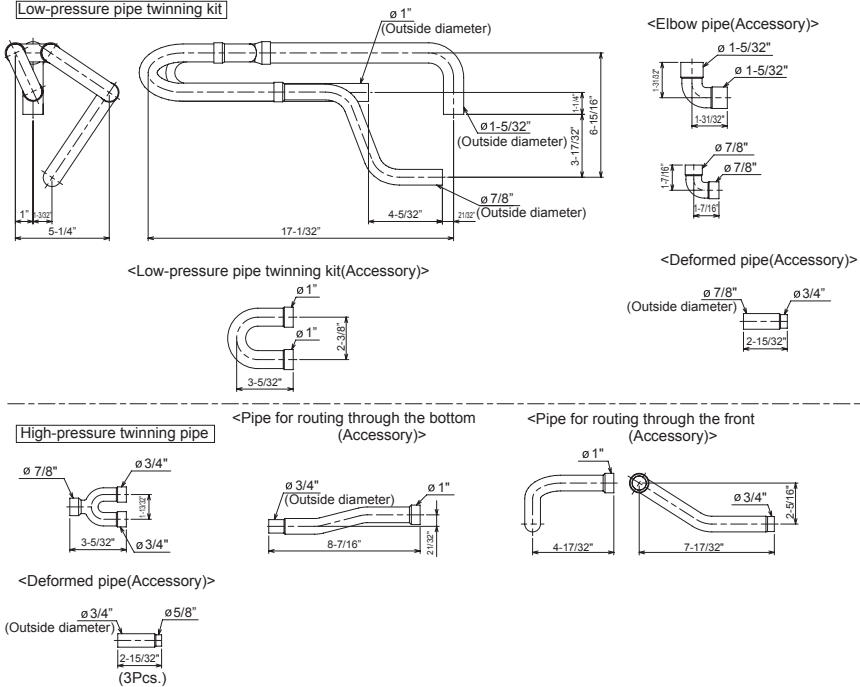
\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.



NO.	Usage	Specifications
①	Front through hole	140 × 77 Knockout hole (5-17/32)
②	For pipes Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 × 94 Knockout hole (5-29/32) (2-33/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32) (1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	For wires Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø57 Knockout hole (2-1/16)
⑧	For transmission cables Front through hole	ø64 Knockout hole (2-1/8)

Twining Kit: **CMY-R100CBK2**

## CMY-R100CBK2



Ref: CMY\_R100VBK\_EXD\_EUDB\_SI

Notes:



INVERTER



## Intertek



3400 Lawrenceville Suwanee Rd  
Suwanee, GA 30024  
Tele: 678-376-2900 • Fax: 800-889-9904  
Toll Free: 800-433-4822 (#4)  
[www.mehvac.com](http://www.mehvac.com)

FORM# PURY-P168TSKMU-A (-BS) - 201206  
Specifications are subject to change without notice  
© 2012 Mitsubishi Electric & Electronics USA, Inc.

# CITYMULTI® Outdoor Unit: 16-TON PURY-P192TSKMU-A (-BS) MITSUBISHI ELECTRIC

(Consists of Two PURY-P96TKMU-A (-BS) and One CMY-R100CBK2 Twinning Kit)

Job Name: Benfield Farms, Carlisle MA

Schedule Reference: ACCU-1

Date: 03-29-13

## OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- INVERTER-driven compressor
- Air-source, simultaneous cooling and heating
- Long line lengths - for details see Engineering Manual
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

## UNIT OPTION

- Standard Model.....PURY-P192TSKMU-A
- Sea Coast (BS) Model.....PURY-P192TSKMU-A-BS

## OPTIONAL PARTS

- Twinning Kit\*.....CMY-R100CBK2
- T-Branch Joint ( $\leq 72,000$  Btu/h).....CMY-Y102SS-G2
- T-Branch Joint (73,000 - 144,000 Btu/h).....CMY-Y102LS-G2
- Branch Joint (T-Branch: 145,000-234,000 Btu/h).....CMY-Y202S-G2
- Joint Adapter (Port Connector  $> 54,000$  Btu/h).....CMY-R160C-J
- Main BC Controller.....CMB-P108/1010/1013/1016NU-GA/1016NU-HA
- Sub BC Controller.....CMB-P104/108NU-GB/1016NU-HB
- Low Ambient Kit .....for details see Low Ambient Kit Submittal

\* Twinning Kit is necessary to combine the refrigerant flows of the modules and included in the outdoor unit set.

Specifications		System	Module 1	Module 2
Unit Type		PURY-P192TSKMU-A (-BS)	PURY-P96TKMU-A (-BS)	PURY-P96TKMU-A (-BS)
Nominal Cooling Capacity	Btu/h	192,000	96,000	96,000
Nominal Heating Capacity	Btu/h	215,000	108,000	108,000
Operating Temperature Range	Cooling (Outdoor) *1	Refer to Module Data	23~115° F (-5~46° C) DB	
	Heating (Outdoor)		-4~60° F (-20~15.5° C) WB	
External Dimensions (H x W x D)	In. mm	Refer to Module Data	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1,076 (488)	538 (244)	538 (244)
External Finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3-Phase, 60Hz	
Cooling Power Input	kW	15.61	Refer to System Data	
Heating Power Input	kW	17.2		
Cooling Current (208/230V)	R.L.A.	48.1-43.5		
Heating Current (208/230V)	R.L.A.	53.0-47.9		
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	34 / 31	34 / 31
Recommended Fuse/Breaker Size	A	Refer to Module Data**	35	35
Maximum Fuse Size (MOCP)	A	Refer to Module Data**	50	50
Piping Diameter				
From Twinning Kit to Indoor Units (Braze) (In. / mm)	Liquid (High Pressure)	7/8 (22.2) Braze	Refer to System Data	
	Gas (Low Pressure)	1-1/8 (28.58) Braze		
Max. Total Refrigerant Line Length	Ft.	2,461	Refer to System Data	
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541		
Max. Control Wiring Length	Ft.	1,650		
Indoor Unit	Total Capacity	50~150% of ODUs	Refer to System Data	
	Model / Quantity	P06~P96/1~48	Refer to System Data	
Sound Pressure Level	dB(A)	61	Refer to System Data	
Fan				
Type x Quantity		Refer to Module Data	Propeller fan x 1	Propeller fan x 1
Airflow Rate	CFM		6,200	6,200
External Static Pressure	In. WG (Pa)	Refer to Module Data	Selectable; 0, 0.12 or 0.24"WG; factory set to 0"W.G.	
Compressor Operating Range		8% to 100%	16% to 100%	16% to 100%
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 26 lbs + 1 oz (11.8 kg)	R410A x 26 lbs + 1 oz (11.8 kg)
Protection Devices	High Pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)		Over-current protection	Over-current protection
	Fan Motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	11.6 / 11.9	Refer to System Data	
	IEER	19.3 / 18.2		
	COP	3.64 / 3.47		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *2	17.4 / 21.81	Refer to System Data	
Blue Fin Anti-corrosion Protection: Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants				
Standard: ≥1µm thick; Salt Spray Test Method - no unusual rust development to 480 hours.				
Sea Coast (BS): ≥1µm thick; Salt Spray Test Method - no unusual rust development to 960 hours.				

## NOTES:

\*1. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

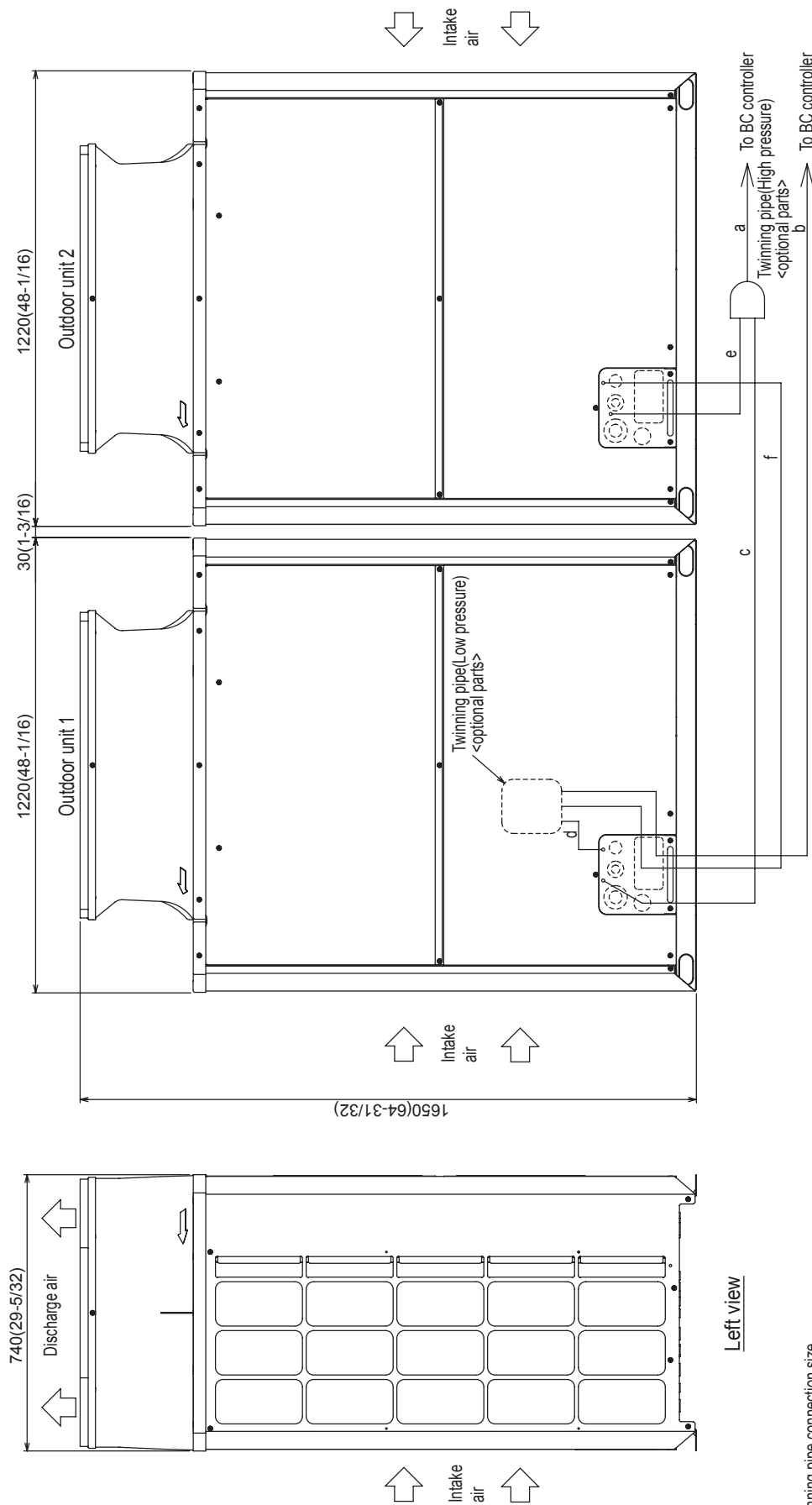
\*2. Simultaneous Cooling and Heating Efficiency

\*\* Each individual module requires a separate electrical connection. Refer to electrical data for each individual module.

# Outdoor Unit: PURY-P192TSKMU-A (-BS) – DIMENSIONS

## PURY-P168,192TSKMU-A(-BS)

Unit : mm(in.)



Front view

Twinning pipe connection size		PURY-P168TSKMU-A(-BS)		PURY-P192TSKMU-A(-BS)	
Package unit name		PURY-P168TSKMU-A(-BS)		PURY-P192TSKMU-A(-BS)	
Component unit name		PURY-P96TKMU-A(-BS)		PURY-P96TKMU-A(-BS)	
Outdoor unit name		PURY-P72TKMU-A(-BS)		PURY-P96TKMU-A(-BS)	
Outdoor Twinning Kit(optional parts)		CMY-R100CBK2		CMY-R100CBK2	
BC controller~ Twinning pipe		ø22.2(7/8)		ø22.2(7/8)	
		ø28.58(1-1/8)		ø28.58(1-1/8)	

Unit model		P168		P192	
Component unit model		P96		P96	
High pressure		c ø19.05(3/4)		c ø19.05(3/4)	
Low pressure		d - (Note 5)		d - (Note 5)	
Twinning Kit ~Outdoor unit		e ø15.88(5/8)		e ø19.05(3/4)	
		f ø19.05(3/4)		f ø22.2(7/8)	

- Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.  
 2. Twinning pipe (High pressure) should not be tilted more than 15 degrees from the horizontal plane.  
 Be sure to see the Installation Manual for details of Twinning pipe installation.  
 3. The pipe section before the Twinning pipe (section "a" in the figure) must have at least 500mm(19-11/16) of straight section.  
 (\*Including the straight pipe that is supplied with the Twinning pipe).  
 4. Only use the Twinning pipe by Mitsubishi (optional parts).  
 5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).



## Model: PURY-P96TKMU-A (-BS) – DIMENSIONS

PURY-P72,96TKMU-A(-BS)

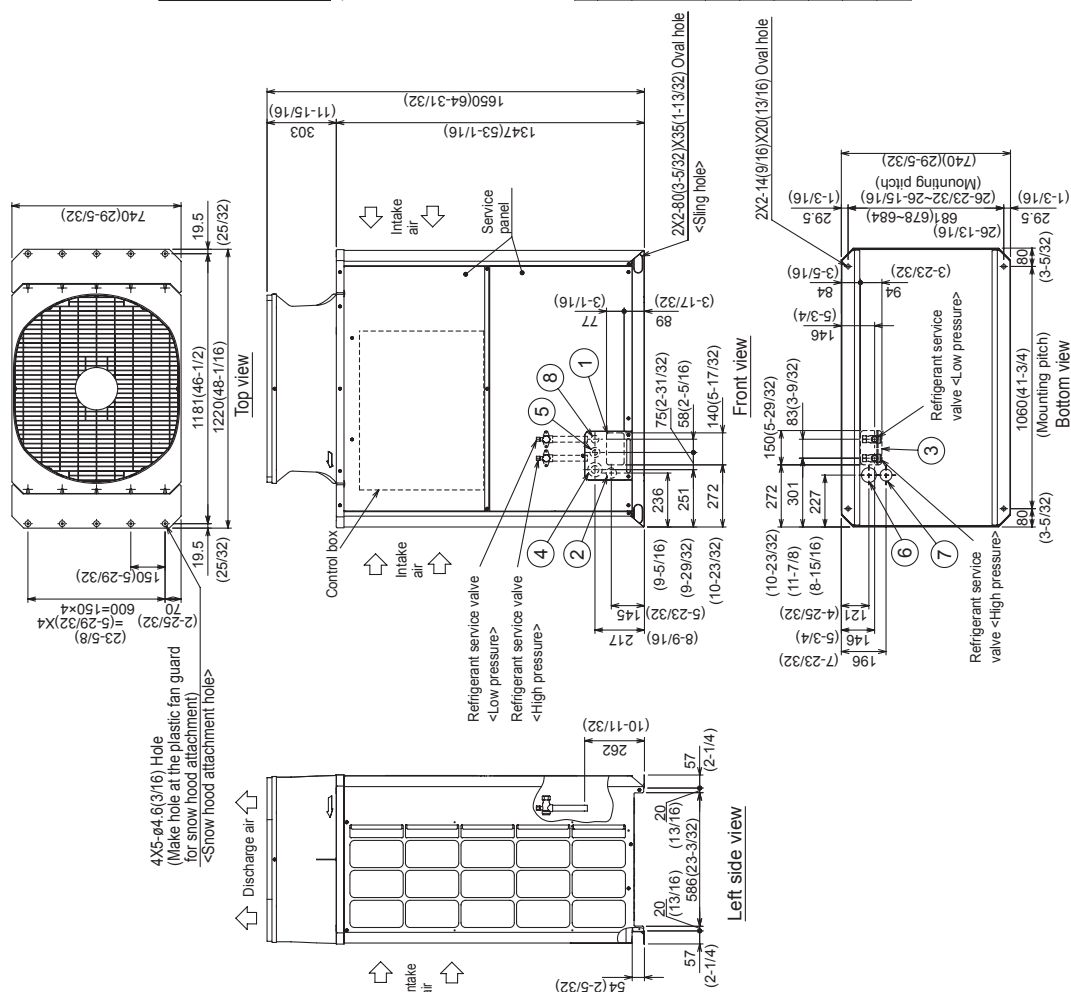
Unit : mm(in.)

Note 1: Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

### Connecting pipe specifications

Model	Refrigerant pipe				Diameter		Service valve
	High pressure	Low pressure	High pressure	Low pressure	High pressure	Low pressure	
PURV477Z(M)	516.88 Brazed (5/8) *1	191.05 Brazed (3/4) *1	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	
PURV496T(M)	191.05 Brazed (3/4) *	25.2 Brazed (7/8) *1	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	

\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.



NO.	Usage	Specifications
①	Front through hole	140 × 77 Knockout hole (5-17/32) (3-1/16)
②	For pipes (Uses when wiring 41 (1000) cables (parts is mounted)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 × 94 Knockout hole (5-29/32) (3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32) (1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	For wires Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-11/16)
⑧	For transmission cables Front through hole	ø34 Knockout hole

# CITYMULTI® Outdoor Unit: 18-TON PURY-P216TSKMU-A (-BS) MITSUBISHI ELECTRIC

(Consists of One PURY-P120TKMU-A (-BS), One PURY-P96TKMU-A (-BS), and One CMY-R100XLCBK Twinning Kit)

Job Name: Benfield Farms, Carlisle MA

Schedule Reference: ACCU-2

Date: 03-29-13

## OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- INVERTER-driven compressor
- Air-source, simultaneous cooling and heating
- Long line lengths - for details see Engineering Manual
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

## UNIT OPTION

- Standard Model.....PURY-P216TSKMU-A
- Sea Coast (BS) Model.....PURY-P216TSKMU-A-BS

## OPTIONAL PARTS

- Twinning Kit\*.....CMY-R100XLCBK
- T-Branch Joint (≤ 72,000 Btu/h).....CMY-Y102SS-G2
- T-Branch Joint (73,000 - 144,000 Btu/h).....CMY-Y102LS-G2
- Branch Joint (T-Branch: 145,000-234,000 Btu/h).....CMY-Y202S-G2
- Joint Adapter (Port Connector > 54,000 Btu/h).....CMY-R160C-J
- Main BC Controller.....CMB-P108/1010/1013/1016NU-GA/1016NU-HA
- Sub BC Controller.....CMB-P104/108NU-GB/1016NU-HB
- Low Ambient Kit .....for details see Low Ambient Kit Submittal

\* Twinning Kit is necessary to combine the refrigerant flows of the modules and included in the outdoor unit set.

Specifications		System	Module 1	Module 2
Unit Type		PURY-P216TSKMU-A (-BS)	PURY-P120TKMU-A (-BS)	PURY-P96TKMU-A (-BS)
Nominal Cooling Capacity	Btu/h	216,000	120,000	96,000
Nominal Heating Capacity	Btu/h	243,000	135,000	108,000
Operating Temperature Range	Cooling (Outdoor) *1	Refer to Module Data	23~115° F (-5~46° C) DB	
	Heating (Outdoor)		-4~60° F (-20~15.5° C) WB	
External Dimensions (H x W x D)	In. mm	Refer to Module Data	64-31/32 x 68-29/32 x 29-5/32 1,650 x 1,750 x 740	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1,253 (568)	715 (324)	538 (244)
External Finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3-Phase, 60Hz	
Cooling Power Input	kW	18.22	Refer to System Data	
Heating Power Input	kW	19.89		
Cooling Current (208/230V)	R.L.A.	56.1-50.8		
Heating Current (208/230V)	R.L.A.	61.3-55.4		
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	45 / 42	34 / 31
Recommended Fuse/Breaker Size	A	Refer to Module Data**	50	35
Maximum Fuse Size (MOCP)	A	Refer to Module Data**	60	50
Piping Diameter				
From Twinning Kit to Indoor Units (Braze) (In. / mm)	Liquid (High Pressure)	1-1/8 (28.58) Braze	Refer to System Data	
	Gas (Low Pressure)	1-1/8 (28.58) Braze		
Max. Total Refrigerant Line Length	Ft.	2,625	Refer to System Data	
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541		
Max. Control Wiring Length	Ft.	1,650		
Indoor Unit	Total Capacity	50~150% of ODUs	Refer to System Data	
	Model / Quantity	P06~P96/2~50 (Max. No. Connectable Branches: 48)	Refer to System Data	
Sound Pressure Level	dB(A)	62.5	Refer to System Data	
Fan				
Type x Quantity		Refer to Module Data	Propeller fan x 2	Propeller fan x 1
Airflow Rate	CFM		11,300	6,200
External Static Pressure	In. WG (Pa)	Refer to Module Data	Selectable; 0, 0.12 or 0.24"WG; factory set to 0"W.G.	
Compressor Operating Range		8% to 100%	15% to 100%	16% to 100%
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 26 lbs + 1 oz (11.8 kg)	R410A x 26 lbs + 1 oz (11.8 kg)
Protection Devices	High Pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)		Over-current protection	Over-current protection
	Fan Motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	11.4 / 11.3	Refer to System Data	
	IEER	18.7 / 18.3		
	COP	3.54 / 3.43		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *2	17.1 / 20.11	Refer to System Data	

**Blue Fin Anti-corrosion Protection:** Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants

**Standard:** ≥1µm thick; Salt Spray Test Method - no unusual rust development to 480 hours.

**Sea Coast (BS):** ≥1µm thick; Salt Spray Test Method - no unusual rust development to 960 hours.

## NOTES:

\*1. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

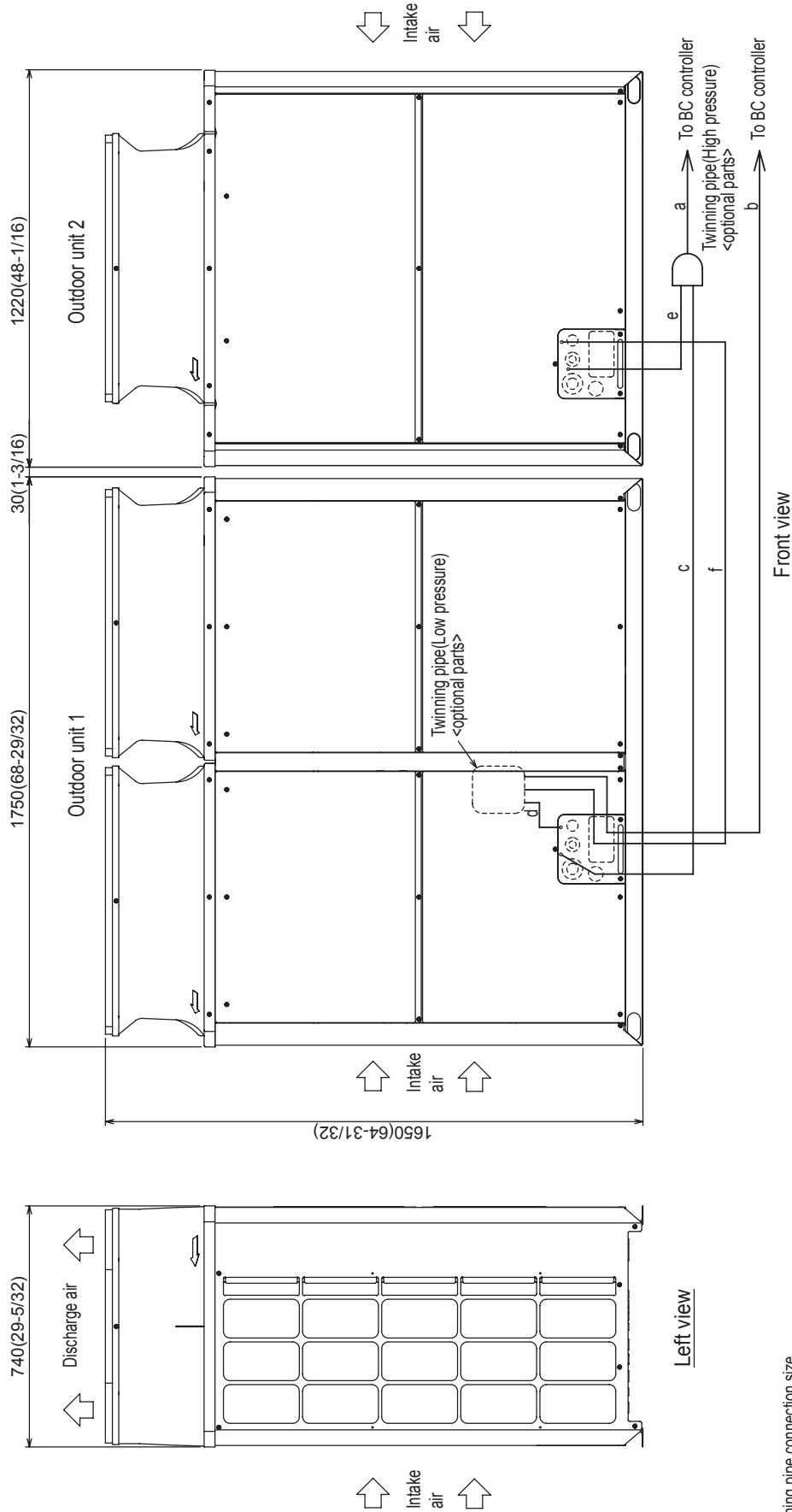
\*2. Simultaneous Cooling and Heating Efficiency

\*\* Each individual module requires a separate electrical connection. Refer to electrical data for each individual module.

# Outdoor Unit: PURY-P216TSKMU-A (-BS) – DIMENSIONS

## PURY-P216TSKMU-A(-BS)

Unit : mm(in.)



Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.

2. Twining pipe (High pressure) should not be tilted more than 15 degrees from the horizontal plane.

Be sure to see the Installation Manual for details of Twining pipe installation.

3. The pipe section before the Twining pipe (section "a" in the figure) must have at least 500mm(19-11/16) of straight section

(\*Including the straight pipe that is supplied with the Twining pipe).

4. Only use the Twining pipe by Mitsubishi (optional parts).

5. Connect the outdoor unit 1 with the Twining pipe (Low pressure) (section "d" in the figure).

# Model: PURY-P120TKMU-A (-BS) – DIMENSIONS

## PURY-P120, 144TKMU-A(-BS)

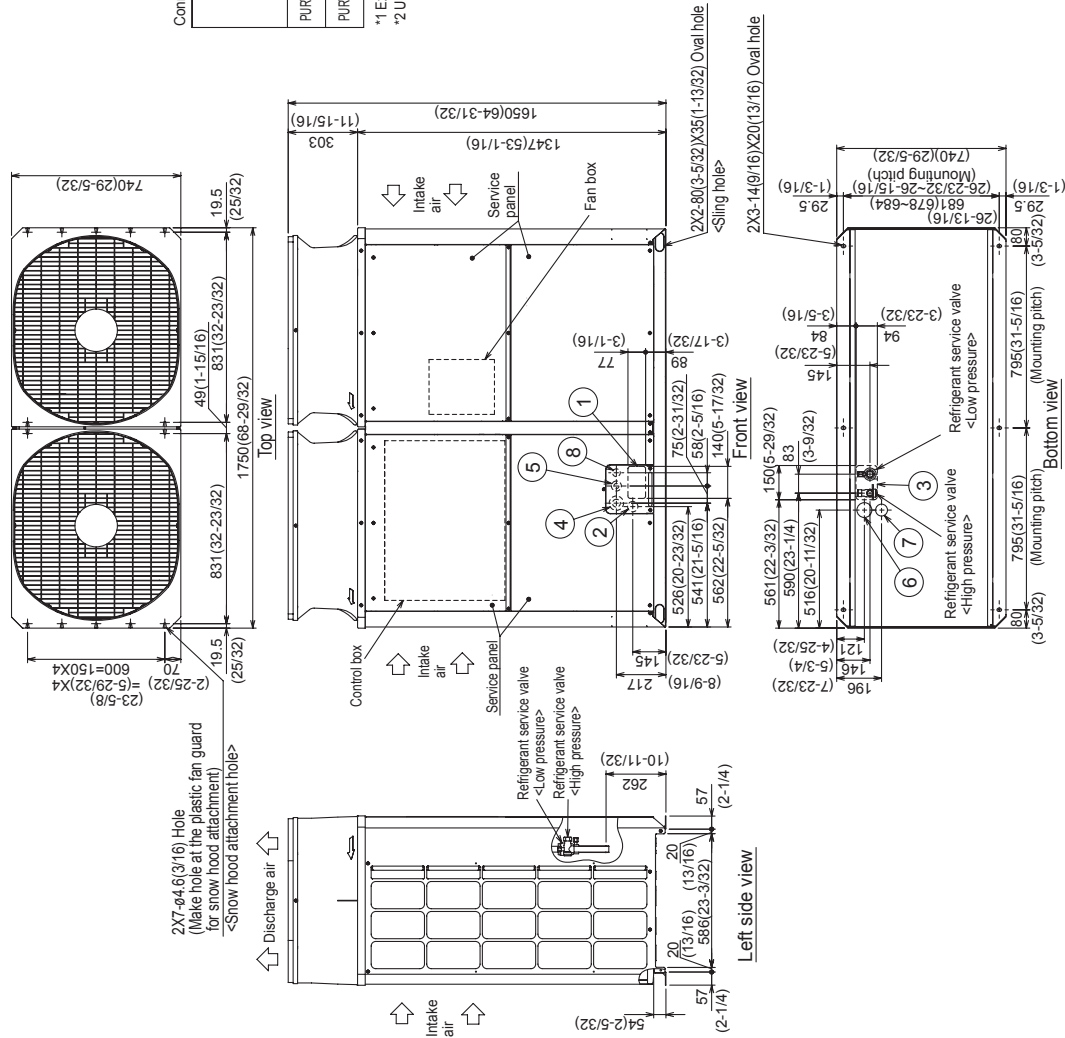
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.  
2. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C (248°F).

Connecting pipe specifications

Model	Diameter			
	Refrigerant pipe		Service valve	
	High pressure	Low pressure	High pressure	Low pressure
PURY-P120TKMU	ø19.05 Brazed (3/4) *2	ø28.58 Brazed (1-1/8) *1	ø25.4 (1)	ø28.58 (1-1/8)
PURY-P144TKMU	ø22.2 Brazed (7/8) *2	ø28.58 Brazed (1-1/8) *1	ø25.4 (1)	ø28.58 (1-1/8)

\*1 Expand the on-site piping and connect to the refrigerant service valve piping.  
\*2 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

Unit : mm(in.)



NO.	Usage	Specifications
①	Front through hole	140 x 77 Knockout hole (5-17/32)(3-1/16)
②	Front through hole (Uses when twinning kit optional parts is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	160 x 94 Knockout hole (5-29/32)(3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32)(1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4)(7/8)
⑥	Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	For transmission cables	ø34 Knockout hole (1-11/32)



## Model: PURY-P96TKMU-A (-BS) – DIMENSIONS

PURY-P72,96TKMU-A(-BS)

Unit : mm(in.)

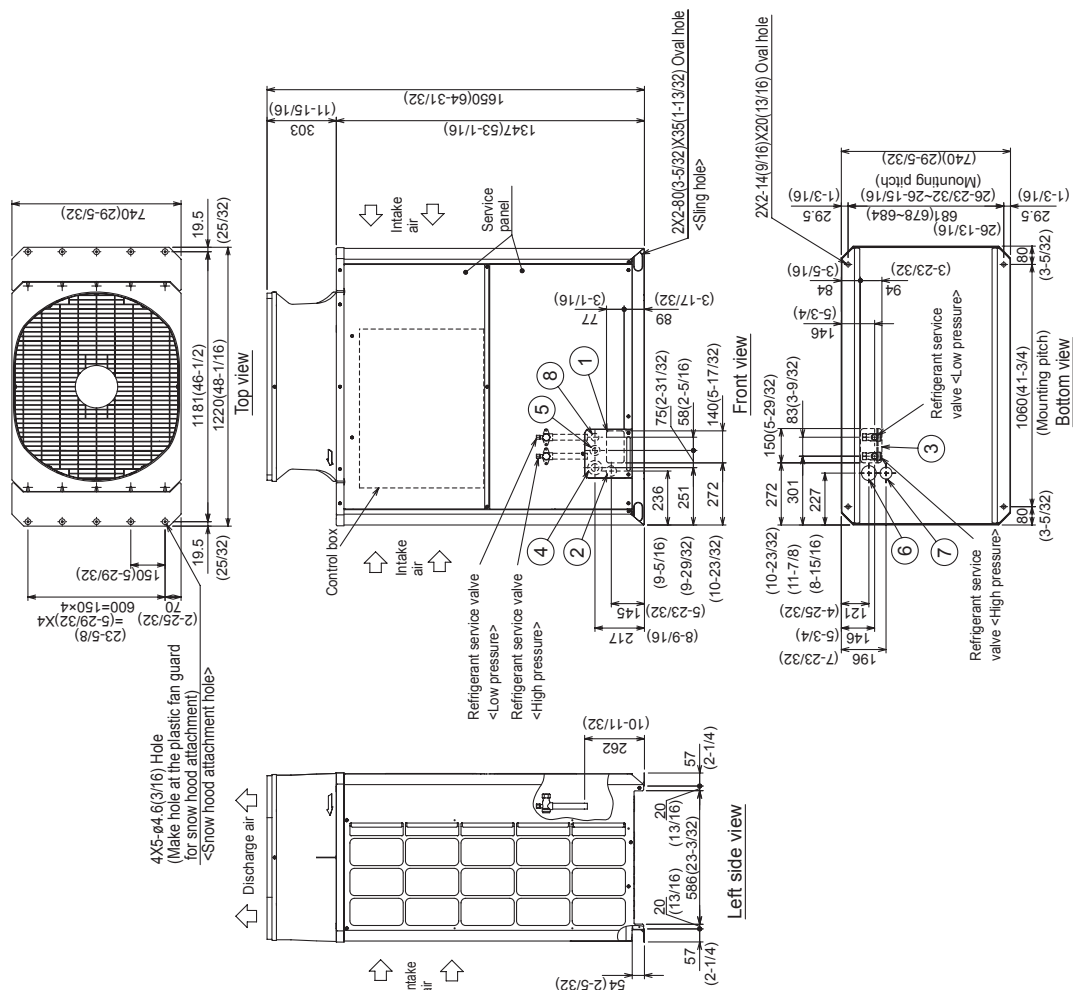
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

## Connecting pipe specifications

Model	Refrigerant pipe			Diameter		Service valve
	High pressure	Low pressure		High pressure	Low pressure	
PURV477RMU	5/8 Bz (1) 5/16 Bz (1)	3/4 Bz (1) 3/8 Bz (1)		ø25.4 (1) ø25.4 (1)	ø25.4 (1) ø25.4 (1)	
PURV496TMMU	ø19.05 Bz (1) ø19.05 Bz (1)	ø22.2 Bz (1) ø22.2 Bz (1)		ø25.4 (1) ø25.4 (1)	ø25.4 (1) ø25.4 (1)	

\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

NO.	Usage	Specifications
①	Front through hole	140 × 77 Knockout hole (5-17/32) (3-1/16)
②	For pipes (Uses when turning directional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 × 94 Knockout hole (5-29/32) (3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32) (1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	For wires Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-11/16)
⑧	For transmission cables Front through hole	ø34 Knockout hole



October 3, 2014

## **Mystic Waterworks at Capen Court Heating/Cooling Narrative**

### **Variable Refrigerant Flow (VRF) System:**

This type of HVAC system will provide heating and cooling by a variable refrigerant flow heat pump system capable of simultaneous heating and cooling to all the units, as well as the public spaces. The system consists of outdoor mounted condensing units with variable speed compressors, centrally located refrigerant metering controllers, indoor apartment air handling units and interconnecting refrigerant piping. These systems are capable of connecting multiple indoor units with one outdoor unit versus conventional split systems which would utilize one indoor unit with one outdoor condensing unit. The VRF system is typically 20% more energy efficient than conventional heating and cooling systems. These systems, also called heat recovery systems, use a branch circuit (BC) controller to control energy. The BC controller can remove energy from one zone that doesn't need it, and apply it to a different zone that does. The BC controller performs all the work, bypassing the compressor unit and saving electricity. The VRF compressor technology is highly responsive and efficient. The technology allows for compact, quiet units, flexibility of placement and gives architects and owners more design freedom with Integrated, simple to use controls.

### **Domestic hot water:**

Domestic hot water will be generated by (2) gas fired, storage type, stainless steel, high efficiency, water heaters. The heaters are up to 97% thermal efficiency from 40f degrees to 140f degrees at full firing rate. These heaters would easily qualify for LEED certification. This type of water heater utilizes a stainless steel tank and is highly resistant to aqueous, crevice, and pitting corrosion. It also exhibits excellent resistance to stress corrosion cracking. The thermal efficiency is accomplished through a completely submerged single pass down fired design, which includes an array of enhanced fire tubes. Combustion gases are counter-flow to the direction of the potable water. This enables the coolest flue gases to contact the coldest water and raises thermal efficiency to 97%.

# CITYMULTI® Outdoor Unit: 14-TON PURY-P168TSKMU-A (-BS) MITSUBISHI ELECTRIC

(Consists of One PURY-P96TKMU-A (-BS), One PURY-P72TKMU-A (-BS), and One CMY-R100CBK2 Twinning Kit)

Job Name: Benfield Farms, Carlisle MA

Schedule Reference: ACCU-3

Date: 03-29-13

## OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- INVERTER-driven compressor
- Air-source, simultaneous cooling and heating
- Long line lengths - for details see Engineering Manual
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

## UNIT OPTION

- Standard Model.....PURY-P168TSKMU-A
- Sea Coast (BS) Model.....PURY-P168TSKMU-A-BS

## OPTIONAL PARTS

- Twinning Kit\*.....CMY-R100CBK2
  - T-Branch Joint (≤ 72,000 Btu/h).....CMY-Y102SS-G2
  - T-Branch Joint (73,000-144,000 Btu/h).....CMY-Y102LS-G2
  - Branch Joint (T-Branch: 145,000-234,000 Btu/h).....CMY-Y202S-G2
  - Joint Adapter (Port Connector > 54,000 Btu/h).....CMY-R160C-J
  - Main BC Controller.....CMB-P108/1010/1013/1016NU-GA/1016NU-HA
  - Sub BC Controller.....CMB-P104/108NU-GB/1016NU-HB
  - Low Ambient Kit .....for details see Low Ambient Kit Submittal
- \* Twinning Kit is necessary to combine the refrigerant flows of the modules and included in the outdoor unit set.

Specifications		System	Module 1	Module 2
Unit Type		PURY-P168TSKMU-A (-BS)	PURY-P96TKMU-A (-BS)	PURY-P72TKMU-A (-BS)
Nominal Cooling Capacity	Btu/h	168,000	96,000	72,000
Nominal Heating Capacity	Btu/h	188,000	108,000	80,000
Operating Temperature Range	Cooling (Outdoor) *1	Refer to Module Data	23~115° F (-5~46° C) DB	
	Heating (Outdoor)		-4~60° F (-20~15.5° C) WB	
External Dimensions (H x W x D)	In. mm	Refer to Module Data	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1,041 (472)	538 (244)	503 (228)
External Finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3-Phase, 60Hz	
Cooling Power Input	kW	12.8	Refer to System Data	
Heating Power Input	kW	14.91		
Cooling Current (208/230V)	R.L.A.	39.4-35.7		
Heating Current (208/230V)	R.L.A.	45.9-41.5		
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	34 / 31	23 / 21
Recommended Fuse/Breaker Size	A	Refer to Module Data**	35	25
Maximum Fuse Size (MOCP)	A	Refer to Module Data**	50	35
Piping Diameter				
From Twinning Kit to Indoor Units (Braze) (In. / mm)	Liquid (High Pressure)	7/8 (22.2) Braze	Refer to System Data	
	Gas (Low Pressure)	1-1/8 (28.58) Braze		
Max. Total Refrigerant Line Length	Ft.	1,969	Refer to System Data	
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541		
Max. Control Wiring Length	Ft.	1,650		
Indoor Unit	Total Capacity	50~150% of ODUs	Refer to System Data	
	Model / Quantity	P06~P96/1~42	Refer to System Data	
Sound Pressure Level	dB(A)	61	Refer to System Data	
Fan				
Type x Quantity		Refer to Module Data	Propeller fan x 1	Propeller fan x 1
Airflow Rate	CFM		6,200	6,200
External Static Pressure	In. WG (Pa)	Refer to Module Data	Selectable; 0, 0.12 or 0.24"WG; factory set to 0"W.G.	
Compressor Operating Range		7% to 100%	Refer to System Data	
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 26 lbs + 1 oz (11.8 kg)	R410A x 26 lbs + 1 oz (11.8 kg)
Protection Devices	High Pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)		Over-current protection	Over-current protection
	Fan Motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	12.1 / 12.9	Refer to System Data	
	IEER	19.4 / 19.1		
	COP	3.63 / 3.52		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *2	19.96 / 22.6	Refer to System Data	
Blue Fin Anti-corrosion Protection: Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants				
Standard: ≥1μm thick; Salt Spray Test Method - no unusual rust development to 480 hours.				
Sea Coast (BS): ≥1μm thick; Salt Spray Test Method - no unusual rust development to 960 hours.				

## NOTES:

\*1. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

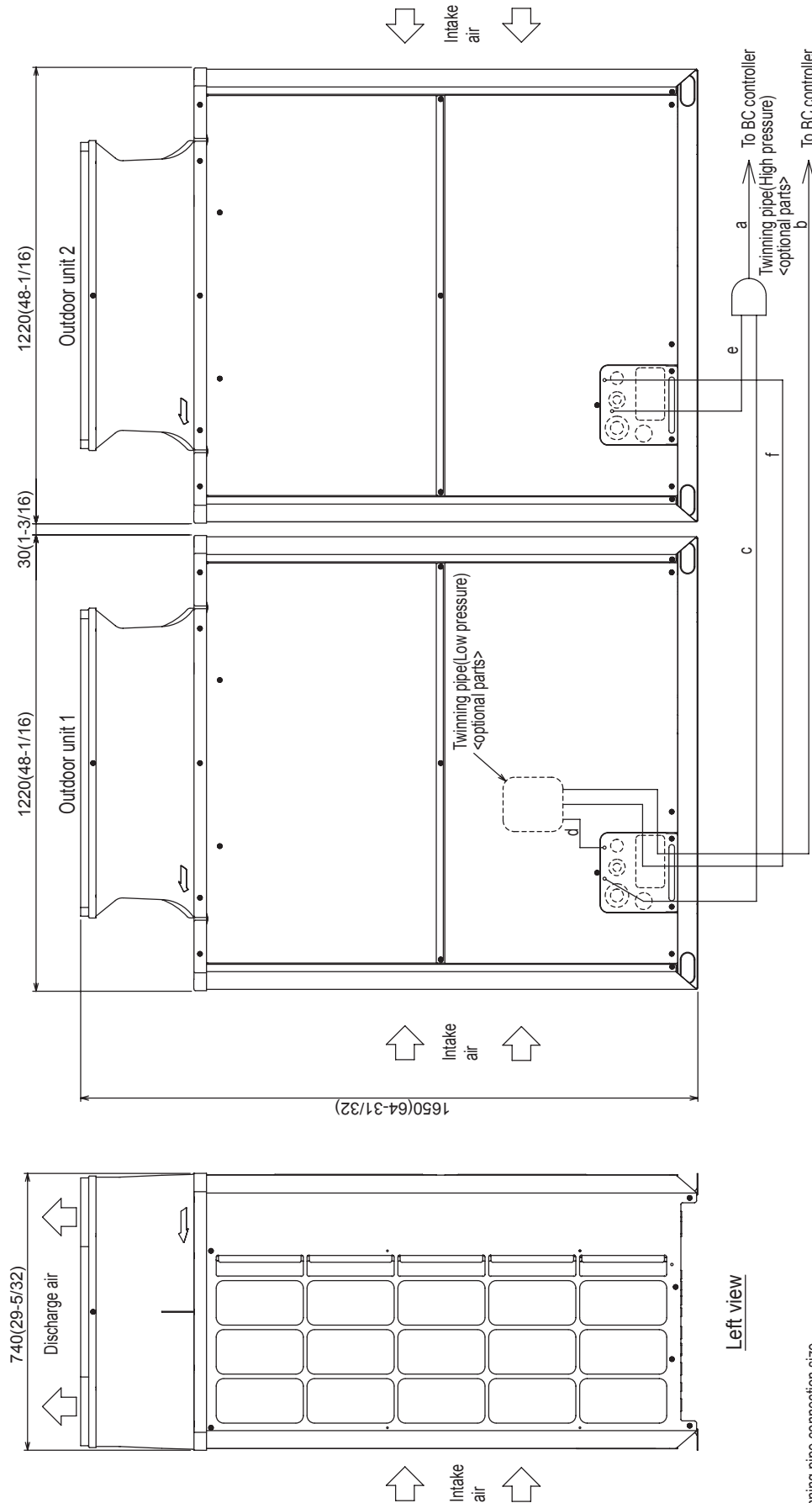
\*2. Simultaneous Cooling and Heating Efficiency

\*\* Each individual module requires a separate electrical connection. Refer to electrical data for each individual module.

# Outdoor Unit: PURY-P168TSKMU-A (-BS) – DIMENSIONS

## PURY-P168,192TSKMU-A(-BS)

Unit : mm(in.)



Front view

Twinning pipe connection size		PURY-P168TSKMU-A(-BS)		PURY-P192TSKMU-A(-BS)	
Package unit name		PURY-P168TSKMU-A(-BS)		PURY-P192TSKMU-A(-BS)	
Component unit name		PURY-P96TKMU-A(-BS)		PURY-P96TKMU-A(-BS)	
Outdoor Twinning Kit(optional parts)		PURY-P72TKMU-A(-BS)		PURY-P96TKMU-A(-BS)	
BC controller~ Twinning pipe		CMY-R100CBK2		CMY-R100CBK2	
		ø22.2(7/8)		ø22.2(7/8)	
		ø28.58(1-1/8)		ø28.58(1-1/8)	

Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.

2. Twinning pipe (High pressure) should not be tilted more than 15 degrees from the horizontal plane.

Be sure to see the Installation Manual for details of Twinning pipe installation.

3. The pipe section before the Twinning pipe (section "a" in the figure) must have at least 500mm(19-11/16) of straight section

(\*including the straight pipe that is supplied with the Twinning pipe).

4. Only use the Twinning pipe by Mitsubishi (optional parts).

5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).



## Model: PURY-P96TKMU-A (-BS) – DIMENSIONS

PURY-P72,96TKMU-A(-BS)

Unit : mm(in.)

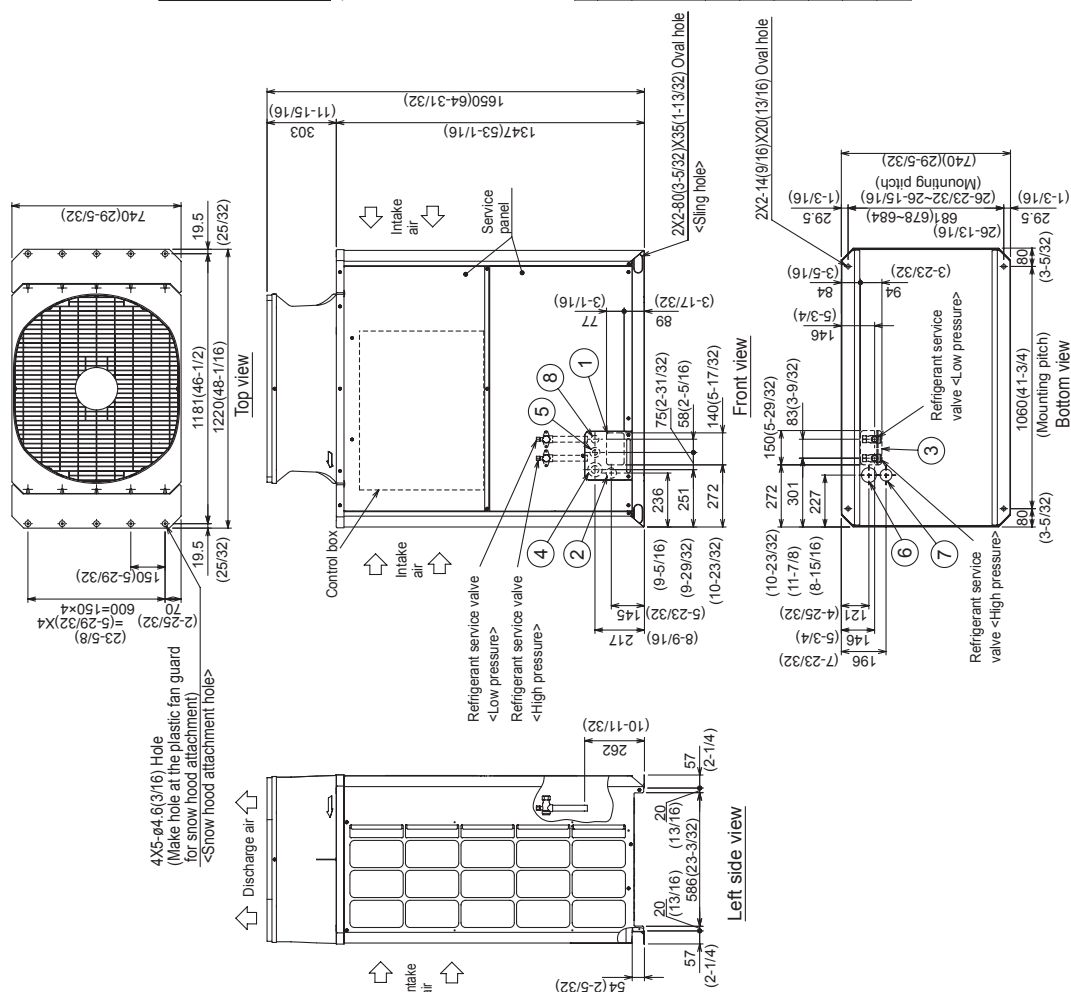
**Note 1.** Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

**2.** At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

### Connecting pipe specifications

Model	Refrigerant pipe				Diameter		Service valve
	High pressure	Low pressure	High pressure	Low pressure	High pressure	Low pressure	
PURV477Z(M)	516.88 Brazed (5/8) *1	191.05 Brazed (3/4) *1	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	
PURV496T(M)	191.05 Brazed (3/4) *	25.2 Brazed (7/8) *1	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	

\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.



NO.	Usage	Specifications
①	Front through hole	140 × 77 Knockout hole (5-1732) (3-1/16)
②	For pipes (Uses when wiring 41 (1000) (1000) parts is mounted)	ø45 Knockout hole (1-2532)
③	Bottom through hole	150 × 94 Knockout hole (5-2932) (3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-1932) (1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	For wires Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-11/16)
⑧	For transmission cables Front through hole	ø34 Knockout hole

## Model: PURY-P72TKMU-A (-BS) – DIMENSIONS

PURY-P72,96TKMU-A(-BS)

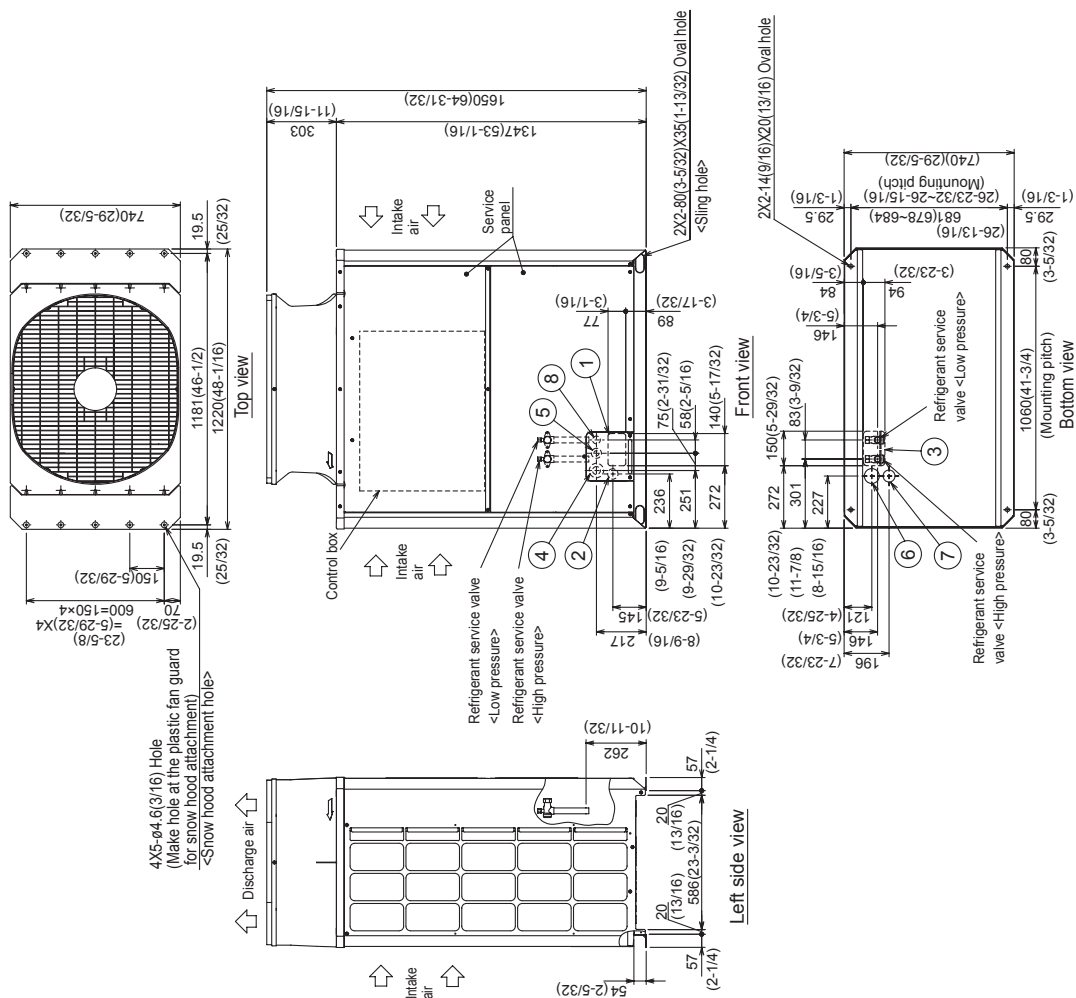
Unit : mm(in.)

Note 1: Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

## Connecting pipe specifications

Model	Diameter			
	Refrigerant pipe		Service valve	
	High pressure	Low pressure	High pressure	Low pressure
PURVPT21KMU	ø15.88 (5/8) *1	ø19.05 (3/4) *1	ø25.4 (1)	ø25.4 (1)
PURVP567KMU	ø19.05 (3/4) *1	ø22.85 (7/8) *1	ø25.4 (1)	ø25.4 (1)

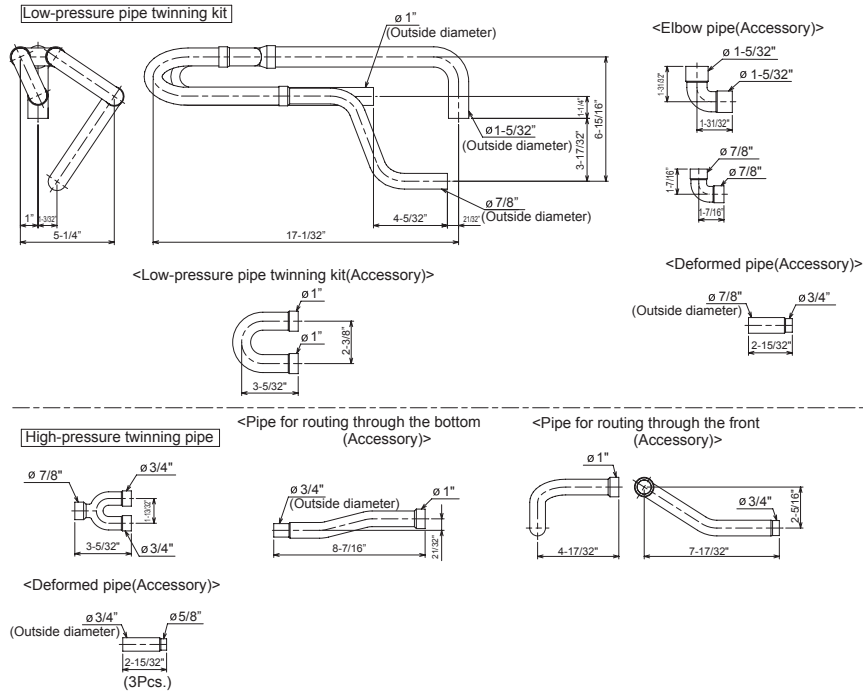
\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.



NO.	Usage	Specifications
①	Front through hole	140 × 77 Knockout hole (5-17/32) (3-1/16)
②	For pipes Front through hole (Uses when turning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 × 94 Knockout hole (5-29/32) (3-23/32)
④	Front through hole	ø62.7 or ø41.5 Knockout hole (2-15/16) (1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	For wires Bottom through hole	ø63 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	For transmission cables Front through hole	ø34 Knockout hole

# Twinning Kit: CMY-R100CBK2

## CMY-R100CBK2



Ref: CMY\_R100VBK\_EXD\_EUDB\_SI

Notes:



Intertek



INVERTER



3400 Lawrenceville Suwanee Rd  
Suwanee, GA 30024  
Tele: 678-376-2900 • Fax: 800-889-9904  
Toll Free: 800-433-4822 (#4)  
www.mehvac.com

FORM# PURY-P168TSKMU-A (-BS) - 201206  
Specifications are subject to change without notice  
© 2012 Mitsubishi Electric & Electronics USA, Inc.

# CITYMULTI® Outdoor Unit: 16-TON PURY-P192TSKMU-A (-BS) MITSUBISHI ELECTRIC

(Consists of Two PURY-P96TKMU-A (-BS) and One CMY-R100CBK2 Twinning Kit)

Job Name: Benfield Farms, Carlisle MA

Schedule Reference: ACCU-1

Date: 03-29-13

## OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- INVERTER-driven compressor
- Air-source, simultaneous cooling and heating
- Long line lengths - for details see Engineering Manual
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

## UNIT OPTION

- Standard Model.....PURY-P192TSKMU-A
- Sea Coast (BS) Model.....PURY-P192TSKMU-A-BS

## OPTIONAL PARTS

- Twinning Kit\*.....CMY-R100CBK2
- T-Branch Joint ( $\leq 72,000$  Btu/h).....CMY-Y102SS-G2
- T-Branch Joint (73,000 - 144,000 Btu/h).....CMY-Y102LS-G2
- Branch Joint (T-Branch: 145,000-234,000 Btu/h).....CMY-Y202S-G2
- Joint Adapter (Port Connector  $> 54,000$  Btu/h).....CMY-R160C-J
- Main BC Controller.....CMB-P108/1010/1013/1016NU-GA/1016NU-HA
- Sub BC Controller.....CMB-P104/108NU-GB/1016NU-HB
- Low Ambient Kit .....for details see Low Ambient Kit Submittal

\* Twinning Kit is necessary to combine the refrigerant flows of the modules and included in the outdoor unit set.

Specifications		System	Module 1	Module 2
Unit Type		PURY-P192TSKMU-A (-BS)	PURY-P96TKMU-A (-BS)	PURY-P96TKMU-A (-BS)
Nominal Cooling Capacity	Btu/h	192,000	96,000	96,000
Nominal Heating Capacity	Btu/h	215,000	108,000	108,000
Operating Temperature Range	Cooling (Outdoor) *1	Refer to Module Data	23~115° F (-5~46° C) DB	
	Heating (Outdoor)		-4~60° F (-20~15.5° C) WB	
External Dimensions (H x W x D)	In. mm	Refer to Module Data	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1,076 (488)	538 (244)	538 (244)
External Finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3-Phase, 60Hz	
Cooling Power Input	kW	15.61	Refer to System Data	
Heating Power Input	kW	17.2		
Cooling Current (208/230V)	R.L.A.	48.1-43.5		
Heating Current (208/230V)	R.L.A.	53.0-47.9		
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	34 / 31	34 / 31
Recommended Fuse/Breaker Size	A	Refer to Module Data**	35	35
Maximum Fuse Size (MOCP)	A	Refer to Module Data**	50	50
Piping Diameter				
From Twinning Kit to Indoor Units (Braze) (In. / mm)	Liquid (High Pressure)	7/8 (22.2) Braze	Refer to System Data	
	Gas (Low Pressure)	1-1/8 (28.58) Braze		
Max. Total Refrigerant Line Length	Ft.	2,461	Refer to System Data	
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541		
Max. Control Wiring Length	Ft.	1,650		
Indoor Unit	Total Capacity	50~150% of ODUs	Refer to System Data	
	Model / Quantity	P06~P96/1~48	Refer to System Data	
Sound Pressure Level	dB(A)	61	Refer to System Data	
Fan				
Type x Quantity		Refer to Module Data	Propeller fan x 1	Propeller fan x 1
Airflow Rate	CFM		6,200	6,200
External Static Pressure	In. WG (Pa)	Refer to Module Data	Selectable; 0, 0.12 or 0.24"WG; factory set to 0"W.G.	
Compressor Operating Range		8% to 100%	16% to 100%	16% to 100%
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 26 lbs + 1 oz (11.8 kg)	R410A x 26 lbs + 1 oz (11.8 kg)
Protection Devices	High Pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)		Over-current protection	Over-current protection
	Fan Motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	11.6 / 11.9	Refer to System Data	
	IEER	19.3 / 18.2		
	COP	3.64 / 3.47		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *2	17.4 / 21.81	Refer to System Data	
Blue Fin Anti-corrosion Protection: Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants				
Standard: ≥1µm thick; Salt Spray Test Method - no unusual rust development to 480 hours.				
Sea Coast (BS): ≥1µm thick; Salt Spray Test Method - no unusual rust development to 960 hours.				

## NOTES:

\*1. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

\*2. Simultaneous Cooling and Heating Efficiency

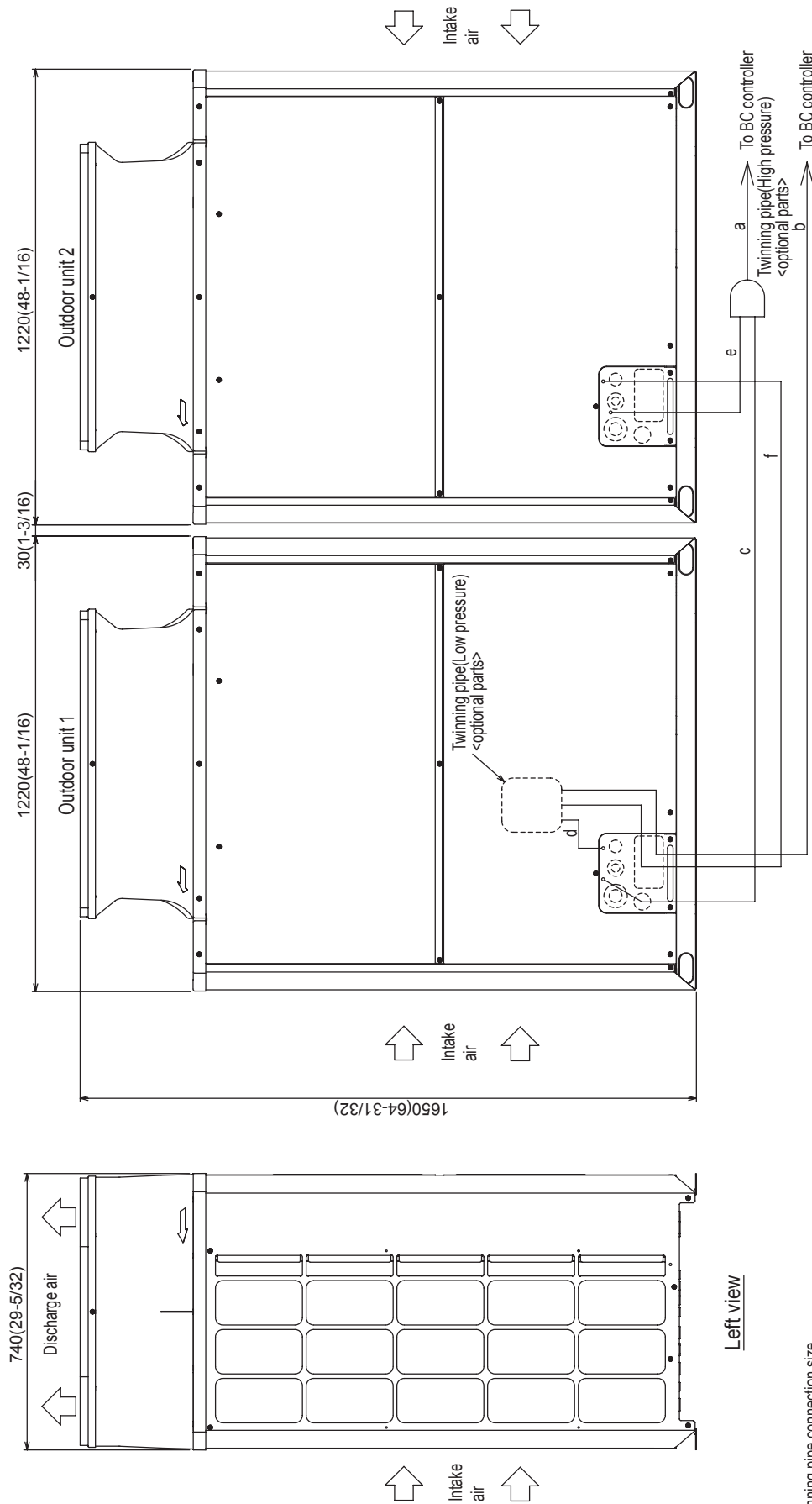
\*\* Each individual module requires a separate electrical connection. Refer to electrical data for each individual module.



# Outdoor Unit: PURY-P192TSKMU-A (-BS) – DIMENSIONS

## PURY-P168,192TSKMU-A(-BS)

Unit : mm(in.)



Twinning pipe connection size

Package unit name	PURY-P168TSKMU-A(-BS)	PURY-P192TSKMU-A(-BS)
Outdoor unit 1	PURY-P96TKMU-A(-BS)	PURY-P96TKMU-A(-BS)
Outdoor unit 2	PURY-P72TKMU-A(-BS)	PURY-P96TKMU-A(-BS)
Outdoor Twinning Kit(optional parts)	CMY-R100CBK2	
BC controller~ Twinning pipe		
High pressure	a	a
Low pressure	b	b

Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.

2. Twinning pipe (High pressure) should not be tilted more than 15 degrees from the horizontal plane.

Be sure to see the Installation Manual for details of Twinning pipe installation.

3. The pipe section before the Twinning pipe (section "a" in the figure) must have at least 500mm(19-11/16) of straight section

(\*including the straight pipe that is supplied with the Twinning pipe).

4. Only use the Twinning pipe by Mitsubishi (optional parts).

5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).

Front view

Unit model	P168	P192
Component unit model	P96	P96
High pressure	c   ø19.05(3/4)	e   ø19.05(3/4)
Low pressure	d   - (Note 5)	f   ø22.2(7/8)

# Model: PURY-P96TKMU-A (-BS) – DIMENSIONS

## PURY-P72,96TKMU-A(-BS)

Unit : mm(in.)

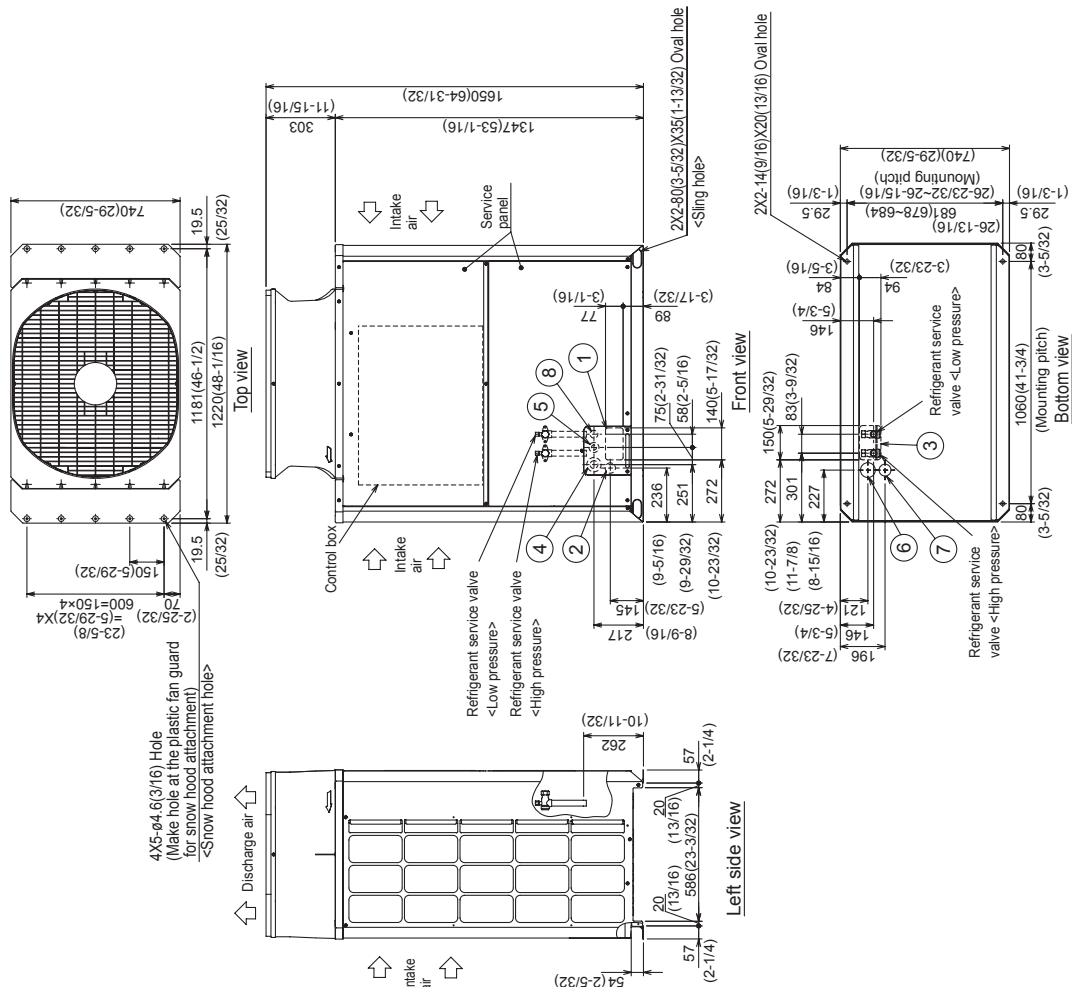
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.  
2. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

### Connecting pipe specifications

Model	Diameter			
	Refrigerant pipe		Service valve	
	High pressure	Low pressure	High pressure	Low pressure
PURY-P72TKMU	ø15.88 Braze (5/8) *1	ø19.05 Braze (3/4)	ø25.4 (1)	ø25.4 (1)
PURY-P96TKMU	ø19.05 Braze (3/4)	ø22.2 Braze (7/8) *1	ø25.4 (1)	ø25.4 (1)

\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

NO.	Usage	Specifications
①	Front through hole	140 x 77 Knockout hole (5-17/32)(3-11/16)
②	Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 x 94 Knockout hole (5-29/32)(3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32)(1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4)(7/8)
⑥	Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	For transmission cables	ø34 Knockout hole (1-11/32)



# CITYMULTI® Outdoor Unit: 18-TON PURY-P216TSKMU-A (-BS) MITSUBISHI ELECTRIC

(Consists of One PURY-P120TKMU-A (-BS), One PURY-P96TKMU-A (-BS), and One CMY-R100XLCBK Twinning Kit)

Job Name: Benfield Farms, Carlisle MA

Schedule Reference: ACCU-2

Date: 03-29-13

## OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- INVERTER-driven compressor
- Air-source, simultaneous cooling and heating
- Long line lengths - for details see Engineering Manual
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

## UNIT OPTION

- Standard Model.....PURY-P216TSKMU-A
- Sea Coast (BS) Model.....PURY-P216TSKMU-A-BS

## OPTIONAL PARTS

- Twinning Kit\*.....CMY-R100XLCBK
- T-Branch Joint (≤ 72,000 Btu/h).....CMY-Y102SS-G2
- T-Branch Joint (73,000 - 144,000 Btu/h).....CMY-Y102LS-G2
- Branch Joint (T-Branch: 145,000-234,000 Btu/h).....CMY-Y202S-G2
- Joint Adapter (Port Connector > 54,000 Btu/h).....CMY-R160C-J
- Main BC Controller.....CMB-P108/1010/1013/1016NU-GA/1016NU-HA
- Sub BC Controller.....CMB-P104/108NU-GB/1016NU-HB
- Low Ambient Kit .....for details see Low Ambient Kit Submittal

\* Twinning Kit is necessary to combine the refrigerant flows of the modules and included in the outdoor unit set.

Specifications		System	Module 1	Module 2
Unit Type		PURY-P216TSKMU-A (-BS)	PURY-P120TKMU-A (-BS)	PURY-P96TKMU-A (-BS)
Nominal Cooling Capacity	Btu/h	216,000	120,000	96,000
Nominal Heating Capacity	Btu/h	243,000	135,000	108,000
Operating Temperature Range	Cooling (Outdoor) *1	Refer to Module Data	23~115° F (-5~46° C) DB	
	Heating (Outdoor)		-4~60° F (-20~15.5° C) WB	
External Dimensions (H x W x D)	In. mm	Refer to Module Data	64-31/32 x 68-29/32 x 29-5/32 1,650 x 1,750 x 740	64-31/32 x 48-1/16 x 29-5/32 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1,253 (568)	715 (324)	538 (244)
External Finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3-Phase, 60Hz	
Cooling Power Input	kW	18.22	Refer to System Data	
Heating Power Input	kW	19.89		
Cooling Current (208/230V)	R.L.A.	56.1-50.8		
Heating Current (208/230V)	R.L.A.	61.3-55.4		
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	45 / 42	34 / 31
Recommended Fuse/Breaker Size	A	Refer to Module Data**	50	35
Maximum Fuse Size (MOCP)	A	Refer to Module Data**	60	50
Piping Diameter				
From Twinning Kit to Indoor Units (Brazed) (In. / mm)	Liquid (High Pressure)	1-1/8 (28.58) Brazed	Refer to System Data	
	Gas (Low Pressure)	1-1/8 (28.58) Brazed		
Max. Total Refrigerant Line Length	Ft.	2,625	Refer to System Data	
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541		
Max. Control Wiring Length	Ft.	1,650		
Indoor Unit	Total Capacity	50~150% of ODUs	Refer to System Data	
	Model / Quantity	P06~P96/2~50 (Max. No. Connectable Branches: 48)	Refer to System Data	
Sound Pressure Level	dB(A)	62.5	Refer to System Data	
Fan				
Type x Quantity		Refer to Module Data	Propeller fan x 2	Propeller fan x 1
Airflow Rate	CFM		11,300	6,200
External Static Pressure	In. WG (Pa)	Refer to Module Data	Selectable; 0, 0.12 or 0.24"WG; factory set to 0"W.G.	
Compressor Operating Range		8% to 100%	15% to 100%	16% to 100%
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 26 lbs + 1 oz (11.8 kg)	R410A x 26 lbs + 1 oz (11.8 kg)
Protection Devices	High Pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)		Over-current protection	Over-current protection
	Fan Motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	11.4 / 11.3	Refer to System Data	
	IEER	18.7 / 18.3		
	COP	3.54 / 3.43		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *2	17.1 / 20.11	Refer to System Data	

**Blue Fin Anti-corrosion Protection:** Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants

**Standard:** ≥1µm thick; Salt Spray Test Method - no unusual rust development to 480 hours.

**Sea Coast (BS):** ≥1µm thick; Salt Spray Test Method - no unusual rust development to 960 hours.

## NOTES:

\*1. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

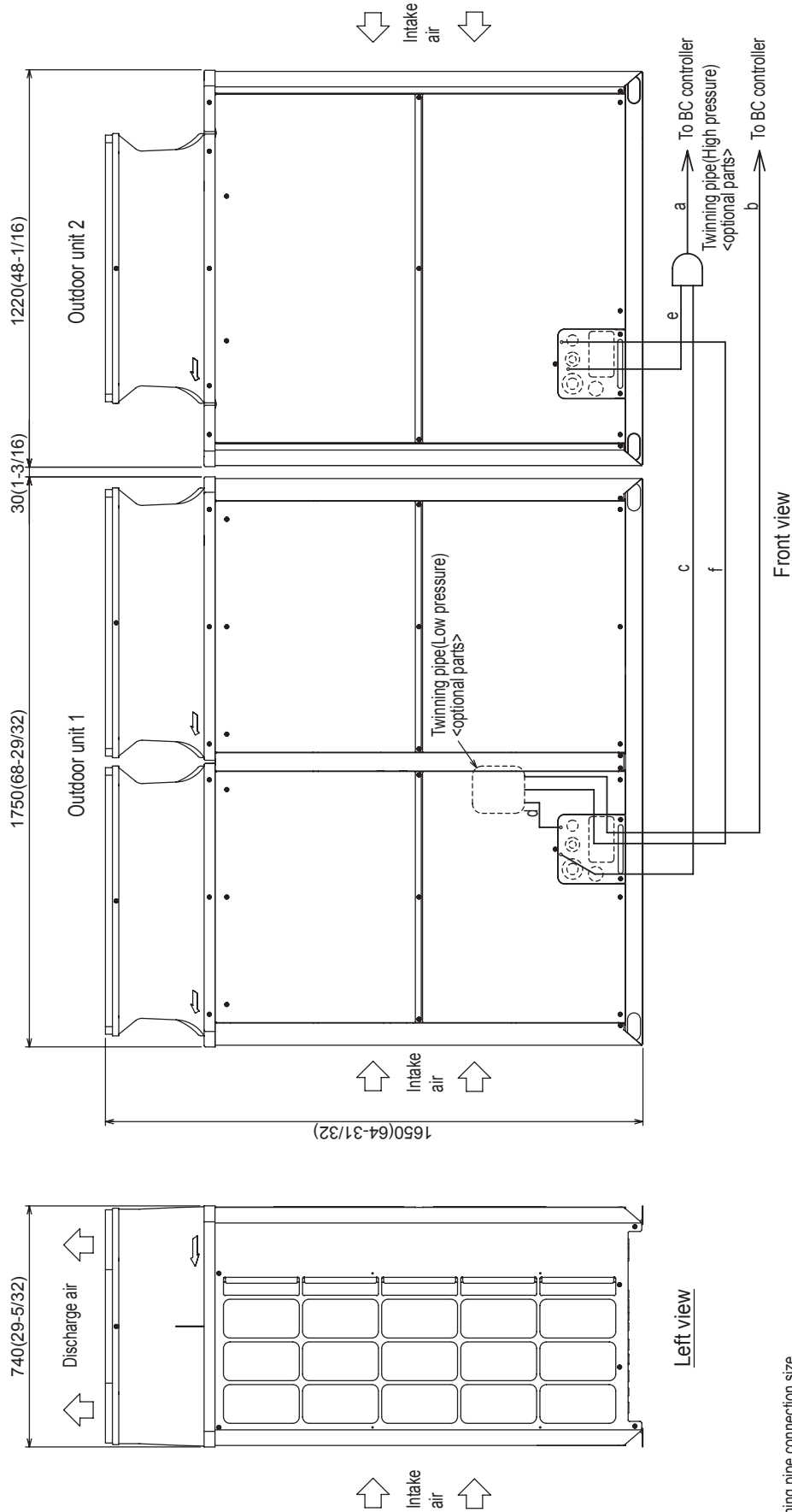
\*2. Simultaneous Cooling and Heating Efficiency

\*\* Each individual module requires a separate electrical connection. Refer to electrical data for each individual module.

# Outdoor Unit: PURY-P216TSKMU-A (-BS) – DIMENSIONS

## PURY-P216TSKMU-A(-BS)

Unit : mm(in.)



Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.

2. Twining pipe (High pressure) should not be tilted more than 15 degrees from the horizontal plane.

Be sure to see the Installation Manual for details of Twining pipe installation.

3. The pipe section before the Twining pipe (section "a" in the figure) must have at least 500mm(19-11/16) of straight section

(\*Including the straight pipe that is supplied with the Twining pipe).

4. Only use the Twining pipe by Mitsubishi (optional parts).

5. Connect the outdoor unit 1 with the Twining pipe (Low pressure) (section "d" in the figure).



# Model: PURY-P120TKMU-A (-BS) – DIMENSIONS

## PURY-P120,144TKMU-A(-BS)

Unit : mm(in.)

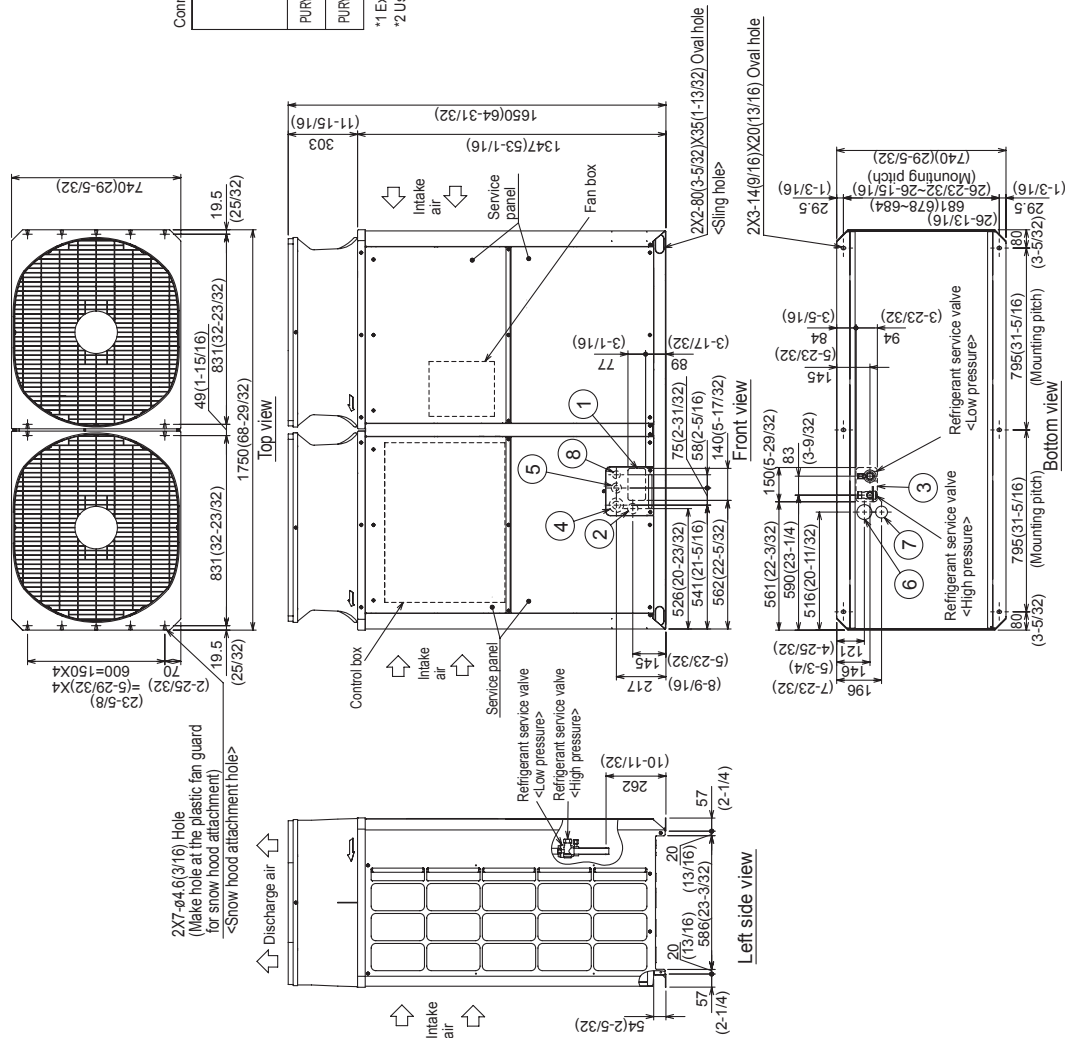
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.  
2. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

Connecting pipe specifications

Model	Diameter			
	Refrigerant pipe		Service valve	
	High pressure	Low pressure	High pressure	Low pressure
PURY-P120TKMU	ø19.05 Brazed (3/4) *2	ø28.58 Brazed (1-1/8) *1	ø25.4 (1)	ø28.58 (1-1/8)
PURY-P144TKMU	ø22.2 Brazed (7/8) *2	ø28.58 Brazed (1-1/8) *1	ø25.4 (1)	ø28.58 (1-1/8)

\*1 Expand the on-site piping and connect to the refrigerant service valve piping.  
\*2 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

NO.	Usage	Specifications
①	Front through hole	140 x 77 Knockout hole (5-17/32)(3-1/16)
②	Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	160 x 94 Knockout hole (5-29/32)(3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32)(1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4)(7/8)
⑥	Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	For transmission cables	ø34 Knockout hole (1-11/32)



# Model: PURY-P96TKMU-A (-BS) – DIMENSIONS

## PURY-P72,96TKMU-A(-BS)

Unit : mm(in.)

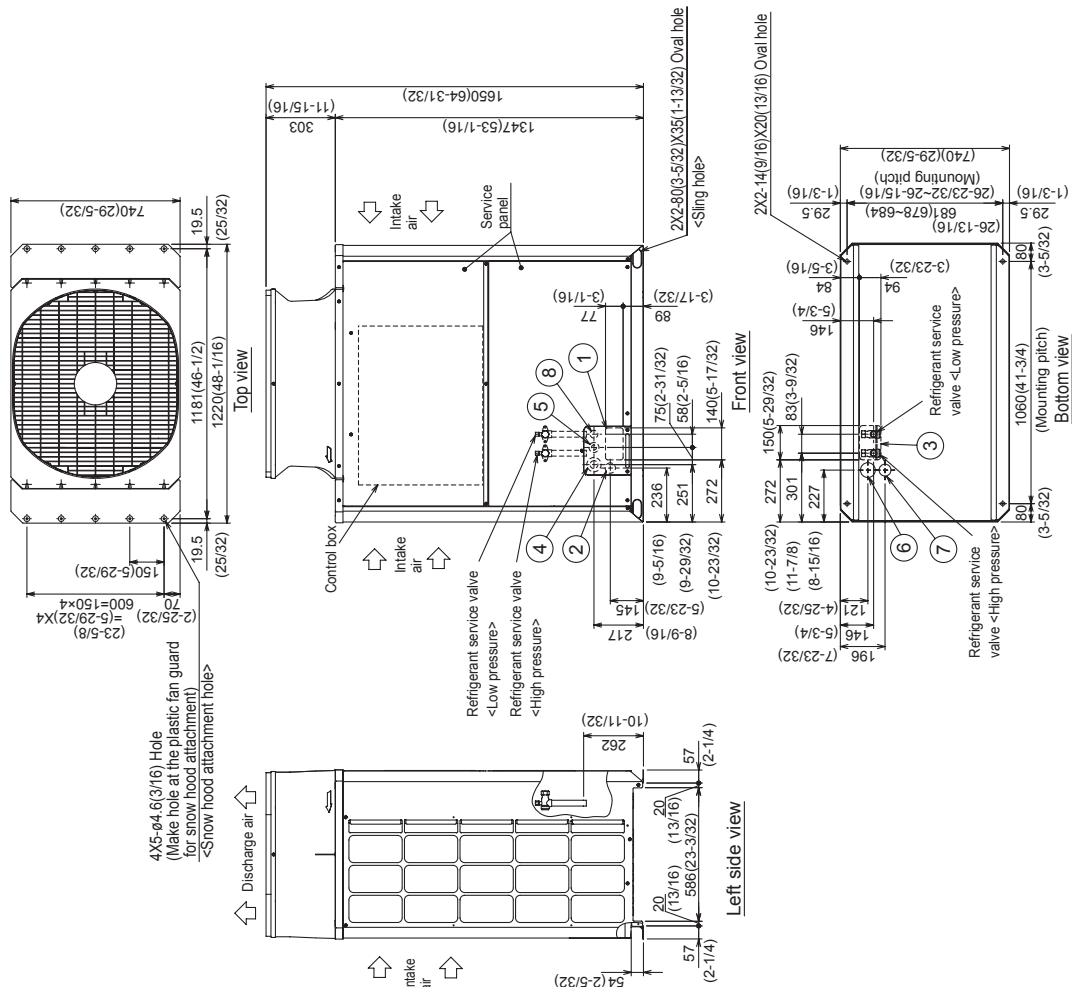
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.  
2. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

### Connecting pipe specifications

Model	Diameter		
	Refrigerant pipe	Service valve	
	High pressure	Low pressure	High pressure
PURY-P72TKMU	ø15.88 Braze (5/8) *1	ø19.05 Braze (3/4)	ø25.4 (1)
PURY-P96TKMU	ø19.05 Braze (3/4) *1	ø22.2 Braze (7/8) *1	ø25.4 (1)

\*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

NO.	Usage	Specifications
①	Front through hole	140 x 77 Knockout hole (5-17/32)(3-11/16)
②	Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 x 94 Knockout hole (5-29/32)(3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32)(1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	For transmission cables	ø34 Knockout hole (1-11/32)





Page 1 of 12

September 24, 2014

**Frank Valdes**

DiMella Shaffer Associates, Inc.  
281 Summer Street  
Boston, Massachusetts 02210

***RE: Waterworks Residential - Phase 1  
Somerville, Massachusetts  
Garage Assessment***

Dear Frank:

At your request, I visited the Mystic Waterworks site in Somerville Massachusetts on September 11, 2014 to assess the condition of the existing two-story building with a partially below grade lower level in order to form and report an opinion regarding its possible continued use.

Based on my conversations with your office, I understand the intent of this project is to convert the current residential over parking facility temporarily into an office space, and although it's not permanent, is planned to be used for possibly the next ten to twenty years.

During my visit I visually observed the building's interior and exterior condition and the materials and methods used to construct the building. Our assessment also includes a review of the Existing International Building Code as it relates to the potential renovations and change of use.

**Existing Building**

The original building measures approximately 80ft long x 23 ft wide and consists of 2 stories with the lower level partially below grade. The typical floor and roof construction appears to utilize wood joists bearing on steel beams, columns and shallow foundations along the interior and on masonry bearing walls around the perimeter. The exterior walls constructed partially below grade consist of unreinforced stone. The bearing walls along the front lower level and above the second floor consist of concrete masonry units.



### **Comments Related to Visual Observations**

Based on visual observations, with limited access to observe the condition of the floor and roof framing, it is my opinion that the existing structure is, overall, in generally good condition and is suitable for renovation.

Areas of potential concern that cannot be verified at this time due to the presence of finish materials and limited access above the ceilings include:

1. Potential deficient floor and roof framing. Although we did not observe any signs of water damage or deficient framing, the majority of the floor and roof structure was covered. Based on our experience with similar buildings, we would recommend including replacing a portion of the floor and roof framing in your budget in order to account for potential unforeseen deteriorated framing conditions that are presently not visible.
2. Significant cracking around the exterior walls was observed. Although the cracks do not appear to be structural, we would recommend removing the finishes around the cracks to permit visual assessment of the base structure.
3. If the lower level is planned to be used as office space
  - i. We'd recommend taking coring samples of the ground floor garage to confirm thickness. This slab also appears to have been constructed as a utility slab with uneven, rough surfaces. If a finished, flat surface is required, we'd suggest considering adding a topping slab or possibly replacing the ground floor slab.
  - ii. Verify potential water issues do not exist. At the time of our visit we did not observe any water issues, however we'd recommend discussing with the owner if they have experienced any water problems around the below grade basement walls.

### **Comments Related to Code Review**

As defined in Chapter 34 of the 2009 International Building Code, with Massachusetts Amendments, this building shall comply with the following IEBC provisions for Level 3 Alterations and Change of Occupancy.





1. Paragraph 707.2: New work shall comply with the new construction requirements of the 2009 International Building Code
2. Paragraph 707.3 and 707.4: planned alterations that will increase the floor dead load (such as a gypcrete topping) shall be evaluated and comply with the 2009 IBC. Existing members that are found to be deficient or damaged shall be repaired or strengthened.
3. Paragraph 707.5: the existing lateral load resisting system of the building is brick masonry shear walls with wood diaphragm. The demand-capacity ratio, with alteration considered, shall be less than 10% difference from the demand-capacity ratio with alteration ignored. Any planned alterations that increase the building weight or introduce new openings into the existing exterior walls may trigger a lateral upgrade.
4. Paragraph 807.4: based on our understanding of the planned renovation, this building is anticipated to receive limited structural alterations, which only requires verification that the building structures comply with the loads applicable at the time they were constructed.
5. Paragraph 807.5: due to the materials used to construct the walls and roof, wall anchors shall be installed along wall and floor and wall and roof interface.
6. Paragraph 907.1: change in occupancy from residential to office increases the live load from 40psf+ partition to 50psf+ partition. Based on the observed floor framing sizes, the existing floor framing appears to be sufficiently sized to accommodate the increase in uniform loads.

We appreciate the opportunity to provide this report. Let us know if you have any questions, or would like to discuss our findings in further detail.

Yours truly,

**L.A. Fuess Partners** *Structural Engineers*

A handwritten signature in black ink, appearing to read "A. Ford", is positioned above the printed name.

Aaron Ford, PE  
Principal



L.A. FUESS PARTNERS



Photo #1

Outside elevation  
looking at lower  
level



Photo #2

Outside elevation  
looking at backside  
of upper level



L.A. FUESS PARTNERS



Photo #3

Lower level,  
southwest elevation



Photo #4

Lower level, close-up  
of southwest  
elevation



L.A. FUESS PARTNERS



Photo #5

Lower level,  
northwest elevation



Photo #6

Lower level, close-up  
of northwest  
elevation





L.A. FUESS PARTNERS



Photo #7

Lower level, close-up  
of northwest  
elevation



Photo #8

Lower level, close-up  
of northwest  
elevation



L.A. FUESS PARTNERS



Photo #9

Lower level, looking east at north corner of parking garage



Photo #10

Lower level, looking east at south corner of parking garage



L.A. FUESS PARTNERS



Photo #11

Lower level, looking  
north at east wall of  
parking garage



Photo #12

Lower level, looking  
north standing in  
parking garage



L.A. FUESS PARTNERS

A photograph showing a close-up of a concrete floor covered with dry, brown leaves and debris. A yellow-painted metal column is visible on the left side of the frame.	<p>Photo #13</p> <p>Lower level, looking at floor near column</p>
A photograph of a long, empty hallway on an upper level. The hallway has light-colored walls, a dark carpet, and fluorescent lighting on the ceiling. A doorway is visible at the end of the hallway.	<p>Photo #14</p> <p>Upper level, looking north at north wall</p>





L.A. FUESS PARTNERS



Photo #15

Upper level, looking south at south wall



Photo #16

Upper level, looking southwest at south wall



L.A. FUESS PARTNERS



Photo #17

Upper level, looking  
up into ceiling  
framing



Photo #18

Upper level, looking  
up into ceiling  
framing

**Mystic Water Works at Capen Court  
Marketability Report**

A proposed residential housing development at  
485 Mystic Valley Parkway in  
**Somerville, Middlesex County, Massachusetts**

Effective Date of Report: March 1, 2014

**Prepared by:**

David S. Kirk, MAI, CRE®  
Mass. Certified General  
Real Estate Appraiser No. 1520

Brett N. Pelletier  
Mass. Appraisal Trainee  
Real Estate Appraiser No. 103241

**Prepared for:**

Gabriel Ciccariello  
Modernization Department  
Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

REAL ESTATE COUNSELORS

99 SUMMER STREET, SUITE M120 BOSTON, MA 02110  
TEL: 617-261-7100 FAX: 617-261-7910  
EMAIL: dsk@kirkco.com

March 1, 2014

Gabriel Ciccariello  
Modernization Department  
Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145

RE: Mystic Water Works at Capen Court; Somerville, MA

Dear Mr. Ciccariello:

At your request Kirk and Company has analyzed the subject market regarding the marketability of the referenced project. Our analysis and conclusions are summarized within this letter. The subject property is located on The proposed project is located on a 1.102-acre portion of a larger campus site in Somerville, at the intersection Mystic Valley Parkway, Alewife Brook Parkway, and Capen Court. The proposed development will include 25 units within a single two-story building and will include common areas and facilities. The property will offer 25 one-bedroom units of approximately 550 square feet. 5 of the units will be reserved as affordable for households earning less than 30% AMI and 20 units will be reserved for resident earning 50% AMI. The developer will rehabilitate the long-vacant former Water Works. The rehabilitation will create 25 housing units within an historic building, with designated common spaces including a lounge and other communal areas. Residential units will be located on two-levels around the perimeter of the building on either side of a double-loaded corridor. Windows will be replaced with energy efficient windows that are compatible with the historic character of the property. Additionally, all units will be fully adapted for frailty, including provisions for layout, flooring, cabinetry and appliances, hardware, and handicap accessibility. The purpose of our assignment is to determine the marketability the proposed 25 units under the provisions of the LIHTC application to the Massachusetts Department of Housing and Community Development (DHCD).

1. The property will be new to the market, and the well-proportioned and competitively equipped apartment units should support a favorable market position. The site is well located in Somerville with excellent access to interstate transportation, services, shopping and recreation.
2. The subject property will compete with studio and one-bedroom apartment units located in the market surrounding Somerville. There will be 25 one-bedroom units at the proposed development, all of which will be approximately 550 square feet.
3. The net market rents for the subject property are estimated to be \$1,250 per month for one-bedroom units. These rents assume that all utilities are included in monthly rents and support services are also provided at no additional cost to tenants.



4. The demand analysis for households earning less than 30% AMI indicates that there are a total of 7,325 income-eligible households that would qualify for a one-bedroom unit within the PMA. There are a total of about 12,109 income-eligible households that would qualify for a one-bedroom unit within the SMA. The demand analysis for households earning between 30% and 50% AMI indicates that there are a total of 4,104 income-eligible households that would qualify for a one-bedroom unit within the PMA. There are a total of about 6,088 income-eligible households that would qualify for a one-bedroom unit within the SMA. This measurement of 30% AMI demand indicates required capture rates of 0.07% for one-bedroom units for the primary market and 0.04% for one-bedroom units for the secondary market. This measurement of 50% AMI demand indicates required capture rates of 0.49% for one-bedroom units for the primary market and 0.33% for one-bedroom units for the secondary market.
5. The market for rental housing is stable in the market area with positive improvements in occupancy and rent increases in most properties throughout the market. Therefore it is reasonable to assume the subject could rent-up within four to six months, averaging approximately 4 to 6 units per month, assuming a professional marketing campaign and pre-leasing activity.

The attached report serves as a summary of our findings. All of our conclusions are based on preliminary development plans and information related to the proposed project provided by the developer. Changes to the development plans may require a re-evaluation of our conclusions. We are delighted to be of service to you. If you have any questions regarding the content of this report please feel free to contact us.

Sincerely,



David S. Kirk, MAI, CRE®

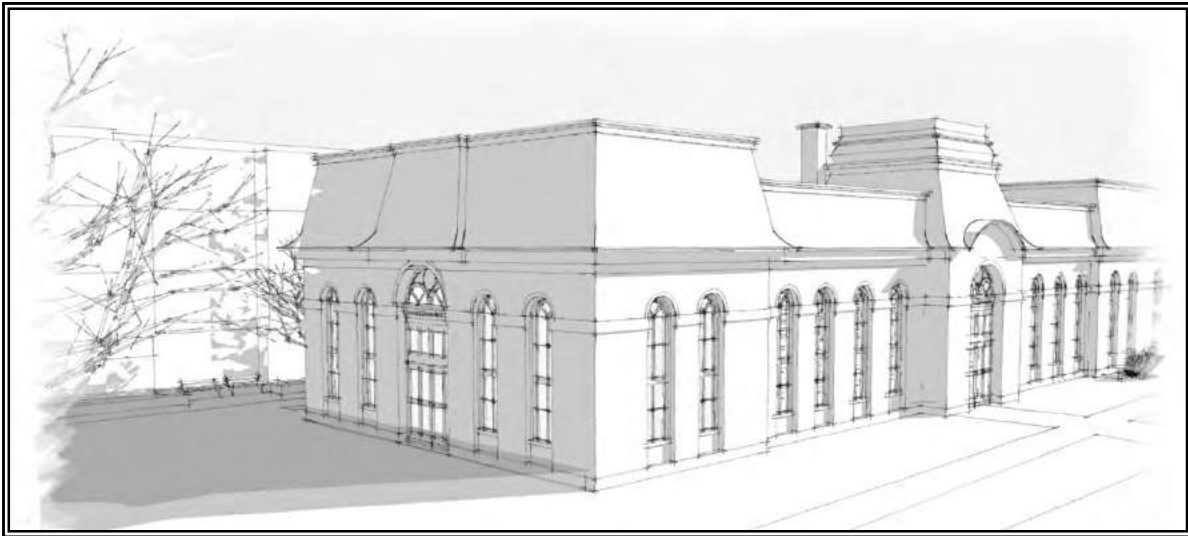


Brett N. Pelletier

## TABLE OF CONTENTS

<b>TABLE OF CONTENTS.....</b>	<b>1</b>
<b>PART I: INTRODUCTION.....</b>	<b>2</b>
PROPERTY DESCRIPTION .....	3
SITE DESCRIPTION .....	5
<b>PART II: ANALYSIS AND DESCRIPTION .....</b>	<b>6</b>
REGIONAL ANALYSIS .....	7
Regional Overview .....	8
Employment.....	11
Population .....	13
SITE AND NEIGHBORHOOD .....	22
Access .....	24
Visibility .....	24
Site Qualities .....	24
COMPETITIVE MARKET POSITION LIHTC PROGRAM UNITS .....	25
<b>Comparable Rental Analysis and Determination of Market Rent .....</b>	<b>27</b>
Comparable Rental 1.....	28
Comparable Rental 2.....	28
Comparable Rental 3.....	28
Comparable Rental 4.....	28
Comparable Rental 5.....	29
Conclusion .....	30
Indicated Market Advantage.....	31
HOUSING DEMAND ANALYSIS .....	32
Capture Rate of Household Demand .....	32
Absorption.....	35
CERTIFICATION .....	37
<b>Part III: Appendices .....</b>	<b>38</b>
QUALIFICATIONS OF THE APPRAISERS.....	39
CAPTURE RATE WORKSHEETS .....	42

**PART I: INTRODUCTION**



### **Property Description**

Mystic Water Works at Capen Court is a proposed residential apartment development consisting of 25 units in Somerville, Massachusetts. The proposed project is located on a 1.102-acre portion of a larger campus site in Somerville, at the intersection Mystic Valley Parkway, Alewife Brook Parkway, and Capen Court. The proposed development will include 25 units within a single two-story building and will include common areas and facilities. The property will offer 25 one-bedroom units of approximately 550 square feet. 5 of the units will be reserved as affordable for households earning less than 30% AMI and 20 units will be reserved for resident earning 50% AMI. The developer will rehabilitate the long-vacant former Water Works. The rehabilitation will create 25 housing units within an historic building, with designated common spaces including a lounge and other communal areas. Residential units will be located on two-levels around the perimeter of the building on either side of a double-loaded corridor. Windows will be replaced with energy efficient windows that are compatible with the historic character of the property. Additionally, all units will be fully adapted for frailty, including provisions for layout, flooring, cabinetry and appliances, hardware, and handicap accessibility.

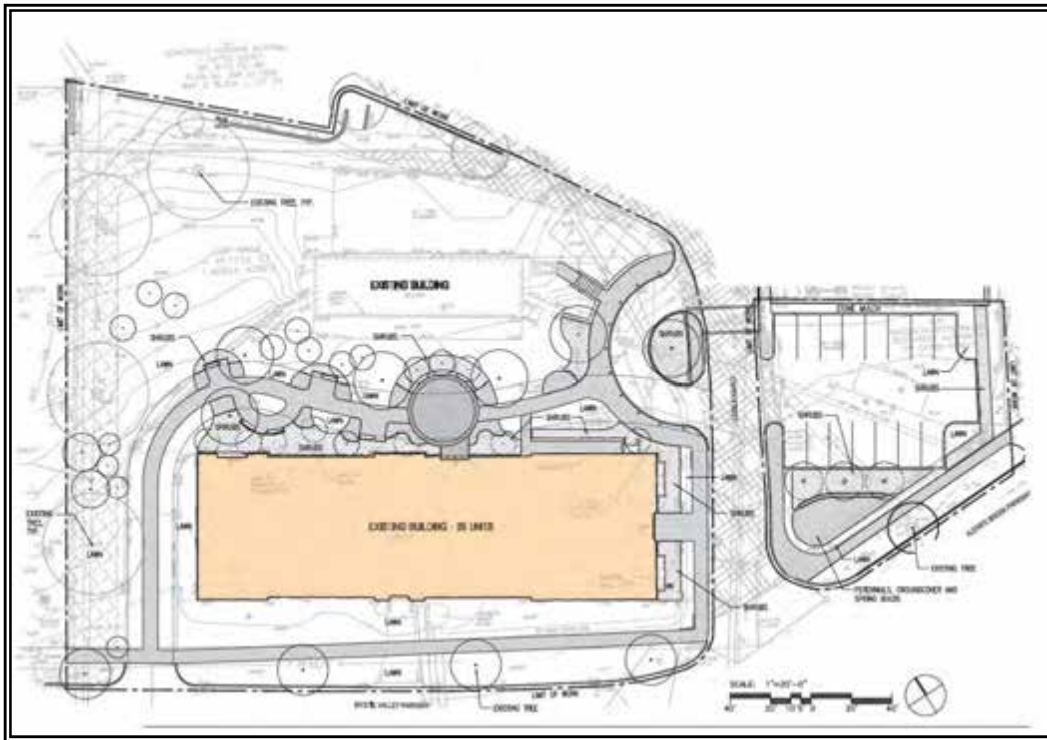
The project consists of the redevelopment and conversion of the existing Mystic Water Works into 25 affordable housing units for seniors and persons with disabilities. The existing office and garage outbuilding located on the site will receive exterior cosmetic upgrades and may potentially be redeveloped in a future phase of the project. All of the 25 units will be one-bedroom units designated as low- to moderate-income rental units. This project is located



adjacent to the Capen Court development, an existing affordable senior living facility operated by an affiliate of the developer, and an assisted living facility developed by the Visiting Nurses Association. The project's proximity to these facilities makes it consistent with surrounding uses and will enable its residents to benefit from nearby services.

The site will have a part-time property manager located in the adjacent Capen Court residential property. According to preliminary schematics, the subject property will feature such amenities as on-site parking for 15 cars, circular driveway, landscaped outdoor areas conducive to social and physical activities for the elderly, and interior common areas. Additionally, residents at the property will have access to on-site service coordination and available off-site services organized by a part-time resident service coordinator.

Many tenants will be frail seniors, formerly homeless seniors and younger person with disabilities in need of supportive services. They will have access to home care services available in the community, including delivered meals, visiting nurse services, personal care and home health services, day health care, and community activities. All of these services are available to residents from community based providers and may be coordinated by the resident services coordinator on site. Unit features will include wood cabinets with laminate countertops, vinyl tile and carpet flooring. Kitchens will also feature electric range, refrigerator, sink, range hood and cabinetry. The property will also offer cable and high-speed Internet hookup, fire alarm systems, sprinkler systems, and an intercom system. The project and location are considered both suitable and competitive for the intended residential use.

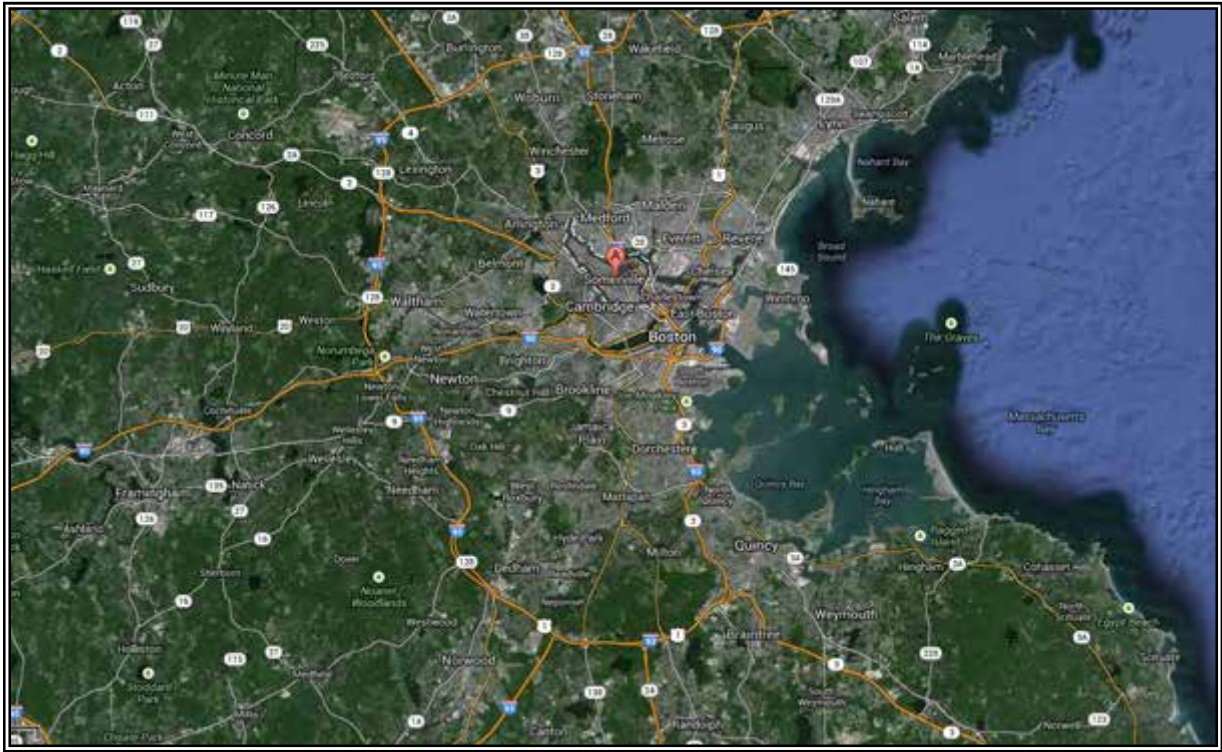


### Site Description

The proposed development is located on one 1.102-acre portion of a campus site located at the intersection of Mystic Valley Parkway, Alewife Brook Parkway, and Capen Court in Somerville, Massachusetts. The developer is proposing to construct a 25-unit rental housing development that includes affordable units serving low-income seniors. The site is currently improved with a vacant former waterworks and when completed will provide 25 new one-bedroom units, 5 available to persons earning 30% or less of the area median income (AMI) and 20 one-bedroom units available to persons earning 50% or less of the area median income (AMI).

Size:	A 1.102- acre site
Shape:	Irregular
Frontage:	Approximately 200 feet on Mystic Valley Parkway
Topography:	Generally level and at grade with street

## **PART II: ANALYSIS AND DESCRIPTION**

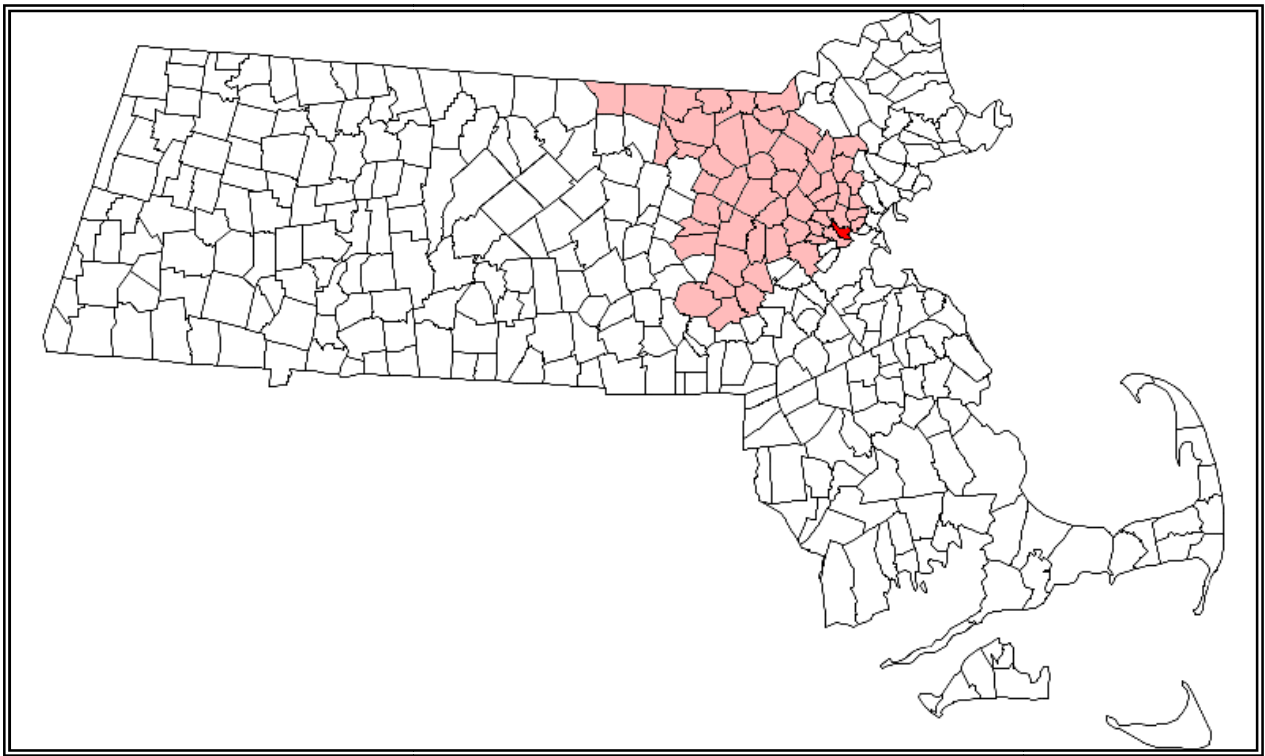


Source: Google Maps

### Regional Analysis

The subject property is located in the northwest of Somerville, Middlesex County, Massachusetts, along the Medford border. Somerville is an established commercial and residential neighborhood located north of Cambridge, south of Medford and the Mystic River, east of Arlington, and west of Boston. Davis Square is between Harvard Square and Tufts University and is the location of jazz and blues restaurants, bar establishments, small retail stores, offices, and single- and multi-family residences.





Source: Wikipedia.com

### **Regional Overview**

Nationally and regionally economic conditions have improved over the past 12 months after the severe economic crisis. Recent improvements in both the national the regional economy indicate signs of recovery and overall general improving economic conditions. The Federal Reserve Board (Fed), in its January 15, 2014 publication of the Beige Book, for the Boston (First) District, reported economic activity continuing to expand at a moderate pace throughout the district. According to the Beige Book, the economy continues to expand modestly, according to business contacts. All but one retailer and most manufacturing and selected business services contacts cite sales or revenue increases in recent months. While existing home sales were below year-earlier levels in three of the six New England states, home prices continued to rise; at the same time, commercial real estate in the region maintains modest strength. Economic and health care consulting is the only sector citing significant net hiring. Most contacts indicate that price pressures are a non-issue. The outlook is generally positive.

According to estimates released by the U.S. Commerce Department's Bureau of Economic Analysis (BEA), the gross domestic product (GDP) increased 3.2% in the fourth quarter 2013 after increasing 4.1% in the third quarter of 2013. The increase in real GDP in the fourth quarter primarily reflected positive contributions from personal consumption expenditures, exports, nonresidential fixed investment, private inventory investment, and state

and local government spending that were partly offset by negative contributions from federal government spending and residential fixed investment. Imports, which are a subtraction in the calculation of GDP, increased. The Commerce Department reported that retail sales decreased 0.4% but 2.6% above January 2013.

The consumer price index (CPI), as reported by the U.S. Department of Labor, increased 0.1% in January according to the most recent report of February 20, 2014. The CPI for the nation has increased 1.6% over the past 12 months before seasonal adjustment. According to the Bureau of Labor Statistics, Increases in the indexes for household energy accounted for most of the all items increase. This increase more than offset a decline in the gasoline index, resulting in a 0.6% increase in the energy index.

S&P Indices (S&P)s reported in a January 2014 press release that the U.S. National Home Price Index increased by 13.8% and 13.7% for the 10- and 20-city composites, respectively. According to S&P, Boston, Chicago, Cleveland, Dallas, Las Vegas, Miami, New York, Tampa and Washington were the nine cities to accelerate on an annual basis. Boston showed an annual rate of 9.8%, an improvement of 1.2 percentage points from last month.

A national consumer confidence index, published monthly by the Conference Board, has improved again in January, after increasing in December as reported in their January 28, 2014 survey. The consumer confidence index currently stands at 80.7 which is up from 77.5 in December. The Conference Board reported, "Consumer confidence advanced in January for the second consecutive month, consumers' assessment of the present situation continues to improve, with both business conditions and the job market rated more favorably. Looking ahead six months, consumers expect the economy and their earnings to improve, but were somewhat mixed regarding the outlook for jobs. All in all, confidence appears to be back on track and rising expectations suggest the economy may pick up some momentum in the months ahead." The current consumer confidence report indicates an overall improvement in consumer's current outlook and expectations of the future.

Nationally, current mortgage rates are still hovering around historical lows. According to HSH Associates, the average for a 30-year fixed conventional mortgage is currently 4.35% in the Boston, MA area.

There have been no multi-family building permits issued in the town of Somerville since 2006 and only 3 reported single-family building permits issued since 2009. The majority of building permits issued within the town have been for the new construction of single-family homes, additions, and improvements, with a small number of commercial permits. The lack of available multifamily developable land in the town of Somerville combined with restrictive zoning and current economic conditions has contributed to the low number of building permits issued for multi-family residences. The number of single-family building permits is evidence of the low density and development character of the Somerville area and surrounding communities.

New Privately-Owned Residential Building Permits - Somerville, MA										
Item	2013		2012		2011		2010		2009	
	Buildings /Units	Construction Cost	Buildings /Units	Construction Cost	Buildings /Units	Construction Cost	Buildings /Units	Construction Cost	Buildings /Units	Construction Cost
Single-Family	0/0	\$0	0/0	\$0	0/0	\$0	1/1	\$166,667	2/2	\$333,334
Two Family	0/0	\$0	0/0	\$0	0/0	\$0	0/0	\$0	0/0	\$0
Three/Four Family	0/0	\$0	0/0	\$0	0/0	\$0	0/0	\$0	0/0	\$0
Five or More Family	0/0	\$0	0/0	\$0	0/0	\$0	0/0	\$0	0/0	\$0
<b>Total</b>	<b>0/0</b>	<b>\$0</b>	<b>0/0</b>	<b>\$0</b>	<b>0/0</b>	<b>\$0</b>	<b>1/1</b>	<b>\$166,667</b>	<b>2/2</b>	<b>\$333,334</b>

Source: U.S. Census Bureau

The housing stock in Somerville is predominantly residential properties of between 2 and 4 units. There are a limited number of apartment complexes within the community. According to the 2010 Census, there are 33,368 housing units in Somerville. Over 82% of those units are in residences with fewer than 10 units; which is typical for historically more suburban neighborhoods of Boston and communities with lower density than that of Boston. There is a concentration of duplex and 3 or 4 unit multifamily buildings within the PMA and SMA as indicated by the chart below. This concentration of lower-density residences is typical for the market area, especially the communities which are more suburban or rural in character, as indicated by the chart below.

<b>Housing Units by Structure</b>						
<b>Style</b>	<b>Somerville</b>		<b>Primary Market Area</b>		<b>Secondary Market Area</b>	
	<b>Units</b>	<b>%</b>	<b>Units</b>	<b>%</b>	<b>Units</b>	<b>%</b>
1 unit detached	3,670	11.0%	35,665	24.7%	61,882	26.7%
1 unit attached	1,235	3.7%	8,808	6.1%	13,906	6.0%
2 units	11,112	33.3%	33,499	23.2%	54,929	23.7%
3 or 4	8,442	25.3%	22,525	15.6%	34,765	15.0%
5 to 9	3,203	9.6%	10,685	7.4%	15,065	6.5%
10 to 19	1,468	4.4%	7,075	4.9%	10,893	4.7%
20 to 49	2,136	6.4%	9,819	6.8%	15,065	6.5%
50+	2,035	6.1%	16,172	11.2%	25,031	10.8%
Mobile Home	0	0.0%	0	0.0%	232	0.1%
<i>Source: Site to do Business Online</i>						

## Employment

In Massachusetts, the labor force has increased modestly over the past 12- and 24-month periods. Employment levels have increased over the same periods and most recently increased 0.1% over the past 24 months. The unemployment rate in Massachusetts as of December 2013 was 6.7%, 6.6% as of December 2012, and as of December 2011 the unemployment rate was also 6.6%. The national unemployment rate was 6.5% in December 2013. The labor force in the city of Somerville has increased by 1.3% over the past 24 months and employment has increased at 1.1%, however, improvements have been made in the past 12-months showing signs of recovery and eventual returns to pre-recession levels. The city of Somerville has unemployment levels, which have been historically lower than that of the Commonwealth of Massachusetts and the region. The outlook for improving employment conditions remains cautiously optimistic as the Massachusetts economy continues to outperform the nation, however, at an increasingly slower pace.



<b>Employment Trends</b>					
				24 month	12 month
<u>Massachusetts</u>	<u>Dec-11</u>	<u>Dec-12</u>	<u>Dec-13</u>	<u>% Change</u>	<u>% Change</u>
Labor Force	3,466,000	3,470,700	3,473,200	0.2%	0.1%
Employed	3,236,900	3,242,800	3,241,300	0.1%	0.0%
Unemployed	229,100	227,900	231,900	1.2%	1.8%
Unemployment Rate	6.6%	6.6%	6.7%	1.0%	1.7%
<u>Boston-Cambridge-Quincy, MA-NH Metro NECTA</u>	<u>Dec-11</u>	<u>Dec-12</u>	<u>Dec-13</u>	<u>% Change</u>	<u>% Change</u>
Labor Force	2,547,128	2,557,848	2,569,687	0.9%	0.5%
Employed	2,396,645	2,407,312	2,418,986	0.9%	0.5%
Unemployed	150,483	150,536	150,701	0.1%	0.1%
Unemployment Rate	5.9%	5.9%	5.9%	-0.7%	-0.4%
<u>Middlesex County</u>	<u>Dec-11</u>	<u>Dec-12</u>	<u>Dec-13</u>	<u>% Change</u>	<u>% Change</u>
Labor Force	838,340	841,203	845,551	0.9%	0.5%
Employed	795,462	797,894	801,796	0.8%	0.5%
Unemployed	42,878	43,309	43,755	2.0%	1.0%
Unemployment Rate	5.1%	5.1%	5.2%	1.2%	0.5%
<u>Somerville</u>	<u>Dec-11</u>	<u>Dec-12</u>	<u>Dec-13</u>	<u>% Change</u>	<u>% Change</u>
Labor Force	46,972	47,191	47,573	1.3%	0.8%
Employed	44,870	45,062	45,361	1.1%	0.7%
Unemployed	2,102	2,129	2,212	5.2%	3.9%
Unemployment Rate	4.5%	4.5%	4.6%	3.9%	3.1%
<i>Source: Massachusetts Department of Employment and Training</i>					

## Transportation

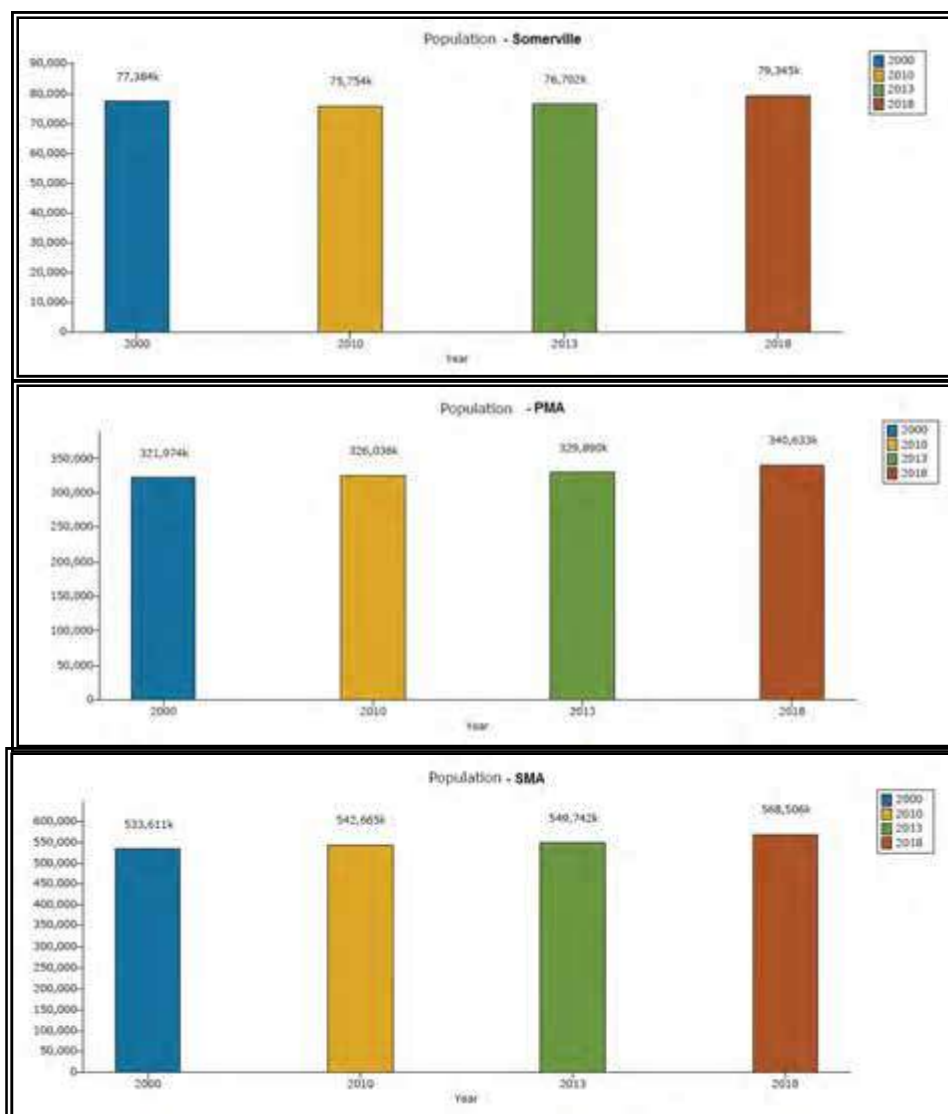
Somerville is a member of the Massachusetts Bay Transportation Authority (MBTA), which provides fixed route bus and train service to neighboring communities. MBTA Commuter Rail service is available at West Medford Station located northwest of the subject. The Somerville Express shuttle provides local bus service between each of the neighborhoods of Somerville. In addition, the Minuteman Bikeway links Somerville Lexington, Arlington, and Bedford.

Massachusetts benefits from a broad-based and well-established transportation network. Logan International Airport, located in the city of Boston, is one of the country's most active terminals serving both domestic and international travelers. A large interstate highway system connects Massachusetts with the rest of New England and the country. Interstate 95 connects with State Route 128 and forms the inner loop around Boston, while Interstate 495 forms the outer loop, both of which run in a generally north-south direction. The Massachusetts Turnpike (Interstate 90) originates in Boston and connects the city with points west and upstate New York. The John F. Fitzgerald Expressway (the Central Artery) runs north-south through Boston and

connects the north and south shores. The Central Artery Project has expanded and depressed the Southeast Expressway and connects the Massachusetts Turnpike to Logan Airport through the Ted Williams Tunnel in an effort to ease traffic congestion and beautify the city of Boston.

**Population**

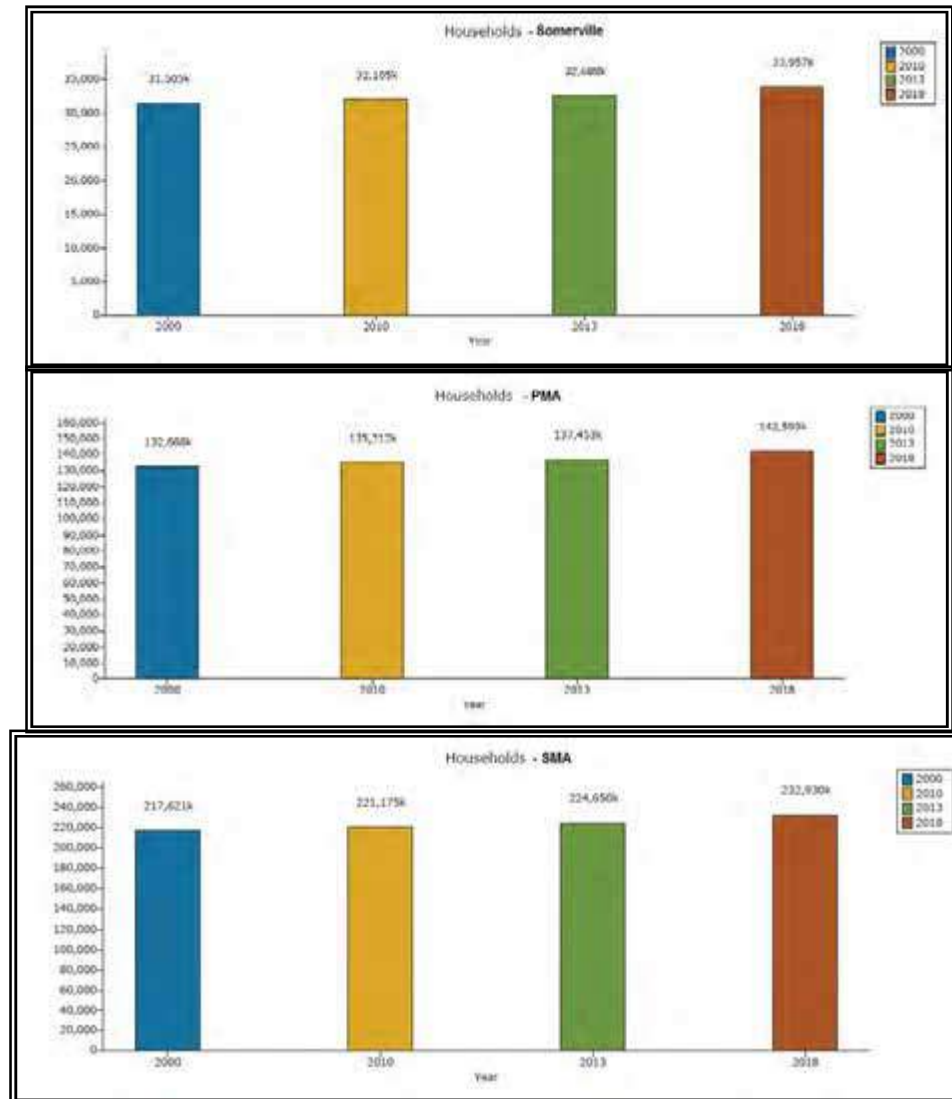
Somerville is an established residential community located approximately 3 miles from Boston. Somerville had a 2000 population of 77,384. According to demographic data provided by *STDBOnline*, the population of Somerville has decreased at an annual rate of 0.21% since 2000 for a 2010 population of 75,754, with an estimated 2013 population of 76,702; an increase of 0.38% per year over the three-year period, and with an estimated 2018 population of 79,345; an annual increase of 0.68% over the five year period. The population in the PMA has increased at an annual rate of 0.13% since 2000 for a 2010 population of 326,036, with an estimated 2013 population of 329,890; an increase of 0.36% per year over the three-year period, and with an estimated 2018 population of 340,633; an annual increase of 0.64% over the five year period. The population in the SMA has increased at an annual rate of 0.17% since 2000 for a 2010 population of 542,665, with an estimated 2013 population of 549,742; an increase of 0.40% per year over the three-year period, and with an estimated 2018 population of 568,506; an annual increase of 0.67% over the five year period.



Source: STDBOnline

Household growth is similar to the population growth of the selected geographies with Somerville households were growing at a rate of 0.19% since 2000 for a 2010 count of 32,105 households, with an estimated 2013 household count of 32,688, an annual increase of 0.56% over the three year period, and an estimated 2018 household count of 33,957, an annual increase of 0.76% over the five-year period. PMA households were growing at a rate of 0.19% since 2000 for a 2010 count of 135,212 households, with an estimated 2013 household count of 137,453, an annual increase of 0.51% over the three year period, and an estimated 2018 household count of 142,593, an annual increase of 0.74% over the five-year period. SMA households were growing at a rate of 0.16% since 2000 for a 2010 count of 221,175 households, with an estimated 2013 household count of 224,650, an annual increase of 0.48% over the three

year period, and an estimated 2018 household count of 232,930, an annual increase of 0.73% over the five-year period.

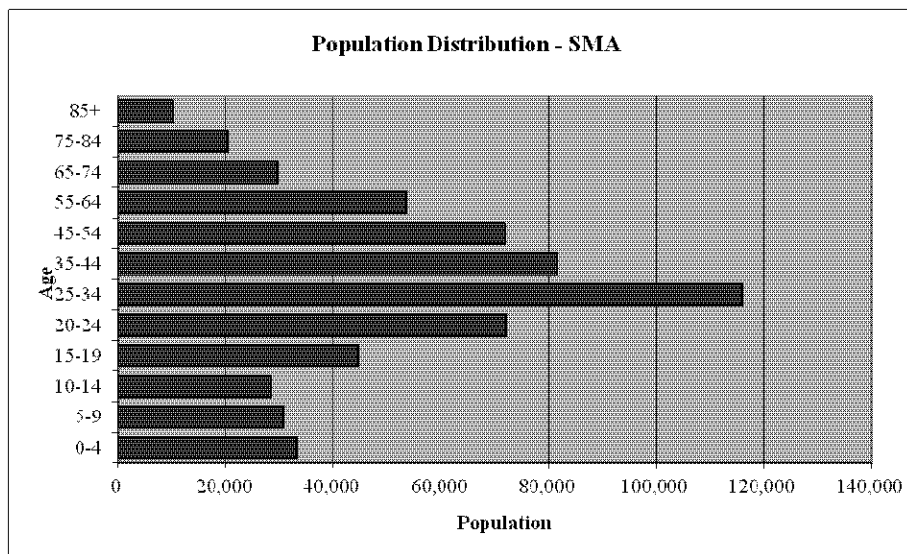
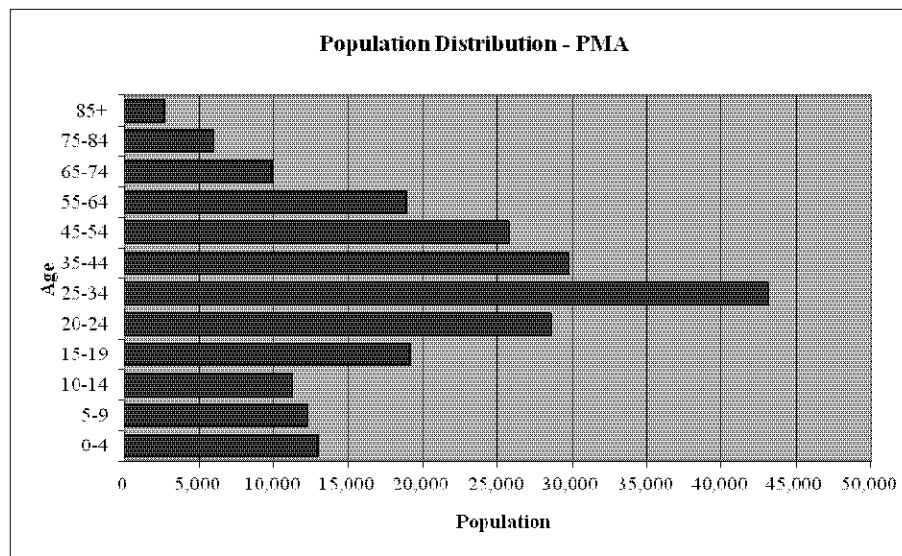
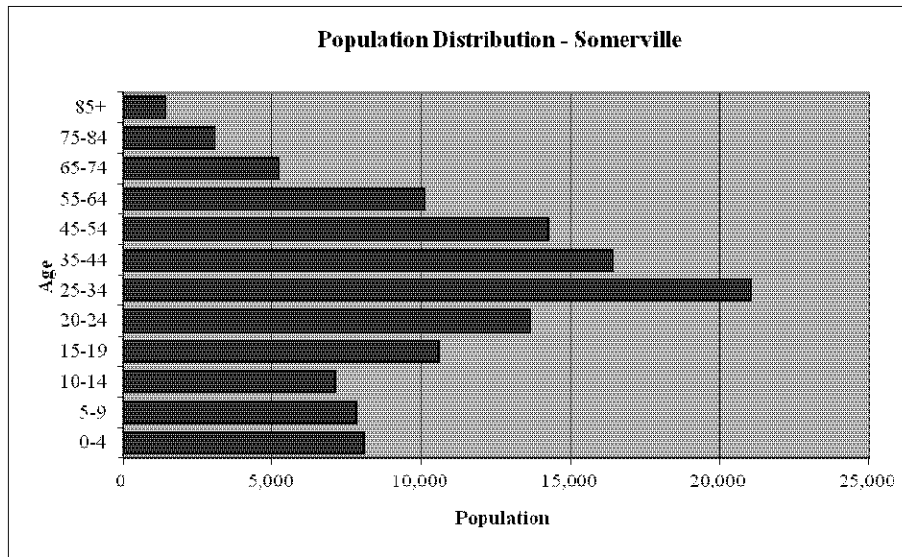


Source: STDBOnline

According to the data provided by *STDBOnline*, the population distribution within Somerville, and both the primary and secondary market area are similar. The cohort charts depict a normal population distribution in the primary and secondary market area. The population of Somerville and the primary and secondary market areas are balanced with an increase in overall population projected at each level.

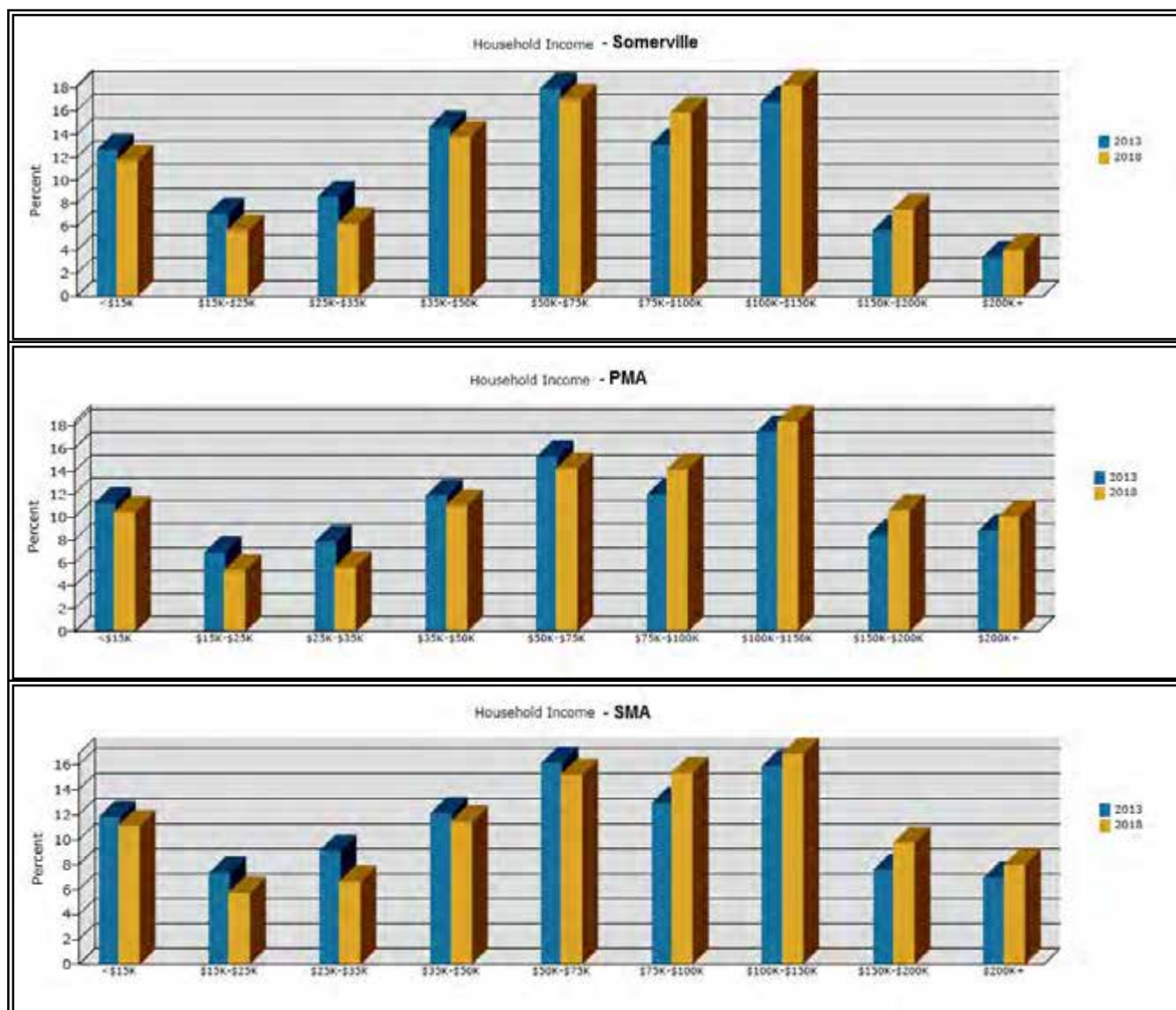


age range	PMA	SMA	Somerville MA
0-4	16,812	31,196	3,514
5-9	13,995	26,028	2,343
10-14	12,792	24,406	1,949
15-19	17,809	29,546	3,362
20-24	33,995	48,491	9,461
25-34	75,683	114,588	24,354
35-44	44,152	76,534	10,537
45-54	38,396	68,525	7,580
55-64	34,373	59,274	6,337
65-74	20,983	35,711	3,795
75-84	13,406	23,256	2,314
85+	6,940	11,590	1,140
	<b>329,336</b>	<b>549,145</b>	<b>76,686</b>



## Income

A study conducted by *STDBOnline*, estimates the median household income (MHI) of households in Somerville at \$57,485, compared to a MHI estimate of \$68,033 for the PMA and \$62,584 in the SMA. According to *STDBOnline*, the median household income for Somerville was \$57,485 in 2013, while estimated 2018 median income will increase 2.96% per year to reach \$66,497 in 2018. The higher projected income within the PMA and SMA is attributable to the inclusion of communities with lower median incomes and higher percentages of blue collar and service market jobs.



Source: *STDBOnline*

<b>Somerville</b>								
<b>2013 Households by Income and Age of Householder 55+</b>								
	<b>55-64</b>	<b>Percent</b>	<b>65-74</b>	<b>Percent</b>	<b>75+</b>	<b>Percent</b>	<b>Total</b>	<b>Percent</b>
Total	4,010	100%	2,584	100%	2,488	100%	9,082	100%
<\$15,000	579	14.4%	437	16.9%	776	31.2%	1,792	19.7%
\$15,000-\$24,999	229	5.7%	377	14.6%	421	16.9%	1,027	11.3%
\$25,000-\$34,999	287	7.2%	317	12.3%	283	11.4%	887	9.8%
\$35,000-\$49,999	600	15.0%	445	17.2%	328	13.2%	1,373	15.1%
\$50,000-\$74,999	718	17.9%	443	17.1%	287	11.5%	1,448	15.9%
\$75,000-\$99,999	498	12.4%	187	7.2%	207	8.3%	892	9.8%
\$100,000-\$149,999	640	16.0%	251	9.7%	131	5.3%	1,022	11.3%
\$150,000-\$199,999	251	6.3%	85	3.3%	34	1.4%	370	4.1%
\$200,000+	208	5.2%	42	1.6%	21	0.8%	271	3.0%
Median HH Income	\$58,500		\$39,248		\$26,293		\$42,927	
Average HH Income	\$81,079		\$55,278		\$40,752		\$62,691	
<b>2018 Households by Income and Age of Householder 55+</b>								
	<b>55-64</b>	<b>Percent</b>	<b>65-74</b>	<b>Percent</b>	<b>75+</b>	<b>Percent</b>	<b>Total</b>	<b>Percent</b>
Total	4,368	100%	3,101	100%	2,736	100%	10,205	100%
<\$15,000	554	12.7%	488	15.7%	843	30.8%	1,885	18.5%
\$15,000-\$24,999	193	4.4%	380	12.3%	373	13.6%	946	9.3%
\$25,000-\$34,999	225	5.2%	320	10.3%	256	9.4%	801	7.8%
\$35,000-\$49,999	651	14.9%	529	17.1%	373	13.6%	1,553	15.2%
\$50,000-\$74,999	741	17.0%	537	17.3%	324	11.8%	1,602	15.7%
\$75,000-\$99,999	657	15.0%	285	9.2%	308	11.3%	1,250	12.2%
\$100,000-\$149,999	762	17.4%	357	11.5%	174	6.4%	1,293	12.7%
\$150,000-\$199,999	345	7.9%	142	4.6%	57	2.1%	544	5.3%
\$200,000+	240	5.5%	63	2.0%	28	1.0%	331	3.2%
Median HH Income	\$67,131		\$44,117		\$30,298		\$48,933	
Average HH Income	\$92,221		\$63,793		\$46,791		\$71,403	
<b>PMA</b>								
<b>2013 Households by Income and Age of Householder 55+</b>								
	<b>55-64</b>	<b>Percent</b>	<b>65-74</b>	<b>Percent</b>	<b>75+</b>	<b>Percent</b>	<b>Total</b>	<b>Percent</b>
Total	21,465	100%	14,198	100%	13,938	100%	49,601	100%
<\$15,000	2,254	10.5%	1,669	11.8%	3,523	25.3%	7,446	15.0%
\$15,000-\$24,999	1,086	5.1%	1,613	11.4%	2,241	16.1%	4,940	10.0%
\$25,000-\$34,999	1,355	6.3%	1,322	9.3%	1,768	12.7%	4,445	9.0%
\$35,000-\$49,999	2,327	10.8%	1,961	13.8%	1,869	13.4%	6,157	12.4%
\$50,000-\$74,999	3,116	14.5%	2,382	16.8%	1,600	11.5%	7,098	14.3%
\$75,000-\$99,999	2,501	11.7%	1,468	10.3%	968	6.9%	4,937	10.0%
\$100,000-\$149,999	3,789	17.7%	1,778	12.5%	1,004	7.2%	6,571	13.2%
\$150,000-\$199,999	2,183	10.2%	924	6.5%	461	3.3%	3,568	7.2%
\$200,000+	2,854	13.3%	1,081	7.6%	504	3.6%	4,439	8.9%
Median HH Income	\$79,810		\$54,089		\$31,158		\$54,829	
Average HH Income	\$112,956		\$84,264		\$54,797		\$88,400	
<b>2018 Households by Income and Age of Householder 55+</b>								
	<b>55-64</b>	<b>Percent</b>	<b>65-74</b>	<b>Percent</b>	<b>75+</b>	<b>Percent</b>	<b>Total</b>	<b>Percent</b>
Total	23,004	100%	17,106	100%	15,023	100%	55,133	100%
<\$15,000	2,099	9.1%	1,864	10.9%	3,785	25.2%	7,748	14.1%
\$15,000-\$24,999	844	3.7%	1,531	9.0%	1,878	12.5%	4,253	7.7%
\$25,000-\$34,999	995	4.3%	1,210	7.1%	1,519	10.1%	3,724	6.8%
\$35,000-\$49,999	2,338	10.2%	2,203	12.9%	2,021	13.5%	6,562	11.9%
\$50,000-\$74,999	3,025	13.1%	2,748	16.1%	1,723	11.5%	7,496	13.6%
\$75,000-\$99,999	3,140	13.6%	2,137	12.5%	1,380	9.2%	6,657	12.1%
\$100,000-\$149,999	4,247	18.5%	2,359	13.8%	1,307	8.7%	7,913	14.4%
\$150,000-\$199,999	2,903	12.6%	1,487	8.7%	710	4.7%	5,100	9.3%
\$200,000+	3,413	14.8%	1,567	9.2%	700	4.7%	5,680	10.3%
Median HH Income	\$91,016		\$63,723		\$36,845		\$65,778	
Average HH Income	\$134,775		\$102,162		\$67,094		\$106,214	



SMA	2013 Households by Income and Age of Householder 55+							
	55-64	Percent	65-74	Percent	75+	Percent	Total	Percent
Total	36,542	100%	23,721	100%	23,457	100%	83,720	100%
<\$15,000	4,203	11.5%	3,082	13.0%	6,113	26.1%	13,398	16.0%
\$15,000-\$24,999	2,034	5.6%	2,579	10.9%	4,127	17.6%	8,740	10.4%
\$25,000-\$34,999	2,760	7.6%	2,603	11.3%	3,188	13.6%	8,631	10.3%
\$35,000-\$49,999	4,109	11.2%	3,278	13.8%	3,191	13.6%	10,578	12.6%
\$50,000-\$74,999	5,771	15.8%	4,233	17.8%	2,490	10.6%	12,494	14.9%
\$75,000-\$99,999	4,730	12.9%	2,517	10.6%	1,707	7.3%	8,954	10.7%
\$100,000-\$149,999	5,864	16.0%	2,668	11.2%	1,448	6.2%	9,980	11.9%
\$150,000-\$199,999	3,355	9.2%	1,363	5.7%	599	2.6%	5,317	6.4%
\$200,000+	3,716	10.2%	1,318	5.6%	594	2.5%	5,628	6.7%
Median HH Income	\$71,458		\$50,946		\$28,920		\$50,712	
Average HH Income	\$101,014		\$75,704		\$48,913		\$79,245	
SMA	2018 Households by Income and Age of Householder 55+							
	55-64	Percent	65-74	Percent	75+	Percent	Total	Percent
Total	39,156	100%	28,668	100%	25,351	100%	93,175	100%
<\$15,000	3,991	10.2%	3,462	12.1%	6,620	26.1%	14,073	15.1%
\$15,000-\$24,999	1,594	4.1%	2,473	8.6%	3,532	13.9%	7,599	8.2%
\$25,000-\$34,999	2,094	5.3%	2,508	8.7%	2,782	11.0%	7,384	7.9%
\$35,000-\$49,999	4,172	10.7%	3,811	13.3%	3,532	13.9%	11,515	12.4%
\$50,000-\$74,999	5,694	14.5%	4,946	17.3%	2,704	10.7%	13,344	14.3%
\$75,000-\$99,999	5,981	15.3%	3,731	13.0%	2,461	9.7%	12,173	13.1%
\$100,000-\$149,999	6,655	17.0%	3,565	12.4%	1,926	7.6%	12,146	13.0%
\$150,000-\$199,999	4,528	11.6%	2,243	7.8%	956	3.8%	7,727	8.3%
\$200,000+	4,447	11.4%	1,929	6.7%	838	3.3%	7,214	7.7%
Median HH Income	\$81,876		\$58,279		\$33,820		\$59,166	
Average HH Income	\$119,426		\$90,620		\$59,121		\$94,155	

Source: STDBOnline

## Conclusion

Economic activity in the U.S. continues to improve; however, the economic growth of the nation can be characterized as modest as the economy of the nation is in recovery. Employment, GDP, investment spending, consumer confidence, and availability of capital for investment are slowly showing signs of improvement. On January 28, 2014, the Federal Reserve Bank decided to maintain the target range for the federal funds rate at 0.0% to 0.25% and anticipates that economic conditions—including low rates of resource utilization and a subdued outlook for inflation over the medium run—are likely to warrant exceptionally low levels for the federal funds rate as long as the unemployment rate remains above 6.5%.

Nationally, growth in household spending has picked up recently but remains constrained by high unemployment, modest income growth, lower housing wealth, and tight credit. Business spending on equipment and software has risen significantly; however, investment in nonresidential structures is declining and employers remain reluctant to add to payrolls. Housing starts have edged up but remain at a depressed level. Although the pace of economic recovery is likely to be moderate for a time, the Committee anticipates a gradual return to higher levels of resource utilization in a context of price stability. Real estate recoveries are driven mainly by

employment growth and when GDP, and the labor markets begin to add jobs again, the real estate markets can begin to recover.

The PMA and SMA have population projections that are expected to grow at a lower rate than that of Somerville through 2018. The region is conveniently located to major regional transportation centers and employment centers within the market area, making it a suitable location for multifamily residential development. Because of the tenure of the existing housing inventory in Somerville, new additions to multifamily supply are in high demand. High occupancy in the rental market, production and turnover, and observed rental increases in the existing inventory support a growing demand for rental housing units within Somerville and the market.

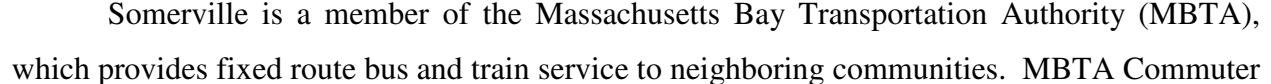


*Source: Google Maps*

### **Site and Neighborhood**

The subject site is located at the intersection of the Mystic Valley Parkway, Capen Court, and Alewife Brook Parkway in Somerville, MA. Somerville is a predominantly residential use community. Somerville is located in eastern Massachusetts, bordered by Arlington on the west, Medford on the north, Everett and Boston on the east, and Cambridge on the south and southeast. Somerville is 3 miles north of Boston, 22 miles south of Lowell, 40 miles east of Worcester, and Logan International Airport is 3.5 miles from Somerville. The region has excellent access to rail, air, and highway facilities. State Route 128 and Interstate Route 495 divide the region into inner and outer zones, which are connected by numerous "spokes" providing direct access to the airport, port, and intermodal facilities of Boston. Major roadways within Somerville include State Route 28/McGrath Highway, State Route 16/Alewife Brook Parkway, and State Route 38/Mystic Avenue. Interstate Route 93 passes through the eastern sector of the city.

The subject property is located on Dover Street in the Davis Square neighborhood adjacent to the MBTA red line station, and the Minuteman Bikeway that connects Cambridge to the Somerville Chamber of Commerce on Cedar Street. The northern point of Dover Street connects to Highland Avenue, which is one of the primary east west roadways connecting the subject neighborhood on the west to the Monsignor McGrath Highway on the east. The southern



single-family residential housing, small multifamily housing, small commercial uses, restaurants,

**KIRK & COMPANY**  
*Real Estate Counsel*



transportation nodes and local employment. Additionally, the agglomeration of services for senior citizens and disabled residents make this a particularly appropriate location for residential housing for elders.

**Access**

The site has an entrance on Capen Court, which has excellent access to both Alewife Brook Parkway and the Mystic Valley Parkway. The subject site is conveniently located to major interstate highways, enhancing access to regional services and community centers.

**Visibility**

The subject site has excellent visibility being at the intersection of the Mystic Valley Parkway, Capen Court, and Alewife Brook Parkway.

**Site Qualities**

The 1.102-acre site is an irregularly shaped parcel with areas of trees and shrubs. The site has a generally flat topography and will be landscaped and will provide sitting and activity areas for residents. There is approximately 200 feet of frontage on Mystic Valley Parkway. In addition to the site's proximity to employment centers and interstate roadways, the site offers extraordinary access to service amenities and site benefits that enhance marketability.

### Competitive Market Position LIHTC Program Units

The subject property will utilize low-income housing tax credits (LIHTC) under Section 42 of the United States Code. The maximum rents under the LIHTC program for the subject units have been calculated using the following charts for 30% and 50% AMI levels. Low-income housing tax credits (LIHTC) under Section 42 are to be reserved for 25 units at the subject property. According to the developer, the property will offer 5 units to individuals and families earning less than 30% AMI and 20 units to individuals and families earning less than 50% AMI.

<b>Maximum Section 42 Rent Calculation</b>							
<b>Based on 2014 HUD Area Median Income*</b>							
Persons/ Household	Median Income	30% Median Income	Rent year at 30%	Month Rent	Less Utility Allowance	Maximum LIHTC Rent	Unit Size
1	\$65,900	\$19,770	\$5,931	\$494			
1.5	\$70,600	\$21,180	\$6,354	<b>\$530</b>	\$103.00	<b>\$427</b>	1-bedroom
2	\$75,300	\$22,590	\$6,777	\$565			
2.5	\$80,000	\$24,000	\$7,200	\$600			
3	\$84,700	\$25,410	\$7,623	\$635			
4	\$94,100	\$28,230	\$8,469	\$706			
4.5	\$97,900	\$29,370	\$8,811	\$734			
5	\$101,700	\$30,510	\$9,153	\$763			
Persons/ Household	Median Income	50% Median Income	Rent year at 30%	Month Rent	Less Utility Allowance	Maximum LIHTC Rent	Unit Size
1	\$65,900	\$32,950	\$9,885	\$824			
1.5	\$70,600	\$35,300	\$10,590	<b>\$883</b>	\$103.00	<b>\$780</b>	1-bedroom
2	\$75,300	\$37,650	\$11,295	\$941			
2.5	\$80,000	\$40,000	\$12,000	\$1,000			
3	\$84,700	\$42,350	\$12,705	\$1,059			
4	\$94,100	\$47,050	\$14,115	\$1,176			
4.5	\$97,900	\$48,950	\$14,685	\$1,224			
5	\$101,700	\$50,850	\$15,255	\$1,271			

Under the LIHTC program, at least 40% of the units in the project must have rents affordable to households earning less than 60% of the area median income or at least 20% of the units in the project must have rents affordable to household earning less than 60% of the area median income. Utility allowances have been based on allowances set by the Somerville Housing Authority. All utilities will be included in monthly rents including gas for heat and hot water, electricity for plugs, lights and cooking, water, sewer, and trash removal.

Utility Allowance - Somerville Housing Authority				
Utility Allowances - Multi Family				
			<u>1 BR</u>	
Heating - Gas			\$47.00	
General Electric			\$35.00	
Hot Water - Gas			\$11.00	
Cooking - Electric			<u>\$10.00</u>	
			<b>\$103.00</b>	

The projected maximum allowable rents have been estimated by calculating annual rent at 30% of annual income, which is limited to 60% of the Area Median Income (AMI), under the LIHTC program. It is assumed for this analysis that all utilities are included in monthly rents, therefore they have been left in allowable monthly rents subject to the utility allowance chart above. For the LIHTC units, the proposed rents are set at the maximum allowable rents as set forth under the Section 42 regulations. The maximum allowable rents and pro-forma rents do, however, appear to offer a substantial market advantage based on the determination of market rent for the units at the subject property derived in the next section of this report.

Residential Rent Comparables									
No.	Property & Address	Year Built/ Renovated	Occupancy	Units	Unit Type	Unit Size (sf)	Market Rent	Rent/SF	Rent Includes
SP	Mystic Water Works at Capen Court	2014	NA	25	1 Bedroom 1 Bath	550	\$1,250	\$2.27	Heat
	149 Capen Court								Hot Water
	Somerville, MA								Cold Water
									Trash
1	Maxwell's Green	2012	93%		Studio	495	\$1,915	\$3.87	Seperately
	Maxwell's Green				1 Bedroom 1 Bath	764	\$2,625	\$3.44	Metered
	Somerville, MA				2 Bedroom 1 Bath	974	\$2,975	\$3.05	
				<b>184</b>					
2	Walden Park Apartments	1964	96%		1 Bedroom 1 Bath	625	\$1,940	\$3.10	Heat
	205 Walden Street			<b>232</b>					Hot Water
	Cambridge, MA								Sewer/Water
									AC
3	Mystic Place	2003	NA		1 Bedroom 1 Bath	620	\$1,640	\$2.65	Heat
	3610 Mystic Valley Parkway			<b>465</b>					Hot Water
	Medford, MA								Sewer/Water
									Trash
4	75 Station Landing	2009	100%		1 Bedroom 1 Bath	559	\$2,130	\$3.81	Seperately
	75 Station Landing			<b>168</b>					Metered
	Medford, MA								
5	Granada Highlands	1975/2013	96%		1 Bedroom 1 Bath	805	\$1,249	\$1.55	Heat
	211 Kennedy Drive			<b>919</b>					Hot Water
	Malden, MA 02148								Cold Water
									Sewer/Trash

### Comparable Rental Analysis and Determination of Market Rent

The subject property will compete with studio and one-bedroom units located in the residential apartment market surrounding Somerville. In order to determine market conditions and the market position of the proposed units at the property, a sample of seven comparable residential projects has been selected to survey and analyze. The sample is generally located in close proximity to the subject within similar neighborhoods in surrounding communities. The comparable properties are located within the primary and secondary market areas of the subject property.

In order to determine the market position and the market rent for the residential units at the subject property and to evaluate the income potential for the subject property, seven competing residential rental projects have been examined. The sample includes properties within Somerville, Cambridge, Medford and Malden. The survey was aimed at pricing units similar to the one-bedroom units in the subject. However, additional unit types may be found at each comparable property. The amenities offered at each of the comparable properties vary from limited to extensive. Market rents for the subject have been derived from comparisons to the most closely comparable units based on an examination of the properties below.



**Comparable Rental 1**

Maxwell's Green Apartments was built in 2012 and offers 184 units. The project is located on Maxwell's Green in Somerville, MA. One-bedroom, one-bathroom units at 764 square feet are currently renting for \$2,625 per month. Monthly rents for the one-bedroom units are \$3.44 per square foot. Utilities are separately metered and the responsibility of the tenant. The property offers a fitness room, laundry facility, and in-ground swimming pool, among other luxury features. The property is in excellent condition as the grounds have been landscaped, maintained and clean. Overall, this project is considered generally superior to the subject. The property is currently 93% occupied with approximately 13 vacancies.

**Comparable Rental 2**

Walden Park Apartments was built in 1964 and offers 232 units. The project is located at 205 Walden Street in Cambridge, MA. One-bedroom, one-bathroom units at 625 square feet are currently renting for \$1,940 per month. Monthly rents for the one-bedroom units are \$3.10 per square foot. Rents include heat, hot water, sewer and cold water, and air conditioning. The property offers a fitness room, laundry facility, and in-ground swimming pool, among other luxury features. The property is in good condition and the grounds have been landscaped, maintained and clean. Overall, this project is considered generally superior to the subject. The property is currently 96% occupied with only 9 vacancies.

**Comparable Rental 3**

Mystic Place Apartments was built in 2003 and offers 465 units. The project is located at 3610 Mystic Valley Parkway in Medford, MA. One-bedroom, one-bathroom units at 620 square feet are currently renting for \$1,640 per month. Monthly rents for the one-bedroom units are \$2.65 per square foot. Rents include heat, hot water, sewer and cold water, and trash removal. The property offers a fitness room, laundry facility, and in-ground swimming pool. The property is in excellent condition as the grounds have been landscaped, maintained and clean. Overall, this project is considered generally superior to the subject.

**Comparable Rental 4**

75 Station Landing was built in 2009 and offers 168 units. The project is located at 75 Station Landing in Medford, MA. One-bedroom, one-bathroom units at 559 square feet are currently renting for \$2,130 per month. Monthly rents for the one-bedroom units are \$3.81 per

square foot. Utilities are separately metered and the responsibility of the tenant. The property offers a fitness room, laundry facility, and in-ground swimming pool, among other luxury features. The property is in good condition and the grounds have been landscaped, maintained and clean. Overall, this project is considered generally superior to the subject. The property is currently 100% occupied with no vacancies.

**Comparable Rental 5**

Granada Highlands is located in Malden at 211 Kennedy Drive. This is a luxury apartment project that offers studio, one-, two- and three-bedroom units. The one-bedroom units are currently renting for \$1,249 for an 805-square-foot unit, \$1.55 per square-foot. Amenities at this project include air conditioning, balconies, covered parking, tennis and basketball courts, gated access, a clubhouse and a swimming pool. Overall, since this property is generally comparable to the subject, the market rents at Granada Highlands should be similar to the market rents at the subject property. Heat and hot water are included in monthly rents. The property is currently 96% occupied.

**Additional Properties***Affordable Housing*

There are 28 LIHTC properties located within the primary market area, aggregating 1,624 units of affordable housing for families and elders as indicated by the chart below. Only two properties are offered specifically for elderly and disabled residents aggregating only 141 units for elders and disabled residents within the PMA.

Project Name	Project Address:	Project City:	Project State:	Project ZIP Code:	Total Number of Units:	Total Low-Income Units:
WALDEN SQUARE APARTMENTS	21 WALDEN SQUARE RD	CAMBRIDGE	MA	2140	240	240
JOHN F. KENNEDY APTS.	55 ESSEX ST	CAMBRIDGE	MA	2139	69	69
33 BOW STREET	33 BOW ST	SOMERVILLE	MA	2143	18	16
AUBURN COURT	1 BROOKLINE PL	CAMBRIDGE	MA	2139	77	39
AUBURN PARK	1 BROOKLINE PL	CAMBRIDGE	MA	2139	60	30
JOHN F. KENNEDY APARTMENTS, LLC	55 ESSEX ST	CAMBRIDGE	MA	2139	69	69
WALDEN SQUARE APARTMENTS	WALDEN SQUARE RD	CAMBRIDGE	MA	2140	240	187
WINNDEVELOPMENT	10 MAGAZINE ST	CAMBRIDGE	MA	2139	85	23
KENNEDY BISCUIT LOFTS	126 FRANKLIN ST	CAMBRIDGE	MA	2139	142	28
ST. PATRICK'S PLACE	26 YORK ST	CAMBRIDGE	MA	2141	32	30
CAMBRIDGE YMCA	820 MASSACHUSETTS AVE	CAMBRIDGE	MA	2139	136	136
PUTNAM PLACE	260 PUTNAM AVE	CAMBRIDGE	MA	2139	12	12
MARKET STREET APARTMENTS	19 MARKET ST	CAMBRIDGE	MA	2139	16	15
SWARTZ PROPERTIES	80 AUBURN PARK	CAMBRIDGE	MA	2139	59	41
KENT STREET APARTMENTS	28 KENT ST	SOMERVILLE	MA	2143	40	40
MEMORIAL DRIVE HOUSING	808 MEMORIAL DR	CAMBRIDGE	MA	2139	301	173
CHURCHILL COURT	2505 MASSACHUSETTS AVE	CAMBRIDGE	MA	2140	12	12
AUBURN COURT PHASE II	140 FRANKLIN ST	CAMBRIDGE	MA	2139	60	30
VISITING NURSE ASSISTED LIVING COMMUNITY	259 LOWELL ST	SOMERVILLE	MA	2144	97	73
NEVILLE PLACE ASSISTED LIVING	650 CONCORD AVE	CAMBRIDGE	MA	2138	71	39
34 LINDEN STREET APARTMENTS, LP	36 LINDEN ST	SOMERVILLE	MA	2143	42	42
SQUIRREL BRAND APARTMENTS	17 BOARDMAN ST	CAMBRIDGE	MA	2139	20	20
CAMBRIDGE ALLIANCE (CAST)	55 COLUMBIA ST	CAMBRIDGE	MA	2139	42	37
LANCASTER STREET APARTMENTS, LLC	8 LANCASTER ST	CAMBRIDGE	MA	2140	65	55
TROLLEY SQUARE	2401 MASSACHUSETTS AVE	CAMBRIDGE	MA	2140	32	32
VNA SENIOR LIVING COMMUNITY	405 ALEWIFE BROOK PKWY	SOMERVILLE	MA	2144	99	72
SAINT POLYCARP VILLAGE - RENTAL PHASE	460 MYSTIC AVE	SOMERVILLE	MA	2145	24	24
WAVERLY WOODS - ZONE 6 MCLEAN	22 OLMSTED DR	BELMONT	MA	2478	40	40
					<b>2,200</b>	<b>1,624</b>

## Conclusion

All of the properties surveyed are located within the primary and secondary market areas of the subject property and include a mix of studio, one-, two-, three-, and four-bedroom units. Unit designs at the subject are well-proportioned and comparable to most of the existing inventory in the subject's market area. The site has good access to transportation systems, and local and regional shopping and services. The size of the units are considered well-proportioned to the market. The subject property will be competitive with most of the multifamily properties in the surrounding communities. The subject property will be distinguished from the competitive projects by its newness of construction and proximity to neighborhood shopping, transportation and supportive services provided for seniors within the property.

The net market rents for the subject property are based on a survey performed on July 25, 2013 and have been derived as of the date of this report through a comparative analysis with the market rents at the comparable properties in the market area. Adjustments were made for building design and location, unit amenities, site amenities, and services included in the rent. Accordingly, the market rents for the proposed subject property would be in the range of \$1,250 per month for one-bedroom units. The one-bedroom units will be 550 square feet and the market rents at the subject property are considered achievable because of the sufficient demand and the

market position is strong enough to enable the project to achieve the projected market rents at rent-up and thereafter. The maximum restricted rents for the subject property under the LIHTC program are: \$530 per month for one-bedroom units at 30% AMI and \$883 for one-bedroom units at 50% AMI. Market-rate and affordable properties within the market area are well occupied and according to local housing authorities and agencies, affordable properties have long waiting lists. Because of the utilization of financial subsidy programs such as LIHTC the market advantage is considered to be very attractive for this project.

### **Indicated Market Advantage**

The proposed rent for rental units at the subject under the Section 42 exercise has a considerable advantage over the market rent calculated in the sections above. The market advantage is the indicated discount from market rent of the proposed units rent. Market advantage is defined by the National Council of Housing Market Analysts (NCHMA) as the difference, expressed as a percentage, between the estimated market rent for an apartment property without income restrictions and the lesser of (a) the owner's proposed rents or (b) the maximum rents permitted by the financing program for the same apartment property.

The market advantage of between 29% and 58% for apartment units to be offered to residents with incomes at or below 30% and 50% of AMI, respectively, are considered significant. The proposed rent for each unit type at the subject under the Section 42 pro forma have an advantage over the market rent for each unit type. The market advantage is the indicated discount from market rent of the proposed rent. The market advantage has been quantified in the following chart. This market advantage, combined with the projected demand identified in the next section, should result in rapid absorption and consistently high occupancy of the property.

<b>Market Advantage - Maximum LIHTC Rents</b>				
Unit Type	Size (SF)	Section 42 Rent	Market Rent	Market Advantage
1 Bedroom Apartment - 30% AMI	550	\$530	\$1,250	58%
1 Bedroom Apartment - 50% AMI	550	\$883	\$1,250	29%

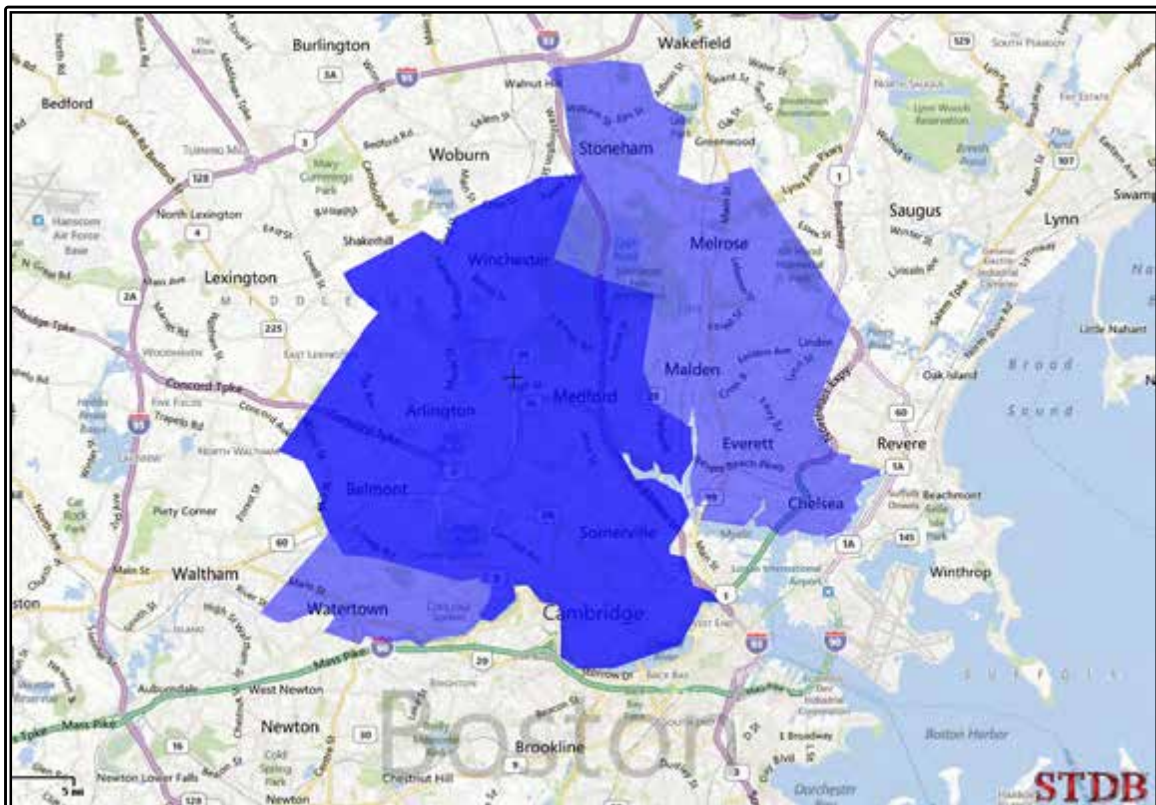


### **Housing Demand Analysis**

#### ***Capture Rate of Household Demand***

In forecasting household demand and the required capture rate of the subject property, two overlapping market areas have been examined: the primary and secondary market areas. The coastal nature of the region in which the subject is located is of lower density and the physical characteristics of the areas further impact the density of the region. The primary and secondary market areas are considered reasonable based on travel time to services, shopping and regional and neighborhood employment and services. Additionally, the agglomerative uses within the neighborhood make the site particularly attractive for elderly residential uses. Both primary and secondary market areas may attract rental prospects from further geographies although the selected primary and secondary market areas seemed to be a reasonable market definition. The demand analysis worksheets are included in the appendices of this report.

From conversations with property managers in the area, the primary market area was identified to be the towns and cities of Somerville, Cambridge, Arlington, Medford, Belmont, and Winchester, and the secondary market area is defined as the towns and cities within the PMA and Melrose, Malden, Everett, Chelsea, Stoneham, and Watertown according to the following map.



**Affordable Demand Analysis**

The first measurement of demand for affordable units includes all households in the market that have income levels low enough to qualify for the subject property and incomes that are high enough to be able to afford the rent at the subject. Households with incomes in this range are said to be in the ribbon of eligibility. The capture rate for this first measurement of demand is the percentage of existing households in the ribbon of eligibility that would have to move to the subject for it to reach full occupancy.

The measurement of demand screens include all households within the PMA and SMA that have at least one householder age 65 or older that have income levels at or below 30% AMI and 50% in order to qualify for the units at the subject property under the LIHTC program. Households with incomes in this range are said to be in the ribbon of eligibility. For the purposes of the capture rate exercise on LIHTC units, the ribbon of eligibility is considered between qualifying income at below 30% AMI and between 30% AMI and 50% AMI. The capture rate for this first measurement of demand is the percentage of existing households in the ribbon of eligibility that would have to move to the subject for it to reach full occupancy. In estimating the capture rate for the property, the maximum eligible income has been calculated on the basis of current income limits. NCHMA defines capture rate as the percentage of age, size, and income qualified renter households in the primary market area that the property must capture to fill the units. The Capture Rate is calculated by dividing the total number of units at the property by the total number of age, size and income qualified renter households in the primary market area.

The first measurement of demand for affordable units includes all households in the market that have income levels low enough to qualify for the subject property and incomes that are high enough to be able to afford the rent at the subject. Households with incomes in this range are said to be in the ribbon of eligibility. The capture rate for this first measurement of demand is the percentage of existing households in the ribbon of eligibility that would have to move to the subject for it to reach full occupancy.

In estimating the capture rate for the property, the maximum eligible income has been calculated on the basis of current income limits. One-bedroom households are typically measured as one- and two-person households within the market. In estimating the minimum

income in the ribbon that can be absorbed, a maximum ratio of rent to income of 30% has been projected.

### **LIHTC Units**

The demand analysis for households earning less than 30% AMI indicates that there are a total of 7,325 income-eligible households that would qualify for a one-bedroom unit within the PMA. There are a total of about 12,109 income-eligible households that would qualify for a one-bedroom unit within the SMA. The demand analysis for households earning between 30% and 50% AMI indicates that there are a total of 4,104 income-eligible households that would qualify for a one-bedroom unit within the PMA. There are a total of about 6,088 income-eligible households that would qualify for a one-bedroom unit within the SMA. During economic recessions and otherwise depressed economic times, it is reasonable to assume that some existing owner households could be captured by rental housing as an affordable alternative to single-family and condominium home ownership units within the market, and at the proposed income levels of below 50% AMI, it is reasonable to assume that senior owner households would find the subject units reasonable housing alternatives and therefore all senior (65+) income-qualified households have been used as the basis of determining demand for the units within the market.

This measurement of 30% AMI demand indicates required capture rates of 0.07% for one-bedroom units for the primary market and 0.04% for one-bedroom units for the secondary market. This measurement of 50% AMI demand indicates required capture rates of 0.49% for one-bedroom units for the primary market and 0.33% for one-bedroom units for the secondary market. However, units rented at 30% and 50% AMI under the LIHTC program will likely attract residents at income levels lower than the maximum allowable income limits and therefore would increase the potential resident pool for the units at this project.

<b>Capture Rate Analysis Summary - 30 % AMI</b>		
<b>Affordable Units</b>	<b>PMA Income Qualified</b>	<b>SMA Income Qualified</b>
One-Bedroom Units	0.07%	0.04%

<b>Capture Rate Analysis Summary - 50 % AMI</b>		
<b>Affordable Units</b>	<b>PMA Income Qualified</b>	<b>SMA Income Qualified</b>
One-Bedroom Units	0.49%	0.33%

As of the most recent affordable housing inventory conducted by the Department of Housing and Community Development (DHCD) dated April 30, 2013, Somerville has 3,216 units of affordable housing or approximately 9.6% of the entire housing stock of the city. There are 28 LIHTC properties located within the primary market area, aggregating 1,624 units of affordable housing for families and elders as indicated by the chart below. Only two properties are offered specifically for elderly and disabled residents aggregating only 141 units for elders and disabled residents within the PMA. The penetration rate is defined by the National Council of Housing Market Analysts (NCHMA) as the percentage of age and income qualified renter households in the market area that all existing and proposed properties, to be completed within six months of the subject, and which are competitively priced to the subject, must capture to achieve a stabilized level of occupancy. The subject property will add has 25 units of new affordable housing stock in the market. With the addition of the 25 units at the subject, the total affordable housing is brought to 166 units for seniors and disabled residents. According to data provided by the Census and interpreted within this report, there are approximately 7,325 income-qualified senior households earning 30% AMI or lower within the PMA and approximately 12,109 households earning less than 30% AMI in the SMA. According to data provided by the Census and interpreted within this report, there are approximately 4,104 income-qualified senior households earning between 30% and 50% AMI within the PMA and approximately 6,088 households earning between 30% and 50% AMI in the SMA. Penetration rates have been derived for tax-credit units within the PMA and SMA as indicated in the chart below, however, other subsidy programs and sources are available for affordable properties within the market and therefore the penetration rate is not considered an appropriate independent measure of demand for this application.

Penetration Rate Analysis		
	30% AMI	50% AMI
PMA	2.3%	4.0%
SMA	1.4%	2.7%

### Absorption

Construction for the project is scheduled to commence in June 2014 and be completed by June 2015, with initial occupancy in June 2015. The market for rental housing is stable in Somerville and the region with occupancy reported in the 100% range for comparable market-rate properties and occupancy reported upwards of 100% for affordable properties in the market



and extensive wait lists. It is reasonable to assume the subject could reach full occupancy within four to six months of initial occupancy, averaging approximately 4-6 units per month, assuming a professional marketing campaign and professional property management effort is undertaken with pre-leasing activity.


### **Certification**

We hereby certify that:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions of the initial appraisal, and are our personal, unbiased professional analyses, opinions and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report, and we have no personal interest or bias with respect to the parties involved.
4. Our compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.
5. The reported analyses, opinions and conclusions were developed and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Practice of the Appraisal Institute and the Uniform Standards of Professional Appraisal Practice, promulgated by the Appraisal Foundation.
6. David S. Kirk and Brett N. Pelletier have made inspections of the property that is the subject of this report.
7. Both David S. Kirk and Brett N. Pelletier are competent to appraise the subject property. Mr. Kirk is a state certified general real estate appraiser in Massachusetts and he has had substantial experience appraising all types of residential and commercial properties. No one provided significant professional assistance to the person(s) signing this report.
8. Kirk & Company has previously performed consulting services relating to this property, within the past three (3) years.
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. The Appraisal Institute conducts a voluntary program of continuing education for its designated members. MAI's and RM's who meet the minimum standards of this program are awarded periodic education certification. David S. Kirk is currently certified under this program through December 31, 2016.



David S. Kirk, MAI, CRE®



Brett N. Pelletier

**Part III: Appendices**

1. Qualifications of the Appraisers
2. Capture Rate Worksheets

## **Appendix 1**

### **Qualifications of the Appraisers**



## David S. Kirk, MAI, CRE

Mr. Kirk is the Principal and Founder of Kirk & Company, a real estate appraisal, consulting and investment counseling company located in Boston, Massachusetts. Kirk & Company offers real estate consulting services to institutions, corporations, investors and developers. Services include advice, analysis and assistance on real estate investment, disposition, and development, including property valuation, marketability and feasibility studies.

Prior to founding Kirk & Company in 1993, he was a Senior Vice-President and Principal of The Boston Financial Group, and the Director of the Boston Financial Consulting Group, a division within the company that offers real estate consulting services. Lend Lease acquired Boston Financial in September of 1999. Prior to 1971, Mr. Kirk was an account executive with Landauer Associates (New York City), real estate consultants, where he was an appraiser of commercial, industrial and residential properties for purposes of financing, joint venture, disposition and corporate merger/acquisition.

Mr. Kirk is a member of the Appraisal Institute (MAI) and the Counselors of Real Estate (CRE). He was the 2001 President of the Counselors of Real Estate and 2001 President of the Greater Boston Chapter of The Appraisal Institute. He is a member of the Greater Boston Real Estate Board, the National Association of Realtors, and the Urban Land Institute. Mr. Kirk is a Certified General Real Estate Appraiser in the state of Massachusetts and Connecticut and a licensed real estate broker in the states of Massachusetts and New York.

Mr. Kirk is a graduate of the University of Pennsylvania where he majored in Architecture and the Wharton Graduate School of Business where he majored in Finance. He has been a speaker and a panelist at conferences of, among others, the Urban Land Institute, the National Trust for Historic Preservation, the Mortgage Bankers Association of America, the Society of Real Estate Appraisers, and the Massachusetts Bar Association. He was chairman of an advisory working group on Troubled Properties for the United States Department of Housing and Urban Development.

Mr. Kirk was a member of the Board of Editors of *Banker & Tradesman* and a contributing writer to the *New England Real Estate Journal*, and a co-author of *Real Estate: A Hidden Corporate Asset* (American Society of Real Estate Counselors, 1986). He has written articles which have appeared in national real estate periodicals including *The Appraisal Journal* and *Real Estate Review*. His article, "Using the Reversion/Shelter Approach to Appraise Subsidized Housing," co-authored with David A. Smith, was honored as the best *Appraisal Journal* article written in 1983, recipient of the Robert H. Armstrong Award.

**Brett N. Pelletier**

Mr. Pelletier joined Kirk & Company in 2005 to assist in the appraisal and consulting process, which includes narrative appraisal reports, feasibility studies, acquisition analysis and customized market research. Kirk & Company offers real estate consulting services to institutions, corporations, investors and developers. Services include advice, analysis and assistance on real estate investment, disposition, and development, including property valuation, marketability and feasibility studies. Mr. Pelletier specializes in the appraisal and analysis of market-rate, mixed-income, and affordable housing properties; including senior housing, SRO housing, assisted and independent living facilities with supportive services, and other types of rental and for-sale housing.

Prior to joining Kirk & Company, Mr. Pelletier served as campaign intern with John Kerry for President and was a legislative intern in the Boston office of the late Senator Edward M. Kennedy. Mr. Pelletier received his Bachelor's Degree in Finance with minors in English and Government from Bentley University where he focused on Corporate Finance and Real Estate with coursework in Real Estate Law, Real Estate Financing and Urban Planning & Development. Mr. Pelletier has successfully completed extensive primary and continuing education courses with the Appraisal Institute, Massachusetts Board of Real Estate Appraisers, and other national and regional professional and educational organizations.

Mr. Pelletier is a Licensed Real Estate Appraiser Trainee in the Commonwealth of Massachusetts, a Practicing Affiliate Member of the National and Massachusetts Chapter of the Appraisal Institute, an Emerging Leader Member of the Real Estate Finance Association (REFA) and a member of the National Council of Housing Market Analysts (NCHMA, an affiliated council of National Housing and Rehabilitation Association).

Since 2010, Mr. Pelletier has served as an elected member of the Tiverton, RI Town Council. In that capacity, Mr. Pelletier serves as liaison to the Economic Development Commission, Planning Board, Harbor & Coastal Waters Management Commission, Historic Preservation Advisory Committee, Library Construction Coordination Committee, Library Board, and the Real Estate Property Tax Exemption Review Committee.

Mr. Pelletier is also a member of the Preservation Society of Newport County and Fall River Historical Society, non-profit organizations that preserve and protect the architectural heritage of Newport County, Rhode Island and Fall River, Massachusetts. Additionally, Mr. Pelletier serves as the president of the board of directors of the Striving Artists Theatre Company of Beverly, Massachusetts; a non-profit performing arts organization dedicated to enriching the community with innovative theatre arts.

## **Appendix 2**

### **Capture Rate Worksheets**

Demographic Data - Primary Market Area - One Bedroom - 30 % AMI							
<b>Market Area:</b> <i>Primary Market Area</i>				<b>Low Income Housing Data</b> <b>Units:</b> 5			
<b>STDBOnline Estimates*</b>				<u>2014 Household Income Data*</u>			
<b>Total Households</b>		<b>Total</b>	<b>% Change</b>	<b>Median Area Income (55+):</b>		\$54,829	
2010 Households - 65+				<b>from</b>	<b>to</b>	<b>Count</b>	<b>%</b>
2013 Households - 65+		28,136		Less than	\$10,000	2,079	7.7%
2018 Households - 65+		32,129	14.2%	\$10,000	\$14,999	2,592	9.6%
<b>2010 Housing Units</b>				\$15,000	\$19,999	2,246	8.3%
Owner Occupied Units	46.4%	14,908		\$20,000	\$24,999	1,730	6.4%
Renter Occupied Units	53.6%	17,221		\$25,000	\$29,999	1,384	5.1%
<b>Qualified Renter Household Calculations</b>				\$30,000	\$34,999	1,321	4.9%
FY2014 MFI (HUD)		\$94,100		\$35,000	\$39,999	1,296	4.8%
80% of median		\$75,280		\$40,000	\$44,999	1,187	4.4%
60% of median		\$56,460	62.8%	\$45,000	\$49,999	1,059	3.9%
50% of median		\$47,050	53.9%	\$50,000	or more	12,058	44.7%
30% of median		\$28,230	39.4%	<b>Total</b>		<b>26,952</b>	<b>100%</b>
<b>Projected Demand and Capture Rate from Eligible Ribbon</b>							
1. Minimum Eligible Income							
Minimum eligible household income							\$0
2. Maximum Eligible Income							
Maximum eligible household income							\$21,180
3. Total 2011 Households in Eligible Ribbon - Householder Age 65+						27.2%	7,325
4. Indicated Capture Rate of All Households in Eligible Ribbon							0.07%
* Data provided by STDBOnline with US Census Imputation/ACS 5-year Estimates 2012							



Demographic Data - Primary Market Area - One Bedroom - 50 % AMI							
<b>Market Area:</b> <i>Primary Market Area</i>				<b>Low Income Housing Data</b> <b>Units:</b> 20			
<b>STDBOnline Estimates*</b>				<u>2014 Household Income Data*</u>			
<b>Total Households</b>		<b>Total</b>	<b>% Change</b>	<b>Median Area Income (55+):</b>		\$54,829	
2010 Households - 65+				<b>from</b>	<b>to</b>	<b>Count</b>	<b>%</b>
2013 Households - 65+		28,136		Less than	\$10,000	2,079	7.7%
2018 Households - 65+		32,129	14.2%	\$10,000	\$14,999	2,592	9.6%
<b>2010 Housing Units</b>				\$15,000	\$19,999	2,246	8.3%
Owner Occupied Units		46.4%	14,908	\$20,000	\$24,999	1,730	6.4%
Renter Occupied Units		53.6%	17,221	\$25,000	\$29,999	1,384	5.1%
<b>Qualified Renter Household Calculations</b>				\$30,000	\$34,999	1,321	4.9%
FY2014 MFI (HUD)		\$94,100		\$35,000	\$39,999	1,296	4.8%
80% of median		\$75,280		\$40,000	\$44,999	1,187	4.4%
60% of median		\$56,460	62.8%	\$45,000	\$49,999	1,059	3.9%
50% of median		\$47,050	53.9%	\$50,000	or more	12,058	44.7%
30% of median		\$28,230	39.4%	<b>Total</b>		<b>26,952</b>	<b>100 %</b>
<b>Projected Demand and Capture Rate from Eligible Ribbon</b>							
1. Minimum Eligible Income							
Minimum eligible household income							\$21,180
2. Maximum Eligible Income							
Maximum eligible household income							\$35,300
3. Total 2011 Households in Eligible Ribbon - Householder Age 65+						15.2%	4,104
4. Indicated Capture Rate of All Households in Eligible Ribbon							0.49%
* Data provided by STDBOnline with US Census Imputation/ACS 5-year Estimates 2011							

Demographic Data - Secondary Market Area - One Bedroom - 30 % AMI							
<b>Market Area:</b> <i>Secondary Market Area</i>				<b>Low Income Housing Data</b> <b>Units:</b> 5			
<b>STDBOnline Estimates*</b>				<u>2014 Household Income Data*</u>			
<b>Total Households</b>		<b>Total</b>	<b>% Change</b>	<b>Median Area Income (55+):</b>		\$50,712	
2010 Households - 65+				<b>from</b>	<b>to</b>	<b>Count</b>	<b>%</b>
2013 Households - 65+		47,178		Less than	\$10,000	3,572	9.3%
2018 Households - 65+		52,019	10.3%	\$10,000	\$14,999	4,321	11.2%
<b>2014 Housing Units</b>				\$15,000	\$19,999	3,568	9.3%
Owner Occupied Units	46.4%	24,137		\$20,000	\$24,999	2,746	7.1%
Renter Occupied Units	53.6%	27,882		\$25,000	\$29,999	1,949	5.1%
<b>Qualified Renter Household Calculations</b>				\$30,000	\$34,999	1,921	5.0%
FY2014 MFI (HUD)		\$94,100		\$35,000	\$39,999	1,997	5.2%
80% of median		\$75,280		\$40,000	\$44,999	1,539	4.0%
60% of median		\$56,460	69.1%	\$45,000	\$49,999	1,555	4.0%
50% of median		\$47,050	58.9%	\$50,000	or more	15,392	39.9%
30% of median		\$28,230	45.0%	<b>Total</b>		<b>38,560</b>	<b>100%</b>
<b>Projected Demand and Capture Rate from Eligible Ribbon</b>							
1. Minimum Eligible Income							
Minimum eligible household income							\$0
2. Maximum Eligible Income							
Maximum eligible household income							\$21,180
3. Total 2014 Households in Eligible Ribbon - Householder Age 65+						31.4%	12,109
4. Indicated Capture Rate of All Households in Eligible Ribbon							0.04%
* Data provided by STDBOnline with US Census Imputation/ACS 5-year Estimates 2012							

Demographic Data - Secondary Market Area - One Bedroom - 50% AMI							
<b>Market Area:</b> <i>Secondary Market Area</i>				<b>Low Income Housing Data</b> <b>Units:</b> 20			
<b>STDBOnline Estimates*</b>				<b>2014 Household Income Data*</b>			
<b>Total Households</b>		<b>Total</b>	<b>% Change</b>	<b>Median Area Income:</b>		\$50,712	
2010 Households - 65+				<b>from</b>	<b>to</b>	<b>Count</b>	<b>%</b>
2013 Households - 65+		47,178		Less than	\$10,000	3,572	9.3%
2018 Households - 65+		52,019	10.3%	\$10,000	\$14,999	4,321	11.2%
<b>2014 Housing Units</b>				\$15,000	\$19,999	3,568	9.3%
Owner Occupied Units		46.4%	24,137	\$20,000	\$24,999	2,746	7.1%
Renter Occupied Units		53.6%	27,882	\$25,000	\$29,999	1,949	5.1%
<b>Qualified Renter Household Calculations</b>				\$30,000	\$34,999	1,921	5.0%
FY2014 MFI (HUD)		\$94,100		\$35,000	\$39,999	1,997	5.2%
80% of median		\$75,280		\$40,000	\$44,999	1,539	4.0%
60% of median		\$56,460	51.5%	\$45,000	\$49,999	1,555	4.0%
50% of median		\$47,050	45.3%	\$50,000	or more	15,392	39.9%
30% of median		\$28,230	28.2%	<b>Total</b>		<b>38,560</b>	<b>100%</b>
<b>Projected Demand and Capture Rate from Eligible Ribbon</b>							
1. Minimum Eligible Income							
Minimum eligible household income							\$21,180
2. Maximum Eligible Income							
Maximum eligible household income							\$35,300
3. Total 2014 Households in Eligible Ribbon - Householder Age 65+						15.8%	6,088
4. Indicated Capture Rate of All Households in Eligible Ribbon							0.33%
* Data provided by STDBOnline with US Census Imputation/ACS 5-year Estimates 2012							

**National Park Service  
Historic Preservation Certification Application  
Part 2**

**Mystic Water Works  
Alewife Brook Parkway and Capen Court  
Somerville, MA 02144**



**Submitted by:**

**Mystic Waterworks LLC  
c/o Somerville Housing Authority  
30 Memorial Road  
Somerville, MA 02145**

**August 2011**

**Prepared by:**

**MacRostie Historic Advisors LLC  
Northeast Office  
263 Summer Street, 6<sup>th</sup> Floor  
Boston, MA 02210**







UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

OMB Approved  
No. 1024-0009  
Form 10-168  
Rev. 2011

**HISTORIC PRESERVATION CERTIFICATION APPLICATION**  
**PART 1 – EVALUATION OF SIGNIFICANCE**

NPS Project Number

**Instructions:** This page of the form must appear exactly as below and must bear the owner's original signature. Other sections may be expanded as needed or continued on blank pages. The National Park Service certification decision is based on the descriptions in this application form. In the event of any discrepancy between the application form and other, supplementary material submitted with it (such as architectural plans, drawings and specifications), the application form takes precedence. A copy of this form will be provided to the Internal Revenue Service.

**1. Property Name** Mystic Water Works

Street Alewife Brook Parkway and Capen Court

City Somerville County MA State MA Zip 02144

Name of Historic District \_\_\_\_\_

☐ National Register district ☐ certified state or local district ☐ potential district

**2. Nature of request** (check only one box)

- ☐ certification that the building contributes to the significance of the above-named historic district or National Register property for rehabilitation purposes.
- ☐ certification that the building contributes to the significance of the above-named historic district for a charitable contribution for conservation purposes.
- ☐ certification that the building does not contribute to the significance of the above-named district.
- ☐ preliminary determination for individual listing in the National Register.
- ☐ preliminary determination that a building located within a potential historic district contributes to the significance of the district.
- ☐ preliminary determination that a building outside the period or area of significance contributes to the significance of the district.

**3. Project contact** (if different from Owner)

Name Albert Rex, MacRostie Historic Advisors LLC

Street 263 Summer Street, Sixth Floor City Boston

State MA Zip 02210 Telephone 617-499-4009

**4. Owner**

I hereby attest that the information I have provided is, to the best of my knowledge, correct and that I own the property described above. I understand that falsification of factual representations in this application is subject to criminal sanctions of up to \$10,000 in fines or imprisonment for up to five years pursuant to 18 USC 1001.

Name Paul Mackey Signature [Signature] Date 8.31.11

Organization Mystic Water Works LLC N Somerville Historic Authn Social Security OR Taxpayer ID Number TBD

Street 30 Memorial Road City Somerville

State MA Zip 02145 Telephone 617-625-1152

**NPS Official Use Only**

The National Park Service has reviewed the Historic Certification Application – Part 1 for the above-named property and has determined that the property:

- ☐ contributes to the significance of the above-named district (or National Register property) and is a "certified historic structure" for rehabilitation purposes.
- ☐ contributes to the significance of the above-named district and is a "certified historic structure" for a charitable contribution for conservation purposes.
- ☐ does not contribute to the significance of the above-named district.

Preliminary Determinations:

- ☐ appears to meet the National Register Criteria for Evaluation and will likely be listed in the National Register of Historic Places if nominated by the State Historic Preservation Officer according to the procedures set forth in 36 CFR Part 60.
- ☐ does not appear to meet the National Register Criteria for Evaluation and will likely not be listed in the National Register.
- ☐ appears to contribute to the significance of a potential historic district, which will likely be listed in the National Register of Historic Places if nominated by the State Historic Preservation Officer.
- ☐ appears to contribute to the significance of a registered historic district but is outside the period or area of significance as documented in the National Register nomination or district documentation on file with the NPS.
- ☐ does not appear to qualify as a certified historic structure.

Date \_\_\_\_\_

National Park Service Authorized Signature \_\_\_\_\_

☐ See Attachments

**HISTORIC PRESERVATION CERTIFICATION APPLICATION**  
**PART 1 – EVALUATION OF SIGNIFICANCE**

Property name Mystic Water Works NPS Project Number TBD  
Property address Alewife Brook Parkway at Capen Court, Somerville MA 02144

**5. Description of physical appearance**

Date of construction 1863 Source of date Massachusetts Historical Commission Form B  
Date(s) of alteration(s) 1870, 1895 Source of date Massachusetts Historical Commission Form B  
Has building been moved? ☒ no ☐ yes, specify date \_\_\_\_\_

**6. Statement of significance**

**7. Photographs and maps.** Send photographs and map with application.



UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

OMB Approved  
No. 1024-0009  
Form 10-168  
Rev. 2011

**HISTORIC PRESERVATION CERTIFICATION APPLICATION**  
**PART 2 – DESCRIPTION OF REHABILITATION**

NPS Project Number

**Instructions:** This page of the form must appear exactly as below and must bear the owner's original signature. Other sections may be expanded as needed or continued on blank pages. The National Park Service certification decision is based on the descriptions in this application form. In the event of any discrepancy between the application form and other, supplementary material submitted with it (such as architectural plans, drawings and specifications), the application form takes precedence. A copy of this form will be provided to the Internal Revenue Service.

**1. Property Name** Mystic Water Works

Street Alewife Brook Parkway and Capen Court

City Somerville County Middlesex State MA Zip 02144

Name of Historic District \_\_\_\_\_

☐ Listed individually in the National Register of Historic Places; date of listing 9.18.1989

☐ Located in a Registered Historic District; name of district \_\_\_\_\_

☐ Part 1 – Evaluation of Significance submitted? Date submitted \_\_\_\_\_ Date of certification \_\_\_\_\_

**2. Data on building and rehabilitation project**

Date of construction 1863, 1870, 1895

Cost of rehabilitation (estimated) \$19,070,272

Type of construction Masonry

Floor area before / after rehabilitation 14,925 sf / 20,400 sf

Start date (estimated) March 2012

Use(s) before / after rehabilitation Home/Office/Vacant / Senior Housing

Completion date (estimated) September 2013

Number of housing units before / after rehabilitation 0 / 60

This application covers phase number 1 of 1 phases Number of low/moderate income housing units before / after rehabilitation 0 / 60

**3. Project Contact (if different from Owner)**

Name Albert Rex, MacRostie Historic Advisors LLC

Street 263 Summer Street, Sixth Floor

City Boston

State MA Zip 02210

Telephone 617-499-4009

**4. Owner**

I hereby attest that the information I have provided is, to the best of my knowledge, correct and that I own the property described above. I understand that falsification of factual representations in this application is subject to criminal sanctions of up to \$10,000 in fines or imprisonment for up to five years pursuant to 18 USC 1001.

Name Paul Mackey

Signature 

Date 8.31.11

Organization Mystic Water Works LLC c/o Somerville Housing Authority

Social Security OR Taxpayer ID Number TBD

Street 30 Memorial Road

City Somerville

State Somerville Zip MA

Telephone 617-625-1152

**NPS Official Use Only**

The National Park Service has reviewed the Historic Certification Application – Part 2 for the above-named property and has determined that:

- ☐ the rehabilitation described herein is consistent with the historic character of the property and, where applicable, with the district in which it is located and that the project meets the Secretary of the Interior's Standards for Rehabilitation. This letter is a preliminary determination only, since a formal certification of rehabilitation can be issued only to the owner of a "certified historic structure" after rehabilitation work is complete.
- ☐ the rehabilitation or proposed rehabilitation will meet the Secretary of the Interior's Standards for Rehabilitation if the attached conditions are met.
- ☐ the rehabilitation described herein is not consistent with the historic character of the property or the district in which it is located and that the project does not meet the Secretary of the Interior's Standards for Rehabilitation.

Date \_\_\_\_\_

National Park Service Authorized Signature \_\_\_\_\_

☐ See Attachments

**MASSACHUSETTS HISTORICAL COMMISSION  
STATE HISTORIC REHABILITATION TAX CREDIT PROGRAM  
HISTORIC PRESERVATION CERTIFICATION APPLICATION**

**PART 1 – EVALUATION OF SIGNIFICANCE**

Project No.: \_\_\_\_\_

**Instructions:** Read the instructions carefully before completing application. No certification will be made unless a completed application form has been received. Type or print clearly in black ink. If additional space is needed, use continuation sheets or attach blank sheets. A copy of this form may be provided to the Department of Revenue. The decision by the Massachusetts Historical Commission with respect to certification is made on the basis of descriptions in this application form. In the event of any discrepancy between the application form and other, supplementary material submitted with it (such as architectural plans, drawings and specifications), the application form shall take precedence.

1. Name of property: Mystic Water Works


Address of property: Street Alewife Brook Parkway and Capen Court  
City Somerville State MA Zip 02144

- ☒ Listed individually in the National Register of Historic Places: \_\_\_\_\_ give date of listing: 9.18.1989  
☐ Located in a National Register Historic District as a contributing resource: name of District: \_\_\_\_\_  
☐ Eligible for listing (previous determined by MHC): \_\_\_\_\_  
☐ Level of Significance (local, national, NHL) \_\_\_\_\_  
☐ NPS Project Number (if application for federal tax credits submitted) \_\_\_\_\_  
☐ No determination of eligibility (submit Form B): \_\_\_\_\_

2. Project contact:

Name Albert Rex, MacRostie Historic Advisors LLC  
Street 263 Summer Street, Sixth Floor City Boston  
State MA Zip 02210 Daytime Telephone Number 617-499-4009

3. Owner:

Name Paul Mackey Signature  Date 8/26/11  
Organization Mystic Waterworks LLC c/o Somerville Housing Authority  
Social Security or Taxpayer Identification Number TBD  
Street 30 Memorial Road City Somerville  
State MA Zip 02145 Daytime Telephone Number 617-625-1152

☐ See attachments (please list): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**MASSACHUSETTS HISTORICAL COMMISSION  
STATE HISTORIC REHABILITATION TAX CREDIT PROGRAM  
HISTORIC PRESERVATION CERTIFICATION APPLICATION**

**PART 2 – DESCRIPTION OF REHABILITATION**

Mystic Water Works

Property Name

Alewife Brook Parkway and Capen Court, Somerville

Property Address

Project Number: \_\_\_\_\_

1. Name of property: Mystic Water Works

Address of property: Street Alewife Brook Parkway and Capen Court  
City Somerville State MA Zip 02144


Has a Part 1 – Evaluation of Significance been submitted for this property? ☐ yes ☐ no

If yes, date Part 1 submitted: \_\_\_\_\_ Date of certification: \_\_\_\_\_

2. Project contact:

Name Albert Rex, MacRostie Historic Advisors  
Street 263 Summer Street, Sixth Floor City Boston  
State MA Zip 02210 Daytime Telephone Number 617-499-4009

3. Owner:

Name Paul Mackey Signature  Date 8/26/11  
Organization Mystic Waterworks LLC c/o Somerville Housing Authority  
Social Security or Taxpayer Identification Number TBD  
Street 30 Memorial Road City Somerville  
State MA Zip 02145 Daytime Telephone Number 617-625-1152

4. Data on building and rehabilitation project:

Date building constructed: <u>1863, 1870, 1895</u>	Total number of housing units before rehabilitation: <u>n/a</u>
Type of construction: <u>Masonry</u>	Number that are affordable: <u>n/a</u>
Use(s) before rehabilitation: <u>Pump House/Offices/Vacant</u>	Total number of housing units after rehabilitation: <u>60</u>
Proposed use(s) after rehabilitation: <u>Senior Housing</u>	Number that are affordable: <u>60</u>
Estimated cost of cert. rehab. expend.: <u>\$7,310,006</u>	Floor area before rehabilitation: <u>14,925 sf</u>
Estimated cost of total project: <u>\$19,070,272</u>	Floor area after rehabilitation: <u>20,400 sf</u>
This application covers phase number <u>1</u> of <u>1</u> phases	Completion date (est.): <u>September 2013</u>
Project/phase start date (est.): <u>March 2012</u>	

☒ Please also attach a budget summary which details and provides the total certified rehabilitation expenditures within the overall project cost. Please also submit a budget summary detailing and totaling the entire project costs, both certified rehabilitation expenditures and other expenditures.

**Request Form for a letter of support for a  
New Application for the MA Historic Rehabilitation Tax Credit**

**Use for requests to:**

Boston Landmarks Commission  
Boston Preservation Alliance  
Historic Boston, Inc.  
Preservation Massachusetts  
National Trust for Historic Preservation

As the number of project applications for the Massachusetts Rehabilitation Tax Credit (MAHRTC) increases, we're looking to make the support letter request process as efficient as possible. We've created this form to make sure we have all the information we need at the initial request, thus reducing the number of follow up emails and calls needed. Most, if not all, of the requested information can easily be found on Parts 1 and 2 of the federal and state tax credit applications and the MAHRTC application. To ensure that the support letter for your application is ready before the deadline (January 15<sup>th</sup>, April 30<sup>th</sup>, or August 31<sup>st</sup>), **be sure to submit this completed form at least two weeks in advance of the date you need the letter.** Email this form to the people indicated at the end of the form as necessary. If the total email (with photos) is 5 MB or larger, please send the information in a series of emails. Thank you for your cooperation.

---

**Requestor Name, Phone, Fax, and Email:** *Albert Rex, MacRostie Historic Advisors, 617-499-4009, 617-499-4019, arex@mac-ha.com*

**To whom and to what address would you like the original support letter sent?**

*Brona Simon  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, MA 02125*

**Project Name:** *Mystic Water Works*

**Project Street Address:** *Alewife Brook Parkway and Capen Court, Somerville MA 02144*

**Project Proponent:** *Marc Slotnik, Somerville Housing Authority*

**Property's National Register or other designation (circle or bold one or more):**

Not Yet Determined Eligible for the NR      Determined eligible for the NR

NR nomination submitted to MHC    NR nomination approved by MHC and at NPS for review

**Individual NR** NR District    Local Historic District      Design Review District

**If part of a district, name of district:** \_\_\_\_\_

**Is the project also using the Federal Rehabilitation Tax Credit?:** *Yes*

**If so, what is the status of Federal Rehabilitation Tax Credit Application?**  
(circle or bold all appropriate):

Part 1 not yet submitted to MHC

Part 1 submitted to MHC      Part 1 approved by MHC      Part 1 approved by NPS

**Part 2 submitted to MHC**      Part 2 approved by MHC      Part 2 approved by NPS

Part 2 Amendments Submitted to MHC      Part 2 Amendments Submitted to NPS

Part 2 Amendments Approved by MHC      Part 2 Amendments Approved by NPS

Part 3 submitted to MHC      Part 3 approved by MHC      Part 3 approved by NPS

**Estimated Total Project Cost:** \$19,070,272

**Estimated Rehabilitation Cost:** \$7,310,006

**Total MAHRTC Requested/Eligible:** \$1,462,001

**Current status and use of building** (e.g. vacant, occupied, housing, commercial, mixed, industrial, etc): *Water Pumping Station/Office Space/Vacant*

**Intended use for building after rehab:** *Senior Citizen Affordable Housing*

**Number of Housing Units after rehab (if applicable):** 25

**Number of Affordable Units after rehab (if applicable):** 25

**Building Description** (if Section 7 of the NR nomination is available please attach or fax that in lieu of this question):

*Please refer to attached NR nomination*

**Statement of significance/history of the building** (if Section 8 of the NR nomination is available please attach or fax that in lieu of this question):

*Please refer to attached NR nomination*

**Project Summary, including the proposed work program for the rehab:**

*The Mystic Water Works, a handsome Romanesque Revival brick building with mansard roof, formerly housed the pumps for the MWRA. This building is listed on the National Register of Historic Places. The building was originally constructed between 1862 and 1865 with later*

wings added in 1870 and 1895. During World War I the building was renovated into offices and used for research. In 1921 the building was again renovated and later used as maintenance shops. In the 1940s a separate flat-roofed brick office and garage structure was constructed on the site replacing a previously demolished high-service plant. The office and garage structure is not listed on the National Register. Today both buildings are unused and stand vacant.

The project is located on property now owned by the Commonwealth of Massachusetts, at Mystic Valley Parkway and Capen Court, in an urban setting on the edge of a greenbelt. The project calls for converting the vacant historic Mystic Water Works into 25 affordable rental housing units for seniors. The historic pumping station will be renovated in accordance with the Secretary of the Interior's Standards for Rehabilitation. The existing office and garage outbuilding, which does not contribute to the National Register listing, will be demolished to build a new 35 unit affordable senior apartment building with common areas. The new construction component on this property is key to the redevelopment of the property and the rehabilitation of the historic building.

As alternatives, the proponents considered both a renovation of the 1940s garage and the construction of new buildings with fewer than 35 units on the site of the 1940s garage. Both alternatives would have resulted in fewer total units of housing due to the garage building's small footprint and its location, which is built into the side of a steep hill. In short, the SHA decided to pursue the option that would produce as many units as possible on the site, as it is unclear when another opportunity to create housing on this scale will present itself again.

**Community benefit of the project and any other strengths of the project you'd like to mention:**

The Mystic Water Works is adjacent to an existing affordable senior living facility operated by an affiliate of the proponent and an assisted living facility developed by the Visiting Nurses Association. The building's proximity to the existing senior apartments and assisted living facility make it consistent with surrounding uses and will enable the new project's residents to benefit from nearby service. Other off-site locations do not offer these advantages. The productive use of this building as housing for low-income seniors, while preserving its historic character, provides social benefits well in excess of the alternative of leaving the site idle. In addition, please see the project description above for more detail about the advantages of redeveloping the building as senior affordable housing.

**Attach one or more jpg photos of the project.** Please note, files larger than 5 MB generally cannot be received. If your email is larger than 5 MB, please email the photos in separate emails.

---

**Send completed forms to:**

**Required:**

Preservation Massachusetts: Erin Kelly, [ekelly@preservationmass.org](mailto:ekelly@preservationmass.org), & Courtney Whelan, [cwhelan@preservationmass.org](mailto:cwhelan@preservationmass.org) 617-723-3383



National Trust for Historic Preservation: Rebecca Harris, [rebecca\\_harris@nthp.org](mailto:rebecca_harris@nthp.org),  
617-523-0885

**Project Dependent:**

Boston Landmarks Commission: Ellen Lipsey, [Ellen.Lipsey@cityofboston.gov](mailto:Ellen.Lipsey@cityofboston.gov)

Boston Preservation Alliance: Sarah Kelly, [skelly@bostonpreservation.org](mailto:skelly@bostonpreservation.org),  
617-367-2458

Historic Boston, Inc.: Kathy Kottaridis, [kk@historicboston.org](mailto:kk@historicboston.org), 617-227-4679

## **MYSTIC WATER WORKS – ALEWIFE BROOK PARKWAY at CAPEN COURT, SOMERVILLE, MA**

### **Attachment: Section - 6. Other Sources of Funding**

#### **Financial Hardship**

The Mystic Waterworks has a significant funding gap. The total project cost is \$19,070,272. The project is applying for \$8,500,000 in Federal Low Income Housing Tax Credits and \$1,462,001 in the Federal Investment Tax Credit. The construction will be financed by a \$14,000,000 loan, which will be repaid through the tax credit equity. A bank loan of \$5,325,000 will provide of permanent debt to the project.

#### **Importance of State Assistance**

The attached project pro forma shows the overwhelming need for this funding. MAHRTC funding will leverage significant investment and is a key component for the project moving forward. With the overall project cost over \$19 million the historic tax credit represent less than 10% of this cost and therefor are significantly leveraged making the project and excellent investment for the Commonwealth.

**Additional Funding Sources** – see attached sources and uses.

**Somerville Per Capita Income:** \$23,628

## **MYSTIC WATER WORKS – ALEWIFE BROOK PARKWAY at CAPEN COURT, SOMERVILLE, MA**

<b>Attachment: Section –</b>	<b>7. Planning</b>
	<b>8. Potential for Loss or Destruction</b>

### **Planning**

The project meets many of the Sustainable Development Principles as promoted by the Office of Commonwealth Development. The following Executive Orders are also promoted:

- EO 385: Planning for Growth- Economic Development and Environmental Protection
- EO 484: Clean Energy and Efficient Buildings
- EO 487: Development- The subject development is consistent with the Governor's stated development goals.

See Impact on Surrounding Community

### **Potential for Loss or Destruction**

The Mystic River Pump House has remained vacant for many years and as such has endured considerable neglect. It is threatened with demolition, insensitive renovation and further deterioration if it is not rehabilitated. The identified reuse is financially viable with State and Federal Historic Rehabilitation Tax Credits and the addition of new construction on the site will help offset the rehabilitation costs.

## **MYSTIC WATER WORKS – ALEWIFE BROOK PARKWAY at CAPEN COURT, SOMERVILLE, MA**

### **Attachment: Section – 9. Preservation**

#### **Preservation**

The location and setting of this project, adjacent to two National Register listed parkways, are important elements to be preserved. Introduction of a use to this long-vacant property will bring more activity and recognition to multiple historic resources. The exterior rehabilitation of the Pump Station will not have a significant impact on the building's appearance and will be performed to the highest standards possible. The new construction, which makes the project viable, will be undertaken in such a way that it will not impact the historic character of the Pump Station or the experience of the building from the parkways. The retention of the window and full height on the interior at the east end of the building will allow the tenants to understand the history of the structure.



## **MYSTIC WATER WORKS – ALEWIFE BROOK PARKWAY at CAPEN COURT, SOMERVILLE, MA**

### **Attachment: Section - 11. Readiness to Proceed Public Support**

#### **Readiness to Proceed**

The project is ready to proceed. Sale of the property to the applicant will be completed in 2011. The project will be undertaking a friendly 40B process and anticipates moving forward to construction in the spring of 2012. A Project Notification Form (PNF) has been submitted to the MHC as well as an ENF to MEPA. The PNF will be requesting a “no adverse effect finding” as the project is pursuing state and federal tax credits and all work will be undertaken in accordance with the Secretary of the Interior’s Standards.

#### **Public Support**

The project enjoys strong public support. It has received required letters of support from the National Trust for Historic Preservation, Preservation Massachusetts and the Somerville Historical Commission, which were all sent under separate cover. The project has also received support letters from other public officials being sent under separate cover.

## **MYSTIC WATER WORKS – ALEWIFE BROOK PARKWAY at CAPEN COURT, SOMERVILLE, MA**

### **Attachment: Section – 12. Economic Impact Impact on Surrounding Community**

#### **Economic Impact**

The Mystic Water Works project will:

- Have a total project cost of \$19,070,272.
- Create 75 construction jobs.
- Create 5 permanent new jobs
- Create 60 units of affordable senior housing

#### **Impact on the Surrounding Community**

The Mystic River Pump House, a handsome Romanesque Revival brick building with mansard roof, formerly housed the pumps for the MWRA. This building is listed on the National Register of Historic Places. The building was originally constructed between 1862 and 1865 with later wings added in 1870 and 1895. During World War I the building was renovated into offices and used for research. In 1921 the building was again renovated and later used as maintenance shops. In the 1940s a separate flat-roofed brick office and garage structure was constructed on the site replacing a previously demolished high-service plant. The office and garage structure is not listed on the Historic Register.

Today both buildings are unused and stand vacant. The property is adjacent to an existing affordable senior living facility operated by an affiliate of the applicant and an assisted living facility developed by the Visiting Nurses Association. The building's proximity to the existing senior apartments and assisted living facility make it consistent with surrounding uses and will enable the new project's residents to benefit from nearby service. The building's proximity to the neighboring property of the applicant's affiliate is advantageous operationally as well. Other off-site locations do not offer these advantages. The productive use of this property as housing for low-income seniors, while preserving its historic character, provides social benefits well in excess of the alternative of leaving the site idle.


**MASSACHUSETTS HISTORICAL COMMISSION  
STATE HISTORIC REHABILITATION TAX CREDIT PROGRAM  
HISTORIC PRESERVATION CERTIFICATION APPLICATION  
QUESTIONNAIRE/ATTACHMENT**

1. Name of property: Mystic Water Works  
Address of property: \_\_\_\_\_  
Street Alewife Brook Parkway and Capen Court  
City Somerville  
State MA Zip 02144

2. Project contact:

Name Albert Rex, MacRostie Historic Advisors  
Street 263 Summer Street, Sixth Floor  
City Boston  
State MA Zip 02210  
Daytime Telephone Number (617) 499-4009

3. Owner:

Name Paul Mackey  
Signature   
Organization Mystic Waterworks LLC c/o Somerville Housing Authority  
Social Security or Taxpayer Identification Number: \_\_\_\_\_  
Street 30 Memorial Road  
City Somerville  
State MA Zip 02145  
Daytime Telephone Number (617) 625-1152

4. Has the applicant or property owner retained an executive agent/lobbyist for the purpose of influencing the decision of the MHC in awarding an historic rehabilitation tax credit for this project? (see G. L. c. 3, § 39 definition of executive agent).

☐ yes ☐ no

If yes, name of executive agent:

Agent's Company \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_  
Daytime Telephone Number \_\_\_\_\_

Date retained by applicant or project owner as executive agent: \_\_\_\_\_

## **Number 1**

**Architectural Feature:** Mystic Water Works - Overall Rehabilitation

**Approximate Date of Feature:** c. 1864, with additions c. 1870 and c. 1895, ca. 1920

### **Existing Feature and its Condition:**

The former Mystic Water Works property at the intersection of the Mystic Valley Parkway, the Alewife Brook Parkway, and Capen Court in Somerville is dominated by the Mystic River Pumping Station, a rectangular one and a half story, sixteen-bay brick industrial building set upon a granite foundation and covered with an asphalt shingle mansard roof. The building is rectangular and is divided into three sections. The central section of the building dates from 1864, with 1870 and 1895 additions marked by slight projections in the facades and changes in the roofline.

Tall windows with round heads are spaced at regular intervals around the building. The arched window openings are marked at the top with multiple rows of header bricks. Some of the original 4/4 wood sash windows sit behind plywood but most windows have been replaced or altered in some manner. One large arched opening sits on center in the east façade with paired round top windows surmounted by an arched wood panel designed to imitate tracery.

Four large loading doors are located around the building, one each at the center of the north and west facades, one in the east end bay of the south façade and one slightly west of center on the south façade. Each of the doors have been altered or replaced, with the one on the west facade the most intact.

The building continued to serve as a pumping station for the area until 1912, when the pumps and engines were sold for scrap. Plastered walls located in the current attic space suggest that the interior of the building originally was open from floor to ceiling. In 1921, the building was renovated again. The interiors were partitioned during World War I, when it was repurposed into offices and used for research. A mezzanine and an attic level were added at this time to help facilitate the building's transition into office spaces. As a result, little original material remains on the interior that conveys the historic significance of the building as a pumping station.

South of the Pump Station, an asphalt driveway separates the historic building from a non-historic brick and concrete garage structure. The garage was constructed c. 1940 and listed as a non-contributing resource in the National Register documentation.

The building is in fair condition. It has not been utilized in many years and has suffered from unsympathetic changes and repairs.

### **Work and Impact on Feature:**

This project will rehabilitate the long-vacant former Pump Station and return it to use as senior citizen housing. The rehabilitation will create 25 housing units within the historic building, with designated common spaces including a lounge and other communal areas. Residential units will be located on two-levels around the perimeter of the building on either side of a double-loaded corridor. Windows will be replaced with energy efficient windows that are compatible with the historic character of the property. The later inserted floor will be replaced and realigned to facilitate the reuse of the property for housing.



*Mystic Water Works  
Alewife Brook Parkway at Capen Court  
Somerville, MA*

A new building with 35 additional units of housing will be constructed along the south boundary of the property where the non-historic garage building now sits. The new building will be placed as far back from the historic building as possible and will be stepped back from the west edge of the property to remain secondary to the existing historic pump station and the prominent northwest corner of the lot. The new building will be separated from the historic building by approximately 50 feet. The new building is an important component of the project as the need for housing is great and the total number of units makes the project feasible.

**Photo No.** All

**Drawing No.** All

## **Number 2**

**Architectural Feature:** North Elevation (Main Elevation)

**Approximate Date of Feature:** c. 1864, with additions c. 1870 and c. 1895, ca. 1920

### **Existing Feature and Condition:**

The North (main) façade faces the Alewife Brook Parkway and is divided into three sections with a tall round vehicular opening at the center of the façade. The east and west sections of the building protrude slightly from the main façade and are marked in the roofline with separate mansard roofs. A wood cornice with dentil blocks runs around the length of the façade and wraps around the rest of the building. The cornice is broken into a shallow arch above the large doorway at the center of the façade.

The nine-bay main block is flanked a four-bay addition c. 1895 to the west and a two-bay addition c. 1870 to the east. Both extensions have non-historic vents in the side of the mansard roof. The main block is symmetrically arranged around the main entrance, which projects slightly from the façade. The doorway is fitted with a rounded transom, and the entire bay is marked with a rounded cornice that otherwise follows the general cornice line and pattern. The door opening is further distinguished with a surround of brownstone blocks with every other quoin, voisseur, and a keystone of an exaggerated size. The entire central bay surrounding the opening is defined by a slight brick projection and its own mansard roof with a metal cornice and cap. A concrete ramp leads to the main entrance, which has been fitted with a non-historic overhead garage door.

Window openings on the north elevation are boarded over with green-painted plywood, but the rounded arched topped portions of the windows remain visible.

Large portions of the north (main) elevation is covered in plant material, which obscures several bays of the main block and window openings. The façade is also marked by scattered graffiti.

Mortar throughout the building is sugaring and is in need of repointing. Brickwork along the north façade is generally in good condition but some brick are spalling from water intrusion and the freeze / thaw cycle. There is also likely to be damage to bricks beneath the plant growth that has overtaken the wall just west of the large door opening.

The north elevation is in fair condition.

### **Work and Impact on Feature:**

The north elevation will be cleaned using the gentlest means possible. Failing mortar will be repointed with mortar that matches the composition, color, and joint details of the existing brickwork. Where bricks are too deteriorated to reuse, replacement bricks will conform to the existing brick in size, color, and texture.

Brownstone sills at many of the windows will be repaired where possible with a compatible patching material. Brownstone sills that are too deteriorated to be repaired they will be replaced with new cast sills to match the existing brownstone in color.

*Mystic Water Works*  
*Alewife Brook Parkway at Capen Court*  
*Somerville, MA*

All window and door openings will be retained on the north façade. The large central opening will receive a new storefront window system that has been designed to return the former entrance to its historically open character.

**Photo No.** 22, 24-26, 106-108

**Drawing No.** DiMella Shaffer: Existing Exterior Elevations EX-3

### **Number 3**

**Architectural Feature:** East Elevation  
**Approximate Date of Feature:** c. 1870, ca. 1920

#### **Existing Feature and Condition:**

The east elevation of the building is five bays wide and follows the same basic window pattern as the main elevation. This elevation was added c. 1870 as part of an addition to house a third pump for the Water Works. The center bay of the east elevation projects slightly from the façade. There is a non-historic vent cut into the roof above the center bay. One large arched window opening sits on center in the east façade with arched top windows surmounted by an arched wood panel designed to imitate tracery. This center window extends to the cornice line.

A single-leaf metal replacement door just to the right of the center bay provides access to this portion of the building. The opening has a stone lintel, which appears to have been cut into the brick wall, suggesting that the doorway was not an original feature when this part of the building was constructed.

The wood cornice on the east façade is missing dentil blocks and has a significant amount of water damage just south of the center bay of the façade. There are patches of graffiti on the brickwork of the east façade.

The east elevation is in fair condition.

#### **Work and Impact on Feature:**

The east elevation will be cleaned using the gentlest means possible. Failing mortar will be repointed with mortar that matches the composition, color, and joint details of the existing mortar. Where bricks are too deteriorated to reuse, replacement bricks will conform to the existing brick in size, color, and texture.

Brownstone sills to many of the windows will be repaired where possible with a compatible patching material. Brownstone sills that are too deteriorated to be repaired they will be replaced with new cast sills to match the existing brownstone in color.

Graffiti will be removed using a chemical solution that will not damage the historic brickwork. Numerous stripping agents will be tested in inconspicuous areas of the brick to determine the best solution to remove paint without damaging brickwork.

All window openings will be retained on the east façade. The large central window will be retained and repaired while other window openings will receive replacement windows designed to be compatible with the historic character of the building.

Exterior woodwork that has deteriorated at the cornice line will be repaired and repainted. Wood elements that are missing or too deteriorated to repair will be replaced in kind matching the material, size and shape of existing elements.

**Photo No.** 6, 23, 109, 110

**Drawing No.** DiMella Shaffer: Existing Exterior Elevations EX-3



#### **Number 4**

**Architectural Feature:** South Elevation  
**Date of Feature:** ca. 1864, with additions c. 1870 and c. 1895, ca. 1920

#### **Existing Feature and Condition:**

The south elevation is fifteen bays long. The original center block dates from 1864 and is flanked by a 1870s section at the east and a four bay circa 1895 section to the west. The south elevation's mansard roof mirrors that found on the north façade, but does not include the arched cornice detail or raised metal cornice and cap in the central bay to the north. The central portion on the south facade projects slightly from the façade with three equally spaced arched elements, two with typical arched windows found throughout the building. The third of these elements has a recessed brick panel that appears to have been infilled when the building was converted to offices after World War I. There is a single leaf metal doorway immediately to the east of the central element, set within a green surround and topped with a brownstone lintel.

A large garage door sits just west of the central projection. The entranceway has been enlarged and is fitted with a non-historic metal garage door. The transom above the door holds a wood fanlight that is intact.

The four bay west section of the building dates from 1895. It follows the same general fenestration pattern as most of the building, with a slightly larger space between the two sets of windows. A doorway is located at the easternmost edge of the addition, set within a green surround and topped with a brownstone lintel. There is a small storage unit built at the southeast corner of the building.

The east section of the south facade has been substantially altered since its completion. Two brick panels flank a large garage doorway. The door opening has been enlarged to accommodate the insertion of a metal replacement garage door. Concrete has been added to create a new lintel and jambs. The concrete has been keyed into the surrounding brickwork. The fanlight above the door has been boarded over, but retains its original wood framing and moulding. The brickwork on the east section shows heavy efflorescence in some places and is badly deteriorated in others.

Windows generally follow the same pattern as the rest of the building. Most are boarded over with plywood.

The south elevation has seen numerous sections of limited repointing.

#### **Work and Impact on Feature:**

The two smaller single leaf doorways on the south façade that were added to the building when it was reconfigured for office space will be infilled with brick to conform with the existing walls. The brownstone lintel above the current doors will be retained in the walls to indicate where the non-historic doorways were located.

The small storage and mechanical unit located at the west end of the south façade will be removed. The two non-historic replacement garage doors on the south façade will be removed.

The garage door opening at the east end of the south façade will be retained. The upper transom and fanlight window will be restored to its original configuration. The concrete portions around the east garage door will be stained or painted to match the color of the brick wall. A new storefront with a single leaf glass door will be inserted into the existing lower opening to serve as a secondary entrance to the first floor. The mullions in the proposed storefront have been designed to be compatible with the character of the historic building.

The other garage doorway, just west of the center, on the south façade will be restored to the original opening size. The existing transom opening and fanlight window will be repaired. Any wooden elements that are too deteriorated to be repaired will be replaced in kind. A new storefront with a double-leaf glass door will be inserted into the existing lower opening to serve as the main entrance to the first floor. The mullions in the proposed storefront have been designed to be compatible with the character of the historic building.

The south elevation will be cleaned using the gentlest means possible. Failing mortar will be repointed with mortar that matches the composition, color, and joint details of the existing mortar. Where bricks are too deteriorated to reuse, replacement bricks will match the existing brick in size, color, and texture.

Brownstone sills at many of the windows will be repaired where possible with a compatible patching material. Brownstone sills that are too deteriorated to be repaired they will be replaced with new cast sills to match the existing brownstone in color.

Graffiti will be removed using a chemical solution that will not damage the historic brickwork. Numerous stripping agents will be tested in inconspicuous areas of the brick to determine the best solution to remove paint without damaging brickwork.

All window openings will be retained on the south façade. Window openings will receive replacement windows designed to be compatible with the historic character of the building.

Exterior woodwork that has deteriorated at the cornice line will be repaired and repainted. Wood elements that are missing or too deteriorated to repair will be replaced in kind to conform to the material, size and shape of existing elements.

An exterior retaining wall and ramp to grade will be created along the south facade at the west end of the building to give access to the trash room and other mechanical areas in the basement level. There is an existing access hatch in this location which will be reconfigured. Planting around the new well will conceal it from view.

**Photo No.** 1-5, 7-9, 11-17

**Drawing No.** DiMella Shaffer: Existing Exterior Elevations EX-3

## **Number 5**

**Architectural Feature:** West Elevation  
**Approximate Date of Feature:** c. 1895, ca. 1920

### **Existing Feature and Condition:**

The west elevation was added to the building when the 1895 addition was constructed. The elevation is five bays wide with a large central doorway and two regularly sized and spaced windows on either side of it. The doorway holds two oversize six-panel wood doors with window lights in the top set of panels. The doors and transom are divided by a heavy wood cornice with dentil molding. The doors have been altered with panels and interior hardware replaced but they retain most of their historic fabric.

The entire opening is covered with a shallow arched transom with a fanlight.

The wood cornice and dentil molding found around the rest of the building continues along this side of the building as well as the mansard roof covered in asphalt shingles.

Windows on the west façade continue the typical characteristics found elsewhere in the building with round transoms and plywood covering. Some of the sashes and wooden elements have been replaced.

### **Work and Impact on Existing Feature:**

All window and door openings will be retained on the west façade. Window openings will receive replacement windows designed to be compatible with the historic character of the building.

The central entrance will receive a new storefront in the lower section to meet accessibility standards and provisions of the fire code. The upper wooden portion of the door opening, with transom and fanlight, will be retained and repaired.

The lower section must be reconfigured if it is to be used as an entrance. The existing wood doors served as a space for moving large equipment in and out of the building and are too large and heavy to operate. Dimensions of the current door are too wide for a modern door meeting egress and accessibility widths. Efforts were made to design a door that fit within the existing divisions of the doorway, but single panels of the doors are too narrow to meet codes. The storefront will consist of a metal and glass storefront with symmetrical panels and a single leaf glass door in one of the two central panels.

The west elevation will be cleaned using the gentlest means possible. Failing mortar will be repointed with mortar that matches the composition, color, and joint details of the existing mortar. Where bricks are too deteriorated to reuse, replacement bricks will conform to the existing brick in size, color, and texture.

Brownstone sills at the windows will be retained. Sills that need to be repaired will be done so with a compatible patching material. Brownstone sills that are too deteriorated to be repaired they will be replaced with new cast sills to match the existing brownstone in color.

*Mystic Water Works  
Alewife Brook Parkway at Capen Court  
Somerville, MA*

Exterior woodwork that has deteriorated at the cornice line will be repaired and repainted. Wood elements that are missing or too deteriorated to repair will be replaced in kind matching the material, size and shape of existing elements.

**Photo No.** 18-21

**Drawing No.** DiMella Shaffer: Existing Exterior Elevations EX-3



## **Number 6**

**Architectural Feature:** Windows

**Approximate Date of Feature:** c. 1864, c. 1870, c. 1895, ca. 1920, 1960s

### **Existing Feature and Condition:**

The former Mystic Water Works retains a regular pattern of windows, which are interrupted on the interior by the mezzanine level added when the building was converted to offices after World War I. Tall window with rounded transoms are spaced at regular intervals around the building. The arched top of the window openings are marked with multiple rows of header bricks. Some of the original 4/4 wood sash windows sit behind plywood but most windows have been replaced or altered in some manner. In some places newer sashes with thicker muntins have been built together with the older sash creating a fixed window within the opening.

The windows are connected by brick banding, which also serves as a lintel for each window. The windows rest upon brownstone sills, which range from good to poor condition.

One large arched window opening sits on center in the east façade with arched top windows surmounted by an arched wood panel designed to imitate tracery.

### **Work and Impact on Existing Feature:**

New replacement windows will be added throughout the building matching the originals as closely as possible while accommodating an additional floor system to make the project feasible. The replacement windows will be energy-efficient double glazed aluminum sashes with mechanically-affixed exterior muntins and spacer bars. The new windows will contain the same 4/4 configuration but will be divided into two sections of 2/2 operable double-hung windows. The dividing rail between the two operable sections has been designed with the same dimensions as the existing window head and transom bar to conceal the lowered mezzanine level behind.

The large wood window system at the center of the east façade will be retained and repaired. The space behind this window will be an open two-story space. No part of the new floor system will cut across this opening. When available, shop drawings will be provided to NPS and SHPO for review.

**Photo No.** 13, 15, 21, 25, 33, 38, 49, 50, 54, 58, 62, 63, 80, 93, 94, 108, 110

**Drawing No.** DiMella Shaffer: Existing and Proposed Window Details A6.02 & A6.03

## **Number 7**

**Architectural Feature:** Doorways and Entrances  
**Approximate Date of Feature:** c. 1864, c. 1870, c. 1895, and ca. 1920

### **Existing Feature and Condition:**

The former Pumping Station has several distinct doorways and entrances, all in fair to poor condition.

The main entrance is located on the north-facing elevation and holds a non-historic overhanging door. Historically it was topped by a set of four wooden panels and a fanlight, both of which have been covered with green-painted plywood. A concrete loading ramp leads to the doorway. The doorway surround is brownstone, but is mostly obscured by ivy overgrowth.

The entranceway on the west elevation features paneled double doors topped with a transom and fanlight. The doorway is set within a green surround that is sunken into the façade. Each door has four panels, set with glass in the top two and wood in the bottom two. The top two (glass) panels on each door have been boarded over. The transom has four lights set within a green wooden frame and is topped with a row of dentils. The fanlight is a sunburst pattern and is set with green mullions.

The former Pumping Station has several larger doorways set with non-historic metal garage doors. For instance, the door opening on the one-bay addition of the south elevation has been enlarged to accommodate the insertion of a replacement overhanging door. A concrete lintel and jambs have been inserted. Concrete has been keyed into the surrounding brickwork. The fanlight above the door has been boarded over, but retains its original wood jamb and moulding.

The entranceway on the main block of the south elevation was enlarged to accommodate the installation of a non-historic overhanging door. The transom above the door has been boarded over, but the fanlight above the transom is intact. All original material below the fanlight was removed at some point prior to the acquisition of the building.

There are entrances located on the south-facing elevations of the 1895 addition and the 1864 central block and the east-facing elevation of the 1870 addition. These entrances are later interventions, though the date for this work is unknown. They are fitted with nonhistoric doors and topped with brownstone lintels.

### **Work and Impact on Existing Feature:**

Although the doorways and entrances are in generally poor condition, care will be taken to retain and restore as much original material as possible. Each of the entrances will replicate the original historic pattern while still allowing the new interior structure (discussed in Item Number 10) to remain invisible from the exterior. The new floor structure will be hidden behind aluminum trim with a break-metal profile, a feature that will be common to all doorways.

Due to the high level of damage and deterioration facing the main entrance on the north elevation (labeled as “opening B” in the architectural drawings), little to no original woodwork is able to be

retained. The door and window frames will be set with painted metal panels and painted aluminum trim over framing. The existing wood sash and framing of fanlight above the door will be removed and replaced, and it will be set with applied muntins.

The existing historic wood jamb and moulding along the west entrance (labeled as “opening A” in the architectural drawings) will be repaired and retained, as will the existing wood sash and framing elements of the fanlight above the doorway. The door opening will be set with aluminum door and window panels, painted to match the historic originals.

Since most of the original material of the doorway on the one-bay addition of the south elevation (labeled as “opening C” in the architectural drawings) is either gone or beyond repair, the work will concentrate on installing historically sympathetic replacements. The door opening will be re-fitted with an aluminum door painted to match the historic originals. The lintel will be covered with aluminum trim with a break-metal profile. The fanlight above the door will be fitted with a painted aluminum window and set with applied muntins. The concrete portions around the east garage door will be stained or painted to match the color of the brick wall.

The doorway on the center block of the south elevation (labeled as “opening D” in the architectural drawings) will be returned to its historic size. The masonry around the doorframe will be repaired. The original door jamb was removed to extend the width of the opening, so new framing elements and wood moulding will be inserted. The existing wood sash and framing elements of the fanlight will be repaired, retained, and repainted to match the aluminum finish. The door opening will be set with aluminum doors and window frames, which will be painted.

The smaller doorways located on the east elevation and on the four-bay addition and the center block of the south elevation will be bricked in.

**Photo No.** 3-5, 14, 19, 24, 31, 40, 65, 107

**Drawing No.** DiMella Shaffer: Existing and Proposed Doorways A6.01

## **Number 8**

**Architectural Feature:** Basement

**Approximate Date of Feature:** c. 1864, c. 1870, c. 1895, and ca. 1920

### **Existing Feature and Condition:**

The basement level exists on the westernmost section of the building and extends from there beneath the north side of the central section of the building. The basement is a primarily open floor plan with stone block and brick walls and an exposed poured concrete slab flooring. The walls appear to have been coated at some point, but the paint has failed. The walls and ceilings are unfinished.

All water and sewer pipes, electrical conduit, and sprinkler lines hang from the exposed ceiling.

Several structural systems are present in the basement level, with cast iron and wood columns supporting the west section of the floor above and a cast concrete and brick system supporting the central bay.

### **Work and Impact on Existing Feature:**

The basement level, on the westernmost end of the building, will be rehabilitated into mechanical and storage spaces, and will hold a laundry room. The rest of the basement will remain unfinished.

New rooms will be created with partitions of metal studs covered with 5/8" gypsum board. Ceilings will be finished with gypsum board with electrical plumbing and other mechanical system concealed above the level of the ceiling.

An exterior retaining wall and ramp to grade will be created along the south facade at the west end of the building to give access to the trash room and other mechanical areas in the basement. There is an existing access hatch in this location which will be reconfigured. Planting around the new well will conceal it from view.

The existing floor slab will be cut and lowered to allow for a full ceiling clearance in the basement level.

**Photo No.** 67-75

**Drawing No.** DiMella Shaffer Basement and First Floor Plan- Pump House Building A1.00



## **Number 9**

**Architectural Feature:** Ground (First) Floor

**Approximate Date of Feature:** c. 1864, c. 1870, c. 1895, ca. 1920

### **Existing Feature and Condition:**

The ground floor has been altered at different times in the buildings history. It has been subdivided into many smaller spaces that do not correspond to the exterior divisions of the building. The east portion of the building is only accessible from a single leaf door located on the east façade or from the garage door on the south façade. There is no access to the east side of the building from the interior of the building.

The west end of the building contains a large open room behind the west façade that runs the entire length of that side of the building. Another large open space occupies the south side of the central portion of the building. Aside from these larger rooms, the floor plan for the building consists of a series of brick and frame partitions that were added after the pumps were removed in 1912. The various partitions date from 1920 through the 1960s, when the property was carved up into office spaces and later converted for use as shops. These earlier partitions were accompanied by the introduction of a mezzanine floor level, which cuts across the windows at the level of the round transoms on the exterior.

Plaster on a partition wall in the eastern attic space indicates that large rooms that originally held pumping equipment were once open from the first floor to the current attic level, the entire height of the building.

Finishes throughout the first floor are a combination of painted brick, painted concrete and plasterboard or gypsum board. Simple wood window trim with a flat stock and quarter round back band exists around many of the openings. The upper portion of this trim has been concealed with the insertion of the mezzanine level. Many window openings have had the historic trim removed during previous changes to the building.

The room on the first floor at the west end of the building has a slightly wider trim around the windows and the west door system. This trim consists of two level of flat stock joined by a small ogee molding and a cyme back band. A similar baseboard runs around the exterior walls of this room.

Two sets of wooden stairs provide access to the mezzanine level, likely dating from ca. 1920 when partitions and the mezzanine were inserted.

The first floor is in fair condition.

### **Work and Impact on Existing Feature:**

The first floor will be rehabilitated into twelve individual one-bedroom units and two communal spaces. Most existing non-historic partitions will be removed and a new floor plan will be introduced by inserting 10" CMU bearing walls finished with 5/8" gypsum board and partition walls composed of metal studs covered with 5/8" gypsum board.

*Mystic Water Works*  
*Alewife Brook Parkway at Capen Court*  
*Somerville, MA*

All residential units, a lounge, and an entrance lobby will be arranged on either side of a double loaded corridor running east to west through the building. The east and west ends of the corridor will have staircases inserted in spaces away from window and door openings.

All new partitions will meet the perimeter wall between windows allowing the entire opening to read. Existing trim will be replicated to match the existing profile of the historic woodwork.

The east end of the first floor corridor will be opened beside the east staircase allowing the full height of the restored historic window on the east façade to be seen.

An elevator inserted towards the western end of the building will provide access to the basement and second floor.

**Photo No.** 29-66

**Drawing No.** DiMella Shaffer: Basement and First Floor Plan- Pump House Building A1.00

## **Number 10**

**Architectural Feature:** Mezzanine and Proposed Second Level  
**Approximate Date of Feature:** ca. 1920

### **Existing Feature and Condition:**

The mezzanine level exists above the central and west sections of the building and is the product of a later intervention to the interior of the building, likely dating from the conversion of the building into office space after World War I. The space is primarily open, with some masonry and wood partitions. Exposed wooden framing supports a wood floor in the attic.

Metal piping and electrical equipment is exposed. Portions of the eastern wall retain plaster over, and the plaster has come off in places to reveal wood panels over a brick wall. The walls which have not been plastered or covered are exposed brick and masonry. The wood panel flooring has rotted away in some parts, leaving holes in the floor.

The floor plane of the mezzanine intersects windows between the transom and the lower window section. When this mezzanine level was added to the building the transom bar at each window was thickened to conceal the inserted floor level.

The mezzanine is in poor condition.

### **Work and Impact on Existing Feature:**

The mezzanine level will be replaced with a new floor system set lower down the wall in order to make the mezzanine a full habitable second story within the building. The new flooring system will be independent of the existing exterior masonry allowing a minimal amount of intervention into the historic masonry at the exterior wall, but at the same time provide the structure that is required to meet the 8<sup>th</sup> edition of the Massachusetts Building Code.

Thirteen one-bedroom units will occupy the second level with a lounge in the south side of the east end of the building. All rooms will be arranged on either side of a double loaded corridor running east to west through the building.

New partitions will be inserted to create the floor plan shown in attached plans and will consist of 10" CMU bearing walls finished with 5/8" gypsum board and partition walls of metal studs covered with 5/8" gypsum board. All partitions will intersect perimeter walls between window units.

The level of the proposed mezzanine (second) level will cut across a portion of the windows. The proposed replacement windows will conceal the new floor level behind a rail in the window that has been designed with the same dimensions as the existing window head and transom bar.

**Photo No.** 76-94, 102-105

**Drawing No.** DiMella Shaffer: Second Floor & Attic Plans- Pump House Building A1.01

*Mystic Water Works  
Alewife Brook Parkway at Capen Court  
Somerville, MA*

## **Number 11**

**Architectural Feature:** Attic

**Approximate Date of Feature:** ca. 1920

### **Existing Feature and Condition:**

The attic space is the product of a later intervention to the interior of the building, likely dating from the ca. 1920 conversion into office space. Floors and ceilings are exposed framing with wood flooring.

The space is partitioned using shelving units and wood paneling.

A hatch and wooden ladder serve as access to the roof.

### **Work and Impact on Existing Feature:**

The attic will continue to serve as an attic space for the building. The Space will be cleaned of extraneous partitions and debris and may house some small mechanical equipment. The existing truss system will be retained.

**Photo No.** 95-97

**Drawing No.** DiMella Shaffer: Second Floor & Attic Plans- Pump House Building A1.01



## **Number 12**

**Architectural Feature:** Roof and HVAC  
**Approximate Date of Feature:** c. 1864, c. 1870, and c. 1895

### **Existing Feature and Condition:**

The building is topped with a mansard roof covered with asphalt shingles on the vertical planes and an adhered asphalt and gravel cover on the upper roof. The upper roof consists of three different systems, a very shallow gable covering the central part of the building and very shallow hipped systems covering the east and west sections of the building. The roof is not level across the building; the two end sections draining down to the central roofline. The roof is accessible by a ladder in the 1895 addition at the western half of the building.

Flashing around the roof has been painted green and is deteriorated or missing in many places.

There is a small metal roof cap with cornice detail located above the main entrance on the north elevation. The metal has peeling paint and has corroded in many places with rust.

There are short two brick chimneys located on the roof, on each end of the center block. These chimneys are not visible from the street level below.

### **Work and Impact on Existing Feature:**

The existing roof structure and shape will be retained and the entire roof system will be recovered with a fully adhered EPDM roof on top sections and new architectural grade asphalt shingles on the vertical sides.

The metal roof cap on the east side of the building will be repaired by scraping loose paint and preparing the metal for a new coat of exterior grade paint. Any metal elements that are too deteriorated to repair will be replaced in kind matching the metal type, profile, and shape of the original element.

The chimneys will be removed to allow for floor plan changes in the areas below.

All heating and cooling mechanicals will be located on the proposed new building and will be brought through service lines to the pump house building. This will allow for a minimal intervention on the existing Pump Station roofline. All ductwork within the new building will be concealed within new partitions and will not be placed within three feet of window openings.

**Photo No.** 98-101  
**Drawing No.** DiMella Shaffer: Roof Plan- Pump House Building A1.02

## **Number 13**

**Architectural Feature:** Site Work

**Approximate Date of Feature:**

### **Existing Feature and Condition:**

The area immediately surrounding the building consists of a small strip of grass between the building and the sidewalk, to the west and north of the building, and paved parking lots and driveways to the south and east of the building.

There is some shrubbery along the north and west fronts of the building facing Alewife Brook Parkway. The southern area of the parcel (adjacent to the Capen Court) consists of a paved parking lot. There is a non-historic two-story brick and concrete garage building located at the south end of the property south of the Pump Station and parking lot.

The East façade of the building looks across the intersection of Alewife Brook Parkway and Mystic Valley Parkway to a large green space. The parkways and this green space run along the Mystic River, which is partially visible from the Pump Station site. Heavily vegetation runs along the river bank.

Adjacent parcels of land are occupied by private residences, a public park space, and a complex of buildings for senior citizen housing.

### **Work and Impact on Existing Feature:**

The site plan has been designed to reflect its new role as housing. The southern area of the site will retain its function as a paved driveway, but greenery and shrubbery will be added.

A retaining wall and ramp to grade will be created along the south facade at the west end of the building to give access to the trash room and other mechanical areas. There is an existing access hatch in this location which will be reconfigured. Planting around the new well will conceal it from view.

The northern, eastern, and western portions of the site will be cleaned and maintained.

**Photo No.** 10, 17, 22, 23, 26-28

**Drawing No.** DiMella Shaffer: Site Plan A0.2

## **Number 14**

**Architectural Feature:** New Construction

**Approximate Date of Feature:** Proposed

### **Existing Feature and Condition:**

A two-story non-historic garage building and retaining wall sit on a portion of the proposed building site. The garage building is seven bays wide and stands parallel to the Pump Station. Approximately fifty feet of driveway and parking separate the two structures. The site slopes steeply uphill along the south edge of the property.

The lower half of the garage is constructed of concrete, and holds seven roll-up wood garage doors. The second floor has a brick veneer and has seven windows set upon concrete sills that correspond to the garage doors below. The window openings are covered with plywood. There are four small vents cut into the garage beneath the windows. A door next to the retaining wall on the west side of the building provides access to the interior of the garage. The building is topped with a flat roof.

### **Work and Impact on Existing Feature:**

The south portion of the site will be used for the construction of the new building. The existing non-historic garage will be removed from the site.

A new four-story building with flat roof approximately 50 feet in height will be constructed to the east side of the south boundary of the property. The building will hold an additional 35 residential units and has been designed to be compatible with the character of the site and existing Pump Station building.

The new building will be approximately 12 feet taller than the existing Pump Station but has been placed on the site so that it will remain secondary to the original building. The new building is pulled back a significant distance from the west edge of the property and is located as far at the south edge of the site as possible. This location makes the new building minimally visible from the most prominent and historic approach to the site at the intersection of Alewife Brook Parkway and Mystic Valley Parkway.

The new building is designed to be compatible with the scale and historic character of the historic property but differentiated from the Pump Station. The design shown in attached plans and elevations uses a similar rhythm of window openings and brick cladding on the ground floor to visually connect with the new building to the existing. The upper floors of the new building will be clad in painted, cementitious siding with areas of copper paneling that will be similar in color to the existing green trim around the Pump Station.

**Photo No.** 10, 20, 27, 28

**Drawing No.** DiMella Shaffer: A0.2, A1.03, A1.04, A1.05, A3.02, and A3.03



1. Pump house looking north towards south-facing elevation



2. Pump house looking northeast towards south-facing elevation





3. Pump house looking north towards south-facing elevation



4. Pump house looking north towards south-facing elevation





5. Pump house looking north towards south-facing elevation



6. Pump house looking northwest towards east-facing elevation





7. Pump house- south-facing elevation soffit detail



8. Pump house- south-facing elevation brick detail





9. Pump house- south-facing elevation brick detail



10. Looking south towards nonhistoric garage on property (to be demolished)





11. Pump house looking northwest towards south-facing elevation



12. Pump house south-facing elevation roof detail



13. Pump house south-facing elevation window detail



14. Pump house south-facing elevation doorway





15. Pump house south-facing elevation roof detail



16. Pump house looking northwest towards south-facing elevation



17. Pump house looking northeast towards south-facing elevation



18. Pump house looking northeast towards west-facing elevation





19. Pump house looking east towards west-facing elevation



20. Pump house looking east towards west-facing elevation



21. Pump house looking east towards west-facing elevation



22. Pump house looking southwest towards north-facing elevation





23. Pump house looking southwest towards east-facing elevation



24. Pump house main entrance- north-facing elevation



25. Pump house looking south towards north-facing elevation



26. Pump house looking southeast towards north-facing elevation





27. Looking east towards adjacent nonhistoric garage



28. Retaining wall- garage



29. First floor looking west



30. First floor looking northeast



31. First floor looking south



32. First floor looking northwest





33. First floor looking south



34. First floor looking southeast





35. First floor looking northeast



36. First floor looking southeast



37. First floor looking northwest



38. First floor looking south



39. First floor looking southwest



40. First floor looking north





41. First floor looking northeast



42. First floor looking southeast





43. First floor looking east



44. First floor looking north



45. First floor looking southwest



46. First floor looking south



47. First floor looking north



48. First floor looking northeast



49. First floor looking north



50. First floor looking north





51. First floor looking north



52. First floor looking north



53. First floor looking north



54. First floor looking northwest



55. First floor looking south



56. First floor looking west



57. First floor looking southwest



58. First floor looking southeast





59. First floor looking east



60. First floor looking southwest



61. First floor looking south



62. First floor looking north



63. First floor looking northwest



64. First floor looking northeast





65. First floor looking west



66. First floor looking north towards basement





67. Basement looking north



68. Basement looking northeast



69. Basement looking northeast



70. Basement looking east





71. Basement looking southwest



72. Basement looking east



73. Basement looking southeast



74. Basement looking southwest





75. Basement looking south



76. Mezzanine looking southeast



77. Mezzanine looking north



78. Mezzanine looking east





79. Mezzanine looking northwest



80. Mezzanine- window frame detail



81. Mezzanine looking southeast



82. Mezzanine looking east





83. Mezzanine looking south



84. Mezzanine looking southeast



85. Mezzanine looking northeast



86. Mezzanine looking south





87. Mezzanine looking northeast



88. Mezzanine looking southeast



89. Mezzanine looking northwest



90. Mezzanine looking east into open space





91. Mezzanine looking southeast into open space



92. Mezzanine looking east into open space



93. Mezzanine looking north- window detail



94. Mezzanine looking north- window detail



95. Attic looking west



96. Attic looking northeast





97. Attic looking north



98. Roof looking east





99. Roof looking north



100. Roof looking west



101. Roof looking east



102. Mezzanine looking south





103. Mezzanine looking east



104. Mezzanine- ceiling detail



105. Mezzanine looking south



106. Pump house looking east towards north-facing elevation





107. Pump house looking south towards north-facing elevation



108. Pump house- north-facing elevation, sill detail





109. Pump house looking southwest towards east-facing elevation



110. Pump house- east-facing elevation, window detail









L.A. FUESS PARTNERS

Structural Engineers

101 Federal Street, Suite 502 • Boston, MA 02110  
617.948.5700 • www.lafp.com

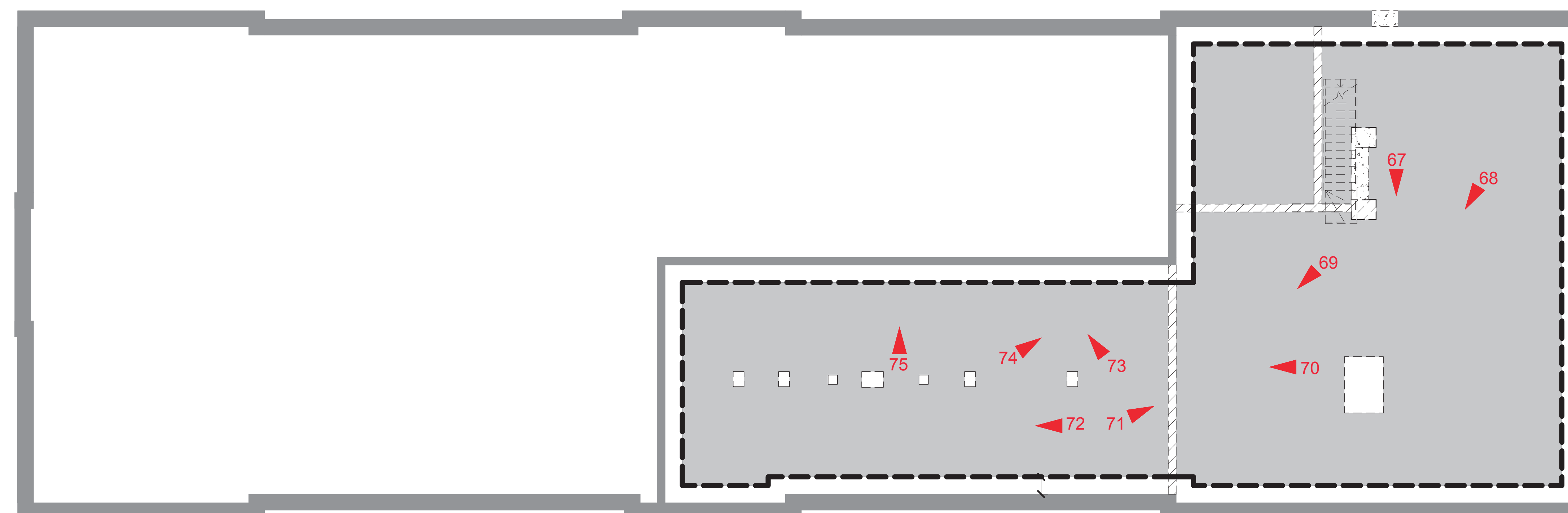
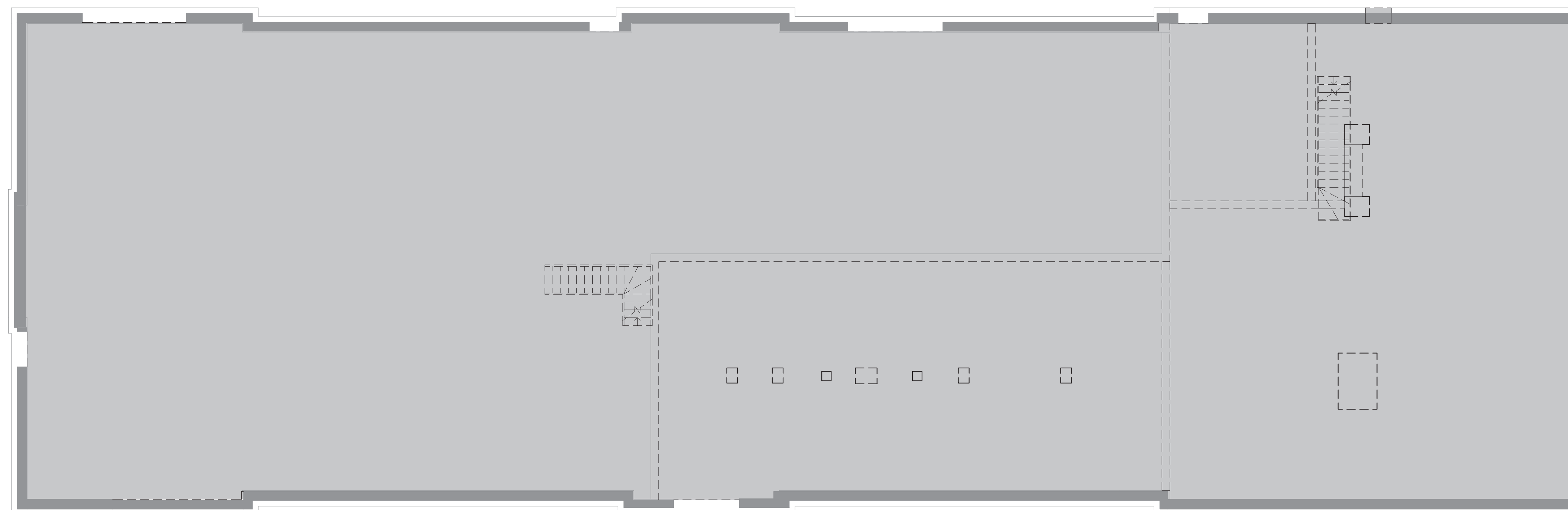
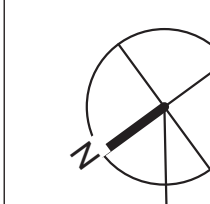
LAFP Project No. 0---XQ

Project No. 2010080.00

**Mystic Water  
Works at Capen  
Court**

Capen St.  
Somerville, MA 02144

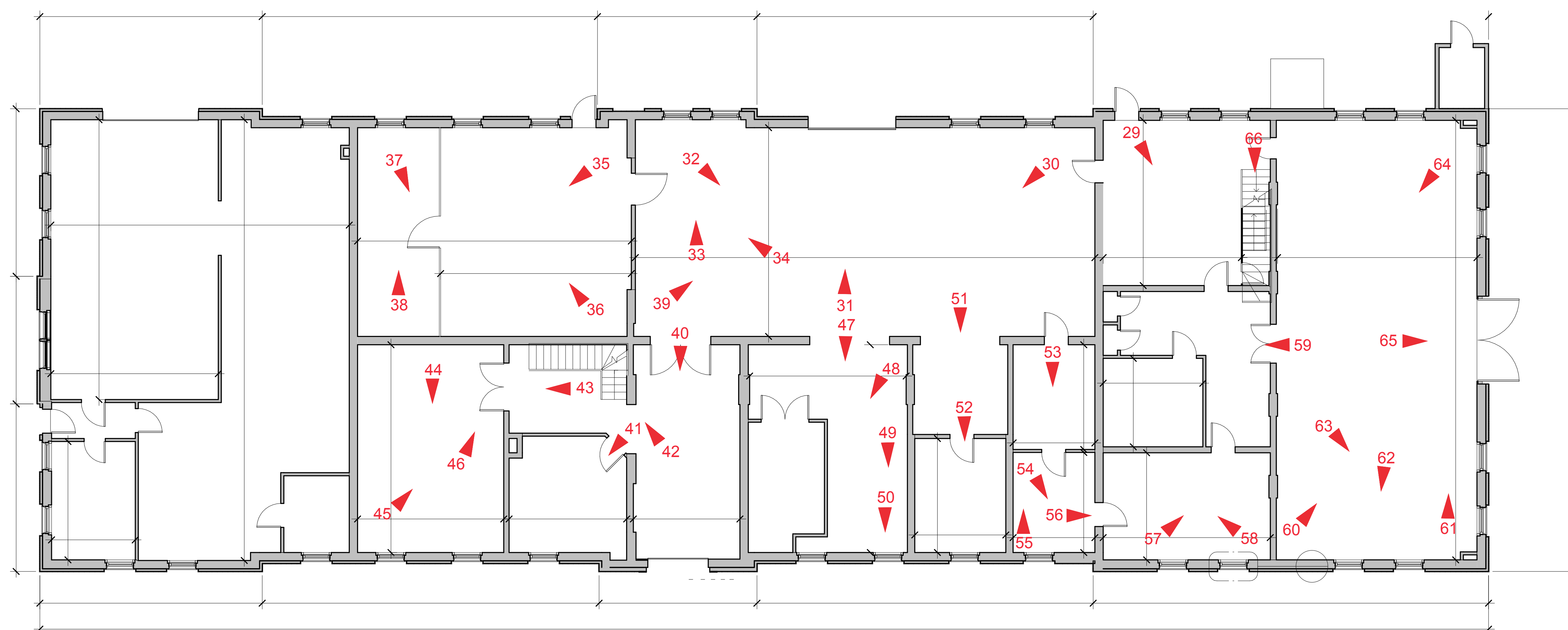
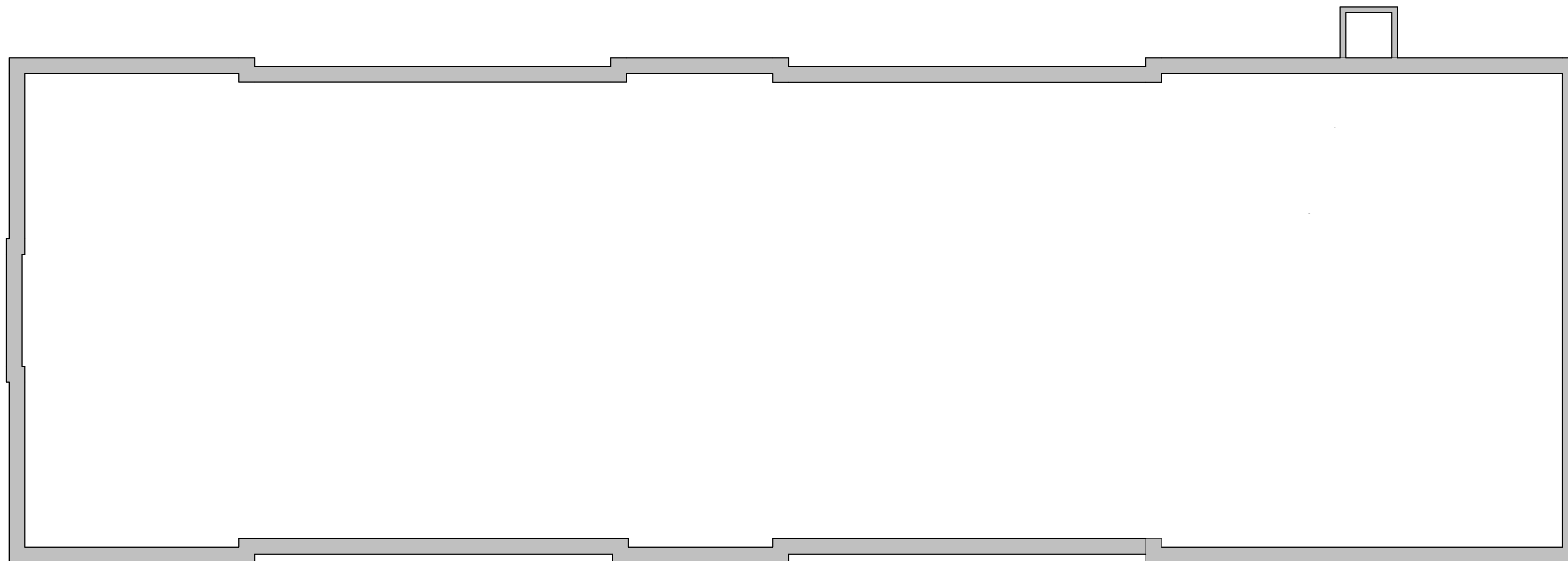
**Basement Photo Key  
NPS HTC Part 2 Application  
Mystic Water Works  
August 2011**



**1** Basement

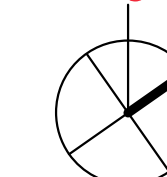
This drawing is released for  
the purpose of  
**SCHEMATIC DESIGN**  
under the authority of  
**AARON A. FORD**  
P.E. Number 46393 on  
AUGUST 12, 2011

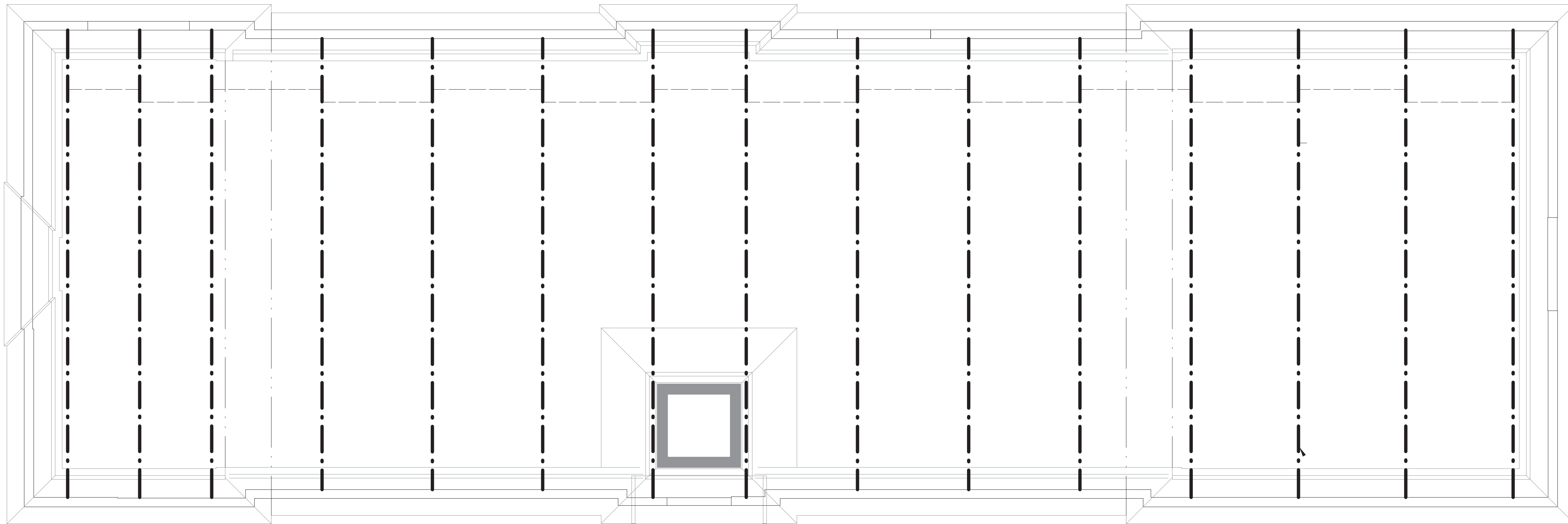




○ First Floor

First Floor Photo Key  
NPS HTC Part 2 Application  
Mystic Water Works  
August 2011





Mezzanine



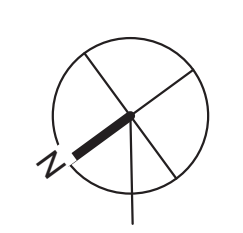
Project No. 2010080.00

**Mystic Water  
Works at Capen  
Court**

Capen St.  
Somerville, MA 02144

**Mezzanine Photo Key  
NPS HTC Part 2 Application  
Mystic Water Works  
August 2011**

This drawing is released for  
the purpose of  
**SCHEMATIC DESIGN**  
under the authority of  
**AARON A. FORD**  
P.E. Number 46393 on  
AUGUST 12, 2011





L.A. FUESS PARTNERS

Structural Engineers

101 Federal Street, Suite 502 • Boston, MA 02110  
617.948.5700 • www.lafp.com

LAFP Project No. FFWO

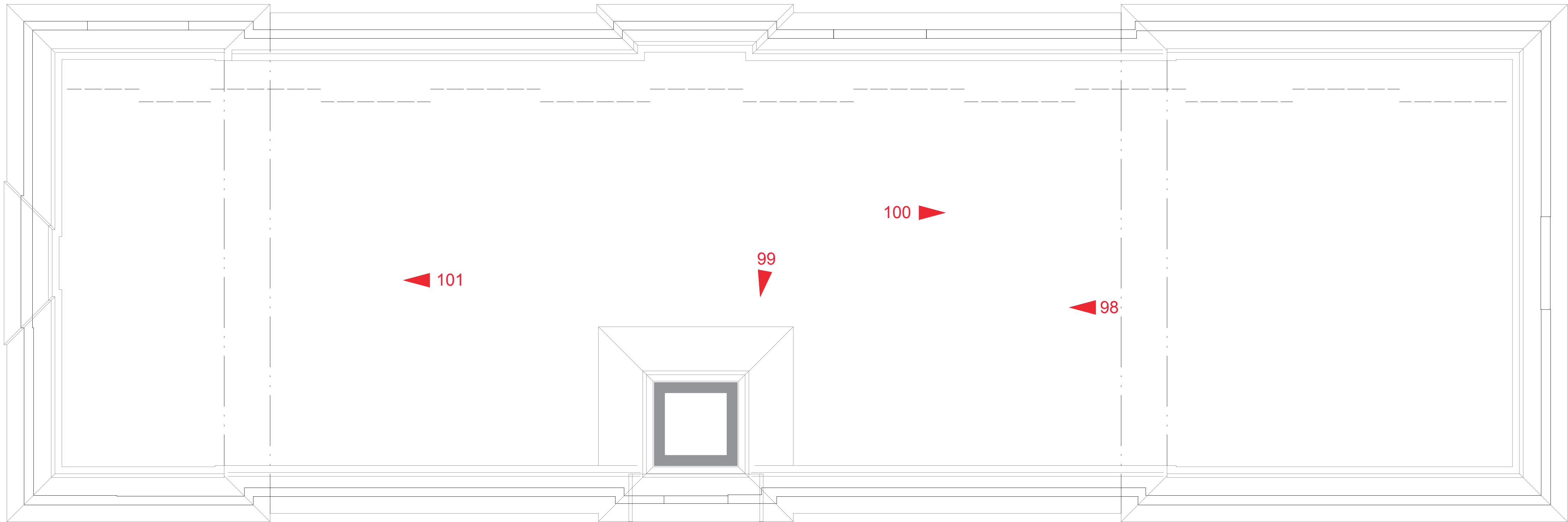
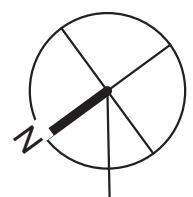
Project No. 2010080.00

**Mystic Water  
Works at Capen  
Court**

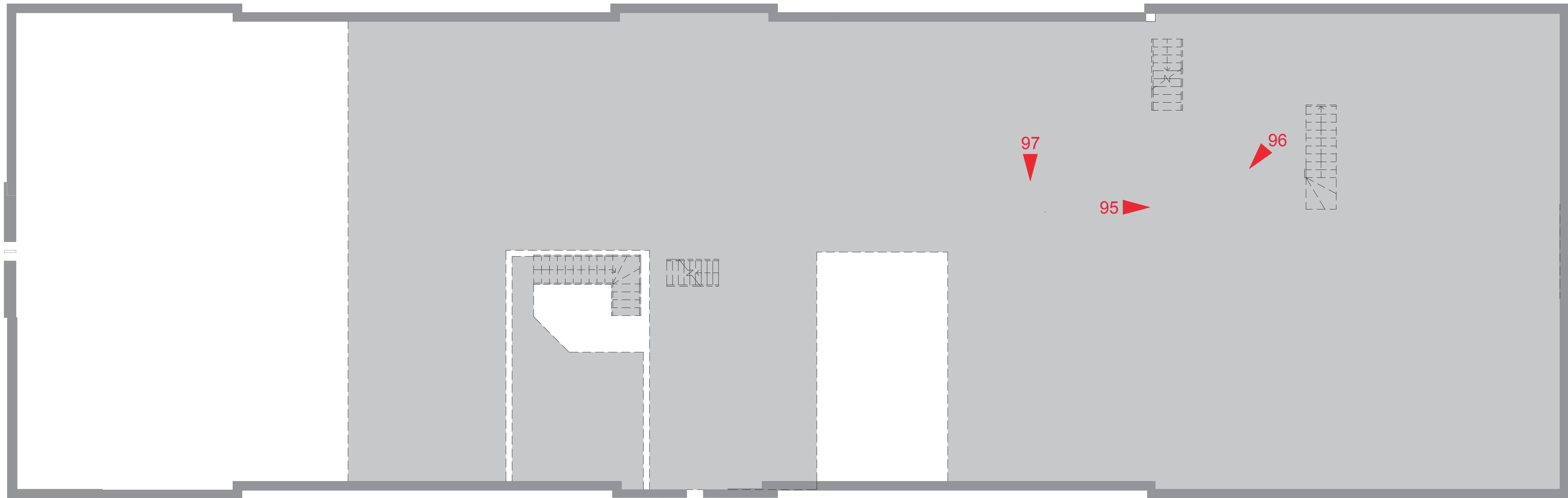
Capen St.  
Somerville, MA 02144

**Attic and Roof Photo Keys  
NPS HTC Part 2 Application  
Mystic Water Works  
August 2011**

This drawing is released for  
the purpose of  
**SCHEMATIC DESIGN**  
under the authority of  
**AARON A. FORD**  
P.E. Number 46393 on  
AUGUST 12, 2011



**2** Roof



**1** Attic



# Mystic Water Works at Capen Court

Client  
%, ' ( ) H 7 4 \$ / , & ? J \$ ! & \* @ ) ? R

Historical Consultant  
0: CF, - 7 3 / 2 \* ) 2 8 V W 2 , ) -  
26 \$ P , - & 4 , \* \$ 6 / ( ( \* \$ ! W W ) ( -  
26 \$ P , - & 4 , \* \$ P 7 F 8 ! W W ) ( -  
3 ( 4 3 6 # 6 1 6 8 1 M 6 2 2 M  
:: < 3 6 # 6 1 6 8 1 M 6 2 2 M

Cost Estimator  
TU \$ 1 - , O 2 ! ( -  
25 \$ P , - & 4 , \* \$ 6 / ( ( \* \$ ! W W ) ( -  
25 \$ P , - & 4 , \* \$ P 7 F 8 ! W W ) ( -  
3 ( 4 3 6 # 6 1 6 8 1 M 6 2 2 M  
:: < 3 6 # 6 1 6 8 1 M 6 2 2 M

Code Consultant  
F 7 G 7 8 / 2 4 # 1 . \$ . J ? ( ( ) ? J  
29 \$ P , - & 4 , \* \$ 6 / ( ( \* \$ ! W W ) ( -  
29 \$ P , - & 4 , \* \$ P 7 F 8 ! W W ) ( -  
3 ( 4 3 6 # 6 1 6 8 1 M 6 2 2 M  
:: < 3 6 # 6 1 6 8 1 M 6 2 2 M

Landscape Consultant  
P, Q 4 R 3 , 4 3 6 ( - 2 . \$ ) , & Q  
28 \$ P , - & 4 , \* \$ 6 / ( ( \* \$ ! W W ) ( -  
28 \$ P , - & 4 , \* \$ P 7 F 8 ! W W ) ( -  
3 ( 4 3 6 # 6 1 6 8 1 M 6 2 2 M  
:: < 3 6 # 6 1 6 8 1 M 6 2 2 M

Civil Engineer  
N 7 - Q 3 . J ? ( ( ) ? J  
2D \$ P , - & 4 , \* \$ 6 / ( ( \* \$ ! W W ) ( -  
2D \$ P , - & 4 , \* \$ P 7 F 8 ! W W ) ( -  
3 ( 4 3 6 # 6 1 6 8 1 M 6 2 2 M  
:: < 3 6 # 6 1 6 8 1 M 6 2 2 M

Structural Engineer  
L 7 1 7 8 & ( - \$ ) \* ( ) -  
2! \$ P , - & 4 , \* \$ 6 / ( ( \* \$ ! W W ) ( -  
2! \$ P , - & 4 , \* \$ P 7 F 8 ! W W ) ( -  
3 ( 4 3 6 # 6 1 6 8 1 M 6 2 2 M  
:: < 3 6 # 6 1 6 8 1 M 6 2 2 M

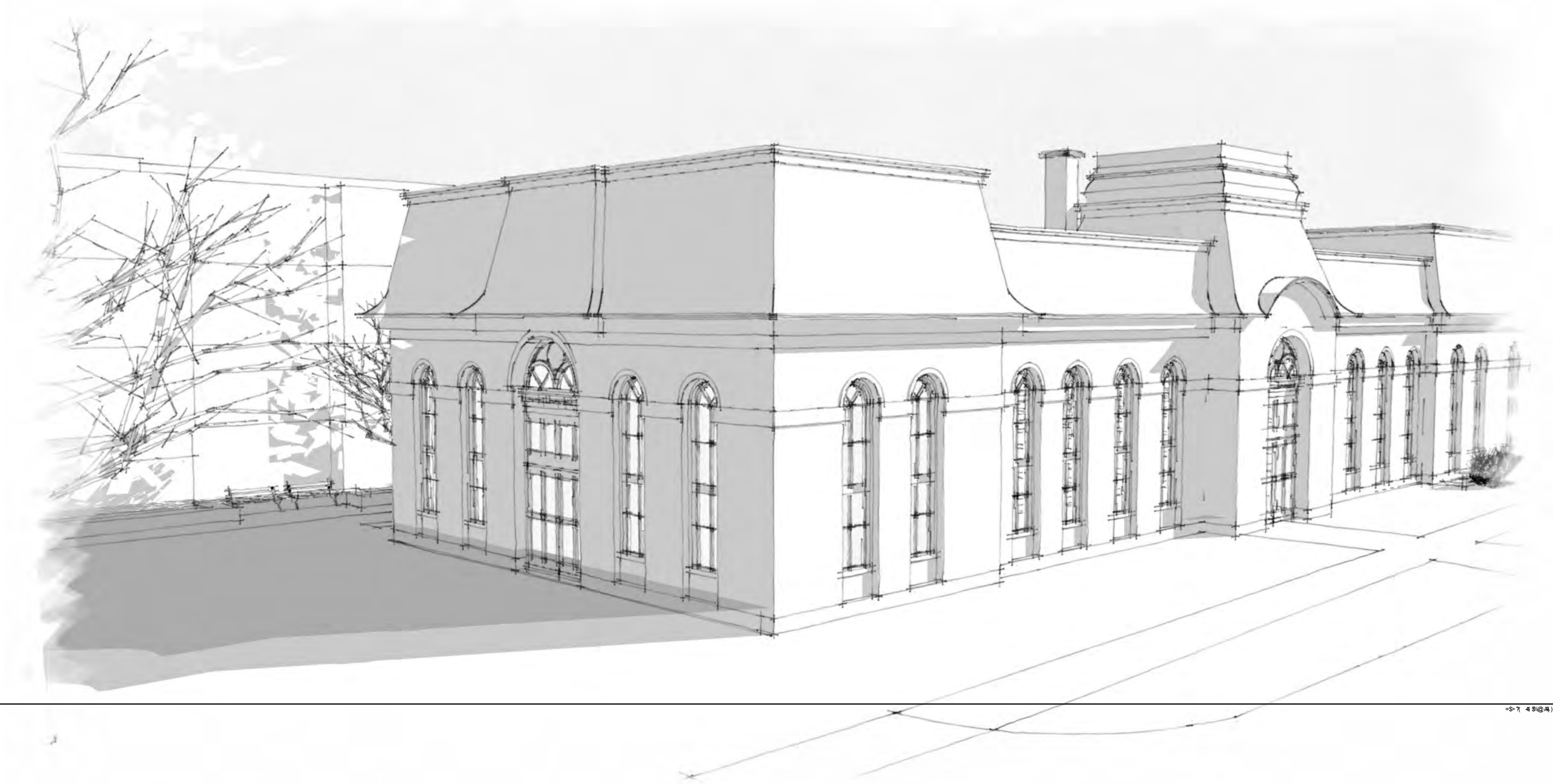
MEP/FP Engineer  
F 7 G 7 8 / 2 4 # 1 . \$ . J ? ( ( ) ? J  
2# \$ P , - & 4 , \* \$ 6 / ( ( \* \$ ! W W ) ( -  
2# \$ P , - & 4 , \* \$ P 7 F 8 ! W W ) ( -  
3 ( 4 3 6 # 6 1 6 8 1 M 6 2 2 M  
:: < 3 6 # 6 1 6 8 1 M 6 2 2 M

DiMella  
Shaffer

Architecture | Interior Design | Planning

1" = 8' 0" ( ) 3/4" = 1' 0" 3/4" = 1' 0" 3/4" = 1' 0"  
+ , - , / , 0 1 2 3 4 5 6 7 8 9 10 11 12  
3/4" = 1' 0" 3/4" = 1' 0" 3/4" = 1' 0" 3/4" = 1' 0"  
+ , - , / , 0 1 2 3 4 5 6 7 8 9 10 11 12

www.dimellashaffer.com



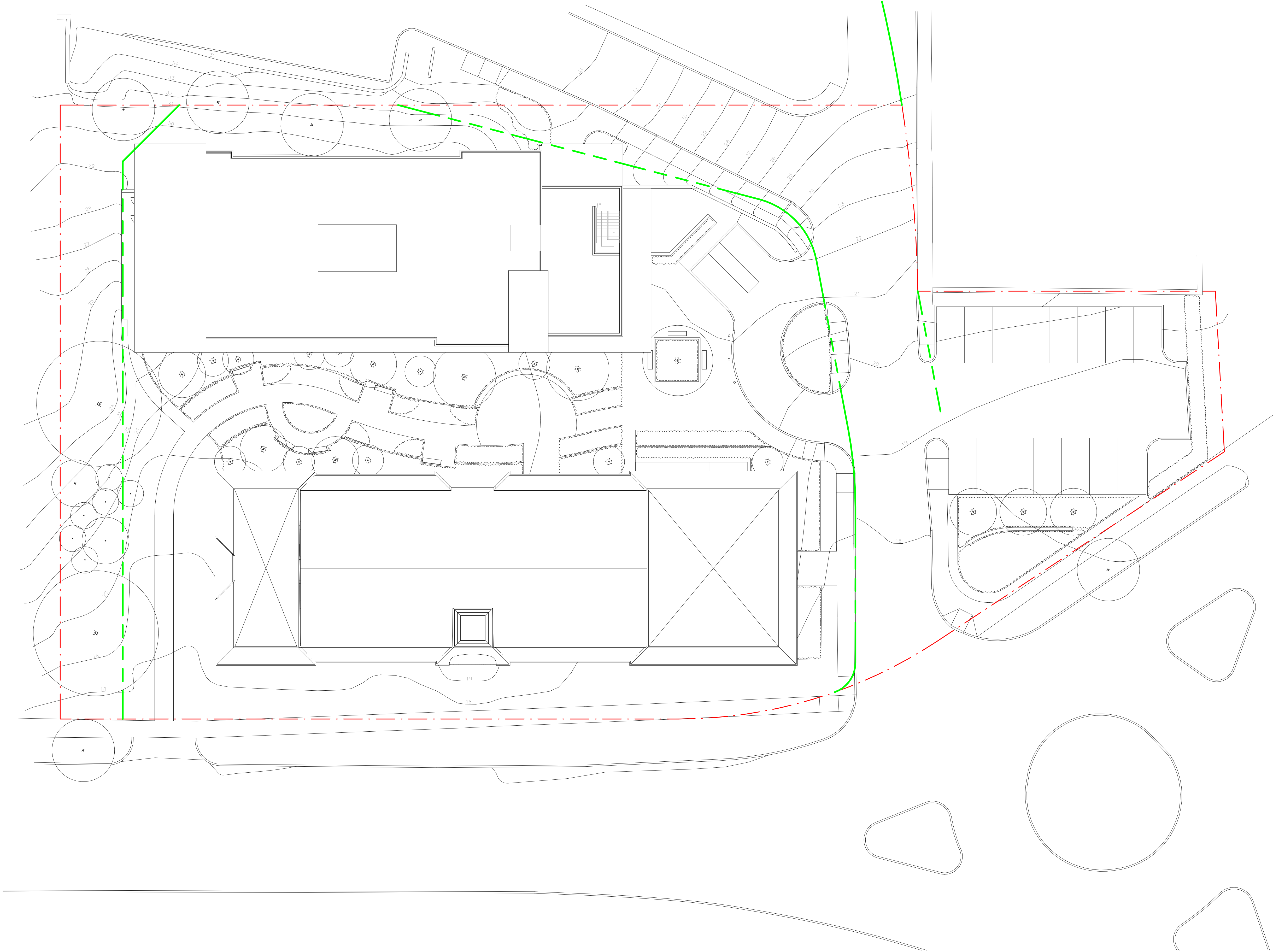
MHC SUBMISSION SET  
1X SX % 3 \$ D # / \$ 2 ##

"B#9B 2##\$2! 036\$E0



B/. C@. . \$. DEF5\$>

6DGH" -IGK'- IL+G LNB' 89G@. 55B5N>O O\$96) 7' 86; M9N6' 89) (NP Q:-<9



Client	S' (D). E40@A . @
MEP/FP Engineer	S' (D). E40@4B@E D \ D). E40@4B5. 0
Structural Engineer	S' (D). E4 ABACE55 D \ D). E4 ABACE. 5
Civil Engineer	S' (D). E4FFB450F D \ D). E4FFB4AE@
Landscape Consultant	S' (D). E40C4 555 D \ D). E40C4 55@
Code Consultant	S' (D). E40@4B@E D \ D). E40@4B5. 0
Cost Estimator	S' (BEB. 4AAAB@5 D \ BEB. 4AAAB@@
Historical Consultant	S' (D). E4A ] 4A55 D \ D). E4A ] 4A5. ]

Project Status


>W6\$ Mb&%I %8	?MM 9\$F=\$@.
Issue Description	Date

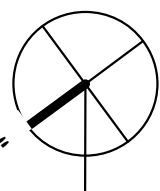
Scale:	
\$./ 0\$25.351	
Drawn By:	Checked By:
?M9+-	6+ ' LK -
Reviewed By:	

Project No. 2010080.00

Mystic Water  
Works at Capen  
Court

6) 7' 8\$ 9  
\*, &' -<96 ?\$@AA

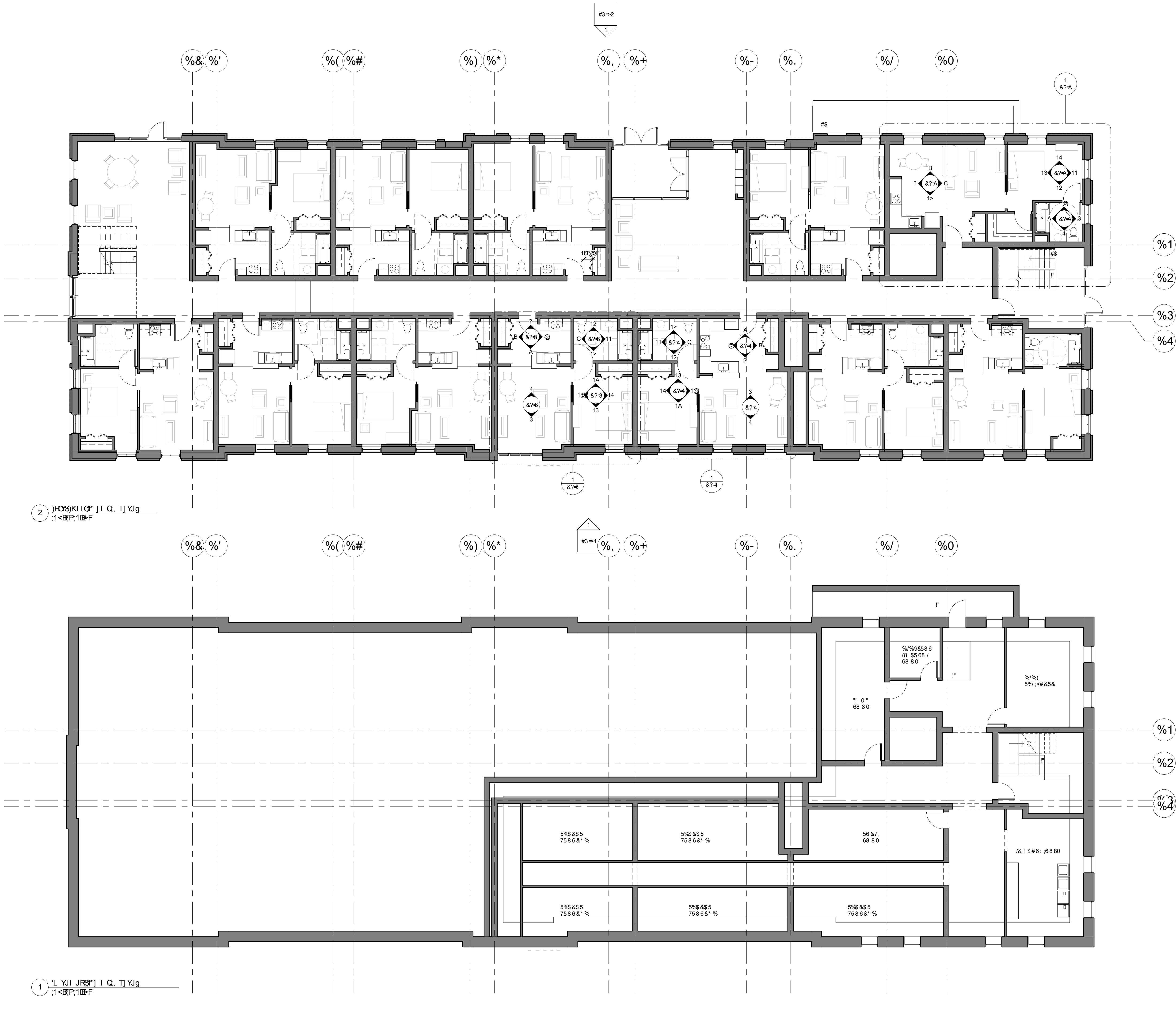
\*RST\$UV?"



A0.2

B4A2>11;11W4;80

(WXYJ OXOYVW#T\]IJ R9X>1>B^0\_ \_;LS[L QR(T]O& JR0K-#.=08



Client	7T1 J QJHJ:, TJ YHra;&] SMT08	5J M@ ?E@AE 12A
MEP/FP Engineer	6= _ =7] H&LR %PaIRJ JQra	5J M@ ?E@23E22?>> JL cV@ ?E@23E2>1@
Structural Engineer	/=&=) JY Y:" L0&JOY	5J M@ ?E@4BEA?>> JL cV@ ?E@4BEA?1>
Civil Engineer	\$H&M %PaIRJ JQra	5J M@ ?E@3BE>>@> JL cV@ ?E@3BE@>2
Landscape Consultant	(T Q&b_ T H&J YdR* QJ Q	5J M@ ?E@4E>>> JL cV@ ?E@4E>>2
Code Consultant	6= _ =7] H&LR %PaIRJ JQra	5J M@ ?E@23E22?>> JL cV@ ?E@23E2>1@
Cost Estimator	9- & YYT H&SY	5J M@ ?E@B1E44E2>> JL cV@ ?E@B1E44E242
Historical Consultant	OL \ 6 TY&:, WST0H;&dUYTOR	5J M@ ?E@00&>>C JL cV@ ?E@00&>1C

Project Status

0. ( ;7] eLHYHTR	&] a] YS;3V;211
Issue Description	Date

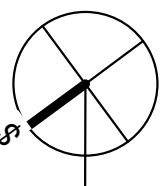
Scale:	:1<E P;1E-F
Drawn By:	&] SMO
Checked By:	(M J\ J O
Reviewed By:	

Project No. 2010080.00

Mystic Water  
Works at Capen  
Court

(L QIR7S  
7T1 J QJHJVO &:>2144

'& 7%0 %\$5;` ; ) 675  
)/ 886;"/ &\$;E" ! 0"  
,8 ! 7% ' !+ / # \$ \*



A1.00



-NRQ: @B@RU#J U9: HR@ \* ) ) B) WX X 7-17< G H7J V@W-: H@W1 2&@K

BAM5) \*\* 7\*\* NCM B7 4

1/ 3 5 5

\$+

5 1/18 U7e V9 G7QVR f  
7"A87 D"15 C

\$2 \$,

\$- \$!

\$% \$.

\$0 \$/

\$1

\$2

\$3

\$4

1/ 3 5 5

\$\*

\$5

\$(

\$+

\* =: UH7%JJ@V 9 G0JVR f  
7"A87 D"15 C

\$2 \$,

\$- \$!

\$% \$.

\$0 \$/

\$1

\$2

\$3

\$4

\$\*

\$5

\$(

\$+

DiMella  
Shaffer

Architecture | Interior Design | Planning

281 Summer Street  
Boston, MA 02210

Tel 617.426.5004  
Fax 617.426.0046

Client  
=J9 : @8: 70 JVR@ 7" VI>J@

[ : 17" \* CF\_5MP \* 5M

MEP/FP Engineer  
#8X 8=V:8<H5 H 8t : @1

[ : 17" \* CFM6( FB550  
%< 17" \* CFM6( FB) \* \_

Structural Engineer  
3& 8%/:RFA <@1: @R

[ : 17" \* CFa+BRM )  
%< 17" \* CFa+BRM )

Civil Engineer  
"8IRU>5 H 8t : @1

[ : 17" \* CF ( BF ) \_  
%< 17" \* CF ( BF +CG

Landscape Consultant  
-J G: ^7X J;77: R8 HZ @VG

[ : 17" \* CF M+Fa ) )  
%< 17" \* CF M+Fa ) 5

Code Consultant  
#8X 8=V:8<H5 H 8t : @1

[ : 17" \* CFM6( FB550  
%< 17" \* CFM6( FB) \* \_

Cost Estimator  
b17' RRU8: R

[ : NOB\* F++RB5 ) )  
%< NOB\* F++RB5+5

Historical Consultant  
4< U# JR8 708J@7 ckRU@

[ : 17" \* CF+aaF+ ) a  
%< 17" \* CF+aaF+ ) a

## Project Status

40 - 7=Vd98R8H  
Issue Description

"V ] VR7(\*L75\*\*  
Date

Scale:  
7"A87 D"15 C

Drawn By: "V ]>J@  
Checked By: -> : UT: @

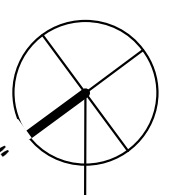
Reviewed By:

Project No. 2010080.00

## Mystic Water Works at Capen Court

=J9 : @8: 17" 75" ++

= \$ - Y" ! 7/3YY# Z  
[ [/- 7 3" = 77 Q4 \  
0Y Q= \$7, Q/3! /" .

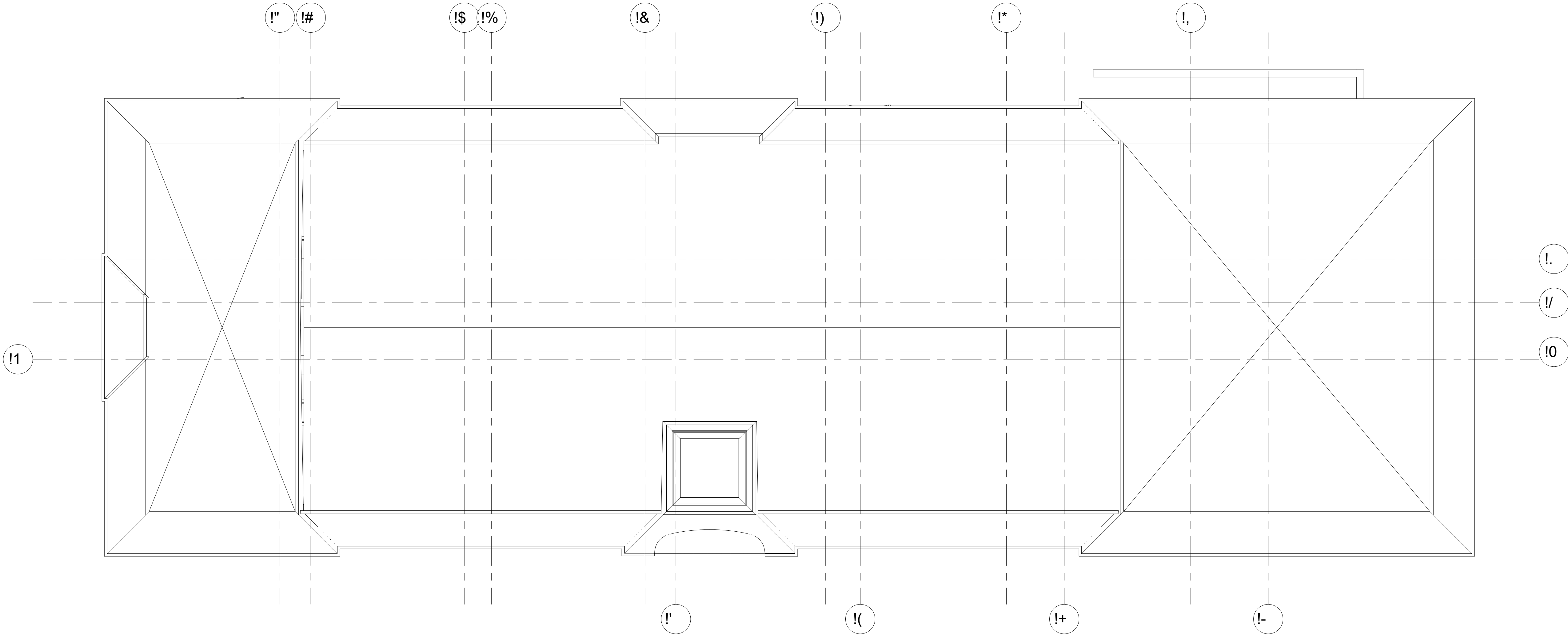


A1.01

07 8: <3>2@

\$M@PQ7-Q@B7QT;@%!TU67 F@QD. DD?DV-W W@Q@9 E7F\$! U=Q\$7FG@/\*%+!+JG

?> L> D. . 4. MINMD4' -



XI I 42@F4ZU6 E4! UQ7  
4.>7@4. @Q@

Client	:! 6 7=3@74 I UQF] 4"UGI =@B	_78M . NC / LC . / L
MEP/FP Engineer	XHVH4 U@B9F4 F] 577=5]	_78M . NL / OQ / / N &9aM . NL / OQD . '
Structural Engineer	.H' H&U7@QZ9=67=Q	_78M . N@1?Q.NDD &9aM . N@1?Q.N D
Civil Engineer	25@; 4 F] 577=5]	_78M . NQ0?QD0 0 &9aM . NQ0?C 1N
Landscape Consultant	\$I E8^4VI 8=4%7Q] F4 =4 UE	_78M . NC L1Q.DDD &9aM . NC L1Q.DD'
Code Consultant	XHVH4 U@B9F4 F] 577=5]	_78M . NL / OQ / / N &9aM . NL / OQD . '
Cost Estimator	c* 4"Q T@GQ	_78MN?. Q11Q / DD &9aMN?. Q11Q / 1/
Historical Consultant	-9 TXI Q@74 @B=64' dJ@ =Q	_78M . NQbbQ.DD@ &9aM . NQbbQ.D. b

Project Status


-) \$ 4 U@65Q@B F	"UJ UQ@4Q4D. .
Issue Description	Date

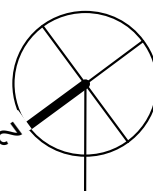
Scale:  
4.>7@4. @Q@  
Drawn By:      Checked By:      Reviewed By:  
"U GJ =      \$; 7TS7 =

Project No. 2010080.00

Mystic Water  
Works at Capen  
Court

\$9E7F4 @H  
:! 6 7=3@74 " 4D . 11

XY Y&4Z, " 24[ZP- Z  
)Y P: ! \



A1.02



[illegible]

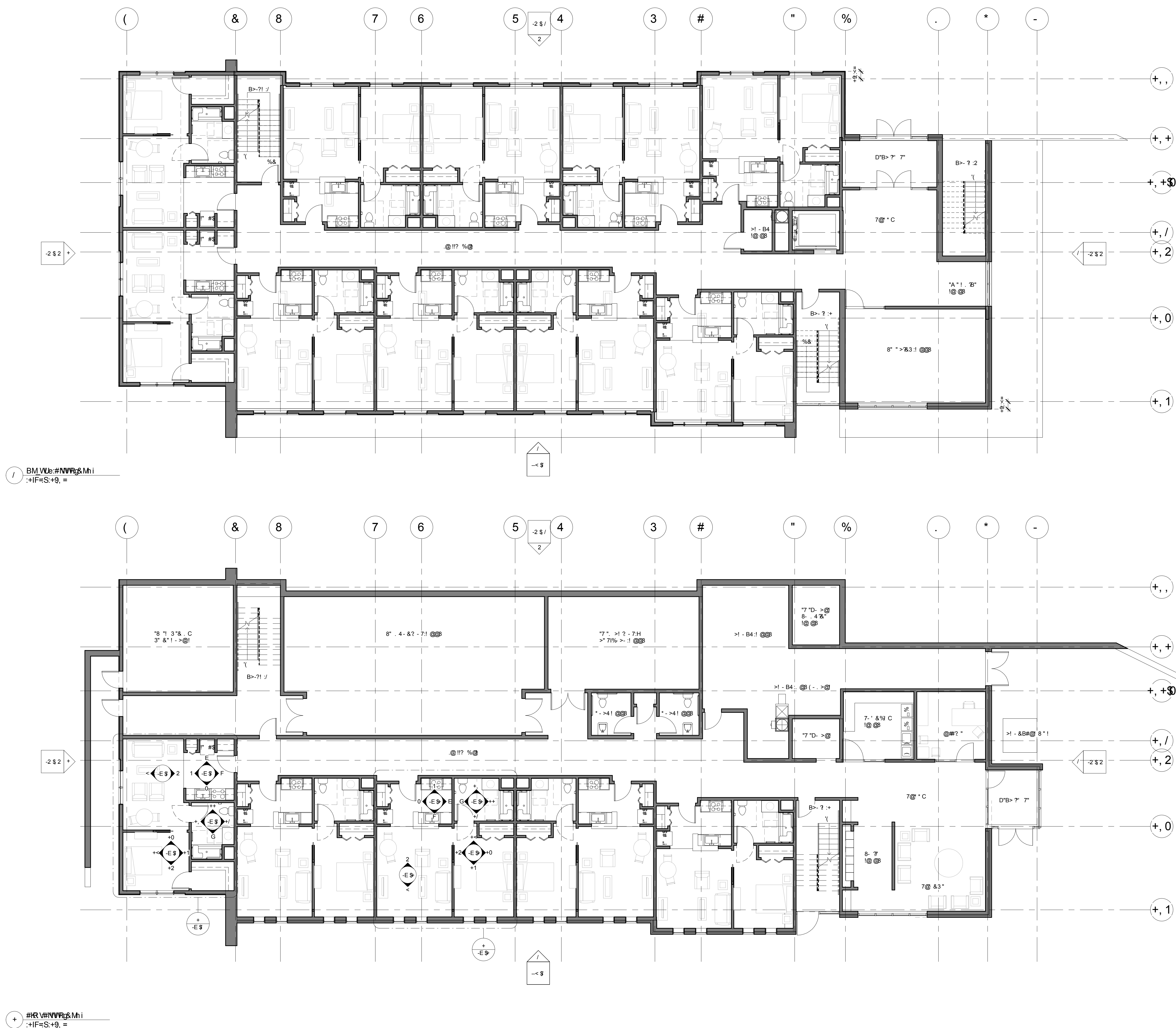
**Scale:**  
: + I F = S : + 9, =

# Mystic Water Works at Capen Court

 **A1.03**

---

J. S. KIMBLESPRINGS



)S#VAFVWAVYDP YZ@ANVH' &' H [6\ \ ;OJC MAN)P ZFQ ANO#3 ! 4/FQ

H& G' &&&T\$T:( 6



+ 0PZR00PPFg' Af g  
;&GHJ;&K I



& 8D76:0PPFg' Af g  
;&GHJ;&K I

DiMella  
Shaffer  
Architecture | Interior Design | Planning

281 Summer Street  
Boston, MA 02210  
Tel 617.426.5004  
Fax 617.426.0046

**Client**  
7P@AFCB;2 PZVN';( ZOPFQ  
8AB; &TL=+, L&&+,  
OC \$ &TL=+ LH +T

**MEP/FP Engineer**  
:/ \ /;7ZBON\* N'NAAFN  
8AB; &TL=+ LH +T  
OC \$ &TL=+ LH +

**Structural Engineer**  
5(/ /;OZAW;\$CNDAFV  
8AB; &TL=+L T '  
OC \$ &TL=+L T &

**Civil Engineer**  
"?OYD\* N'NAAFN  
8AB; &TL=+ L' ' -  
OC \$ &TL=+ L' =T+

**Landscape Consultant**  
)P MA; PBEIA V?N1 FZM  
8AB; &TL=+La' ' '  
OC \$ &TL=+La' ' +

**Code Consultant**  
:/ \ /;7ZBON\* N'NAAFN  
8AB; &TL=+ LH +T  
OC \$ &TL=+ LH +

**Cost Estimator**  
b3:( VPFYDQV  
8AB;THL==+H+ '  
OC \$THL==+H+=+

**Historical Consultant**  
6CY: PVOA2 MPFY;( cQMPFV  
8AB; &TL=aal= ' a  
OC \$ &TL=aal= ' &a

## Project Status


62 ) ;7Zd@WPN (Z ^ZVO;&R;+&&  
Issue Description Date

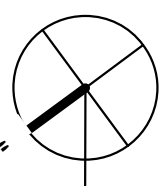
Scale:  
;&GHJ;&K I  
Drawn By: Checked By: Reviewed By:  
(Z OBF )D AYXAF

Project No. 2010080.00

## Mystic Water Works at Capen Court

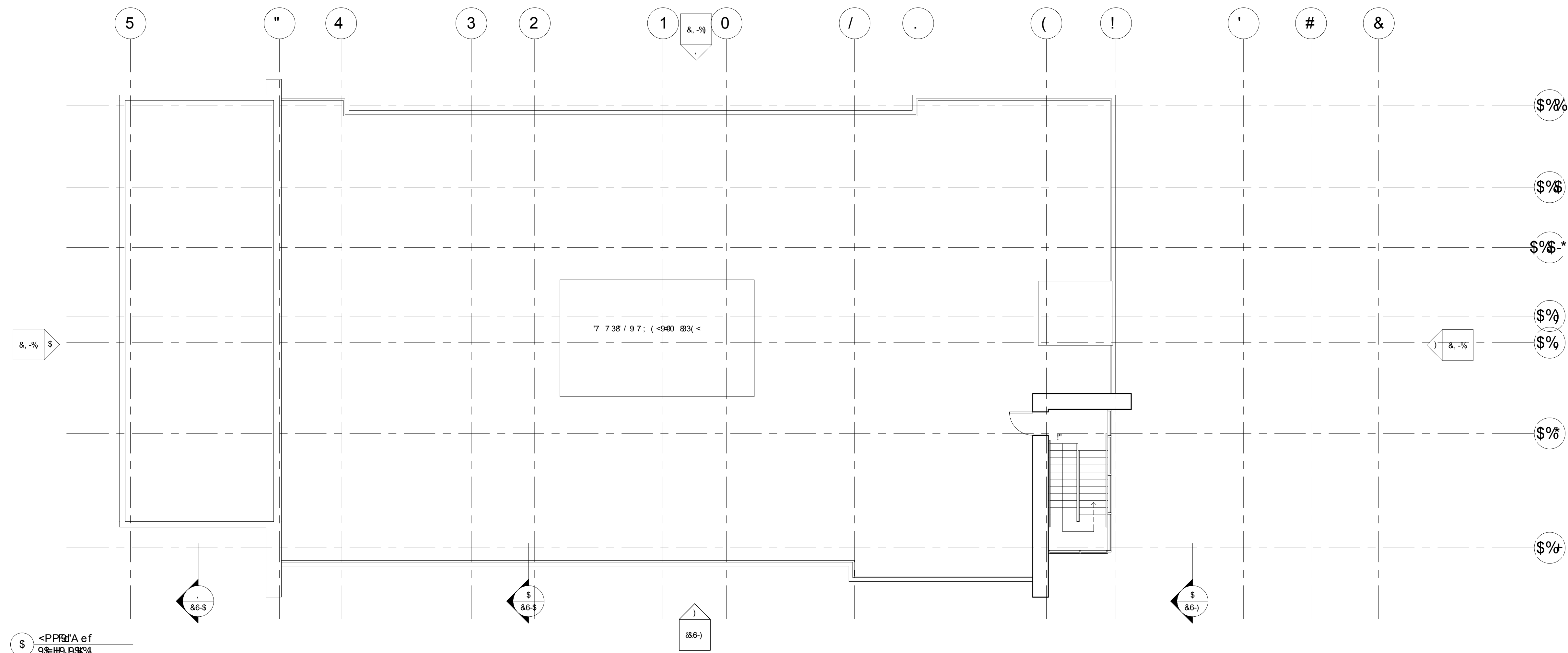
7P@AFCB;2 PZVN';( ZOPFQ  
8AB; &TL=+, L&&+,  
OC \$ &TL=+ LH +T

829: ! ;] ;0<# :8 2  
05< < : ;\$5( "7 ;L" \* \



A1.04





<b>Client</b> DPOACSBP V FN V 98 CPD	:A \$B\$TL+)* L\$)* *
<b>MEP/FP Engineer</b> ->:D [BDDN N NAAGN]	:A \$B\$TL+)* UH) T C_ \$B\$TL+)* UH+>
<b>Structural Engineer</b> 3-8-9 [AWB CCGAGW	:A \$B\$TL+ 6H: T% C_ \$B\$TL+ 6H: T\$%
<b>Civil Engineer</b> "?OZEY N NAAGN]	:A \$B\$TL+ H2%< C_ \$B\$TL+ HL+6T)
<b>Landscape Consultant</b> P MA9 PBR9A VJ N9 G M	:A \$B\$TL+ 6L %%% C_ \$B\$TL+ 6L %%%
<b>Code Consultant</b> ->:D [BDDN N NAAGN]	:A \$B\$TL+)* UH) T C_ \$B\$TL+)* UH+>
<b>Cost Estimator</b> a198WVZQZV	:A \$B\$TL666H) %< C_ \$B\$TL666H) 6)
<b>Historical Consultant</b> 4C ZC PVA9A V PZ3&b QPVPV	:A \$B\$TL6+ L6% C_ \$B\$TL6+ L6%*

## Project Status

[illegible]

Issue Description	Date
40 ' 9 [ c @ W P N	& [ ] [ W O S R 9 ) \$ \$

**Scale:**  
9\$=H9J9\$K%

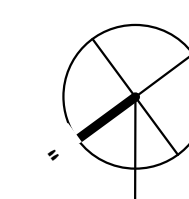
Drawn By: &[ OEG      Checked By: 'E AZYAG      Reviewed By:

**Project No. 2010080.00**

# Mystic Water Works at Capen Court

'C MANDG  
DP@ACIBAR4 & 9/ \$66

<7 7.953&" 99 ( ;



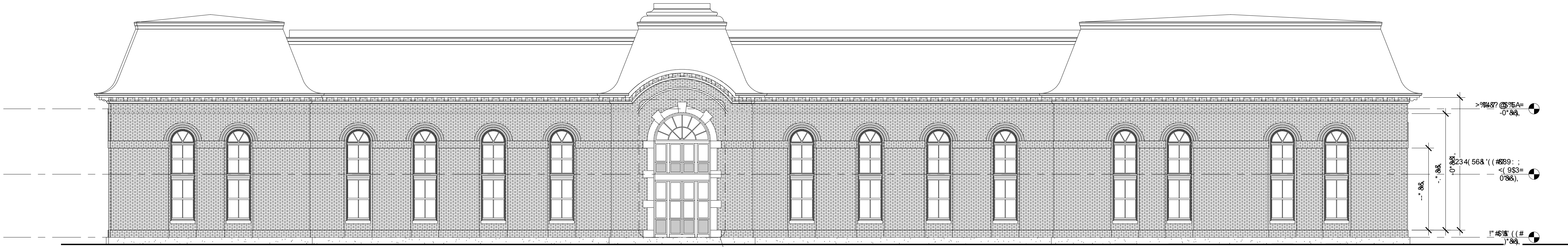
## A1.05

0QWDD) -- &- XM XW& V

SL: 35&2'8  
2( : 3#'''3LW/> & D-//

Q( #5&2'3TL% 5&889: ; &( 9\$3= &-Q0&8&8-4),

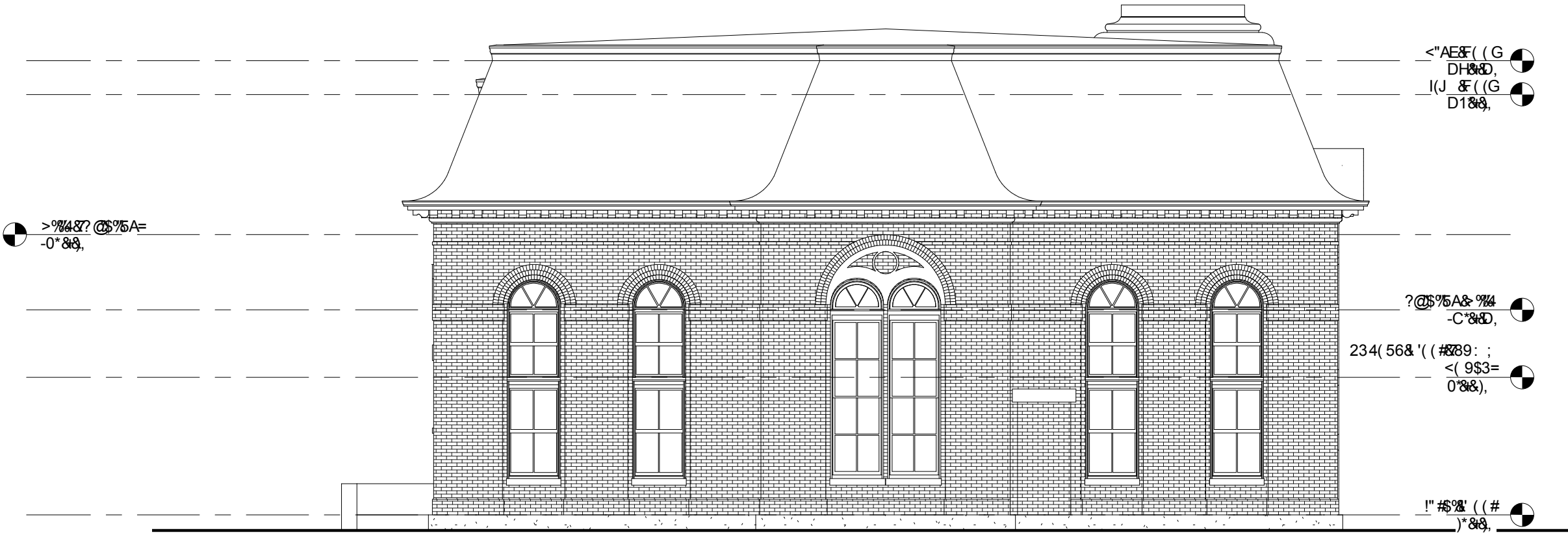
2( 9'5&2'3TL% 5&889: ; &( 9\$3= &-Q0&8&8-4),



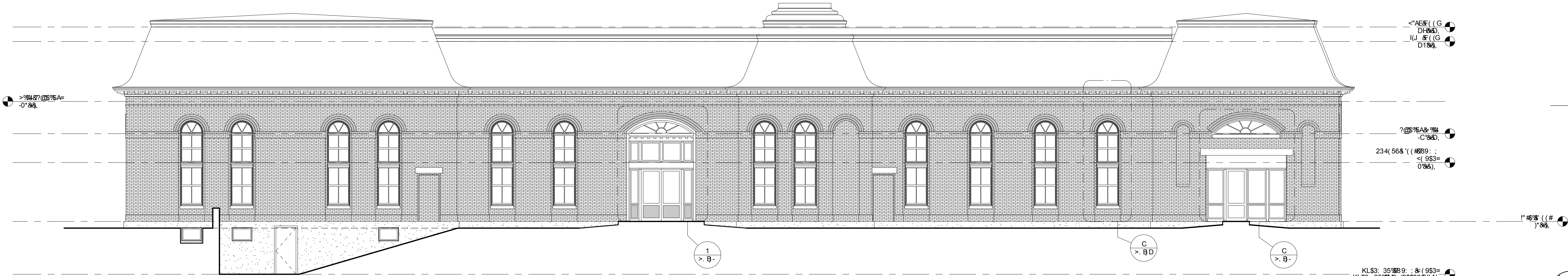
Q( #5&2'3TL% 5&889: ; &( 9\$3= &-Q0&8&8-4),



^3 \$5&2'3TL% 5&889: ; &( 9\$3= &-Q0&8&8-4),



?L\$5&889: ; &( 9\$3= &-Q0&8&8-4),



2( 9'5&2'3TL% 5&889: ; &( 9\$3= &-Q0&8&8-4),

<'AE&F( (G  
D1&8&D,  
I(J, &F( (G  
D1&8&8,

?@5'8&8-7&8  
-C'8&8&D,  
234( 56&8'(( #889: ;  
-<( 9\$3=  
0'8&8&),

I'8&8&8 ( ( #  
'8&8&8,

KL\$3: 35'889: ; &( 9\$3=  
KL\$3: 35'8&8&8; 8&8\$3&8&2' L&8&8-  
+0&8&8- &-

DiMella  
Shaffer

Architecture | Interior Design | Planning

281 Summer Street Tel 617.426.5004  
Boston, MA 02210 Fax 617.426.0046

www.dimellashaffer.com

Client	S''35%	
MEP/FP Engineer	FB' 8&2 9'''TL5&2 5A'533#5A	b3'X&- 14'WD&0DD1
Structural Engineer	IE> 8& 93\$5\$8& L#5&3#5\$	b3'X&- 14'W 04W))
Civil Engineer	O'5&4E&2 5A'533#5A	b3'X&- 14'WD&05A) . C
Landscape Consultant	S( ; '3g& ( '8&M3\$'A5& # 9;	b3'X&- 14' W 44))
Code Consultant	FB' 8&2 9'''TL5&2 5A'533#5A	b3'X&- 14'WD&0DD1
Cost Estimator	e_ &-&\$\$( 4'L'8&\$	b3'X&0- 4'// 40D))
Historical Consultant	VL 4F( \$'8&&'5%#4&6T'\$(( 8&	b3'X&- 14' H&W )) H

## Project Status

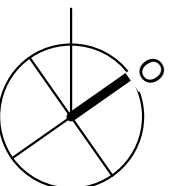
V< S&2 9N" \$\$'5	>9A8\$%&0&8D-
Issue Description	Date

Scale: &-Q0&8&8-4),		
Drawn By: >9%'E#	Checked By: SE34\ 3#	Reviewed By:

Project No. 2010080.00

## Mystic Water Works at Capen Court

?a b?F&d F  
?!? e>b&d O2&8&8 Z V 8  
<d Z2?&KZd M&Of



A3.01



<b>Client</b> - ( "U. #Z". &G( ; \$0'&C&B %& (#%&	8. !&6e#e=7! &67!&
<b>MEP/FP Engineer</b> -> NP !& ; "Z\0'&0'C'0. " #0c	8. !&6e#e 7<@&7e !V f!&6e#e 7<@&7e
<b>Structural Engineer</b> JNB!& ; \$ \$& V#0#&\$	8. !&6e#g; @& e) !V f!&6e#g; @& e6)
<b>Civil Engineer</b> 3'9% 9&0c'0. " #0c	8. !&6e#e<<@& )<=<=< !V f!&6e#e<<@& : e7
<b>Landscpe Consultant</b> D (Y. &6P ( "7&C. \$'0c0&#& ; Y	8. !&6e#e=; (g) 7) !V f!&6e#e=; (g) 7)
<b>Code Consultant</b> -> NP !& ; "Z\0'&0'C'0. " #0c	8. !&6e#e 7<@&7e !V f!&6e#e 7<@&7e
<b>Cost Estimator</b> b!&6&6\$ / %'&\$	8. !&6e#e: : @& )& !V f!&6e#e: : @& 7
<b>Historical Consultant</b> KVI/> ! \$%& &\$%#& @&1Z\$% (#	8. !&6e#e; gg+ ) gg !V f!&6e#e; gg+ ) gg

## Project Status

Issue Description	Date
-------------------	------

Scale:  
&6V(2X6),

Drawn By: B; %0#      Checked By: D9; /` . #      Reviewed By:

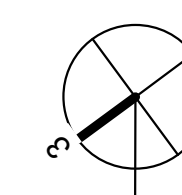
**Project No. 2010080.00**

# Mystic Water Works at Capen Court

DVY. 08 & %  
-( U. #Z". [8 KB 76: :

3E P & AONCM3 F  
EJEbB8NQ3-

## A3.02

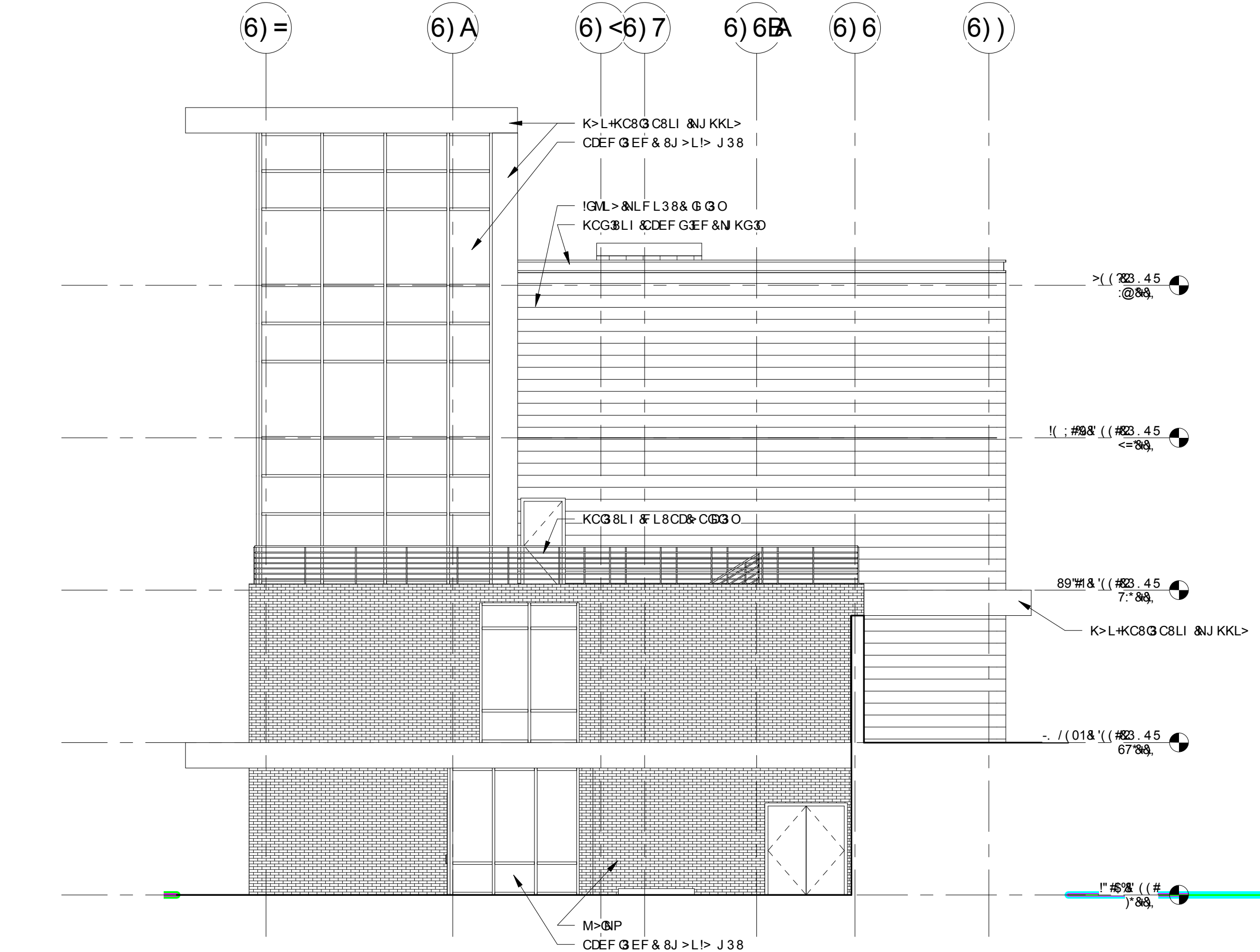


DJ\OS.\$#^\_#.\$9^C(/;U.0\$76))@aKP P &DV.0D(;#&D.0%VaHCIN#Z,%

@&WV) 66&6\| @) 6&K

NVE\$ #Z#.\$9Z( /; R. 0%Z)6) @JFH H8%NSV.0&( ; #WJ . 0%SJ^ I PEW%

@JAT7) 6686VA@<8CF



7 H. \$%1' V8% 0&3. 45 &8 @83, 67



6 LSS\$%1' V8% 0&3. 45 &8 @83, 67

Client	- ( R. #W'. & ( ; \$0a&C'8( #%	8. 'A6c+7A667A
MEP/FP Engineer	>EH 8& ; ''V80&0a'0. . #0a	8. 'A6c+A7<+@7c IS d'A6c+A7<+@6=
Structural Engineer	DB:8& ; \$ \$&S#8%#\$	8. 'A6c+e: @Ac) ) IS d'A6c+e: @Ac6)
Civil Engineer	N(V. b&t ( '7& \$'a0&0H ; V	8. 'A6c+<<@) )=< 3"%/9&0a'0. . #0a IS d'A6c+<<@=: c7
Landscape Consultant		8. 'A6c+A: +e) ) ) N(V. b&t ( '7& \$'a0&0H ; V IS d'A6c+A: +e) ) 7
Code Consultant		8. 'A6c+A7<+@7c >EH 8& ; ''V80&0a'0. . #0a IS d'A6c+A7<+@6=
Cost Estimator	_ ^&8\$\$/ '\$%\$	8. 'A6c+ : : <@) ) IS d'A6c+ : : <@: 7
Historical Consultant	FS/ > ( \$% & '\$%# 8C1V8( #8	8. 'A6c+ ee+ ) ) e IS d'A6c+ ee+ ) 6e

Project Status


F' N& ; f R"\$S\$Y 0	C; a; \$%8&876
Issue Description	Date

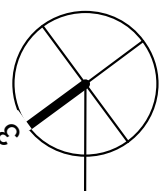
Scale:  
&8 @83, 67  
Drawn By: C; %8#  
Checked By: N9. / \ . #  
Reviewed By:

Project No. 2010080.00

Mystic Water  
Works at Capen  
Court

NSV. 0& 78  
- ( R. #W'. X' C& 76: :

3L H &ME8 G O  
LDL\_ C8G3 -



A3.03



E. 'æ: Q+TCb+: Cb

E.  $\langle \mathcal{A} \rangle: Q \vdash CP+9000$   
 ?  $\langle \mathcal{A} \rangle: Q \vdash CP+9) : T$

E. 'æ: Q] N9+Q )  
? <æ: Q] N9+Q )

E. 'Q: Q+PP9+) ) TP  
? <Q: Q+PP9+TNQO

E. '⌘: Q+TbN⌘ )))  
? <⌘: Q+TbN⌘ ))) O

E.  $\langle \mathcal{A} \rangle: Q \vdash CP+9 \text{ OOO}$   
 ?  $\langle \mathcal{A} \rangle: Q \vdash CP+9) : T$

E. '009: +NNH90) )  
? <009: +NNH90NO

E.  $\langle \mathcal{A} : Q \# N \rangle \# N \rangle$   
 ?  $\langle \mathcal{A} : Q \# N \rangle \# N : \rangle$

[illegible]

**Scale:**  
&#98;&#94),

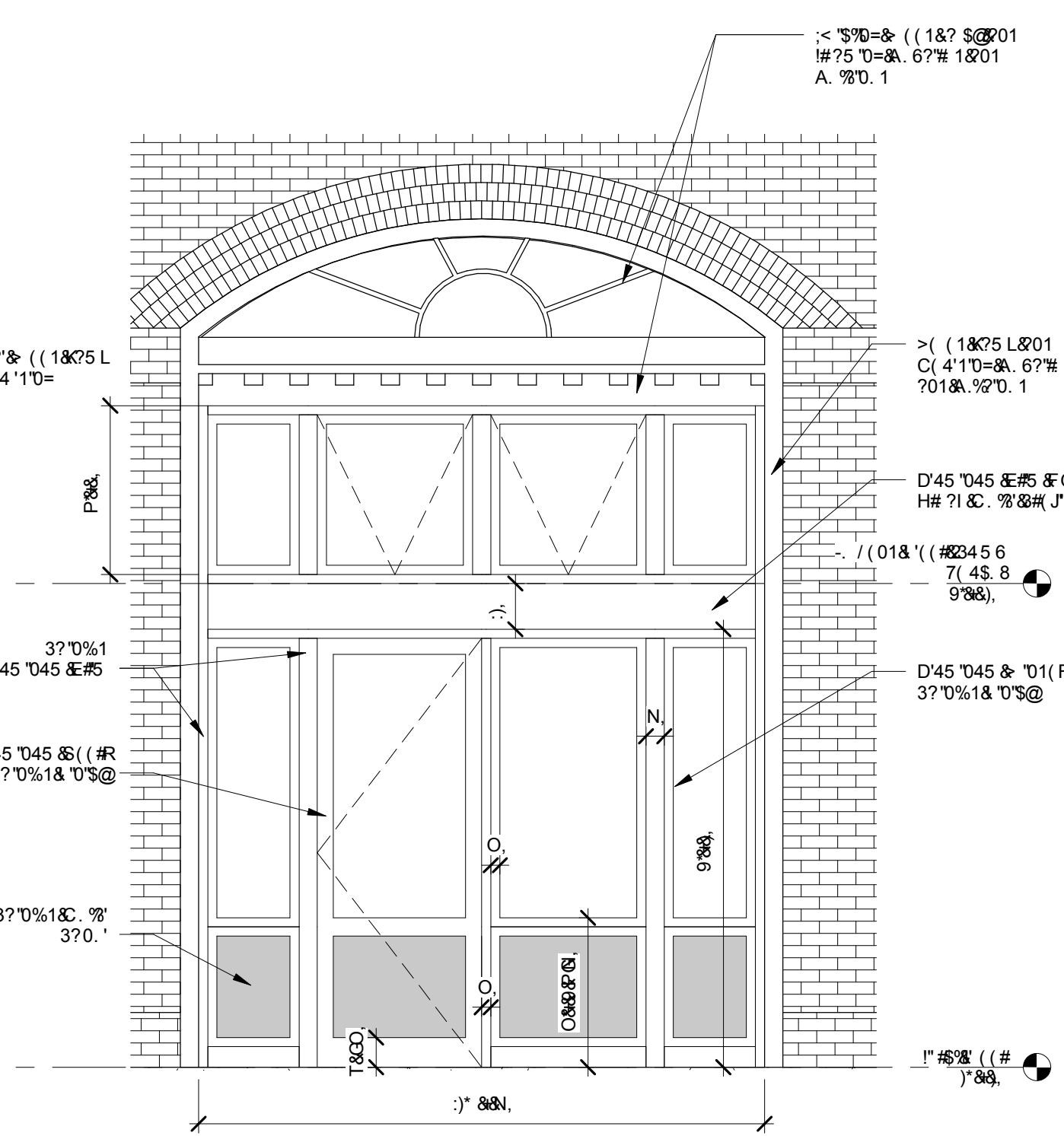
Checked By: V@/I.#      Reviewed By:

# Mystic Water Works at Capen Court

V?6.0& %  
-( 5. #B". RCD& Q NN

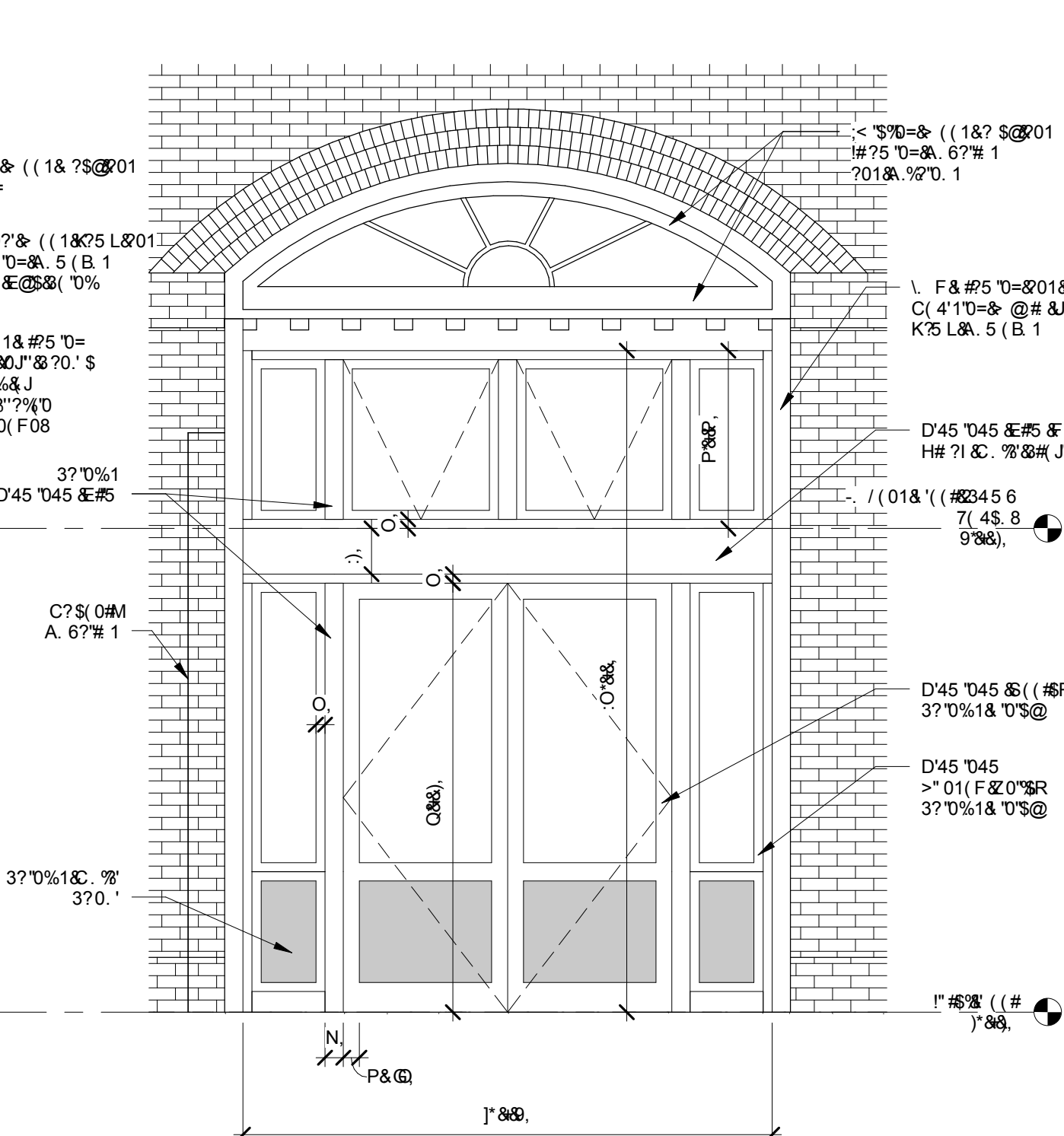
# h YE Y W&D\ S

—855. "7& 0000



⋮ V?"(4%&B( #/0@.'B?%0& <\$%0=8  
&B9&.&.\*),

○ V?"( 4% J> . \$%& ' . B?% 0& <\$%0=8  
&P9&`&.\*),



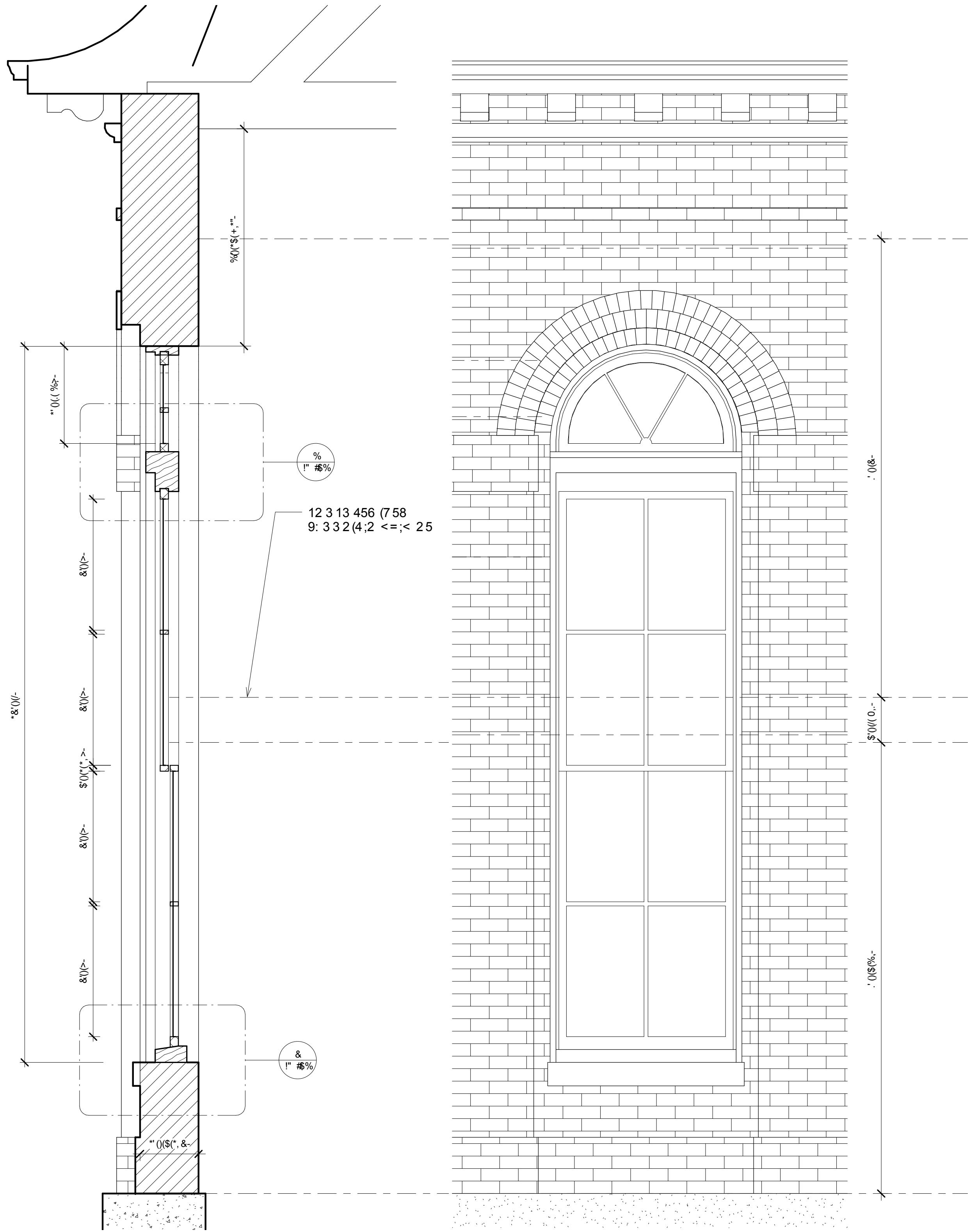
(P) V?"(4%08 & (4%08'. B?% 08 <\$%0=8  
&09&'&.\*) ,

Q  $V''(4\% \& (4\% \& ' . E? \% 0 \& < \$ \% D = 8$   
 $\& \% \& \& ' \& . * ) ,$



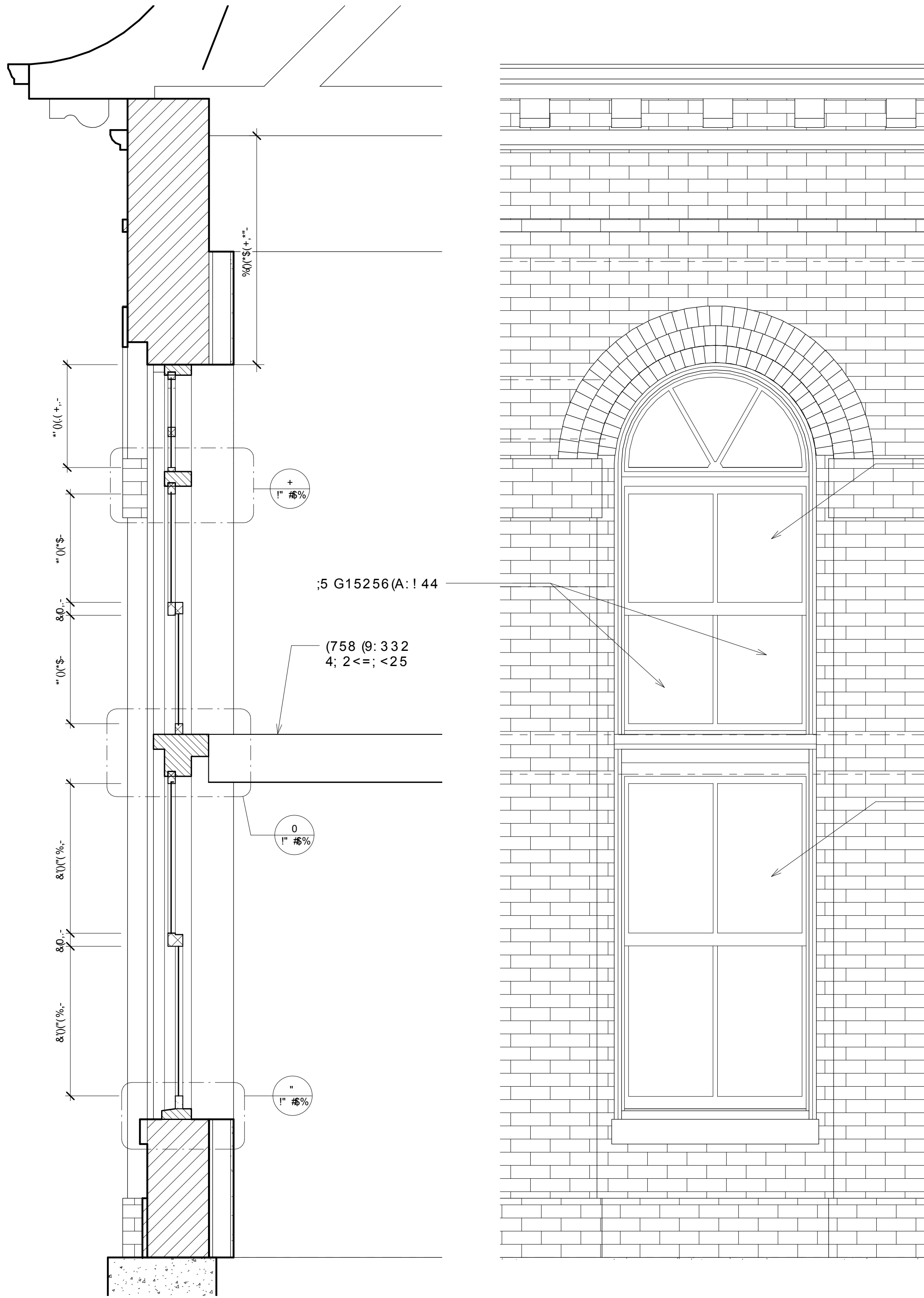
=W\$YKPYXPKY\N6U\] JK STYX\$ \$\$. \$^G8 8 (M=[MRKS(=U] P7= KSP\W\_6`#PV

., \*0,&\$\*\* (\*\* W. W\$(I G



81 SeUf (4K\ TUS(G cIYTSaF  
(%>-(Q\*)\$-

6UJ gIk)@]Sa(8 ISeUf (5IKWMIUS(G cIYTSaF  
(%>-(Q\*)\$-



81 SeUf (4K\ TUS(G RURYKeF  
(%>-(Q\*)\$-

6UJ gIk)@]Sa(8 ISeUf (5IKWMIUS(G RURYKeF  
(%>-(Q\*)\$-

Client	4UJ KPYLK@]Y]Sa(! ] TNP76	:K L\W * +)"&0)**&0
MEP/FP Engineer	2#8 #4] I\WV6(5 SaiSKKPSa	:K L\W * +)0&%&&+ 9McV\W * +)0&%&\$. \$*"
Structural Engineer	#! #9]KYY(1 MRSKPY	:K L\W * +)/ >. )0+\$\$ 9McV\W * +)/ >. )0+*\$
Civil Engineer	71T\N5 SaiSKKPSa	:K L\W * +)%%\$ \$\$" % 9McV\W * +)%%\$ \$">+&
Landscape Consultant	=URKx(8 UQ6KYaSa(ARJ R	:K L\W * +)"0>Y \$\$\$ 9McV\W * +)"0>Y \$\$\$&
Code Consultant	2#8 #4] I\WV6(5 SaiSKKPSa	:K L\W * +)0&%&&+ 9McV\W * +)0&%&\$. \$*"
Cost Estimator	d_(! Y\U IMIKY	:K L\W * +)>>>). &\$ \$ 9McV\W * +)>>>). &>&
Historical Consultant	GM 2 UYTK@YLR (! eVYUPY	:K L\W * +)/ >\$\$/ 9McV\W * +)/ >\$\$/

63 <?: 5)@-7 A(8 B6 3 8  
C-1 152(4! 4 @3 152! ?;5 D  
:3 8 52(4! 4 @9B56 F

## Project Status

Issue Description	Date
-------------------	------

Scale:  
(%>-(Q\*)\$-

Drawn By: TNP  
Checked By: N\K [ KP  
Reviewed By:

Project No. 2010080.00

## Mystic Water Works at Capen Court

=MRKS(4 #  
4UJ KPYLK@]G! (\$&>>

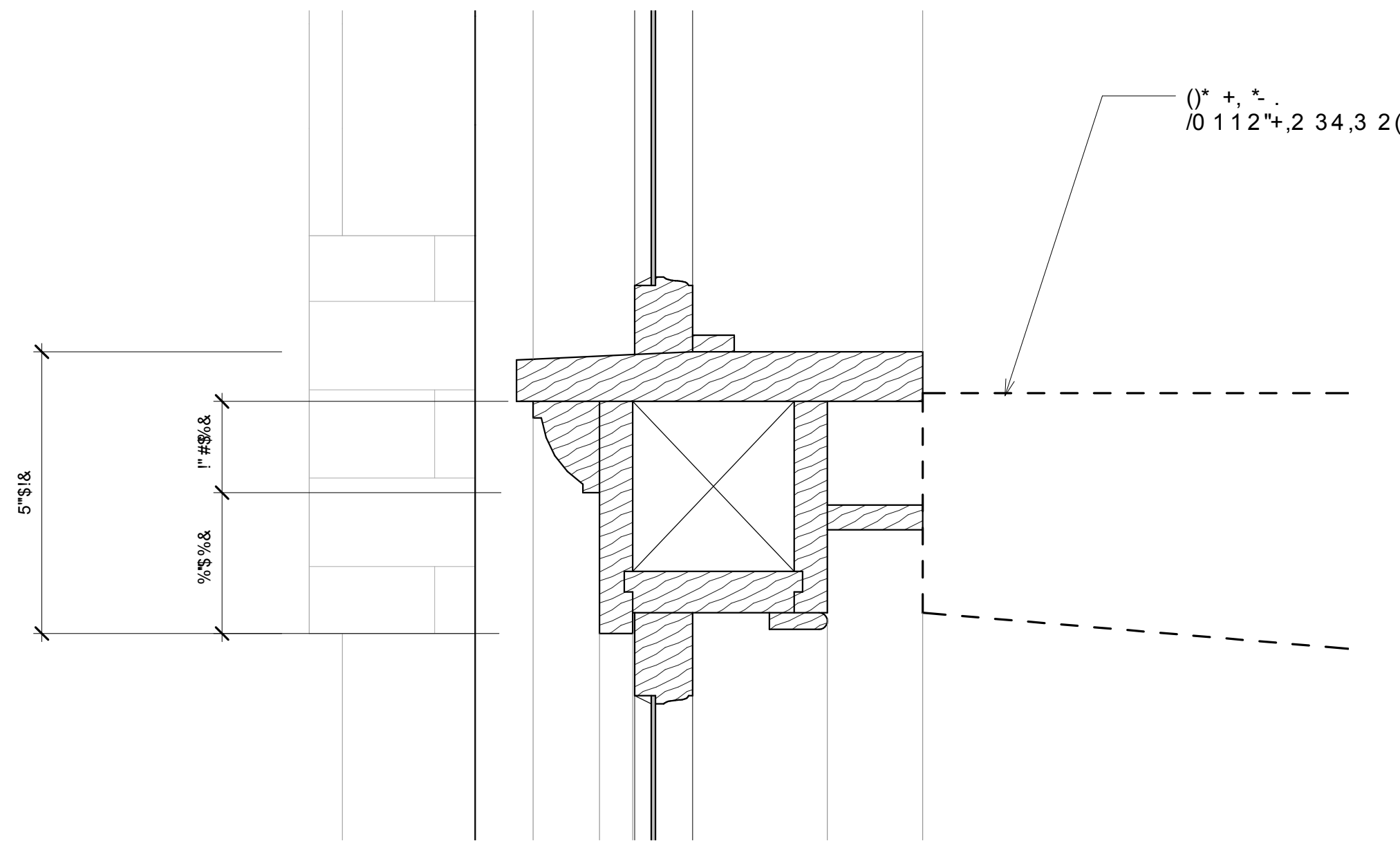
5EB; B A(! 76  
12 3 13 456(8 B 6 3 8  
65 ;! B 4

A6.02

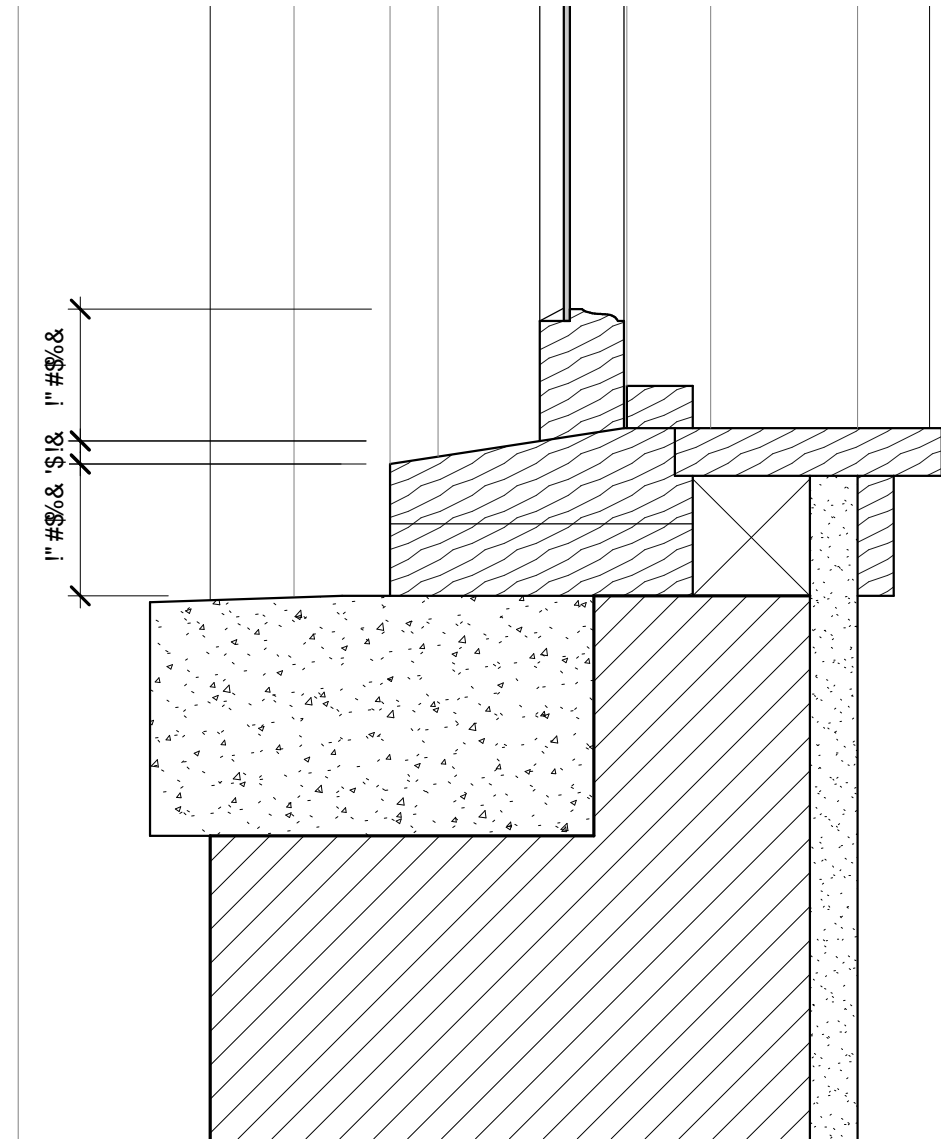


5\$ D\$ ? ' ' ' ' X5X # "6 C

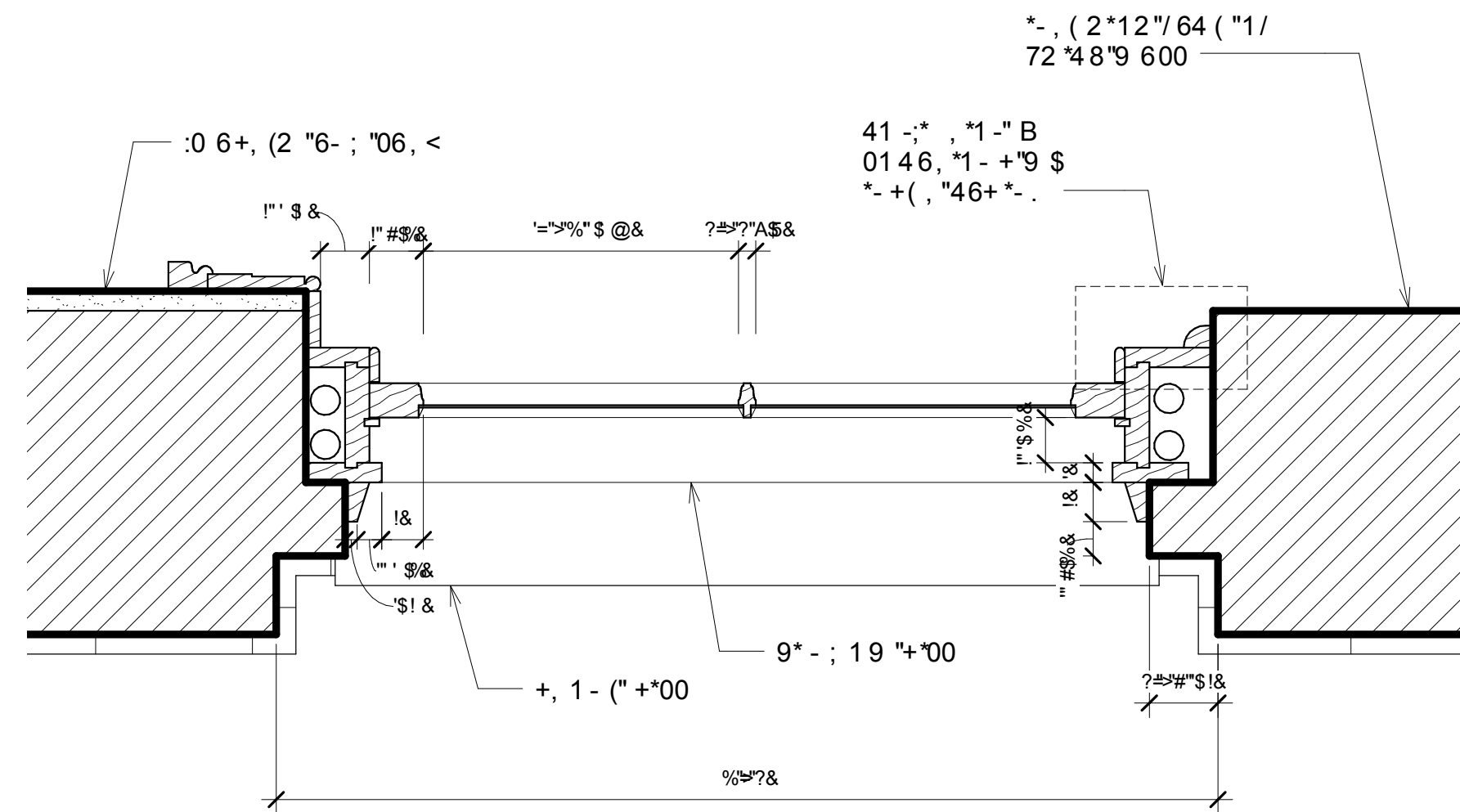
4X3OINDN ORU R HI P3QI? ?5? C9 9 "K5AKTI P"4U\ N8 I P8IK\^ : 8EN8



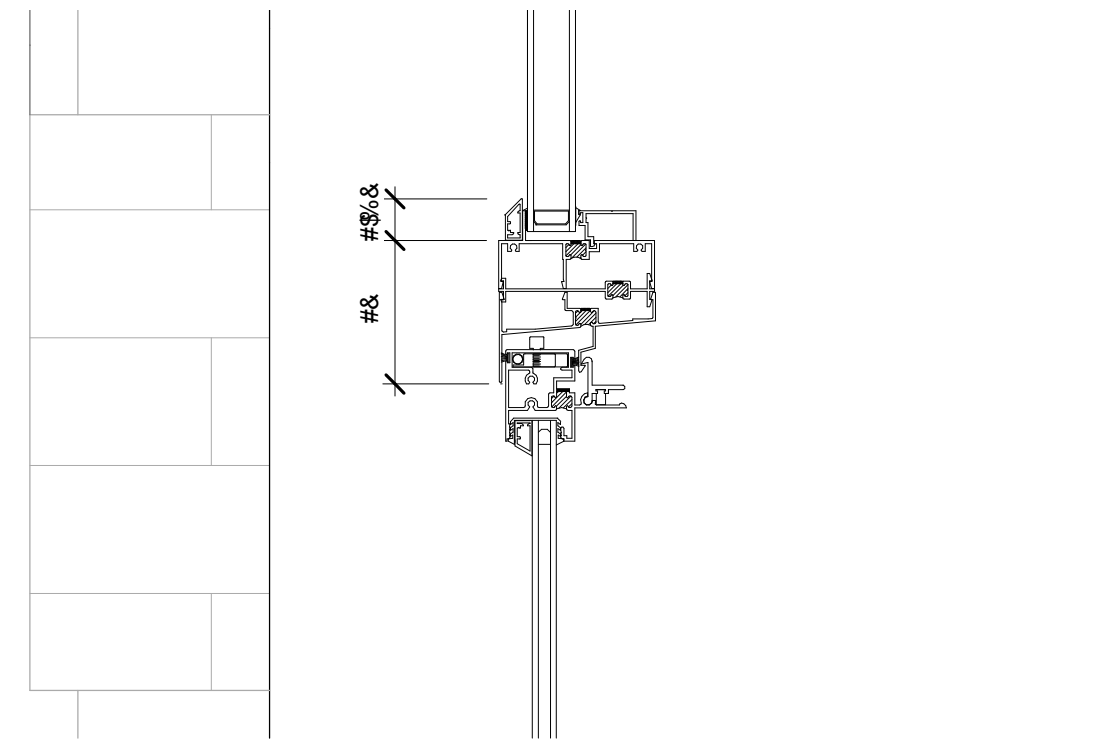
# ;! \$%&'()\*+,-./0123456789:  
;"&'d'" =?&



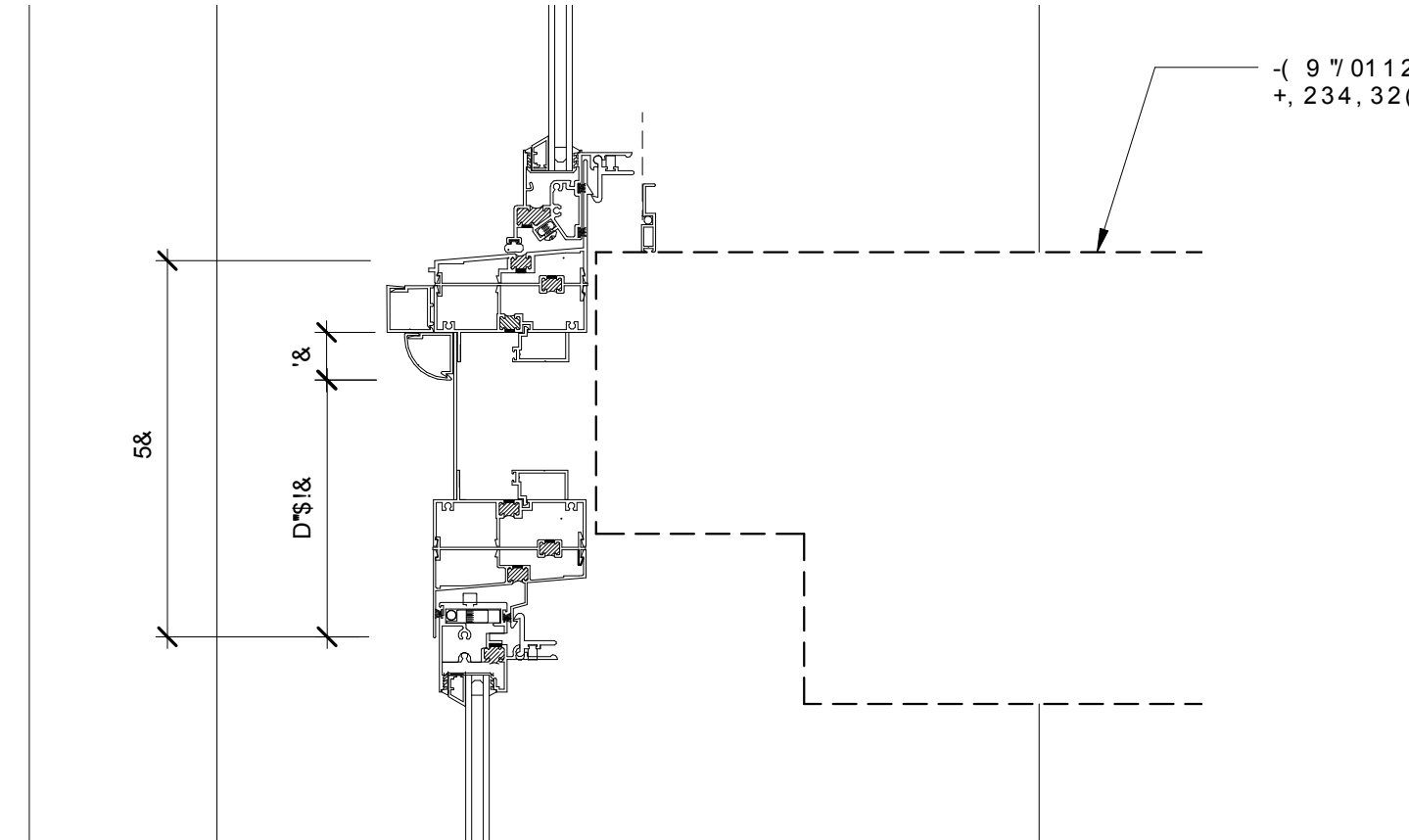
```
! ;! $GKS9 @Qe "+Gf( aGg_g
"#&'d'" =?&
```



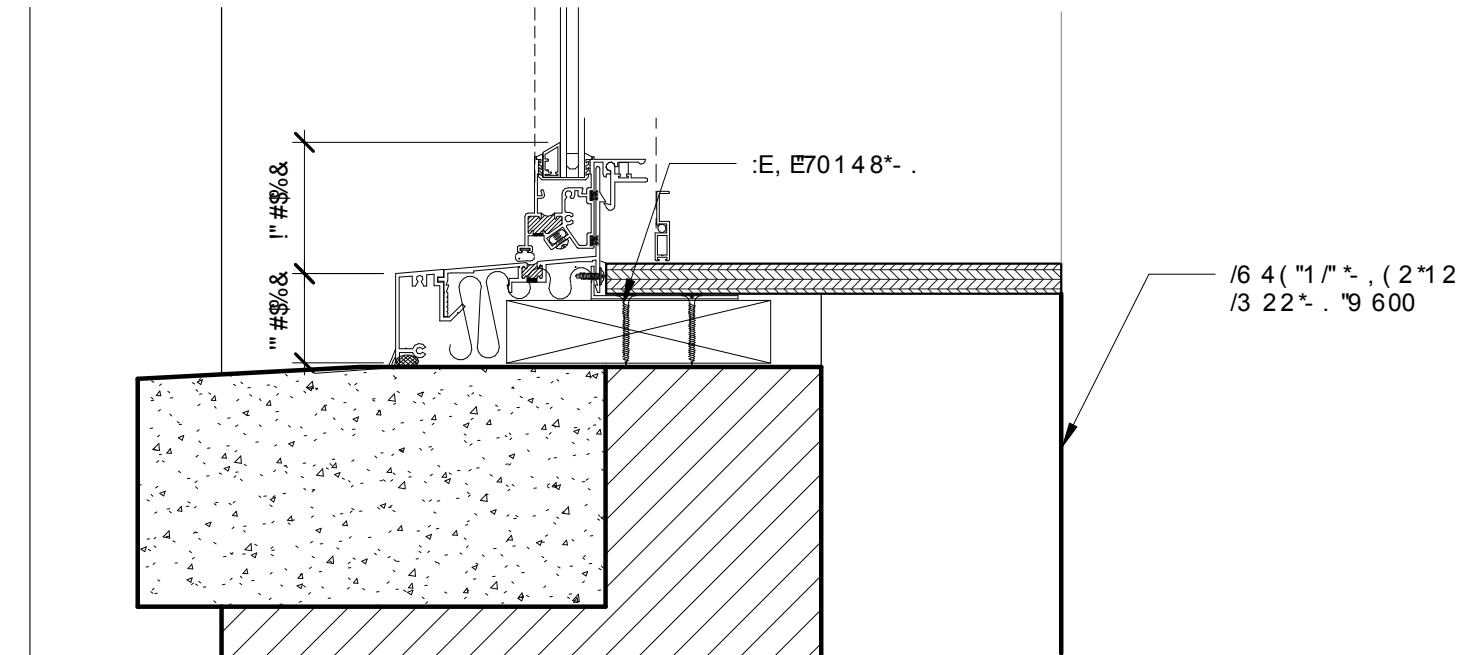
UNBPSKJ+I RSPKS0UeI N+KQ f( aGSP\_g  
"" "\$!&d"" =>&



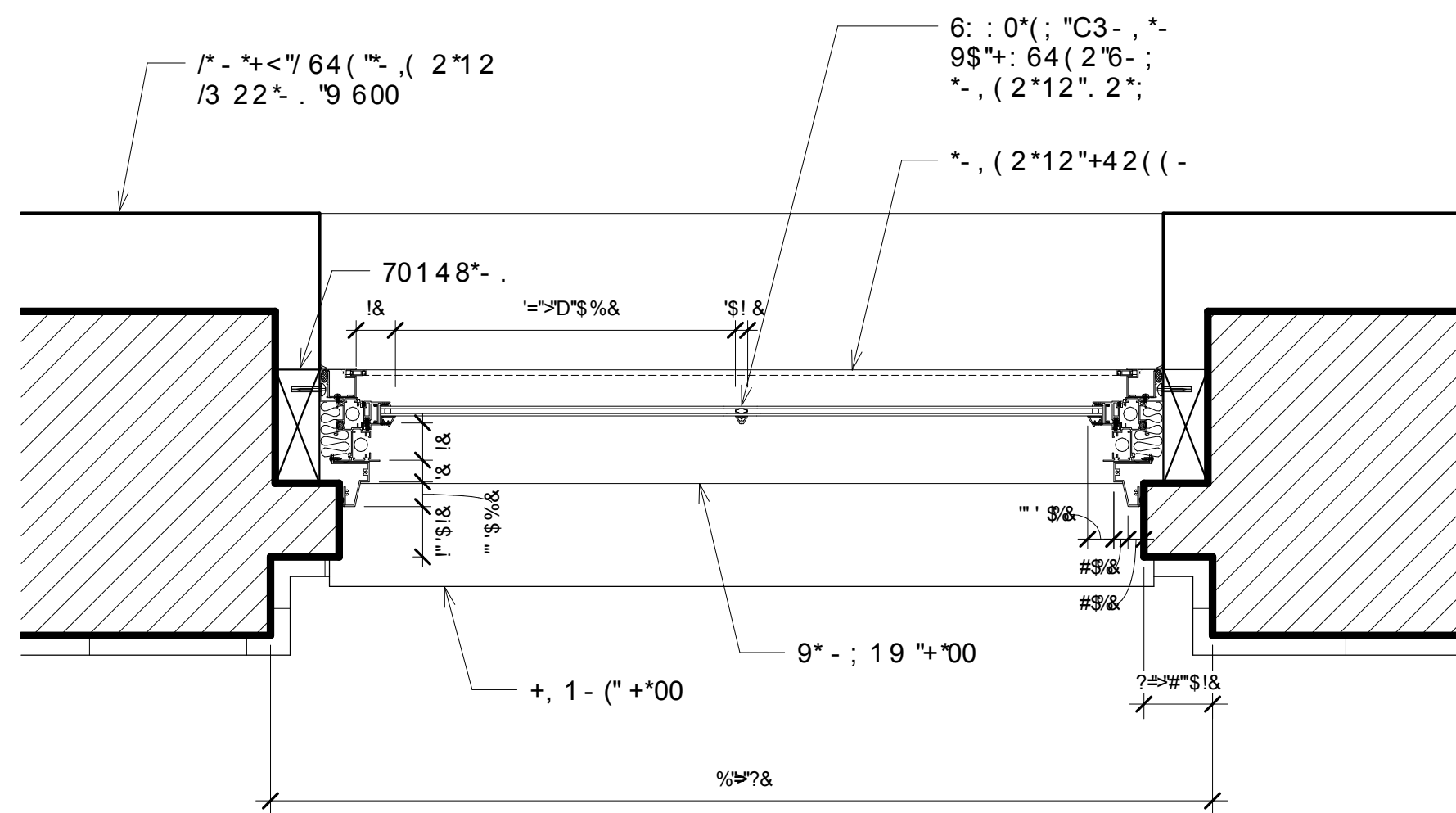
A ;! \$KKS' @! Q'+KL"f: NUTUO Qg  
"#&d'" =>?&



D ;! \$KKS/ JUNf: NUTUA Qg  
"##&d"" =>&



@ ;! \$GKS9 @QJe "+Gf: NUTUQ Qg  
"#&'d'" =>?&



④ <UNBPSJ+I RSG"KSOUeI N+KQ"l": NUTUQ Qg  
"" "" \$!&d"" =>?&

<b>Client</b>	+U#I NQI "< U_0E_6I_5UN\$ MEP/PI Engineer 2E9 E+J JKPK( P_0I I N_	, I J@A@D# ? I D , I J@A@D# #5! A /K @X@A@D# #5? @
<b>Structural Engineer</b>	0I0E'V IO O: KN\$NO Civil Engineer -G\$RL( P_0I I N_	, I J@A@b%-DA?? /K @X@A@b%-DA ? , I J@A##5-?@ /K @X@A##5-?@
<b>Landscaping Consultant</b>	4UJ2J '9 UWMJ Q\$P. NLT Code Consultant 2E9 E+J JKPK( P_0I I N_	, I J@A@D#??? /K @X@A@D#??! , I J@A@D# #5! A /K @X@A@D# #5? @
<b>Cost Estimator</b>	C#600R\$S O Civil Consultant CKRZ U0\$C< G\$N\$R6 Q_0UNO	, I JX\$? %00\$0\$ ?? /K @X\$? %00\$0\$ % , I J@A@%bb?0\$?b /K @X@A@%bb?0\$?b

## Project Status

[illegible]

Issue Description		Date
<b>Scale:</b> 60" 000KSIQ		
<b>Drawn By:</b> 61 SILN	<b>Checked By:</b> 4LIRIN	<b>Reviewed By:</b>

**Project No. 2010080.00**

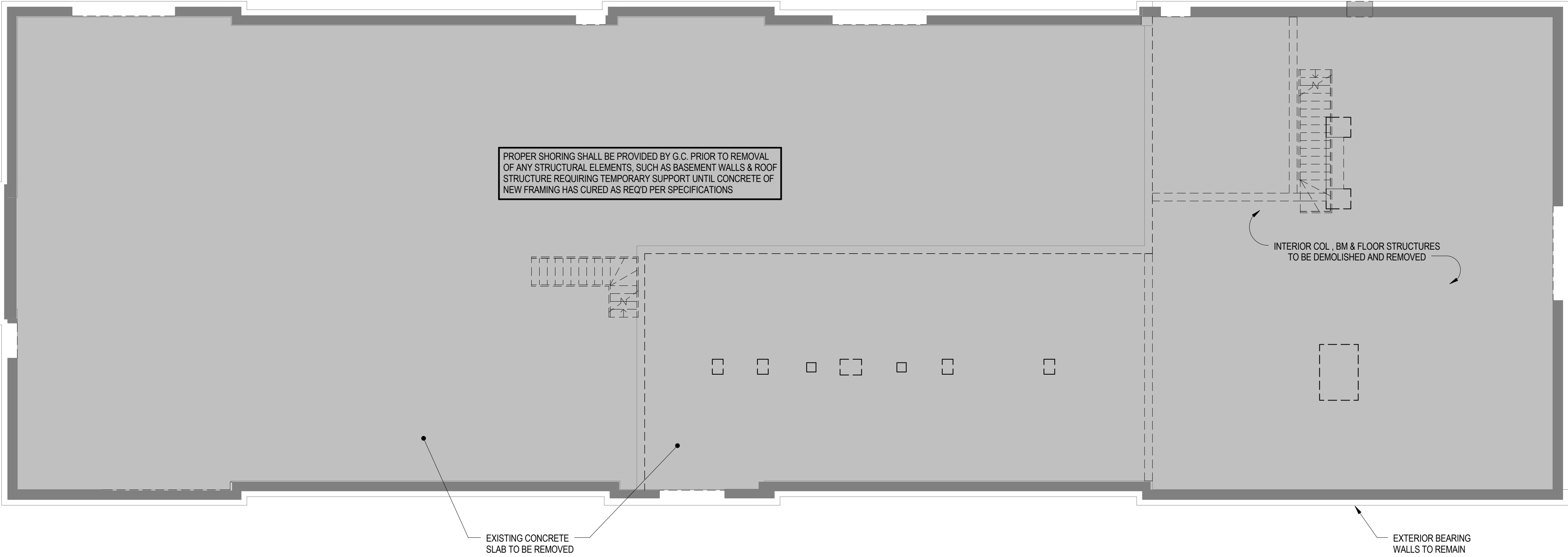
# Mystic Water Works at Capen Court

4KTI P'+S  
+UHI NGI VC6"?!' %%

() \*+, \*- . "6- ;  
 :2 1: 1+( ; "9 \*- ; 19  
 ;( ,6 \*0+

## A6.03

C:\Users\LAFP\workstation\LAFP\Documents\B1139\_Waterworks Phase 1\_aford.rvt 8/12/2011 11:09:23 AM



2 First Floor Demolition Plan (Existing)

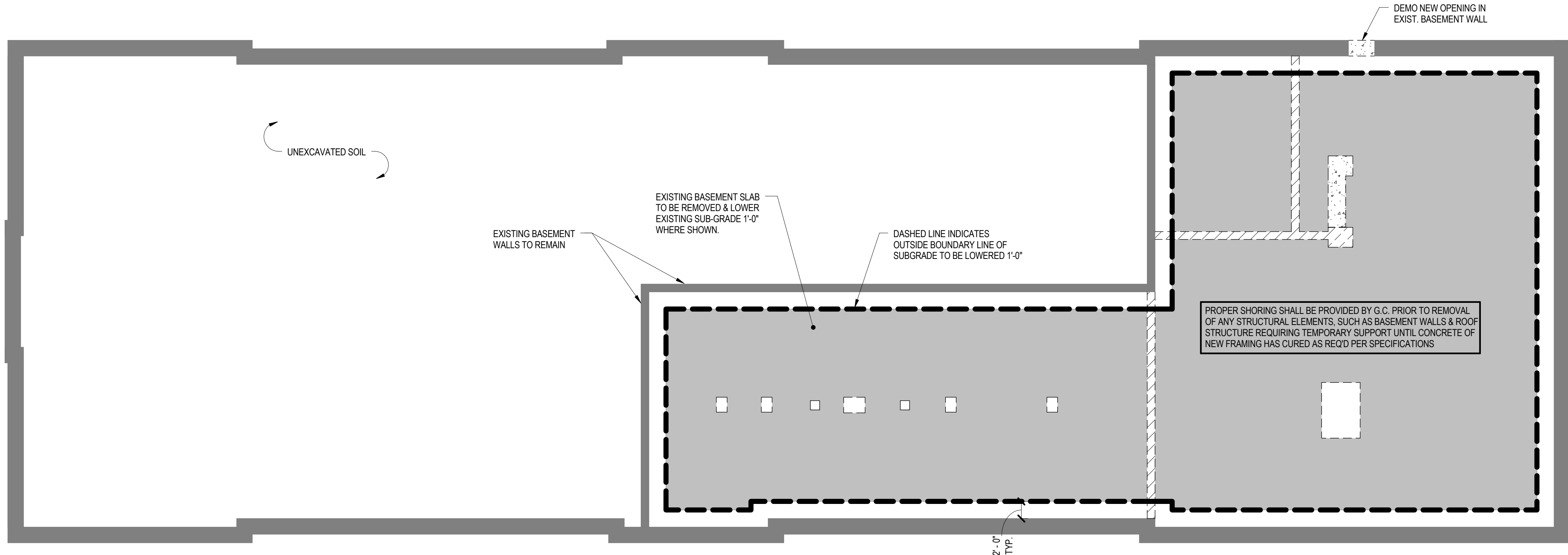
1/8" = 1'-0"

PLAN NOTES AND DEMOLITION NOTES

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF MATERIALS AND CONSTRUCTION
2. ANY MEMBER FOUND TO BE GREATER THAN 15% DETERIORATED SHALL BE REPLACED OR REINFORCED TO ORIGINAL CAPACITY.
3. REMEDIAL STRUCTURAL DESIGN IS BASED VISUAL OBSERVATIONS. G.C. SHALL NOTIFY ARCHITECT OF ANY DEVIATIONS FROM PRESUMED CONDITIONS THAT AFFECT CURRENT DETAILS.
4. G.C. SHALL CORE CORNERS OF ALL AREAS TO BE SAWCUT TO AVOID OVERRUN AND DAMAGE TO EXISTING CONCRETE REINFORCING OR CUTTING EXISTING BEAMS AND JOISTS.
5. PROPER SHORING SHALL BE PROVIDED BY G.C. PRIOR TO REMOVAL OF ANY STRUCTURAL ELEMENTS REQUIRING TEMPORARY SUPPORT UNTIL CONCRETE OF NEW FRAMING HAS CURED AS REQUIRED PER SPECIFICATIONS.
6. CORING REQUIRED BY MEP SHALL BE DONE THROUGH SLABS OR DECKING. CORING OVER EXISTING PRIMARY STRUCTURAL MEMBERS (I.E. GIRDERS, BEAMS, JOISTS) IS NOT ACCEPTABLE UNLESS SPECIFICALLY APPROVED BY ARCHITECT.
7. OPENINGS SHALL NOT BE OVERCUT.

FLOOR PLAN LEGEND

- DEMOLISH EXISTING STRUCTURE
- NEW PENETRATION IN EXISTING STRUCTURE
- 3/4" D X 3-3/8" TR-AA
- ADHESIVE ANCHOR
- THREADED ROD
- EMBED LENGTH
- THREADED ROD DIAMETER



1 Basement Demolition Plan (Existing)

1/8" = 1'-0"

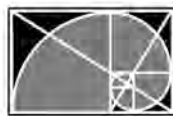
This drawing is released for the purpose of  
SCHEMATIC DESIGN  
under the authority of  
AARON A FORD  
P.E. Number 46393 on  
AUGUST 12, 2011

DiMella Shaffer

Architecture | Interior Design | Planning

281 Summer Street  
Boston, MA 02210  
Tel 617.426.5004  
Fax 617.426.0046

Client	Somerville Housing Authority	Tel 617-625-1125
MEP/FP Engineer	R.W. Sullivan Engineering.	Tel 617-523-8227 Fax 617-523-8016
Structural Engineer	L.A. Fuess Partners, Inc.	Tel 617-948.5700 Fax 617-948.5710
Civil Engineer	Nitsch Engineering	Tel 617-338-0063 Fax 617-338-6472
Landscape Consultant	Copley Wolff Design Group	Tel 617-654-9000 Fax 617-654-9002
Code Consultant	R.W. Sullivan Engineering.	Tel 617-523-8227 Fax 617-523-8016
Cost Estimator	VJ Associates	Tel 781-444-8200 Fax 781-444-8242
Historical Consultant	MacRostie Historic Advisors	Tel 617-499-4009 Fax 617-499-4019



L.A. FUESS PARTNERS

Structural Engineers

101 Federal Street, Suite 502 • Boston, MA 02110

617.948.5700 • www.lafp.com

LAFP Project No. B1139

Project Status

MHC Submission	August 31, 2011
Issue Description	Date

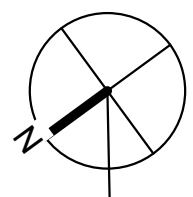
Scale:	AS NOTED	
Drawn By:	Checked By:	Reviewed By:
Author	Checker	Approver

Project No. 2010080.00

Mystic Water  
Works at Capen  
Court

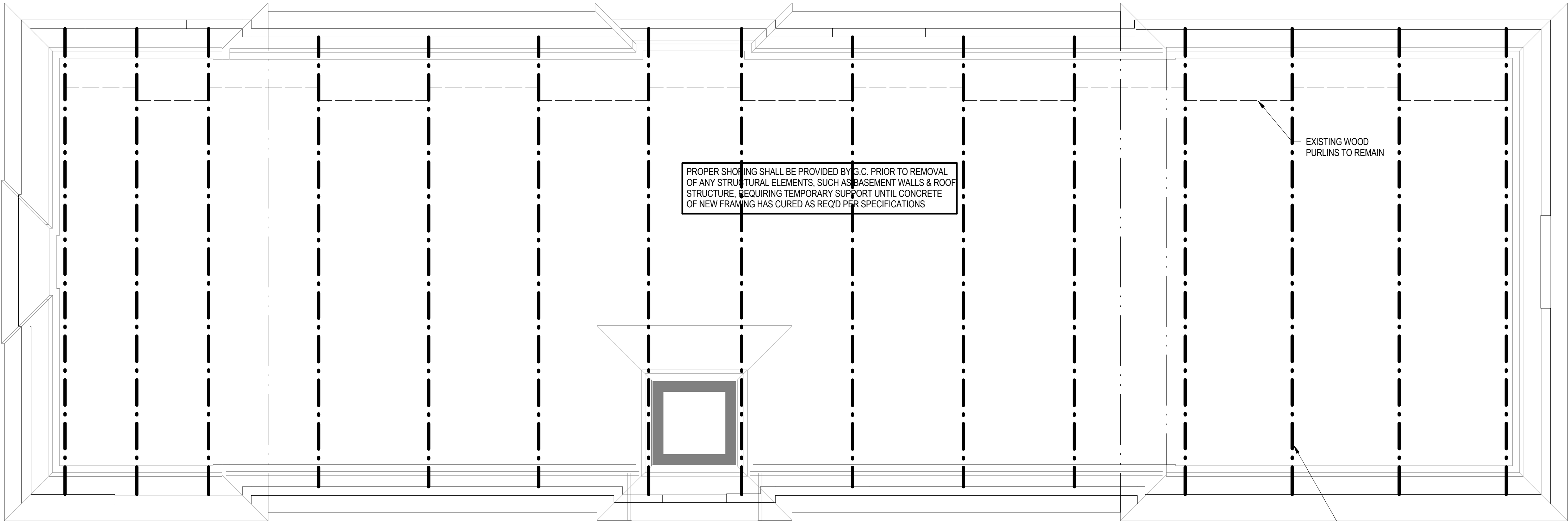
Capen St.  
Somerville, MA 02144

BASEMENT & FIRST  
FLOOR DEMOLITION  
PLAN (EXISTING)



SD1.00

C:\Users\LAFP\workstation.LAFP\Documents\B1139\_Waterworks Phase 1\_aford.rvt 8/12/2011 11:09:23 AM



PROPER SHORING SHALL BE PROVIDED BY G.C. PRIOR TO REMOVAL OF ANY STRUCTURAL ELEMENTS, SUCH AS BASEMENT WALLS & ROOF STRUCTURE, REQUIRING TEMPORARY SUPPORT UNTIL CONCRETE OF NEW FRAMING HAS CURED AS REQ'D PER SPECIFICATIONS

EXISTING WOOD PURLINS TO REMAIN

EXISTING HEAVY TIMBER TRUSSES TO REMAIN

## 2 Roof Demolition Plan (Existing)

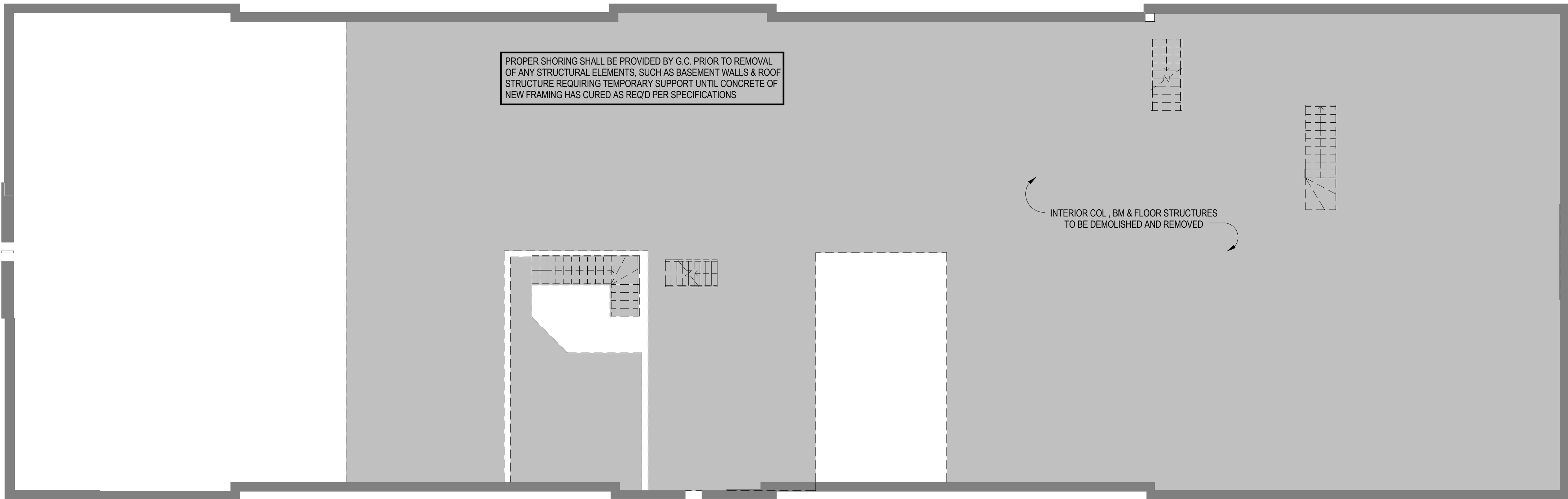
1/8" = 1'-0"

### PLAN NOTES AND DEMOLITION NOTES

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF MATERIALS AND CONSTRUCTION
2. ANY MEMBER FOUND TO BE GREATER THAN 15% DETERIORATED SHALL BE REPLACED OR REINFORCED TO ORIGINAL CAPACITY.
3. REMEDIAL STRUCTURAL DESIGN IS BASED VISUAL OBSERVATIONS. G.C. SHALL NOTIFY ARCHITECT OF ANY DEVIATIONS FROM PRESUMED CONDITIONS THAT AFFECT CURRENT DETAILS.
4. G.C. SHALL CORE CORNERS OF ALL AREAS TO BE SAWCUT TO AVOID OVERRUN AND DAMAGE TO EXISTING CONCRETE REINFORCING OR CUTTING EXISTING BEAMS AND JOISTS.
5. PROPER SHORING SHALL BE PROVIDED BY G.C. PRIOR TO REMOVAL OF ANY STRUCTURAL ELEMENTS REQUIRING TEMPORARY SUPPORT UNTIL CONCRETE OF NEW FRAMING HAS CURED AS REQUIRED PER SPECIFICATIONS.
6. CORING REQUIRED BY MEP SHALL BE DONE THROUGH SLABS OR DECKING. CORING OVER EXISTING PRIMARY STRUCTURAL MEMBERS (I.E. GIRDERS, BEAMS, JOISTS) IS NOT ACCEPTABLE UNLESS SPECIFICALLY APPROVED BY ARCHITECT.
7. OPENINGS SHALL NOT BE OVERCUT.

### FLOOR PLAN LEGEND

- DEMOLISH EXISTING STRUCTURE
- NEW PENETRATION IN EXISTING STRUCTURE
- 3/4 D X 3-3/8 TR-AA
- ADHESIVE ANCHOR
- THREADED ROD
- EMBED LENGTH
- THREADED ROD DIAMETER



PROPER SHORING SHALL BE PROVIDED BY G.C. PRIOR TO REMOVAL OF ANY STRUCTURAL ELEMENTS, SUCH AS BASEMENT WALLS & ROOF STRUCTURE REQUIRING TEMPORARY SUPPORT UNTIL CONCRETE OF NEW FRAMING HAS CURED AS REQ'D PER SPECIFICATIONS

INTERIOR COL., BM & FLOOR STRUCTURES TO BE DEMOLISHED AND REMOVED

## 1 Attic Demolition Plan (Existing)

1/8" = 1'-0"

This drawing is released for the purpose of  
SCHEMATIC DESIGN  
under the authority of  
AARON A FORD  
P.E. Number 46393 on  
AUGUST 12, 2011

# DiMella Shaffer

Architecture | Interior Design | Planning

281 Summer Street  
Boston, MA 02210  
Tel 617.426.5004  
Fax 617.426.0046

Client  
Somerville Housing Authority  
Tel 617-625-1125

MEP/FP Engineer  
R.W. Sullivan Engineering.  
Tel 617-523-8227  
Fax 617-523-8016

Structural Engineer  
L.A. Fuess Partners, Inc.  
Tel 617.948.5700  
Fax 617.948.5710

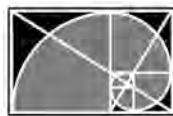
Civil Engineer  
Nitsch Engineering  
Tel 617-338-0063  
Fax 617-338-6472

Landscape Consultant  
Copley Wolff Design Group  
Tel 617-654-9000  
Fax 617-654-9002

Code Consultant  
R.W. Sullivan Engineering.  
Tel 617-523-8227  
Fax 617-523-8016

Cost Estimator  
VJ Associates  
Tel 781-444-8200  
Fax 781-444-8242

Historical Consultant  
MacRostie Historic Advisors  
Tel 617-499-4009  
Fax 617-499-4019



L.A. FUESS PARTNERS

Structural Engineers

101 Federal Street, Suite 502 • Boston, MA 02110  
617.948.5700 • www.lafp.com

LAFP Project No. B1139

## Project Status

MHC Submission August 31, 2011  
Issue Description Date

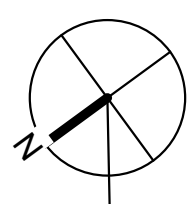
Scale:  
AS NOTED  
Drawn By: Author  
Checked By: Checker  
Reviewed By: Approver

Project No. 2010080.00

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

## ATTIC & ROOF DEMOLITION PLAN - EXISTING



# SD1.01