



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

BOSTON, MA 02109-3912

**CERTIFIED MAIL RETURN RECEIPT REQUESTED**

**JUN 23 2011**

Mr. Jamie Noon, Project Manager  
John Moriarty & Associates (JMA)  
3 Church Street  
Winchester, MA 01890

Re: Authorization to discharge under the Remediation General Permit (RGP) –  
MAG910000. Temporary Construction Dewatering site at 45 First Avenue, Charlestown,  
MA 02129, Suffolk County; Authorization # MAG910491

Dear Mr. Noon:

Based on the review of a Notice of Intent (NOI) submitted on behalf of Raymond Property Company, LLC, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the check list does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: <http://www.epa.gov/region1/npdes/mass.html#dgp>.

Please note the enclosed checklist includes the parameters which you have marked "Believed Present". The checklist also includes other parameters which your laboratory reports indicated there was insufficient sensitivity to detect this parameter at the minimum level established in Appendix VI of the RGP.

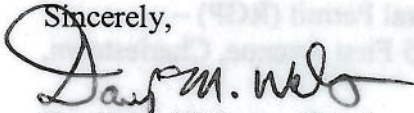
In addition please note that the metals included on the list are dilution dependent pollutants subject to limitations based on selected dilution ranges and technology-based ceiling limitations for facilities located in Massachusetts. With the absence of dilution of

freshwater into tidal water, EPA determined that the Dilution Factor Range (DFR) for each parameter is in the one and five (1-5) range. (See Appendix IV of the RGP for Massachusetts facilities) Therefore, the limits for antimony of 5ug/L, arsenic of 36ug/L, trivalent chromium of 100ug/L, copper of 3.7ug/L, lead of 8.5ug/L, nickel of 8.2ug/L, zinc of 85.6ug/L and iron of 1,000ug/L, are required to achieve permit compliance at your site.

This general permit and authorization to discharge will expire on September 9, 2015. This project reportedly will terminate on July1, 2012. If for any reason the discharge terminates sooner you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,



David M. Webster, Chief  
Industrial Permits Branch

Enclosure

cc: Kathylene Keohane, MassDEP  
Francis M. McLughlin, BWSC  
Corine M. McKenzie, HALEY & ALDRIDGE, Inc.



**2010 Remediation General Permit  
Summary of Monitoring Parameters<sup>[1]</sup>**

NPDES Permit Number:	MAG910491 - New
Date Permit Issued:	June, 2011
Facility/Site Name:	Temporary Construction Dewatering site at
Facility/Site Address:	45 First Avenue, Charlestown MA 02129 Suffolk County
	Email of owner: creed@rpcboston.com. Telephone:617-266-8820
Legal Name of Operator:	John Moriarty & Associates (JMA)
Operator contact name, title, and Address:	Mr. Jamie Noon, Project Manager 3 Church Street, Winchester, MA 01890
	Email: jnoon@jm-a.com
Estimated Date of Completion:	July 1, 2012
Category and Sub-Category:	Category III. Contaminated Construction Dewatering. Subcategory B. Know Contaminated Sites
Receiving Water:	Little Mystic Channel/Inner Boston Harbor

**Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples**

	<b>Parameter</b>	<b>Effluent Limit/Method#/ML</b> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/l) **, 50 mg/l for hydrostatic testing **, Me#60.2/5mL
	2. Total Residual Chlorine (TRC) <sup>1</sup>	Freshwater = 11 ug/l ** Saltwater = 7.5 ug/l **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/l/ Me# 1664A/5.0mg/LmL
	4. Cyanide (CN) <sup>2,3</sup>	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/l **/ Me#335.4/ML 5ug/L
✓	5. Benzene (B)	5ug/L /50.0 ug/l for hydrostatic testing only/ Me#8260C/ML 2 ug/L
✓	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
✓	7. Ethylbenzene (E)	(limited as ug/L total BTEX) )/ Me#8260C/ ML 2ug/L
✓	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) )/ Me#8260C/ ML 2ug/L
✓	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) <sup>4</sup>	100 ug/l )/ Me#8260C/ ML 2ug/L



	<b>Parameter</b>	<b>Effluent Limit/Method#/ML</b> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
✓	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l /Me#8260C/ ML 10ug/L
✓	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only (ug/L)/ Me#8260C/ ML 10ug/L
✓	13. tert-Amyl Methyl Ether (TAME)	Monitor Only (ug/L) /Me#8260C/ ML 10ug/L
✓	14. Naphthalene <sup>5</sup>	20 ug/l /Me#8260C/ ML 2ug/L
✓	15. Carbon Tetrachloride	4.4 ug/l /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/l /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/l /Me#8260C/ ML 5ug/L
✓	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/l /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/l - NH only /Me#8260C/ ML5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/l /Me#8260C/ ML 5ug/L
✓	20. 1,2 Dichloroethane (DCA)	5.0 ug/l /Me#8260C/ ML 5ug/L
✓	21. 1,1 Dichloroethene (DCE)	3.2 ug/l/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/l /Me#8260C/ ML 5ug/L
✓	23. Methylene Chloride	4.6 ug/l/Me#8260C/ ML 5ug/L
✓	24. Tetrachloroethene (PCE)	5.0 ug/l /Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/l/Me#8260C/ ML 5ug/L
✓	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/l /Me#8260C/ ML 5ug/L
✓	27. Trichloroethene (TCE)	5.0 ug/l /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/l /Me#8260C/ ML 5ug/L
✓	29. Acetone	Monitor Only (ug/L) /Me#8260C/ ML 50ug/L
✓	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML50 ug/L
	31. Total Phenols	300 ug/l Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML50 ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/l /Me#8270D/ML5ug/L,Me#604 &625/ML10ug/L
	33. Total Phthalates (Phthalate esters) <sup>6</sup>	3.0 ug/L ** /Me#8270D/ML5ug/L,Me#606/ML10ug/L& Me#625/ML5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/l /Me#8270D/ML5ug/L,Me#606/ML10ug/L& Me#625/ML5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/l



	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	a. Benzo(a) Anthracene <sup>7</sup>	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	b. Benzo(a) Pyrene <sup>7</sup>	0.0038 ug/l /Me#8270D/ ML5ug/L, e#610/ML5ug/L& Me#625/ML5ug/L
	c. Benzo(b)Fluoranthene <sup>7</sup>	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	d. Benzo(k)Fluoranthene <sup>7</sup>	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	e. Chrysene <sup>7</sup>	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	f. Dibenzo(a,h)anthracene <sup>7</sup>	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	g. Indeno(1,2,3-cd) Pyrene <sup>7</sup>	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
✓	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/l
✓	h. Acenaphthene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	i. Acenaphthylene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	j. Anthracene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	l. Fluoranthene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
✓	m. Fluorene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	n. Naphthalene <sup>5</sup>	20 ug/l / Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
✓	o. Phenanthrene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) <sup>8,9</sup>	0.000064 ug/L / Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

	<u>Metal parameter</u>	<u>Total Recoverable Metal Limit @ H <sup>10</sup> = 50 mg/l CaCO<sub>3</sub> for discharges in Massachusetts (ug/l) <sup>11</sup></u>	
		<u>Saltwater</u>	
✓	39. Antimony	5.6/10mL	



	<b>Metal parameter</b>	<b>Total Recoverable Metal Limit @ H<sup>10</sup> = 50 mg/l CaCO<sub>3</sub> for discharges in Massachusetts (ug/l)<sup>11</sup></b>	
			<b>Saltwater</b>
✓	40. Arsenic **		36/20mL
	41. Cadmium **		8.9/10mL
✓	42. Chromium III (trivalent) **		100/15mL
	43. Chromium VI (hexavalent) **		50.3/10mL
✓	44. Copper **		3.7/15mL
✓	45. Lead **		8.5/20mL
	46. Mercury **		1.1/0.2mL
✓	47. Nickel **		8.2/20mL
	48. Selenium **		71/20mL
	49. Silver		2.2/10mL
✓	50. Zinc **		85.6/15mL
✓	51. Iron	1,000/20mL	

	<b>Other Parameters</b>	<b>Limit</b>
✓	52. Instantaneous Flow	Site specific in CFS
✓	53. Total Flow	Site specific in CFS
	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab <sup>13</sup>
✓	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab <sup>13</sup>
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab <sup>13</sup>
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab <sup>14</sup>
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab <sup>14</sup>
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab <sup>14</sup>
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab <sup>14</sup>
	61. Maximum Change in Temperature in MA - Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab <sup>14</sup>
	62. Maximum Change in Temperature in MA - Any Class SA water body - Coastal	1.5°F; 1/Month/Grab <sup>14</sup>
	63. Maximum Change in Temperature in MA - Any Class SB water body - July to September	1.5°F; 1/Month/Grab <sup>14</sup>
	64. Maximum Change in Temperature in MA - Any Class SB water body - October to June	4°F; 1/Month/Grab <sup>14</sup>



Footnotes:

<sup>1</sup> Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

<sup>2</sup> Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

<sup>3</sup> Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

<sup>4</sup> BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

<sup>5</sup> Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

<sup>6</sup> The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

*Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.*

<sup>7</sup> Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

<sup>8</sup> In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Orochlor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

<sup>9</sup>Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

<sup>10</sup> Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

<sup>11</sup> For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using  $DF \times 1,000\text{ug/L}$  (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =  $1,000 \times 2 = 2,000 \text{ ug/L}$ ., etc. not to exceed the DF=5.

<sup>12</sup> Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a



known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

<sup>13</sup> pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

<sup>14</sup> Temperature sampling per Method 170.1



Haley & Aldrich, Inc.  
465 Medford St.  
Suite 2200  
Boston, MA 02129-1400

Tel: 617.886.7400  
Fax: 617.886.7600  
HaleyAldrich.com



2 June 2011  
File No. 28143-103

US Environmental Protection Agency  
Industrial NPDES Permits (CIP)  
1 Congress Street, Suite 1100  
Boston, MA 02114-2023

Attention: Ms. Shelly Puleo

Subject: Notice of Intent (NOI)  
Temporary Construction Dewatering  
45 First Avenue Development  
Charlestown Navy Yard  
Charlestown, Massachusetts  
RTN 3-30015

Ladies and Gentlemen:

Dear Ms. Puleo:

On behalf of our client Raymond Property Company, LLC, and in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, this letter submits a Notice of Intent (NOI) and the applicable documentation as required by the US Environmental Protection Agency (EPA) for temporary construction site dewatering under the RGP. Temporary dewatering is planned in support of the anticipation of the proposed construction of a 4-story residential building with 1 level of below-grade parking located at 45 First Avenue in Charlestown, Massachusetts as shown on Figure 1 – Project Locus.

The site is located on First Avenue in close proximity to the Boston Harbor. Site grades range from approximately El. 18 to 17 ft Boston City Base datum (BCB). The site is currently occupied by an open gravel lot, occasionally used for vehicle parking. A Site and Subsurface Exploration Location Plan is included as Figure 2. The current property owner is the Raymond Property Company, LLC and proposed site development includes construction of a 4-story residential building with 1 level of below-grade parking. We anticipate construction dewatering will be conducted, as necessary, during foundation construction and below grade excavations.

### **Site History**

Available records indicate the site was formerly occupied by building(s) used by the Navy from as early as 1800, with the last building being demolished in 1978. The buildings were used by the Department of the Navy for various purposes including a sail loft, offices, a prison, a storehouse and armory. The Navy reportedly installed three 7,500-gallon gasoline underground storage tanks and associated pumps in the northeast corner of the subject site in the early 1940's. Previous reports indicate the USTs were remediated by the US Army Corps of Engineers in the mid 1990's. No buildings exist at the site today,



but it is known that portions of the foundations of the former buildings may be buried below existing site grades. The subject site is currently an open, gravel covered parking lot for automobiles.

### **Regulatory Background**

The results of the precharacterization data indicate that some of the site fill soils contain VOCs, SVOCs (PAHs), and TPH contaminants at levels equal to or greater than the applicable MCP RCS-1 Reportable Concentrations for soil. Reportable concentrations of PAH compound pyrene and total lead were detected in groundwater samples. This condition was reported to MassDEP and they issued a Release Tracking Number (RTN) 3-30015 to the subject site. In accordance with the MCP, contaminated soil and groundwater with concentrations of contaminants that are equal to or exceed the applicable Reportable Criteria will need to be managed under a Release Abatement Measure Plan (RAM) Plan prepared in accordance with the provisions contained in 310 CMR 40.0440 overseen by a Licensed Site Professional (LSP).

### **Temporary Construction Dewatering Notice of Intent**

In support of the NOI, one groundwater sample was obtained from observation well HA2011-B2(OW) on 2 May 2011. The groundwater sample was submitted to Alpha Analytical, Inc. of Westborough, Massachusetts (Alpha Analytical) for analysis for NPDES permit parameters including VOCs, SVOCs, PAHs, metals, TPH, pesticides, PCBs, pH, Total Suspended Solids (TSS), chloride, total cyanide, and total residual chlorine. The analytical results for the groundwater sample identified concentrations of benzene, ethylbenzene, toluene, xylene, naphthalene, and total lead above applicable NPDES RGP Effluent Limits but below applicable MCP RCGW-2 Reportable Concentrations with the exception of lead. The results of water quality testing conducted for this NOI are summarized in Table I. The location of the observation well is shown on Figure 2.

Dewatering will be conducted from sumps located inside the excavation, and also from smaller, local excavations outside the proposed excavation limits for the construction of elevator pits, slabs, and beams. Dewatering is necessary to control groundwater, seepage, precipitation, surface water runoff and construction-generated water to enable construction in-the-dry. Construction and construction dewatering is currently anticipated to begin in July 2011.

Prior to discharge, collected water will be routed through a sedimentation tank with an oil/water separator component, at a minimum, to remove suspended solids and undissolved chemical constituents. In addition granulated activated carbon (GAC) units will be used to treat (remove) the dissolved VOC constituents as shown in the Proposed Treatment System Schematic included in Figure 3. Construction dewatering under this RGP NOI will include piping and discharging to storm drains located near the site. The storm drains travel a short distance northeast and discharge directly into the Little Mystic Channel/Boston Inner Harbor. The proposed discharge route is shown on Figure 4, Proposed Dewatering Discharge Route.

### **Appendices**

The completed "Suggested Notice of Intent" (NOI) form as provided in the RGP is enclosed in Appendix A. The site operator is John Moriarty & Associates (JMA). JMA is the construction manager and will



hire a subcontractor to conduct the Site work, including the dewatering activities. Haley & Aldrich, Inc. (Haley & Aldrich) will monitor the Contractor's dewatering activities on behalf of Raymond Property Company, LLC. In accordance with the requirements for this NOI submission, Raymond Property Company, LLC as the owner and JMA as the construction manager are listed as co-permittees for this NPDES RGP, and therefore both have signed the NOI form.

A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, is included in Appendix B. Appendix C and D include National Register of Historic Places and Endangered Species Act Documentation, respectively. Appendix E provides the BWSC Permit Application to be submitted separately to the Boston Water and Sewer Commission. A copy of the groundwater testing laboratory results are provided in Appendix F. Appendix G provides Material Safety Data Sheets (MSDS) and fact sheets for possible chemical additives or treatments to be used in the treatment system.

**Closing**

Thank you very much for your consideration of this NOI. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely yours,  
HALEY & ALDRICH, INC



Corinne M. McKenzie  
Staff Scientist



Jessica L. Cristallo, P.E.  
Assistant Project Manager



Keith E. Johnson, LSP  
Vice President

Attachments:

- Table I – Summary of Groundwater Quality Data
- Figure 1 – Site Locus
- Figure 2 – Site and Subsurface Exploration Location Plan
- Figure 3 – Proposed Treatment System Schematic
- Figure 4 – Proposed Dewatering Discharge Route
- Appendix A – Notice of Intent (NOI) for Remediation General Permit (RGP)
- Appendix B – Best Management Practices Plan (BMPP)
- Appendix C – National Register of Historic Places and Massachusetts Historical Commission Documentation



Appendix D – Endangered Species Act Documentation  
Appendix E – BWSC Permit Application  
Appendix F – Laboratory Data Report  
Appendix G – Material Safety Data Sheets (MSDS)

- c: Raymond Property Company, LLC; Attn: Charles Reed  
John Moriarty & Associates; Attn: Jamie Noon  
Boston Water and Sewer Commission; Attn: Francis McLaughlin  
Massachusetts Department of Environmental Protection; Attn: Division of Watershed  
Management

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## **Tables**

TABLE I - SUMMARY OF GROUNDWATER QUALITY DATA  
 45 FIRST AVENUE  
 CHARLESTOWN NAVY YARD  
 CHARLESTOWN, MASSACHUSETTS  
 FILE NO.: 28143-103

LOCATION SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE	CAS Number	2008 RCGW-2 Reportable Concentration	NPDES RGP Effluent Limits	HA-2011-B2 5/2/2011 L1106003-01
<b>VOCs by GC/MS (ug/l)</b>				
2-Butanone	78-93-3	50000	NA	160
Acrolein	107-02-8	1000	NA	87
Benzene	71-43-2	2000	100	<b>360</b>
Ethylbenzene	100-41-4	5000	100	<b>400</b>
o-xylene	95-47-6	5000	100	<b>440</b>
p/m-Xylene	106-42-3/108-38-3	5000	100	<b>1100</b>
Toluene	108-88-3	40000	100	<b>770</b>
Xylene (Total)	1330-20-7	5000	100	<b>1500</b>
Total VOCs	NA	NA	NA	4817
<b>SVOCs by GC/MS (ug/l)</b>				
Total SVOCs	NA	NA	NA	ND
<b>SVOCs by GC/MS-SIM (ug/l)</b>				
1-Methylnaphthalene	90-12-0	NA	NA	28
2-Methylnaphthalene	91-57-6	2000	NA	39
Acenaphthene	83-32-9	6000	NA	2.6
Fluorene	86-73-7	40	NA	1.2
Naphthalene	91-20-3	1000	20	<b>100</b>
Phenanthrene	85-01-8	10000	NA	1.7
Total SVOCs	NA	NA	NA	172.5
<b>Metals (ug/l)</b>				
Antimony	7440-36-0	8000	5.6	1.8
Arsenic	7440-38-2	900	36	7.9
Chromium	7440-47-3	300	100	0.9
Hexavalent Chromium	18540-29-9	300	50.3	ND(5)
Copper	7440-50-8	100000	3.7	3.6
Iron	7439-89-6	NA	1000	590
Lead	7439-92-1	10	8.5	<b>10.9</b>
Nickel	7440-02-0	200	8.2	3.1
Zinc	7440-66-6	900	85.6	23.8
<b>TPH (mg/l)</b>	NA	5	5	ND(2)
<b>Pesticides by GC (ug/l)</b>				
1,2-Dibromoethane	106-93-4	2	0.05	ND(0.005)
<b>PCBs by GC (ug/l)</b>				
Total PCBs	NA	5	0.000064	ND
<b>Miscellaneous</b>				
Chloride (ug/l)	16887-00-6	NA	NA	300000
Chlorine, Total Residual (ug/l)	NA	NA	7.5	ND(10)
Cyanide, Total (ug/l)	57-12-5	30	1	ND(2.5)
pH (SU)	12408-02-5	NA	NA	8.2
Phenolics, Total (ug/l)	NA	NA	NA	50
Solids, Total Suspended (mg/l)	NA	NA	30	5.6

**NOTES & ABBREVIATIONS:**

NA: Not Applicable

ND: Not Detected. Number in parentheses is one-half the laboratory reporting limit.

-: Not Analyzed

VOCs: Volatile Organic Compounds

SVOCs: Semivolatile Organic Compounds

TPH: Total Petroleum Hydrocarbons

PAHs: Polycyclic Aromatic Hydrocarbons

PCBs: Polychlorinated Biphenyls

1. Only compounds detected at least once are shown.

2. Red values indicate an exceedance of applicable MCP RCGW-2 Concentration

3. Bold italicized values indicate an exceedance of NPDES RGP Effluent Limits

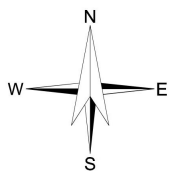


## Figures





SITE COORDINATES: 42°22'34"N 71°3'9"W



U.S.G.S. QUADRANGLE: BOSTON NORTH, MA

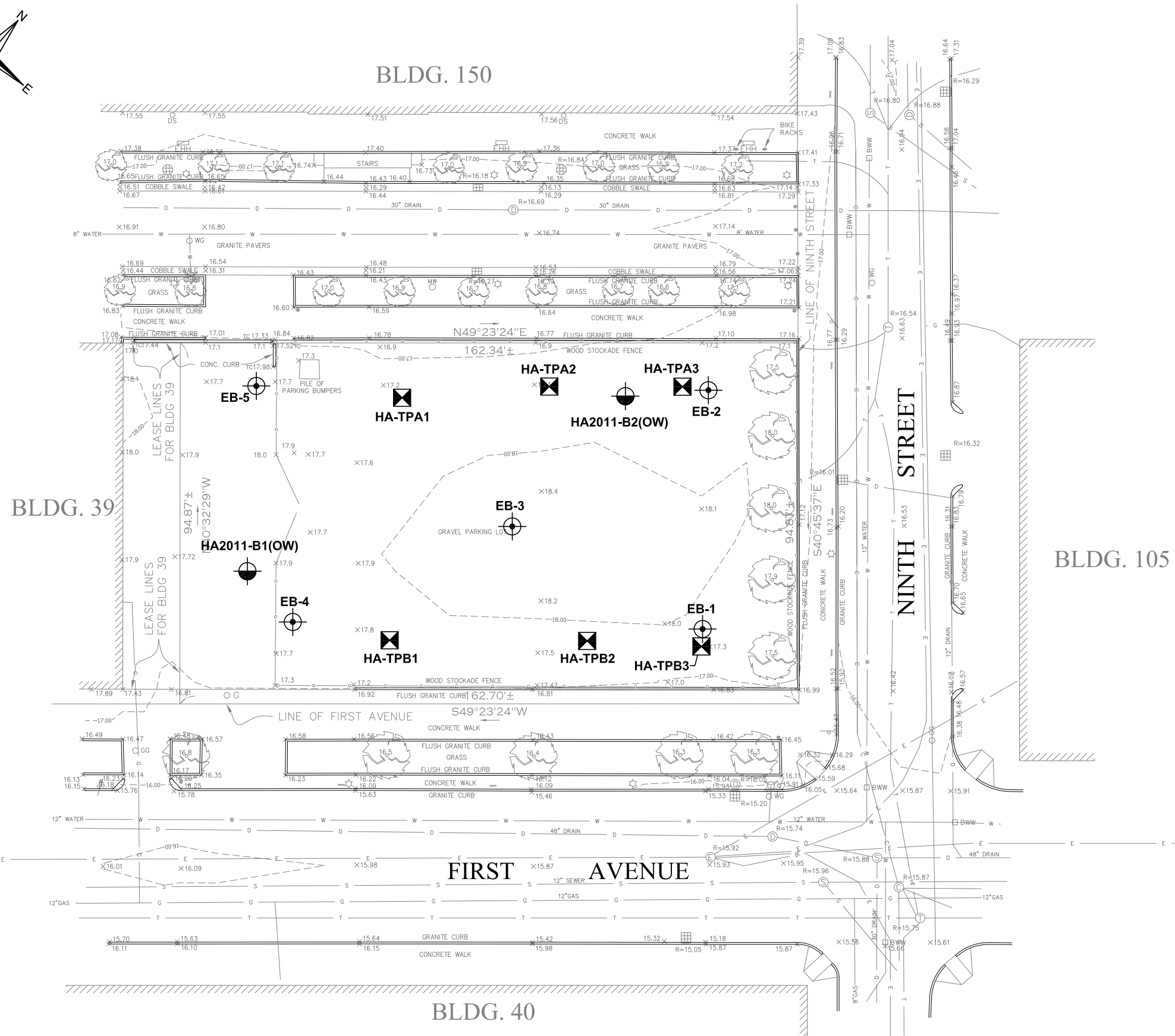
**HALEY & ALDRICH** 45 FIRST AVENUE DEVELOPMENT  
 CHARLESTOWN NAVY YARD  
 CHARLESTOWN, MASSACHUSETTS

PROJECT LOCUS

SCALE: 1:24,000  
 JUNE 2011

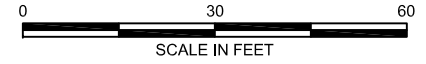
FIGURE 1





- LEGEND:**
- HA2011-B1(OW)** DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW HAMPSHIRE BORING, INC. OF LONDONDERRY, NEW HAMPSHIRE ON 25 APRIL 2011
  - HA-TPA1** DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT BY RF ROACH OF WEYMOUTH, MASSACHUSETTS ON 22 MARCH 2011
  - EB-1** DESIGNATION AND REPORTED LOCATION OF TEST BORING FOR EBI CONSULTING ON 17 MARCH 2011
  - (OW)** INDICATES OBSERVATION WELL INSTALLED WITHIN OR ADJACENT TO COMPLETED TEST BORING

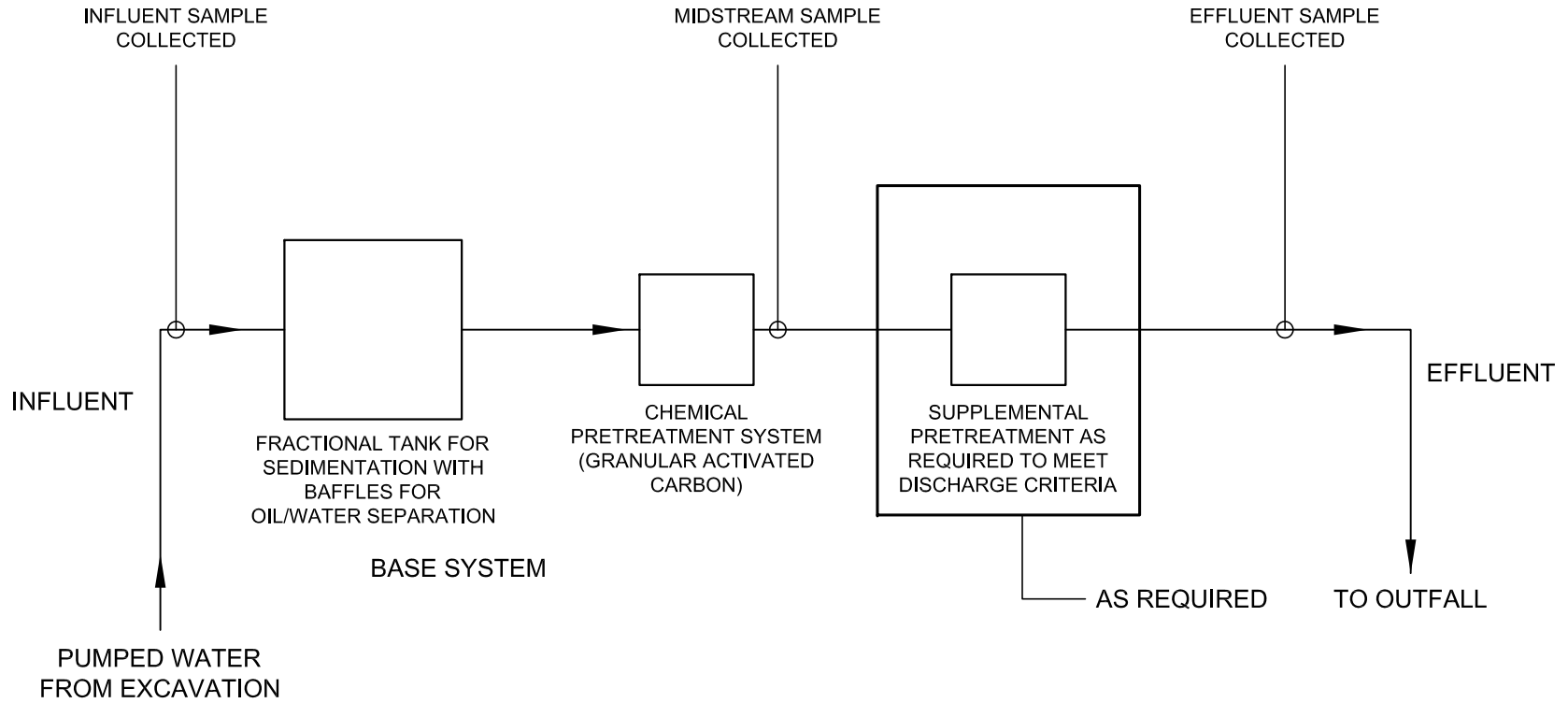
- NOTES:**
1. BASE PLAN TAKEN FROM PLAN TITLED "TOPOGRAPHIC PLAN, FIRST AVENUE AND NINTH STREET, CHARLESTOWN, MASSACHUSETTS", PREPARED BY R.E. CAMERON & ASSOCIATES, INC., DATED 20 DECEMBER 2010.
  2. ELEVATIONS ARE IN FEET AND REFERENCE THE BOSTON CITY BASE (BCB) DATUM, WHICH IS APPROXIMATELY 99.43 FEET ABOVE THE BOSTON NAVY YARD (BNY) DATUM, AND 5.65 FT BELOW THE NATIONAL GEODETIC VERTICAL DATUM OF 1929(NGVD 1929).
  3. LOCATIONS OF THE TEST PITS WERE DETERMINED IN THE FIELD BY HALEY & ALDRICH, INC. BY TAPING FROM EXISTING TOPOGRAPHIC FEATURES.



**HALEY & ALDRICH** BUILDING 39A DEVELOPMENT  
 CHARLESTOWN NAVY YARD  
 CHARLESTOWN, MASSACHUSETTS

**SITE AND SUBSURFACE  
 EXPLORATION LOCATION PLAN**

J:\GRAPHICS\2814328143-101-B013.DWG



LEGEND:

➔ DIRECTION OF FLOW

NOTE:

1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE SELECTED BY CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

**HALEY & ALDRICH**

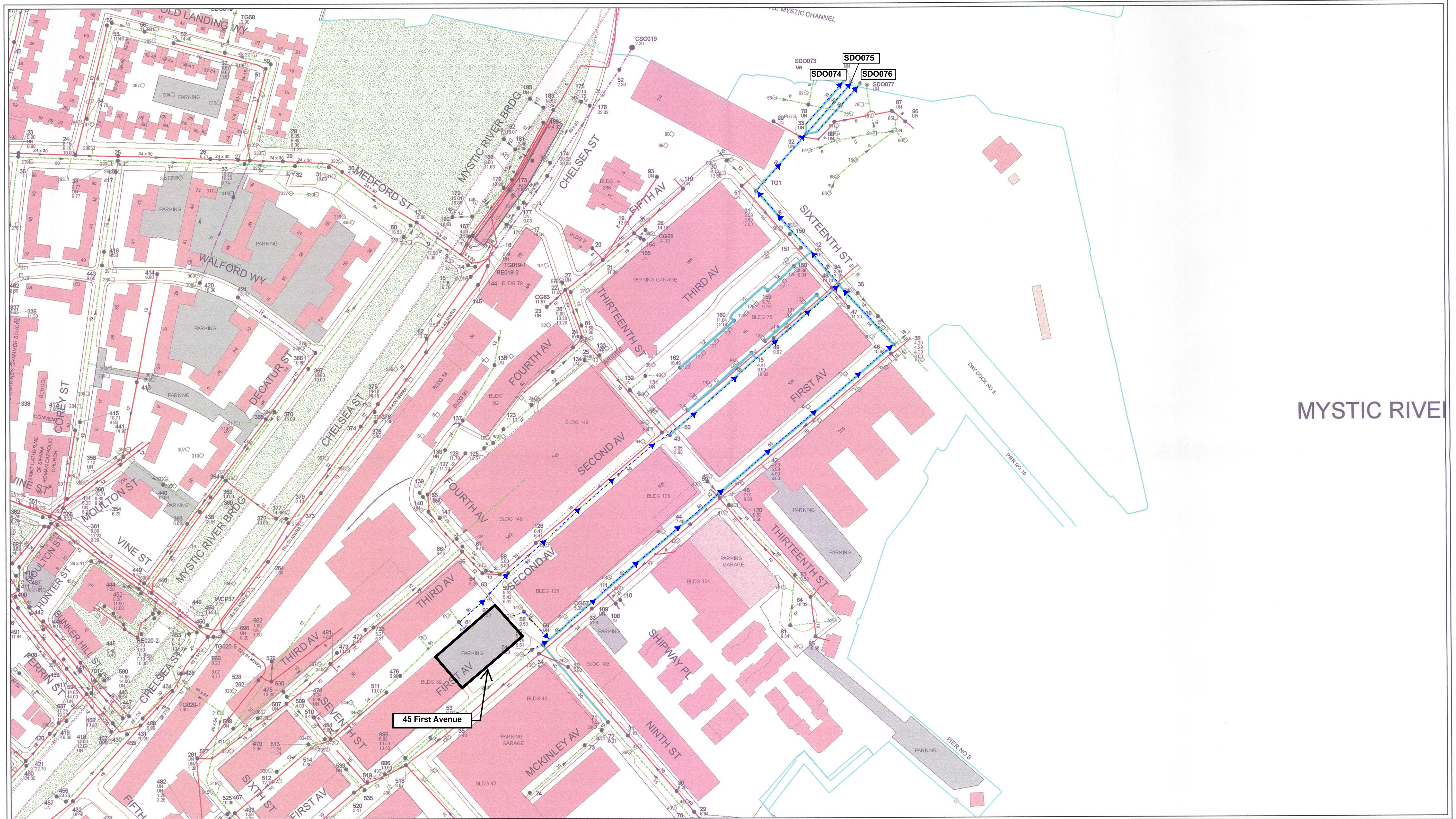
45 FIRST AVENUE DEVELOPMENT  
CHARLESTOWN NAVY YARD  
CHARLESTOWN, MASSACHUSETTS

**PROPOSED  
TREATMENT SYSTEM  
SCHEMATIC**

SCALE: NONE  
JUNE 2011

**FIGURE 3**





MYSTIC RIVER

**BOSTON WATER AND SEWER**

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1 inch = 100 feet

**HALEY & ALDRICH**

45 FIRST AVENUE DEVELOPMENT  
 CHARLESTOWN NAVY YARD  
 CHARLESTOWN, MASSACHUSETTS  
**PROPOSED DEWATERING  
 DISCHARGE ROUTE**

SCALE AS SHOWN  
 JUNE 2011

FIGURE 4



**APPENDIX A**

**Notice of Intent (NOI) for  
Remediation General Permit (RGP)**



**B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit**

**1. General facility/site information.** Please provide the following information about the site:

a) Name of <b>facility/site</b> :		<b>Facility/site</b> mailing address:	
Location of <b>facility/site</b> : longitude: _____ latitude: _____	Facility SIC code(s):	Street:	
b) Name of <b>facility/site owner</b> :		Town:	
Email address of facility/site owner:	State:	Zip:	County:
Telephone no. of facility/site <b>owner</b> :			
Fax no. of facility/site <b>owner</b> :	<b>Owner</b> is (check one): 1. Federal____ 2. State/Tribal____ 3. Private____ 4. Other ____ if so, describe:		
Address of <b>owner</b> (if different from site):			
Street:			
Town:	State:	Zip:	County:
c) Legal name of <b>operator</b> :	<b>Operator</b> telephone no:		
	<b>Operator</b> fax no.:	<b>Operator</b> email:	
<b>Operator</b> contact name and title:			
Address of <b>operator</b> (if different from owner):	Street:		
Town:	State:	Zip:	County:

d) Check Y for “yes” or N for “no” for the following:  
 1. Has a prior NPDES permit exclusion been granted for the discharge? Y\_\_\_ N\_\_\_, if Y, number: \_\_\_\_\_  
 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?  
 Y\_\_\_ N\_\_\_, if Y, date and tracking #: \_\_\_\_\_  
 3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y\_\_\_ N\_\_\_  
 4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y\_\_\_ N\_\_\_

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y\_\_\_ N\_\_\_  
 If Y, please list:  
 1. site identification # assigned by the state of NH or MA: \_\_\_\_\_  
 2. permit or license # assigned: \_\_\_\_\_  
 3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:  
 1. Multi-Sector General Permit? Y\_\_\_ N\_\_\_, if Y, number: \_\_\_\_\_  
 2. Final Dewatering General Permit? Y\_\_\_ N\_\_\_, if Y, number: \_\_\_\_\_  
 3. EPA Construction General Permit? Y\_\_\_ N\_\_\_, if Y, number: \_\_\_\_\_  
 4. Individual NPDES permit? Y\_\_\_ N\_\_\_, if Y, number: \_\_\_\_\_  
 5. any other water quality related individual or general permit? Y\_\_\_ N\_\_\_, if Y, number: \_\_\_\_\_

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y\_\_\_ N\_\_\_

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

<u>Activity Category</u>	<u>Activity Sub-Category</u>
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ____ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ____ C. Petroleum Sites with Additional Contamination ____
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ____ B. VOC Sites with Additional Contamination ____ C. Primarily Heavy Metal Sites ____
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ____ B. Known Contaminated Sites ____

RTN 3-30015



IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ____ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ____ C. Hydrostatic Testing of Pipelines and Tanks ____ D. Long-Term Remediation of Contaminated Sumps and Dikes ____ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ____
---------------------------------------	---

**2. Discharge information.** Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:	
b) Provide the following information about each discharge:	
1) Number of discharge points:	2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft <sup>3</sup> /s)? Max. flow _____ Is maximum flow a <b>design value</b> ? Y___ N___ Average flow (include units) _____ Is average flow a design value or estimate? _____
3) Latitude and longitude of each discharge within 100 feet: pt.1: lat. _____ long. _____; pt.2: lat. _____ long. _____; pt.3: lat. _____ long. _____; pt.4: lat. _____ long. _____; pt.5: lat. _____ long. _____; pt.6: lat. _____ long. _____; pt.7: lat. _____ long. _____; pt.8: lat. _____ long. _____; etc.	
4) If hydrostatic testing, total volume of the discharge (gals): _____	5) Is the discharge intermittent ____ or seasonal ____? Is discharge ongoing? Y ___ N _____
c) Expected dates of discharge (mm/dd/yy): start _____ end _____	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	

**3. Contaminant information.**

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)											
2. Total Residual Chlorine (TRC)											
3. Total Petroleum Hydrocarbons (TPH)											
4. Cyanide (CN)	57125										
5. Benzene (B)	71432										
6. Toluene (T)	108883										
7. Ethylbenzene (E)	100414										
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207										
9. Total BTEX <sup>2</sup>	n/a										
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) <sup>3</sup>	106934										
11. Methyl-tert-Butyl Ether (MtBE)	1634044										
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650										

\* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

<sup>2</sup> BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

<sup>3</sup> EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508										
14. Naphthalene	91203										
15. Carbon Tetrachloride	56235										
16. 1,2 Dichlorobenzene (o-DCB)	95501										
17. 1,3 Dichlorobenzene (m-DCB)	541731										
18. 1,4 Dichlorobenzene (p-DCB)	106467										
18a. Total dichlorobenzene											
19. 1,1 Dichloroethane (DCA)	75343										
20. 1,2 Dichloroethane (DCA)	107062										
21. 1,1 Dichloroethene (DCE)	75354										
22. cis-1,2 Dichloroethene (DCE)	156592										
23. Methylene Chloride	75092										
24. Tetrachloroethene (PCE)	127184										
25. 1,1,1 Trichloro-ethane (TCA)	71556										
26. 1,1,2 Trichloro-ethane (TCA)	79005										
27. Trichloroethene (TCE)	79016										



<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
28. Vinyl Chloride (Chloroethene)	75014										
29. Acetone	67641										
30. 1,4 Dioxane	123911										
31. Total Phenols	108952										
32. Pentachlorophenol (PCP)	87865										
33. Total Phthalates (Phthalate esters) <sup>4</sup>											
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)											
a. Benzo(a) Anthracene	56553										
b. Benzo(a) Pyrene	50328										
c. Benzo(b)Fluoranthene	205992										
d. Benzo(k)Fluoranthene	207089										
e. Chrysene	21801										
f. Dibenzo(a,h)anthracene	53703										
g. Indeno(1,2,3-cd) Pyrene	193395										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)											

<sup>4</sup>The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329										
i. Acenaphthylene	208968										
j. Anthracene	120127										
k. Benzo(ghi) Perylene	191242										
l. Fluoranthene	206440										
m. Fluorene	86737										
n. Naphthalene	91203										
o. Phenanthrene	85018										
p. Pyrene	129000										
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.										
38. Chloride	16887006										
39. Antimony	7440360										
40. Arsenic	7440382										
41. Cadmium	7440439										
42. Chromium III (trivalent)	16065831										
43. Chromium VI (hexavalent)	18540299										
44. Copper	7440508										
45. Lead	7439921										
46. Mercury	7439976										
47. Nickel	7440020										
48. Selenium	7782492										
49. Silver	7440224										
50. Zinc	7440666										
51. Iron	7439896										
Other (describe): Acrolein	107-02-8										

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1-Methylnaphthalene	90-12-0		X	1	GRAB	8270C-SIM	1	28		28	

1-Methylnaphthalene

90-12-0

X

1

GRAB

8270C-SIM

1

28

28

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

<p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y____ N____</p>	<p>If yes, which metals?</p>
<p><i>Step 2:</i> For any metals which exceed the <b>Appendix III</b> limits, calculate the <b>dilution factor (DF)</b> using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Etc.</p>	<p>Look up the limit calculated at the corresponding dilution factor in <b>Appendix IV</b>. Do any of the metals in the <b>influent</b> have the potential to exceed the corresponding <b>effluent</b> limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?</p> <p>Y____ N____ If Y, list which metals:</p>

**4. Treatment system information.** Please describe the treatment system using separate sheets as necessary, including:

<p>a) A description of the treatment system, including a schematic of the proposed or existing treatment system:</p>						
<p>b) Identify each applicable treatment unit (check all that apply):</p>	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	De-chlorination	Other (please describe):			



c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:  
 Average flow rate of discharge \_\_\_\_\_ gpm    Maximum flow rate of treatment system \_\_\_\_\_ gpm  
 Design flow rate of treatment system \_\_\_\_\_ gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

**5. Receiving surface water(s).** Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water _____	Within facility (sewer) _____	Storm drain _____	Wetlands _____	Other (describe): _____
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:					
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.					
d) Provide the state water quality classification of the receiving water _____					
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations.					
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y____ N____ If yes, for which pollutant(s)? _____					
Is there a final TMDL? Y____ N____ If yes, for which pollutant(s)? _____					

**6. ESA and NHPA Eligibility.**

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.


<p>a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit? A ____ B ____ C ____ D ____ E ____ F ____</p> <p>b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ____ N ____ Underway ____</p> <p>c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Y ____ N ____</p> <p>d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.</p>
<p>e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit? 1 ____ 2 ____ 3 ____</p> <p>f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.</p>

**7. Supplemental information.**

<p>Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.</p>
---

**8. Signature Requirements:** The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:


*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Facility/Site Name:	45 First Avenue
Operator signature:	
Printed Name & Title:	Charles V. Reed, Vice President
Date:	5-20-11



**8. Signature Requirements:** The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Facility/Site Name:	45 First Avenue
Operator signature:	
Printed Name & Title:	Jamie Noon  Project Manager
Date:	June 3 2011

**APPENDIX B**

**Best Management Practices Plan (BMPP)**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
REMEDIAION GENERAL PERMIT  
TEMPORARY CONSTRUCTION DEWATERING  
45 FIRST AVENUE DEVELOPMENT  
CHARLESTOWN NAVY YARD  
CHARLESTOWN, MASSACHUSETTS**

**Best Management Practices Plan**

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction site dewatering planned to occur during proposed construction of a 4-story residential building with 1 level of below-grade parking located at 45 First Avenue in Charlestown, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

**Water Treatment and Management**

Construction dewatering will be conducted from sumps located inside the excavation. Collected water will be routed through a sedimentation tank with an oil/water separator component, and a granulated activated carbon (GAC) unit, at a minimum, to remove suspended solids and un-dissolved chemical constituents. The effluent will then flow through any necessary treatment systems and discharge through hoses to storm drains located near the site, which discharge to the Little Mystic Channel/Boston Inner Harbor.

**Discharge Monitoring and Compliance**

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. This includes chemical testing required within the first month of discharging, and the monthly testing to be conducted through the end of the scheduled discharge.

Monitoring will include checking the condition of the treatment system, assessing the need for treatment system adjustments based on monitoring data, observing and recording daily flow rates and discharge quantities, and verifying the flow path of the discharged effluent.

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system. Flow will be maintained below the “system design flow” by regularly monitoring flow and adjusting the amount of construction dewatering as needed.

Monthly monitoring reports will be compiled and maintained at the site.



**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
REMEDIAION GENERAL PERMIT  
TEMPORARY CONSTRUCTION DEWATERING  
45 FIRST AVENUE DEVELOPMENT  
CHARLESTOWN NAVY YARD  
CHARLESTOWN, MASSACHUSETTS**

**System Maintenance**

A number of methods will be used to minimize the potential for violations for the term of this permit. Scheduled regular maintenance of the treatment system will be conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the fractionization tanks, filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements.

Employees who have direct or indirect responsibility for ensuring compliance with the RGP will be trained by the Operator.

**Miscellaneous Items**

Due to the nature of the excavation, erosion control and the nature of the site and surrounding infrastructure, it is not anticipated that there will be any run off into the site from other sources, as well as no run off from the site.

Erosion control will be covered in the project specifications. Site security for the treatment system can be covered within the overall site security plan.

No adverse affects of designated water uses of surrounding surface water bodies is anticipated. The Inner Boston Harbor is the nearest surface water body to the site located approximately 0.15 miles from the construction activities on site. As mentioned earlier, the discharged effluent will be pumped directly to a storm drains located near the site and into existing below grade infrastructure.

**Management of Treatment System Materials**

No potential sources of pollutants are anticipated during construction dewatering activities. Dewatering effluent will be pumped directly to the treatment system from the excavation with use of hoses and sumps to minimize handling. The contractor will establish staging areas on the site for any equipment or materials storage which may be possible sources of pollution away from any dewatering activities.

Sediment from the fractionalization tank used in the treatment system will be characterized and disposed of as soil at an appropriate receiving facility in accordance with applicable laws and regulations. If used, Granular Activated Carbon and Ion Exchange resin will be likely recycled and/or manifested to the appropriate receiving facility. Bag filters, if used, will be placed in drums and manifested for off-site disposal.

**APPENDIX C**

**National Register of Historic Places and  
Massachusetts Historical Commission Documentation**

# Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

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## Massachusetts Cultural Resource Information System **MACRIS**

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The Massachusetts Cultural Resource Information System (MACRIS) allows you to search the Massachusetts Historical Commission database for information on historic properties and areas in the Commonwealth.

Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission.

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# Massachusetts Cultural Resource Information System

## MACRIS

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Inventory No:	BOS.CO
Historic Name:	Boston Naval Shipyard
Common Name:	Charlestown Navy Yard - Boston Navy Yard
Address:	
City/Town:	Boston
Village/Neighborhood:	Charlestown; Charlestown East
Local No:	
Year Constructed:	
Architect(s):	Baldwin, C. Loammi; Billings, Joseph E.; Parris, Alexander; Treadwell, Daniel
Architectural Style(s):	
Use(s):	Military Other; Museum; Other Water Related; Ship Yard
Significance:	Archaeology, Historic; Architecture; Economics; Engineering; Industry; Invention; Landscape Architecture; Military; Politics Government; Social History; Transportation
Area(s):	
Designation(s):	Nat'l Historic Landmark (11/15/1966); Nat'l Register District (11/15/1966)


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# Massachusetts Cultural Resource Information System

## MACRIS

### MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Charlestown; Resource Type(s): Area, Building, Burial Ground, Structure;

Inv. No.	Property Name	Street	Town	Year
BOS.AY	Boston National Historical Park		Boston	
BOS.CB	Winthrop Square		Boston	
BOS.CC	Harvard Street Area		Boston	
BOS.CD	Charlestown Valley - Town Hill		Boston	
BOS.CE	2-22 Hill Street - 1-5 Mystic Place		Boston	
BOS.CF	23-46 Green Street		Boston	
BOS.CG	Crystal Place		Boston	
BOS.CH	Saint Francis de Sales Roman Catholic Church		Boston	
BOS.CI	Bunker Hill Court		Boston	
BOS.CJ	Belmont Street Area		Boston	
BOS.CK	1-8 Avon Place		Boston	
BOS.CL	Town Hill Historic District		Boston	
BOS.CM	Monument Square Historic District		Boston	
BOS.CN	Hoosac Stores 1, 2 and 3		Boston	
BOS.CO	Boston Naval Shipyard		Boston	
BOS.CP	Bunker Hill Monument		Boston	
BOS.CQ	5-14 Lexington Avenue		Boston	
BOS.RL	Charlestown B & M Railroad Industrial Area		Boston	
BOS.RM	Charlestown Mystic River Industrial Area		Boston	
BOS.RX	Charlestown Heights		Boston	
BOS.TB	Middlesex Canal Historic and Archaeological		Boston	
BOS.VK	Saint Catherine of Siena RC Church Complex		Boston	
BOS.VL	Saint Mary's Roman Catholic Church Complex		Boston	
BOS.4208	Stimpson, George - Mullay, John Double House	1 Adams St	Boston	1855
BOS.4209		2 Adams St	Boston	1848
BOS.4210	Cross, Porter Town House	3 Adams St	Boston	1848
BOS.4211	Bragdon, William Town House	4 Adams St	Boston	1849

Inv. No.	Property Name	Street	Town	Year
BOS.4212	Bragdon, William Town House	5 Adams St	Boston	1849
BOS.4213	Bragdon, William Row House	6 Adams St	Boston	1849
BOS.4214	Hunnewell, James H. House	7 Adams St	Boston	1850
BOS.4215	Hunnewell, James H. House	8 Adams St	Boston	1850
BOS.4216		9 Adams St	Boston	1828
BOS.4217		10 Adams St	Boston	1828
BOS.4218	Hunt, Samuel C. House	11 Adams St	Boston	1828
BOS.4219	Smith, Jehiel House	12 Adams St	Boston	1828
BOS.4220	Armstrong, Comm. James House	13 Adams St	Boston	1870
BOS.4221	Varney, Shadrach - Sampson, Daniel House	26 Adams St	Boston	1827
BOS.4222	Varney, Shadrach - Leach, Samuel House	28 Adams St	Boston	1827
BOS.4224	Dyar, Smith House	5 Albion Pl	Boston	1835
BOS.4223	Clark, Aaron - Varney, Enos House	20 Albion Pl	Boston	1840
BOS.4225	Johnson, George House	23 Albion Pl	Boston	1845
BOS.9052	Alford Street Bridge - Malden Bridge	Alford St	Boston	1966
BOS.13985	Sullivan Square T Station	Alford St	Boston	
BOS.13984		32 Alford St	Boston	1950
BOS.4226	Burbank, Silas and Son Varnish Factory	62 Alford St	Boston	1880
BOS.4227	Charlestown Sewerage Pumping Station	171 Alford St	Boston	1895
BOS.4228	Littlefield, Ivory House	13 Allston St	Boston	1848
BOS.4229	Littlefield, Ivory House	15 Allston St	Boston	1848
BOS.12858	ACME Rubber Company	Arlington Ave	Boston	1935
BOS.13982		20 Arlington Ave	Boston	1960
BOS.4230	Charlestown Gas Company Gasometer Building	21 Arlington Ave	Boston	1853
BOS.4233	Boston Elevated Railway Carpentry Mill	21 Arlington Ave	Boston	1885
BOS.13980		90 Arlington Ave	Boston	1890
BOS.13979		96 Arlington Ave	Boston	1947
BOS.4232	Charlestown Gas Co. Machine Shop & Purifying House	21 Arlington St	Boston	1900
BOS.4240	Wellington, Charles W. House	1 Auburn St	Boston	1857
BOS.4241	Wellington, Charles W. House	3 Auburn St	Boston	1857
BOS.4242	Wellington, Charles W. House	5 Auburn St	Boston	1860
BOS.4243	Wellington, Charles W. House	7 Auburn St	Boston	1860
BOS.4234	Bridge, Abel E. Row House	8 Auburn St	Boston	1868
BOS.4244	Wellington, Charles W. House	9 Auburn St	Boston	1860
BOS.4235	Bridge, Abel E. Row House	10 Auburn St	Boston	1868
BOS.4245	Wellington, Charles W. House	11 Auburn St	Boston	1860
BOS.4236	Bridge, Abel E. Row House	12 Auburn St	Boston	1868

Inv. No.	Property Name	Street	Town	Year
BOS.4246	Wellington, Charles W. House	13 Auburn St	Boston	1860
BOS.4237	Bridge, Abel E. Row House	14 Auburn St	Boston	1868
BOS.4247	Wellington, Charles W. House	15 Auburn St	Boston	1860
BOS.4238	Bridge, Abel E. Row House	16 Auburn St	Boston	1868
BOS.4248	Wellington, Charles W. House	17 Auburn St	Boston	1861
BOS.4249	Wellington, Charles W. House	19 Auburn St	Boston	1861
BOS.4239	Hall, Moses B. House	20 Auburn St	Boston	1843
BOS.4250	Wellington, Charles W. House	21 Auburn St	Boston	1861
BOS.4251	First Baptist Church	Austin St	Boston	1861
BOS.4252		9-11 Austin St	Boston	1790
BOS.4253		30 Austin St	Boston	1825
BOS.4254		32 Austin St	Boston	1825
BOS.4255		33-35 Austin St	Boston	1790
BOS.4256		37 Austin St	Boston	1810
BOS.4257		41-43 Austin St	Boston	1820
BOS.4277	Hill, Joseph W. House	41 Baldwin St	Boston	1870
BOS.4278	Hill, Joseph W. House	43 Baldwin St	Boston	1870
BOS.4279	Hill, Joseph W. House	45 Baldwin St	Boston	1870
BOS.4258	Taylor, Dolphin D. House	46 Baldwin St	Boston	1856
BOS.4280	Hill, Joseph W. House	47 Baldwin St	Boston	1870
BOS.4259	Taylor, Dolphin D. House	48 Baldwin St	Boston	1856
BOS.4281	Hill, Joseph W. House	49 Baldwin St	Boston	1870
BOS.4260	Taylor, Dolphin D. House	50 Baldwin St	Boston	1856
BOS.4282	Hill, Joseph W. House	51 Baldwin St	Boston	1870
BOS.4261	Taylor, Dolphin D. House	52 Baldwin St	Boston	1856
BOS.4283	Hill, Joseph W. House	53 Baldwin St	Boston	1870
BOS.4262	Taylor, Dolphin D. House	54 Baldwin St	Boston	1856
BOS.4284	Hill, Joseph W. House	55 Baldwin St	Boston	1870
BOS.4263	Taylor, Dolphin D. House	56 Baldwin St	Boston	1856
BOS.4285	Hill, Joseph W. House	57 Baldwin St	Boston	1870
BOS.4264	Taylor, Dolphin D. House	58 Baldwin St	Boston	1856
BOS.4286	Hill, Joseph W. House	59 Baldwin St	Boston	1870
BOS.4265	Taylor, Dolphin D. House	60 Baldwin St	Boston	1856
BOS.4287	Hill, Joseph W. House	61 Baldwin St	Boston	1870
BOS.4288	Hill, Joseph W. House	63 Baldwin St	Boston	1870
BOS.4289	Hill, Joseph W. House	65 Baldwin St	Boston	1870
BOS.5038	Bunker Hill School	65 Baldwin St	Boston	1866
BOS.4290	Rice, Peter G. House	67 Baldwin St	Boston	1898

Inv. No.	Property Name	Street	Town	Year
BOS.4291	Rice, Peter G. House	69 Baldwin St	Boston	1898
BOS.4292	Rice, Peter G. House	71 Baldwin St	Boston	1898
BOS.4293	Baldwin, George R. Double House	84 Baldwin St	Boston	1850
BOS.4294	Baldwin, George R. Double House	86 Baldwin St	Boston	1850
BOS.4266	Bradford, Jeremiah B. House	88 Baldwin St	Boston	1849
BOS.4267	Bradford, Jeremiah B. House	90 Baldwin St	Boston	1849
BOS.4295	Cooper, James Double House	91 Baldwin St	Boston	1848
BOS.4268	Bradford, Jeremiah B. House	92 Baldwin St	Boston	1849
BOS.4296	Cooper, James Double House	93 Baldwin St	Boston	1848
BOS.4269	Bradford, Jeremiah B. House	94 Baldwin St	Boston	1849
BOS.4297	Stimpson, Jeremiah House	95 Baldwin St	Boston	1855
BOS.4270	Bradford, Jeremiah B. House	96 Baldwin St	Boston	1849
BOS.4298	Sandford, William W. - Mayers, Hartford House	97 Baldwin St	Boston	1849
BOS.4299	Sandford, William W. - Mayers, Hartford House	99 Baldwin St	Boston	1849
BOS.4300	Page, Benjamin Town House	101 Baldwin St	Boston	1849
BOS.4301	Page, Benjamin Town House	103 Baldwin St	Boston	1849
BOS.4271	Cheever, John House	104 Baldwin St	Boston	1869
BOS.4302	Page, Benjamin Town House	105 Baldwin St	Boston	1849
BOS.4272	Cheever, John House	106 Baldwin St	Boston	1869
BOS.4303	Page, Benjamin Town House	107 Baldwin St	Boston	1849
BOS.4273	Cheever, John House	108 Baldwin St	Boston	1869
BOS.4304	Page, Benjamin Town House	109 Baldwin St	Boston	1849
BOS.4274	Cheever, John House	110 Baldwin St	Boston	1869
BOS.4305	Page, Benjamin Town House	111 Baldwin St	Boston	1849
BOS.4275	Cheever, John House	112 Baldwin St	Boston	1869
BOS.4306	Page, Benjamin Town House	113 Baldwin St	Boston	1849
BOS.4276	Cheever, John House	114 Baldwin St	Boston	1869
BOS.4307	Page, Benjamin Town House	115 Baldwin St	Boston	1849
BOS.4308	Page, Benjamin Town House	117 Baldwin St	Boston	1849
BOS.4310	Pratt, Edward House	9 Bartlett St	Boston	1845
BOS.4311	Pratt, Edward House	11 Bartlett St	Boston	1845
BOS.4312	Pratt, Edward House	13 Bartlett St	Boston	1845
BOS.4313	Goodnow, John B. House	34 Bartlett St	Boston	1845
BOS.4314	Rice, Mathew R. Double House	36-38 Bartlett St	Boston	1868
BOS.4315	Rowe, Isaac Jr. House	40 Bartlett St	Boston	1851
BOS.4309	Miller, Robert - Wait, Benjamin House	57 Bartlett St	Boston	1804
BOS.4316	Baldwin, J. Thomas House	91 Bartlett St	Boston	1876
BOS.4318	Whittier, Isaac Double House	92-94 Bartlett St	Boston	1848



Inv. No.	Property Name	Street	Town	Year
BOS.4319	Stone, Phineas J. Double House	112-114 Bartlett St	Boston	1842
BOS.12859	Boston Edison Building	Beacham St	Boston	1850
BOS.4320	Blaban, Nathaniel House	1 Blaban Pl	Boston	1845
BOS.4321	Blaban, Nathaniel House	2 Blaban Pl	Boston	1845
BOS.4322	Blaban, Nathaniel House	3 Blaban Pl	Boston	1845
BOS.4323	Weston, David B. - Mason, Rufus House	3 Bolton Pl	Boston	1861
BOS.4324	Weston, David B. - Mason, Rufus House	4 Bolton Pl	Boston	1861
BOS.4325	Weston, David B. - Mason, Rufus House	5 Bolton Pl	Boston	1861
BOS.4326	Weston, David B. - Mason, Rufus House	6 Bolton Pl	Boston	1861
BOS.4327	Weston, David B. - Mason, Rufus House	7 Bolton Pl	Boston	1861
BOS.4328	Weston, David B. - Mason, Rufus House	8 Bolton Pl	Boston	1861
BOS.4329	Weston, David B. - Mason, Rufus House	9 Bolton Pl	Boston	1861
BOS.4330	Weston, David B. - Mason, Rufus House	11 Bolton Pl	Boston	1861
BOS.4331	Weston, David B. - Mason, Rufus House	13 Bolton Pl	Boston	1861
BOS.4332	Weston, David B. - Mason, Rufus House	15 Bolton Pl	Boston	1861
BOS.4335	Pruden, Israel R. House	4 Brighton St	Boston	1846
BOS.4333	Pruden, Israel R. House	6 Brighton St	Boston	1848
BOS.4337	Williams, Gilbert House	17 Brighton St	Boston	1869
BOS.4338	Williams, Gilbert House	19 Brighton St	Boston	1869
BOS.4334	Bancroft, Henry House	28 Brighton St	Boston	1847
BOS.4339	Lamprey, Frank House	33 Brighton St	Boston	1877
BOS.4336	Davidson Rubber Company - Davidson Syringe Company	50 Brighton St	Boston	1868
BOS.4344	Winthrop School	110 Bunker Hill St	Boston	1847
BOS.4345	Fowles, Thomas - Preston, David House	170 Bunker Hill St	Boston	1850
BOS.4346	Gardener, Henry P. House	172 Bunker Hill St	Boston	1868
BOS.4347	Meigs - Headly - Stevens, H. C. Double House	174-176 Bunker Hill St	Boston	1870
BOS.806	Bunker Hill Street Cemetery	197A Bunker Hill St	Boston	1807
BOS.4348	Corey, Richard P. House	207 Bunker Hill St	Boston	1838
BOS.4349	Corey, Richard P. House	209-211 Bunker Hill St	Boston	1838
BOS.4350		238-240 Bunker Hill St	Boston	1805
BOS.4351		247 Bunker Hill St	Boston	
BOS.4368	Stone, Jasper House	249 Bunker Hill St	Boston	1849
BOS.4369	Stone, Jasper House	251 Bunker Hill St	Boston	1849
BOS.4354	Hager, James House	252 Bunker Hill St	Boston	1854
BOS.4355	Adams, Simeon P. House	276 Bunker Hill St	Boston	1855
BOS.4356	Seavey, William House	278 Bunker Hill St	Boston	1855
BOS.4357	Brown, James House	280 Bunker Hill St	Boston	1855

Inv. No.	Property Name	Street	Town	Year
BOS.4358	Page, Benjamin House	284 Bunker Hill St	Boston	1855
BOS.4360	Page, Benjamin - Huntly, Russell House	285 Bunker Hill St	Boston	1850
BOS.4359	Page, Benjamin House	286 Bunker Hill St	Boston	1855
BOS.4361	Page, Benjamin - Huntly, Russell House	287 Bunker Hill St	Boston	1850
BOS.4362	Page, Benjamin - Huntly, Russell House	289 Bunker Hill St	Boston	1850
BOS.4363	Kelly, Hugh House	291 Bunker Hill St	Boston	1865
BOS.4364	Kelly, Hugh House	293 Bunker Hill St	Boston	1865
BOS.4365	Kelly, Hugh House	295 Bunker Hill St	Boston	1865
BOS.4341	Saint Francis de Sales Roman Catholic Rectory	303 Bunker Hill St	Boston	1881
BOS.4340	Saint Francis de Sales Roman Catholic Church	315 Bunker Hill St	Boston	1859
BOS.4343	Saint Francis de Sales Roman Catholic Convent	325 Bunker Hill St	Boston	1901
BOS.4342	Saint Francis de Sales Roman Catholic School	340 Bunker Hill St	Boston	1894
BOS.4366	Charlestown Armory	380 Bunker Hill St	Boston	1910
BOS.4367	Boston Engine Company No. 32	442 Bunker Hill St	Boston	1883
BOS.4428	Williams, Horatio House	23 Caldwell St	Boston	1892
BOS.4370	Tweed, Benjamin F. Primary School	Cambridge St	Boston	1891
BOS.12847	Graphic Arts Finishers Building	32 Cambridge St	Boston	1950
BOS.12848	Puritan Garage	128 Cambridge St	Boston	1920
BOS.4371	Brown, Amos - Damon, James House	6 Cedar St	Boston	1863
BOS.4372	Brown, Amos - Damon, James House	8 Cedar St	Boston	1863
BOS.4373	Brown, Amos - Damon, James House	10 Cedar St	Boston	1863
BOS.4374	Brown, Amos - Damon, James House	12 Cedar St	Boston	1863
BOS.4375	Gilmore, John F. House	14 Cedar St	Boston	1859
BOS.4376	Gilmore, John F. House	16 Cedar St	Boston	1859
BOS.4377	Childs, Nicholas G. House	18 Cedar St	Boston	1855
BOS.4378	Childs, Nicholas G. House	20 Cedar St	Boston	1855
BOS.4379	Childs, Nicholas G. House	22 Cedar St	Boston	1855
BOS.9055	Hoosac Stores Railroad Right-of-Way Tracks	Charles River Ave	Boston	1836
BOS.4380	Foster, Ira - Peirce House	14 Chestnut St	Boston	1850
BOS.4384	Greenleaf, Thomas - Caswell, William Town House	15 Chestnut St	Boston	1847
BOS.4381	Foster, Ira - Peirce House	16 Chestnut St	Boston	1850
BOS.4385	Greenleaf, Thomas - Caswell, William Town House	17 Chestnut St	Boston	1847
BOS.4382	Foster, Ira - Peirce House	18 Chestnut St	Boston	1850
BOS.4386	Greenleaf, Thomas - Caswell, William Town House	19 Chestnut St	Boston	1847
BOS.4383	Foster, Ira - Peirce House	20 Chestnut St	Boston	1850
BOS.4387	Greenleaf, Thomas - Caswell, William Town	21 Chestnut St	Boston	1847

Inv. No.	Property Name	Street	Town	Year
	House			
BOS.4388	Wilson, John B. and Charles Town House	28 Chestnut St	Boston	1853
BOS.4389	Wilson, John B. and Charles Double House	30 Chestnut St	Boston	1853
BOS.4390	Wilson, John B. and Charles Double House	32 Chestnut St	Boston	1853
BOS.4391	Wilson, John B. and Charles Town House	34 Chestnut St	Boston	1853
BOS.4392	Groll, Francis House	40 Chestnut St	Boston	1872
BOS.4393	Wilson, John B. and Charles Town House	41 Chestnut St	Boston	1852
BOS.4396	Pook, Samuel M. Double House	42 Chestnut St	Boston	1845
BOS.4394	Wilson, John B. and Charles Town House	43 Chestnut St	Boston	1852
BOS.4397	Pook, Samuel M. Double House	44 Chestnut St	Boston	1845
BOS.4395	Wilson, John B. and Charles Town House	45 Chestnut St	Boston	1852
BOS.4399	White, George W. Double House	46-48 Chestnut St	Boston	1845
BOS.4398	Hook, Aaron Town House	47 Chestnut St	Boston	1878
BOS.4401	Tirrell, Artemus - Tay, Charlotte E. Town House	50 Chestnut St	Boston	1857
BOS.4402		51 Chestnut St	Boston	1840
BOS.4404		55 Chestnut St	Boston	1840
BOS.4406	Hadley, Andrew House	59 Chestnut St	Boston	1840
BOS.4408	Low, Nathaniel House	63 Chestnut St	Boston	1840
BOS.4409	Dix, James H. House	65 Chestnut St	Boston	1840
BOS.4410	Hicks, Joseph G. Town House	65 Chestnut St	Boston	1841
BOS.4411	Pedrick, William Town House	67 Chestnut St	Boston	1841
BOS.4416	Applin, Benjamin House	7 Church Ct	Boston	1847
BOS.9140	City Square Historic and Archaeological Site	City Sq	Boston	
BOS.4412	Charlestown Municipal Building	2-5 City Sq	Boston	1913
BOS.4413	Charlestown Trust Company Building	6 City Sq	Boston	1915
BOS.4414	Roughan Hall	15-18 City Sq	Boston	1892
BOS.4415	Army and Navy YMCA Building	31-33 City Sq	Boston	1917
BOS.4417	Barrett, Jonas Double House	1-2 Common St	Boston	1827
BOS.4419	Training Field Grammar School, Old	5 Common St	Boston	1828
BOS.4420	Tapley, John House	14 Common St	Boston	1806
BOS.4421	Salem Turnpike Hotel	16 Common St	Boston	1805
BOS.4423	Gould, James House	25 Common St	Boston	1800
BOS.4424	Warren, Sampson House	7 Concord Ave	Boston	1845
BOS.5062		2-4 Concord St	Boston	1840
BOS.4426	Underhill, Samuel G. House	11 Concord St	Boston	1841
BOS.4425	Bymes, Andrew House	14 Concord St	Boston	1846
BOS.4427	Stone, Phineas J. Double House	19-21 Concord St	Boston	1845
BOS.4429	Page, Benjamin House	2 Coral Pl	Boston	1847



Inv. No.	Property Name	Street	Town	Year
BOS.4430	Page, Benjamin House	4 Coral Pl	Boston	1847
BOS.4431	Page, Benjamin House	6 Coral Pl	Boston	1847
BOS.4432	Page, Benjamin House	8 Coral Pl	Boston	1847
BOS.4433	Wilson, John B. - Wilson, Charles Town House	1 Cordis St	Boston	1856
BOS.4434	Wilson, John B. - Wilson, Charles Town House	3 Cordis St	Boston	1856
BOS.4435	Wilson, John B. - Wilson, Charles Town House	5 Cordis St	Boston	1856
BOS.4436	Wilson, John B. - Wilson, Charles Town House	7 Cordis St	Boston	1856
BOS.4437	Doane, John Town House	12 Cordis St	Boston	1850
BOS.4438	Carlton, Amos House	16 Cordis St	Boston	1884
BOS.4439	Rand, James H. House	18 Cordis St	Boston	1869
BOS.4440	Rand, James H. House	20 Cordis St	Boston	1869
BOS.4443	Smith, John House	21 Cordis St	Boston	1805
BOS.4441	Rand, James H. House	22 Cordis St	Boston	1869
BOS.4444	Kidder, John House	23 Cordis St	Boston	1826
BOS.4442	Rand, James H. House	24 Cordis St	Boston	1869
BOS.4445	Hyde, Francis House	32 Cordis St	Boston	1801
BOS.4446	Bacon, William H. House	33 Cordis St	Boston	1845
BOS.4948	Saint Catherine of Siena Roman Catholic Convent	12 Corey St	Boston	1910
BOS.4448	Damon, James - Brown, Amos House	5 Cross St	Boston	1863
BOS.4449	Damon, James - Brown, Amos House	7 Cross St	Boston	1863
BOS.4450	Damon, James - Brown, Amos House	9 Cross St	Boston	1863
BOS.4458	Gerrish, Joseph H. - Raymond, William House	10 Cross St	Boston	1830
BOS.4451	Damon, James - Brown, Amos House	11 Cross St	Boston	1863
BOS.4452	Damon, James - Brown, Amos House	13 Cross St	Boston	1863
BOS.4453	Damon, James - Brown, Amos House	15 Cross St	Boston	1863
BOS.4454	Damon, James - Brown, Amos House	17 Cross St	Boston	1863
BOS.4455	Damon, James - Brown, Amos House	19 Cross St	Boston	1863
BOS.4456	Damon, James - Brown, Amos House	21 Cross St	Boston	1863
BOS.4457	Damon, James - Brown, Amos House	23 Cross St	Boston	1863
BOS.4447	Austen, William Double House	27-29 Cross St	Boston	1830
BOS.4460		Devens St	Boston	1850
BOS.4459	Harvard Primary School	20 Devens St	Boston	1871
BOS.4461	Saint John's Episcopal Church Chapel	27 Devens St	Boston	1875
BOS.4462	Saint John's Episcopal Church	31 Devens St	Boston	1841
BOS.4463	Varney, Shadrach House	2 Dexter Row	Boston	1836
BOS.4464	Varney, Shadrach House	3 Dexter Row	Boston	1836
BOS.4465	Varney, Shadrach House	4 Dexter Row	Boston	1836

Inv. No.	Property Name	Street	Town	Year
BOS.13981		10 Dorrance St	Boston	1950
BOS.4466	Phipps, Benjamin House	7 Eden St	Boston	1845
BOS.4467	Frothingham, James K. House	9 Eden St	Boston	1854
BOS.4468	Frothingham, James K. House	11 Eden St	Boston	1854
BOS.4469	Frothingham, James K. House	13 Eden St	Boston	1854
BOS.4470	Frothingham, James K. House	15 Eden St	Boston	1854
BOS.4471		23 Elm St	Boston	
BOS.4476	Kimball, Charles O. House	29 Elm St	Boston	1837
BOS.4472	Worthen, Moses P. House	54 Elm St	Boston	1837
BOS.4473	Barrell, Colburn Town House	58 Elm St	Boston	1846
BOS.4477		59-61 Elm St	Boston	1906
BOS.4474	Barrell, Colburn Town House	60 Elm St	Boston	1846
BOS.4475	Jennings, Ellen Triple Decker	85 Elm St	Boston	1892
BOS.4478	Cushing, Isaac C. House	98 Elm St	Boston	1856
BOS.4479	Cushing, Isaac C. House	100 Elm St	Boston	1856
BOS.4480	Cushing, Isaac C. House	102 Elm St	Boston	1856
BOS.4481	Cushing, Isaac C. House	104 Elm St	Boston	1856
BOS.4482	Cushing, Isaac C. House	106 Elm St	Boston	1856
BOS.4483	Cushing, Isaac C. House	108 Elm St	Boston	1856
BOS.4484	Cushing, Isaac C. House	110 Elm St	Boston	1856
BOS.4485	Cushing, Isaac C. House	112 Elm St	Boston	1856
BOS.4486	Cushing, Isaac C. House	114 Elm St	Boston	1856
BOS.4487	Pratt, Caleb Double House	120 Elm St	Boston	1840
BOS.4488	Pratt, Caleb Double House	122 Elm St	Boston	1840
BOS.4489	Foster, Ira Double House	17-19 Elwood St	Boston	1830
BOS.4491		4 Essex St	Boston	1850
BOS.4492		6 Essex St	Boston	1850
BOS.4493		8 Essex St	Boston	1850
BOS.4494		10 Essex St	Boston	1850
BOS.4495		12 Essex St	Boston	1850
BOS.4496	Standish, Lemuel M. - Woodbury, Charles House	17 Essex St	Boston	1850
BOS.4497	Standish, Lemuel M. - Woodbury, Charles House	19 Essex St	Boston	1850
BOS.4498	Standish, Lemuel M. - Woodbury, Charles House	21 Essex St	Boston	1850
BOS.4499	Weston and Mason House	1 Forest St	Boston	1859
BOS.4500	Weston and Mason House	2 Forest St	Boston	1859
BOS.4501	Weston and Mason House	3 Forest St	Boston	1859
BOS.4502	Weston and Mason House	4 Forest St	Boston	1859
BOS.4503	Weston and Mason House	5 Forest St	Boston	1859

Inv. No.	Property Name	Street	Town	Year
BOS.4504	Weston and Mason House	6 Forest St	Boston	1859
BOS.4231	Charlestown Gas Co. Machine Shop & Purifying House	17-19 George St	Boston	1900
BOS.4505	Dexter, Samuel House - G.A.R. Hall #11	14 Green St	Boston	1795
BOS.4507	Austin, F. B. - Austin, James - Brown, Amos House	43 Green St	Boston	1859
BOS.4508	Fiske, Frederick A. Double House	79-81 Green St	Boston	1845
BOS.4506	Charlestown Boys' Club	91-5 Green St	Boston	1917
BOS.9049	Harvard Place	Harvard Pl	Boston	
BOS.4509	Dow, Moses A. Double House	1 Harvard Pl	Boston	1858
BOS.4510	Dow, Moses A. Double House	2 Harvard Pl	Boston	1858
BOS.4511	Dow, Moses A. Double House	3 Harvard Pl	Boston	1858
BOS.4512	Dow, Moses A. Double House	4 Harvard Pl	Boston	1858
BOS.4513	Thompson, Charles House	25 Harvard Sq	Boston	1825
BOS.4514	Austin, Gen. Nathaniel House	27 Harvard Sq	Boston	1799
BOS.4515	Austin House	29 Harvard Sq	Boston	1825
BOS.4534	Stetson, Lemuel House	7 Harvard St	Boston	1835
BOS.4535	Stanley, G. House	9 Harvard St	Boston	1835
BOS.4536	Reed, Josiah House	11 Harvard St	Boston	1835
BOS.4537	Barker, Eben House	13 Harvard St	Boston	1835
BOS.4403	Henry, William House	15 Harvard St	Boston	1835
BOS.4516	Everett, Edward House	16 Harvard St	Boston	1814
BOS.4405	Varney, Shadrach House	17 Harvard St	Boston	1835
BOS.4517	Dow, Moses A. Double House	18-20 Harvard St	Boston	1860
BOS.4407	Hunnewell, James House	19 Harvard St	Boston	1835
BOS.4418	Barker, Josiah House	21 Harvard St	Boston	1835
BOS.4518	Dow, Moses A. Double House	22-24 Harvard St	Boston	1860
BOS.4490	Hunnewell, James House	23 Harvard St	Boston	1835
BOS.4521	Dow, Moses A. House	28 Harvard St	Boston	1858
BOS.4522	Turner, Job A. - Cudworth, Samuel S. Town House	30 Harvard St	Boston	1846
BOS.4523	Turner, Job A. - Cudworth, Samuel S. Town House	32 Harvard St	Boston	1846
BOS.4525	Dow, Moses A. Town House	34 Harvard St	Boston	1855
BOS.4526	Dow, Moses A. Town House	36 Harvard St	Boston	1855
BOS.4527	Dow, Moses A. Town House	38 Harvard St	Boston	1855
BOS.4528	Cudworth, Samuel S. Town House	42 Harvard St	Boston	1852
BOS.4529	Cudworth, Samuel S. Town House	44 Harvard St	Boston	1852
BOS.4530	Cudworth, Samuel S. Town House	46 Harvard St	Boston	1852



Inv. No.	Property Name	Street	Town	Year
BOS.4538	Town Hill - Harvard Grammar School House	47 Harvard St	Boston	1847
BOS.4531	Cudworth, Samuel S. Town House	48 Harvard St	Boston	1852
BOS.4532	Poole, Eliza M. - Scanlan, Patrick House	50 Harvard St	Boston	1865
BOS.4533	Wyman, Thomas Double House	52-54 Harvard St	Boston	1835
BOS.4539	Hooper, Thomas W. Double House	5-7 Hathon Sq	Boston	1845
BOS.4541	Edwards, John House	2 Henley St	Boston	1821
BOS.4542	Brown, Amos - Damon, James Town House	29 High St	Boston	1863
BOS.4543	Brown, Amos - Damon, James Town House	31 High St	Boston	1863
BOS.4544	Brown, Amos - Damon, James Town House	33 High St	Boston	1863
BOS.4549	Fletcher, Timothy House	34 High St	Boston	1848
BOS.4545	Brown, Amos - Damon, James Town House	35 High St	Boston	1863
BOS.4550	Lawrence, Edward Double House	36-38 High St	Boston	1870
BOS.4546	Brown, Amos - Damon, James Town House	37 High St	Boston	1863
BOS.4547	Brown, Amos - Damon, James Town House	39 High St	Boston	1863
BOS.4548	Brown, Amos - Damon, James Town House	41 High St	Boston	1863
BOS.4552	Pratt, Edward - Taylor, Dolphin D. House	43 High St	Boston	1853
BOS.4555	Lawrence, Edward - Sawyer, T. T. Double House	44-46 High St	Boston	1850
BOS.4553	Pratt, Edward - Taylor, Dolphin D. House	45 High St	Boston	1853
BOS.4554	Pratt, Edward - Taylor, Dolphin D. House	47 High St	Boston	1853
BOS.4557	Payson, Ruth Double House	49-51 High St	Boston	1838
BOS.4559	Mills, Lemuel House	53 High St	Boston	1838
BOS.4560	Cutter, E. F. House	55 High St	Boston	1838
BOS.5037	Austin, Francis B. House	58 High St	Boston	1865
BOS.4561	Litchfield, William E. House	61 High St	Boston	1881
BOS.4563	Trinity Methodist Episcopal Church	62 High St	Boston	1867
BOS.4562	Seabury, Benjamin House	65 High St	Boston	1845
BOS.4564	Simonds, Marshall Town House	72 High St	Boston	1863
BOS.4566	Hunt, Andrew K. - Hooper, Thomas Double House	74 High St	Boston	1848
BOS.4565	White, George Robert Fund Health Unit	75 High St	Boston	1928
BOS.4567	Hunt, Andrew K. - Hooper, Thomas Double House	76 High St	Boston	1848
BOS.4568	Clapp, Frederick W. House	86 High St	Boston	1871
BOS.4569	Clapp, Frederick W. House	88 High St	Boston	1871
BOS.4570	Clapp, Frederick W. House	90 High St	Boston	1871
BOS.4571	Clapp, Frederick W. House	92 High St	Boston	1871
BOS.4572	Clapp, Frederick W. House	94 High St	Boston	1871
BOS.4573	Clapp, Frederick W. House	96 High St	Boston	1871

Inv. No.	Property Name	Street	Town	Year
BOS.4574	Clapp, Frederick W. House	98 High St	Boston	1871
BOS.4575		100 High St	Boston	1820
BOS.4576	Hotel Salem	105-107 High St	Boston	1881
BOS.4577		108 High St	Boston	1830
BOS.4578	Donovan, Patrick J. House	114 High St	Boston	1886
BOS.4579	Donovan, Patrick J. House	116 High St	Boston	1886
BOS.4580	Donovan, Patrick J. House	118 High St	Boston	1886
BOS.4581	Pratt, Caleb Double House	132 High St	Boston	1834
BOS.4582	Doane, Thomas House	1 Holden Row	Boston	1880
BOS.4583	Doane, Thomas House	2 Holden Row	Boston	1880
BOS.4584	Doane, Thomas House	3 Holden Row	Boston	1880
BOS.4585	Doane, Thomas House	4 Holden Row	Boston	1880
BOS.4586	Doane, Thomas House	5 Holden Row	Boston	1880
BOS.4587	Doane, Thomas House	6 Holden Row	Boston	1880
BOS.4588	Doane, Thomas House	7 Holden Row	Boston	1880
BOS.9005	I-93 Bridge over Charles River	I-93	Boston	1956
BOS.9046	I-93 Bridge over Charles River	I-93	Boston	1956
BOS.4589		30 Jefferson Ave	Boston	1845
BOS.4593		1 Laurel St	Boston	1852
BOS.4594	Fifield, John B. M. Town House	2 Laurel St	Boston	1852
BOS.4595	Kirby, Joseph House	18-20 Lawrence St	Boston	1892
BOS.4599		61-63 Lawrence St	Boston	1845
BOS.4601		65-67 Lawrence St	Boston	1845
BOS.4597	Burrell, John H. - Hall, Milton Jr. Double House	73-75 Lawrence St	Boston	1845
BOS.4603	Hunnewell, William House	3 Lexington St	Boston	1841
BOS.4604	Freemen, Charles House	5 Lexington St	Boston	1841
BOS.4605	Rice, H. A. House	7 Lexington St	Boston	1845
BOS.4606	Stockbridge, L. N. House	9 Lexington St	Boston	1843
BOS.4607	Kettel, George A. Double House	11-13 Lexington St	Boston	1842
BOS.4609	Moran, J. P. Double House	15-17 Lexington St	Boston	1880
BOS.4612	Soley, Edward - Gassner, Peter House	18 Main St	Boston	1828
BOS.4613	Soley, Edward - Gassner, Peter House	20 Main St	Boston	1828
BOS.4614	Soley, Edward - Gassner, Peter House	22 Main St	Boston	1828
BOS.4615	Soley, Edward - Gassner, Peter House	24 Main St	Boston	1828
BOS.4616	Soley, Edward - Gassner, Peter House	26 Main St	Boston	1828
BOS.4617	Soley, Edward - Gassner, Peter House	28 Main St	Boston	1828
BOS.4618	Soley, Edward - Gassner, Peter House	30 Main St	Boston	1828
BOS.4619	Soley, Edward - Gassner, Peter House	32 Main St	Boston	1828

Inv. No.	Property Name	Street	Town	Year
BOS.4620	Soley, Edward - Gassner, Peter House	34 Main St	Boston	1828
BOS.4621	Larkin, John House	55-61 Main St	Boston	1795
BOS.4622	Hurd, John House	65-71 Main St	Boston	1795
BOS.4623	Newall, John House	73 Main St	Boston	1870
BOS.4624	Hurd, Joseph House	83 Main St	Boston	1830
BOS.4625	Hurd, Joseph House	83 1/2 Main St	Boston	1830
BOS.4626	Hurd, Joseph House	85 Main St	Boston	1830
BOS.4627	Austin Block	90-92 Main St	Boston	1822
BOS.4628	Warren Tavern	105-107 Main St	Boston	1780
BOS.4629	Newell, Eliphath - Bancroft, Amos Town House	108 Main St	Boston	1855
BOS.4633	Thompson, Timothy House	109 Main St	Boston	1790
BOS.4630	Lawrence, Edward - Forster, Jacob Jr. Town House	112 Main St	Boston	1837
BOS.4631	Lawrence, Edward - Forster, Jacob Jr. Town House	114 Main St	Boston	1837
BOS.4632	Lawrence, Edward - Forster, Jacob Jr. Town House	116 Main St	Boston	1837
BOS.4634	Thompson, Timothy House	119 Main St	Boston	1794
BOS.4635	Cordis, Capt. Joseph House	121-123 Main St	Boston	1814
BOS.4636	Edmands, J. House	125-127 Main St	Boston	1808
BOS.4637	Hook, Aaron Block	207-217 Main St	Boston	1885
BOS.4638	Richard, Giles - Bolter, James House	231 Main St	Boston	1800
BOS.4639		254 Main St	Boston	1855
BOS.4640		258 Main St	Boston	1845
BOS.4641	O'Brien, T. A. Building	260 Main St	Boston	1891
BOS.4645	Long, William B. - Phipps, Solomon G. Block	265-271 Main St	Boston	1856
BOS.4646	Perkins, John House	315 Main St	Boston	1851
BOS.4652	Weston and Mason House	360 Main St	Boston	1855
BOS.4653	Weston and Mason House	362 Main St	Boston	1855
BOS.4654	Weston and Mason House	364 Main St	Boston	1855
BOS.4655	Weston and Mason House	366 Main St	Boston	1855
BOS.4656	Weston and Mason House	368 Main St	Boston	1855
BOS.4647	Middlesex Canal Worker Housing	372 Main St	Boston	
BOS.4657	Middlesex Canal Company Double House	374-376 Main St	Boston	1835
BOS.4650	Middlesex Canal Worker Housing	378 Main St	Boston	
BOS.4651	Middlesex Canal Worker Housing	380 Main St	Boston	
BOS.4658		397 Main St	Boston	1859
BOS.4659		399 Main St	Boston	1859
BOS.4660	Bridge, Abel E. Town House	401 Main St	Boston	1865



Inv. No.	Property Name	Street	Town	Year
BOS.4661	Bridge, Abel E. Town House	403 Main St	Boston	1865
BOS.4662	Bridge, Abel E. Town House	405 Main St	Boston	1865
BOS.4663	Noble, Edward T. Town House	407 Main St	Boston	1880
BOS.4664		417 Main St	Boston	1871
BOS.4665		419 Main St	Boston	1871
BOS.4666	Lord, John B. House	421 Main St	Boston	1871
BOS.4667	Hovey, Sarah Double House	443 Main St	Boston	1859
BOS.4668	Hovey, Sarah Double House	445 Main St	Boston	1859
BOS.4611	Schraffts, William F. and Sons Candy Factory	529 Main St	Boston	1925
BOS.12860	Schrafft, William F. and Sons Factory Power House	529 Main St	Boston	1925
BOS.4669	Cauley Hall - Cauley, John H. Commercial Block	540 Main St	Boston	1900
BOS.4670	Sullivan Square Garage	635 Main St	Boston	1920
BOS.4671	Middlesex Canal District Double House	651-653 Main St	Boston	1840
BOS.4673	Weston, David B. and Mason, Rufus Double House	2-4 Mason Ct	Boston	1859
BOS.4674	Foster, Ruth Rose House	38 Mead St	Boston	1840
BOS.4675	Trowbridge, Almarin House	39 Mead St	Boston	1845
BOS.4676	Greenleaf, Thomas House	1 Mead Street Ct	Boston	1845
BOS.4677	Greenleaf, Thomas House	2 Mead Street Ct	Boston	1845
BOS.4678	Greenleaf, Thomas House	3 Mead Street Ct	Boston	1845
BOS.4679	Greenleaf, Thomas House	4 Mead Street Ct	Boston	1845
BOS.805	Saint Francis de Sales Roman Catholic Burial Groun	Medford St	Boston	1830
BOS.9048	Charlestown Heights - Doherty Playground	Medford St	Boston	1891
BOS.9441	Charlestown Heights - Promenade	Medford St	Boston	1932
BOS.9444	Charlestown Heights - Path System	Medford St	Boston	1892
BOS.9445	Charlestown Heights - Granite Steps	Medford St	Boston	1893
BOS.9446	Charlestown Heights - Puddingstone Cheek Walls	Medford St	Boston	1893
BOS.9447	Charlestown Heights - Overlook Terrace	Medford St	Boston	1893
BOS.9448	Charlestown Heights - Granite Retaining Wall	Medford St	Boston	1892
BOS.9449	Charlestown Heights - Perimeter Retaining Wall	Medford St	Boston	1892
BOS.9450	Charlestown Heights - Swimming Pool	Medford St	Boston	1945
BOS.9451	Charlestown Heights - Diving Pool	Medford St	Boston	1948
BOS.9452	Charlestown Heights - Bleachers	Medford St	Boston	1947
BOS.9453	Charlestown Heights - Shelter	Medford St	Boston	1968
BOS.9454	Charlestown Heights - Tot Lot	Medford St	Boston	1972
BOS.9455	Charlestown Heights - Basketball Courts	Medford St	Boston	1975

Inv. No.	Property Name	Street	Town	Year
BOS.9456	Charlestown Heights - Splash Pool	Medford St	Boston	1995
BOS.9457	Charlestown Heights - Swings	Medford St	Boston	1972
BOS.13032	Charlestown Heights - Bath House	Medford St	Boston	1947
BOS.13033	Charlestown Heights - Pump House	Medford St	Boston	1947
BOS.4680	Wiggins Lumber Terminal Complex - Building #3	267-281 Medford St	Boston	1918
BOS.9424	Blue Circle Cement Company Cement Silos	285 Medford St	Boston	1980
BOS.12861	Revere Sugar Refinery	333 Medford St	Boston	1918
BOS.4682	Webb, Robert and Company Black Lead Works	412 Medford St	Boston	1885
BOS.9423	Amstar - Domino Sugar Plant Sweet Dome	425 Medford St	Boston	1960
BOS.12862	American Sugar - Amstar Domino Sugar Plant	425 Medford St	Boston	1960
BOS.12863	Amstar - Domino Sugar Plant Power House	425 Medford St	Boston	1960
BOS.4684	U. S. Baking Company Complex	465 Medford St	Boston	1890
BOS.12864	Brockway-Smith Warehouse and Factory	465 Medford St	Boston	1924
BOS.12865	Howes, S. M. Company Foundry	511 Medford St	Boston	1926
BOS.4683	Wemyss Brothers Furniture Company Building	523 Medford St	Boston	1870
BOS.9729	Middlesex Canal	Middlesex Canal	Boston	1802
BOS.4686	Murray, William C. House	7 Monument Ave	Boston	1880
BOS.4687	Murray, William C. House	9 Monument Ave	Boston	1880
BOS.4688	Murray, William C. House	11 Monument Ave	Boston	1880
BOS.4689	Wilson, John B. and Charles House	15 Monument Ave	Boston	1855
BOS.4690	Wilson, John B. and Charles House	17 Monument Ave	Boston	1855
BOS.4691	Wilson, John B. and Charles House	19 Monument Ave	Boston	1855
BOS.4692	Wilson, John B. and Charles House	21 Monument Ave	Boston	1855
BOS.4707	Edmands, T. R. B. House	22 Monument Ave	Boston	1880
BOS.4693	Wilson, John B. and Charles House	23 Monument Ave	Boston	1855
BOS.4708	Edmands, T. R. B. House	24 Monument Ave	Boston	1880
BOS.4694	Wilson, John B. and Charles House	25 Monument Ave	Boston	1855
BOS.4709	Bartlett, Nelson House	26 Monument Ave	Boston	1880
BOS.4695	Wilson, John B. and Charles House	27 Monument Ave	Boston	1855
BOS.4710	Garland, G. W. House	28 Monument Ave	Boston	1880
BOS.4696	Wilson, John B. and Charles House	29 Monument Ave	Boston	1855
BOS.4711	Bartlett, Nelson House	30 Monument Ave	Boston	1880
BOS.4697	Wilson, John B. and Charles House	31 Monument Ave	Boston	1855
BOS.4712	Hawes, William House	32 Monument Ave	Boston	1860
BOS.4698	Wilson, John B. and Charles House	33 Monument Ave	Boston	1855
BOS.4713	Nichols, Manfred E. House	34 Monument Ave	Boston	1870
BOS.4699	Wilson, John B. and Charles House	35 Monument Ave	Boston	1855
BOS.4714	Tarbox, F. H. Town House	36 Monument Ave	Boston	1870

Inv. No.	Property Name	Street	Town	Year
BOS.4700	Wilson, John B. and Charles House	37 Monument Ave	Boston	1855
BOS.4715	Harding, John House	38 Monument Ave	Boston	1854
BOS.4701	Wilson, John B. and Charles House	39 Monument Ave	Boston	1855
BOS.4716		40 Monument Ave	Boston	1854
BOS.4702	Wilson, John B. and Charles House	41 Monument Ave	Boston	1855
BOS.4703	Wilson, John B. and Charles House	43 Monument Ave	Boston	1855
BOS.4717	Wilson, John B. - Wilson, Charles House	44 Monument Ave	Boston	1855
BOS.4704	Wilson, John B. and Charles House	45 Monument Ave	Boston	1855
BOS.4718	Wilson, John B. - Wilson, Charles House	46 Monument Ave	Boston	1855
BOS.4705	Wilson, Charles House	47 Monument Ave	Boston	1854
BOS.4719	Wilson, John B. - Wilson, Charles House	48 Monument Ave	Boston	1855
BOS.4706	Wilson, John B. House	49 Monument Ave	Boston	1854
BOS.4720	Wilson, John B. - Wilson, Charles House	50 Monument Ave	Boston	1855
BOS.4721	Pease, Usher P. House	51 Monument Ave	Boston	1881
BOS.4723	Edmands, T. K. B. - Bartlett, Nelson Double House	52-54 Monument Ave	Boston	1870
BOS.4722	Pease, Usher P. House	53 Monument Ave	Boston	1870
BOS.4724	Bartlett, Nelson House	54 Monument Ave	Boston	1870
BOS.4725	Davis, Silas Town House	56 Monument Ave	Boston	1867
BOS.4726		56 1/2 Monument Ave	Boston	1980
BOS.4727	Wiley, Robert R. Town House	58 Monument Ave	Boston	1854
BOS.4685	Sawyer, Seth F. House	14 Monument Ct	Boston	1845
BOS.5084	Bunker Hill Masonic Lodge	Monument Sq	Boston	1901
BOS.9056	Bunker Hill Monument Fence	Monument Sq	Boston	1839
BOS.9057	Bunker Hill Perimeter Fence and Gates	Monument Sq	Boston	1839
BOS.4728	Neal, George B. House	1 Monument Sq	Boston	1830
BOS.5040		2 Monument Sq	Boston	1853
BOS.5041		4 Monument Sq	Boston	1861
BOS.5042		5 Monument Sq	Boston	1856
BOS.4729		6 Monument Sq	Boston	1848
BOS.4730	Warren, George Washington House	7 Monument Sq	Boston	1848
BOS.4731	Huntington, Lynde A. House	8 Monument Sq	Boston	1848
BOS.5043		9 Monument Sq	Boston	1890
BOS.5044		9A Monument Sq	Boston	1858
BOS.5045		10 Monument Sq	Boston	1857
BOS.5046		11 Monument Sq	Boston	1857
BOS.5047		12 Monument Sq	Boston	1857
BOS.5048		13 Monument Sq	Boston	1857



Inv. No.	Property Name	Street	Town	Year
BOS.5049		14 Monument Sq	Boston	1868
BOS.5050		15 Monument Sq	Boston	1869
BOS.5051		16 Monument Sq	Boston	1854
BOS.5052		17 Monument Sq	Boston	1862
BOS.5053		18 Monument Sq	Boston	1862
BOS.5054		19 Monument Sq	Boston	1862
BOS.5055		20 Monument Sq	Boston	1862
BOS.5056		21 Monument Sq	Boston	1862
BOS.4732	Gilman, F. N. House	22 Monument Sq	Boston	1874
BOS.5057		23 Monument Sq	Boston	1886
BOS.5058		24 Monument Sq	Boston	1886
BOS.5059		25 Monument Sq	Boston	1866
BOS.5060		26 Monument Sq	Boston	1866
BOS.5061		27 Monument Sq	Boston	1866
BOS.5063		29 Monument Sq	Boston	1895
BOS.5064		30 Monument Sq	Boston	1907
BOS.5065		31 Monument Sq	Boston	1897
BOS.5066		32 Monument Sq	Boston	1897
BOS.5067		33 Monument Sq	Boston	1896
BOS.5068		34 Monument Sq	Boston	1902
BOS.5069		34A Monument Sq	Boston	1902
BOS.5070		35 Monument Sq	Boston	1902
BOS.5071		36 Monument Sq	Boston	1902
BOS.4733		37 Monument Sq	Boston	1830
BOS.5072		39 Monument Sq	Boston	1875
BOS.5073		40 Monument Sq	Boston	1860
BOS.5074		41 Monument Sq	Boston	1869
BOS.5075		43 Monument Sq	Boston	1912
BOS.5076		45-46 Monument Sq	Boston	1895
BOS.5077		47-47A Monument Sq	Boston	1750
BOS.5078		48 Monument Sq	Boston	1860
BOS.5079		49 Monument Sq	Boston	1861
BOS.5080		50 Monument Sq	Boston	1866
BOS.4734	Kent, William Henry Primary School	234 Moulton St	Boston	1894
BOS.4735	Kettel, George Adams House	2 Mount Vernon Ave	Boston	1845
BOS.4738	Caban, William House	6 Mount Vernon Ave	Boston	1850
BOS.4736	Locke, Isaac Double House	2-4 Mount Vernon St	Boston	1849
BOS.4744		7 Mount Vernon St	Boston	1848

Inv. No.	Property Name	Street	Town	Year
BOS.4739	Pierce, Joseph Town House	8 Mount Vernon St	Boston	1847
BOS.4745		9 Mount Vernon St	Boston	1848
BOS.4740		10 Mount Vernon St	Boston	1847
BOS.4746		11 Mount Vernon St	Boston	1848
BOS.4741		12 Mount Vernon St	Boston	1846
BOS.4747		13 Mount Vernon St	Boston	1848
BOS.4742	Dana, Henry Town House	14 Mount Vernon St	Boston	1846
BOS.4748		15 Mount Vernon St	Boston	1860
BOS.4743	Pratt, Caleb Double House	16-18 Mount Vernon St	Boston	1846
BOS.4749		17 Mount Vernon St	Boston	1848
BOS.4750		19 Mount Vernon St	Boston	1848
BOS.4753	Cobb, Moses G. House	20 Mount Vernon St	Boston	1846
BOS.4751		21 Mount Vernon St	Boston	1848
BOS.4754	Oldham, Jonathan - Tomfohrde, John H. Double House	22-24 Mount Vernon St	Boston	1870
BOS.4752		23 Mount Vernon St	Boston	1848
BOS.4757	Brown, Isaac E. - Preston, Thomas B. Double House	25-27 Mount Vernon St	Boston	1848
BOS.4756	Young, Joseph House	26 Mount Vernon St	Boston	1848
BOS.4759	Dana, James - Hall, Gustavus Double House	28-30 Mount Vernon St	Boston	1846
BOS.4761		29 Mount Vernon St	Boston	1850
BOS.4762		31 Mount Vernon St	Boston	1850
BOS.4763	Hall, Andrew House	31 1/2 Mount Vernon St	Boston	1869
BOS.4764	Kendall, Stiles House	33 Mount Vernon St	Boston	1848
BOS.4765	Dalrymple, Willard House	35 Mount Vernon St	Boston	1850
BOS.4769	Hurwitz, Simon House	36 Mount Vernon St	Boston	1901
BOS.4766	Ward, Edward A. House	37 Mount Vernon St	Boston	1850
BOS.4770	Hurwitz, Simon House	38 Mount Vernon St	Boston	1901
BOS.4767	Buzzell, William C. House	39 Mount Vernon St	Boston	1851
BOS.4771	Hurwitz, Simon House	40 Mount Vernon St	Boston	1901
BOS.4768	Langmade, Samuel Prentiss House	41 Mount Vernon St	Boston	1853
BOS.4772	Hurwitz, Simon House	42 Mount Vernon St	Boston	1901
BOS.4773		44 Mount Vernon St	Boston	1868
BOS.4774		46 Mount Vernon St	Boston	1868
BOS.4775		48 Mount Vernon St	Boston	1868
BOS.4776		50 Mount Vernon St	Boston	1868
BOS.4777		52 Mount Vernon St	Boston	1868
BOS.4778	Richards, David House	3 Mystic St	Boston	1856

Inv. No.	Property Name	Street	Town	Year
BOS.4780		4 Mystic St	Boston	1854
BOS.4779	Richards, David House	5 Mystic St	Boston	1856
BOS.4781		6 Mystic St	Boston	1854
BOS.4782		8 Mystic St	Boston	1854
BOS.4783		10 Mystic St	Boston	1854
BOS.4784		11 Mystic St	Boston	1855
BOS.4785	Kelly, Hugh and Peter J. House	26 Mystic St	Boston	1868
BOS.4786	Kelly, Hugh and Peter J. House	28 Mystic St	Boston	1868
BOS.4787	Kelly, Hugh and Peter J. House	30 Mystic St	Boston	1868
BOS.4788	Kelly, Hugh and Peter J. House	32 Mystic St	Boston	1868
BOS.4802	Pierce, John House	33 Mystic St	Boston	1869
BOS.4789	Kelly, Hugh and Peter J. House	34 Mystic St	Boston	1868
BOS.4803	Hatch, George W. House	35 Mystic St	Boston	1869
BOS.4790	Kelly, Hugh and Peter J. House	36 Mystic St	Boston	1868
BOS.4791	Kelly, Hugh and Peter J. House	38-40 Mystic St	Boston	1868
BOS.4792	Kelly, Hugh and Peter J. House	42 Mystic St	Boston	1868
BOS.4793	Kelly, Hugh and Peter J. House	44 Mystic St	Boston	1868
BOS.4794	Kelly, Hugh and Peter J. House	46 Mystic St	Boston	1868
BOS.4795	Kelly, Hugh and Peter J. House	48 Mystic St	Boston	1868
BOS.4804		50 Mystic St	Boston	
BOS.4797	Kelly, Hugh and Peter J. House	52 Mystic St	Boston	1868
BOS.4798	Kelly, Hugh and Peter J. House	54 Mystic St	Boston	1868
BOS.4799	Kelly, Hugh and Peter J. House	56 Mystic St	Boston	1868
BOS.4800	Kelly, Hugh and Peter J. House	58 Mystic St	Boston	1868
BOS.4801	Kelly, Hugh and Peter J. House	60 Mystic St	Boston	1868
BOS.5085	Charlestown Navy Yard - Quarters B-F - Bldng 265	Navy Yard	Boston	1833
BOS.5086	Charlestown Navy Yard - Marine Barracks - Bldng I	Navy Yard	Boston	1810
BOS.5087	Charlestown Navy Yard - Quarters G	Navy Yard	Boston	1805
BOS.5088	Charlestown Navy Yard - Officers Quarters L-O	Navy Yard	Boston	1826
BOS.5089	Charlestown Navy Yard - Officers Quarters P	Navy Yard	Boston	1913
BOS.5090	Charlestown Navy Yard - Chauffer Quarters - Bldg 1	Navy Yard	Boston	1910
BOS.5091	Charlestown Navy Yard - Oil Storehouse - Bldg 4	Navy Yard	Boston	1827
BOS.5092	Charlestown Navy Yard - Officers' Club - Bldg 5	Navy Yard	Boston	1815
BOS.5093	Charlestown Navy Yard - Building 10 - Pitch House	Navy Yard	Boston	1853
BOS.5094	Charlestown Navy Yard - Scale House - Building	Navy Yard	Boston	1918



Inv. No.	Property Name	Street	Town	Year
	19			
BOS.5095	Charlestown Navy Yard - Building 21	Navy Yard	Boston	1825
BOS.5096	Charlestown Navy Yard - Building 22 - Pumphouse	Navy Yard	Boston	1832
BOS.5097	Charlestown Navy Yard - Bldg 24 - Riggers Shop	Navy Yard	Boston	1847
BOS.5098	Charlestown Navy Yard - Bldg 28 - Tinnners Shop	Navy Yard	Boston	1849
BOS.5099	Navy Yard - Building 31 - Muster House	Navy Yard	Boston	1852
BOS.5100	Charlestown Navy Yard - Bldg 32 - Shell House	Navy Yard	Boston	1850
BOS.5101	Charlestown Navy Yard - Bldg 33 - Cordage Storage	Navy Yard	Boston	1850
BOS.5102	Charlestown Navy Yard - Building 34 - Storehouse	Navy Yard	Boston	1837
BOS.5103	Charlestown Navy Yard - Bldg 36 - Sail Loft	Navy Yard	Boston	1866
BOS.5104	Charlestown Navy Yard - Bldg 38 - Cooperage	Navy Yard	Boston	1854
BOS.5105	Charlestown Navy Yard - Building 39 - Armory	Navy Yard	Boston	1866
BOS.5106	Charlestown Navy Yard - Heavy Hammer Shop	Navy Yard	Boston	1863
BOS.5107	Charlestown Navy Yard - Building 42 - Machine Shop	Navy Yard	Boston	1853
BOS.5108	Charlestown Navy Yard - Building 58 - Ropewalk	Navy Yard	Boston	1834
BOS.5109	Charlestown Navy Yard - Bldg 60 - Tarring House	Navy Yard	Boston	1836
BOS.5110	Charlestown Navy Yard - Building 62 - Hemp House	Navy Yard	Boston	1836
BOS.5111	Charlestown Navy Yard - Bldg 75 - Pipe Storage	Navy Yard	Boston	1830
BOS.5112	Charlestown Navy Yard - Building 77 - Boat Garage	Navy Yard	Boston	1937
BOS.5113	Charlestown Navy Yard - Building 79 - Boiler House	Navy Yard	Boston	1857
BOS.5114	Charlestown Navy Yard - Bldg 96 - Boiler House	Navy Yard	Boston	1880
BOS.5115	Charlestown Navy Yard - Bldg 103 - Metal Shop	Navy Yard	Boston	1903
BOS.5116	Charlestown Navy Yard - Bldg 104 - Pattern Shop	Navy Yard	Boston	1903
BOS.5117	Charlestown Navy Yard - Bldg 105 - Chain Forge	Navy Yard	Boston	1904
BOS.5118	Charlestown Navy Yard - Bldg 106 - Boiler Shop	Navy Yard	Boston	1903
BOS.5119	Charlestown Navy Yard - Bldg 107 - Maintenance	Navy Yard	Boston	1903
BOS.5120	Charlestown Navy Yard - Building 108 - Power Plant	Navy Yard	Boston	1903
BOS.5121	Charlestown Navy Yard - Building 109 - Pilot House	Navy Yard	Boston	1932
BOS.5122	Charlestown Navy Yard - Building 110 - Lead Shop	Navy Yard	Boston	1907

Inv. No.	Property Name	Street	Town	Year
BOS.5123	Charlestown Navy Yard - Building 114 - Boat Shop	Navy Yard	Boston	1904
BOS.5124	Charlestown Navy Yard - Bldg 120 - Dispensary	Navy Yard	Boston	1905
BOS.5125	Charlestown Navy Yard - Building 123 - Pump House	Navy Yard	Boston	1903
BOS.5126	Charlestown Navy Yard - Building 125 - Paint Shop	Navy Yard	Boston	1905
BOS.5127	Charlestown Navy Yard - Bldg 131 - Oil Storage	Navy Yard	Boston	1910
BOS.5128	Charlestown Navy Yard - Bldg 136 - Marine Corps HQ	Navy Yard	Boston	1907
BOS.5129	Charlestown Navy Yard - Building 143 - Chapel	Navy Yard	Boston	1915
BOS.5130	Charlestown Navy Yard - Building 149 - Warehouse	Navy Yard	Boston	1919
BOS.5131	Charlestown Navy Yard - Bldg 150 - Yard Garage	Navy Yard	Boston	1920
BOS.5132	Charlestown Navy Yard - Bldgs 165, 165A and 165B	Navy Yard	Boston	1937
BOS.5133	Charlestown Navy Yard - Building 196 - Test Plant	Navy Yard	Boston	1936
BOS.5134	Charlestown Navy Yard - Bldg 197 - Engineering Ofc	Navy Yard	Boston	1941
BOS.5135	Charlestown Navy Yard - Building 198 - Warehouse	Navy Yard	Boston	1941
BOS.5136	Charlestown Navy Yard - Building 199 - Warehouse	Navy Yard	Boston	1941
BOS.5137	Charlestown Navy Yard - Bldg 200 - Security Office	Navy Yard	Boston	1942
BOS.5138	Charlestown Navy Yard - Building 203 - Incinerator	Navy Yard	Boston	1942
BOS.5139	Charlestown Navy Yard - Building 204 - Motor Pool	Navy Yard	Boston	1927
BOS.5140	Charlestown Navy Yard - Building 207	Navy Yard	Boston	1942
BOS.5141	Charlestown Navy Yard - Bldg 243 - Gatehouse #5	Navy Yard	Boston	1935
BOS.5142	Charlestown Navy Yard - Bldg 244 - Gatehouse #4	Navy Yard	Boston	1935
BOS.5143	Charlestown Navy Yard - Bldg 245 - ComOne Garage	Navy Yard	Boston	1929
BOS.5144	Charlestown Navy Yard - Bldg 267 - Main Gate	Navy Yard	Boston	1959
BOS.5145	Charlestown Navy Yard - Building 269 - Garages B-F	Navy Yard	Boston	1941
BOS.5146	Charlestown Navy Yard - Building 178 - Storehouse	Navy Yard	Boston	1918
BOS.5147	Charlestown Navy Yard - Building 193 -	Navy Yard	Boston	1918

Inv. No.	Property Name	Street	Town	Year
	Storehouse			
BOS.5148	Charlestown Navy Yard - Building 187 - Storehouse	Navy Yard	Boston	1918
BOS.5149	Charlestown Navy Yard - Building 210 - Storehouse	Navy Yard	Boston	1940
BOS.5150	Charlestown Navy Yard - Building 217 - Storehouse	Navy Yard	Boston	1940
BOS.5151	Charlestown Navy Yard - Building 218 - Storehouse	Navy Yard	Boston	1940
BOS.5152	Charlestown Navy Yard - Building 191 - Pumphouse	Navy Yard	Boston	
BOS.5153	Charlestown Navy Yard - Building 191A - Pumphouse	Navy Yard	Boston	
BOS.5154	Charlestown Navy Yard - Building 227 - Pumphouse	Navy Yard	Boston	
BOS.5155	Charlestown Navy Yard - Building 229 - Pumphouse	Navy Yard	Boston	
BOS.5156	Charlestown Navy Yard - Building 232 - Pumphouse	Navy Yard	Boston	
BOS.5157	Charlestown Navy Yard - Bldg 124 - Public Toilet	Navy Yard	Boston	
BOS.5158	Charlestown Navy Yard - Bldg 127 - Public Toilet	Navy Yard	Boston	
BOS.5159	Charlestown Navy Yard - Bldg 206 - Public Toilet	Navy Yard	Boston	
BOS.5160	Charlestown Navy Yard - Building 192 - Powerhouse	Navy Yard	Boston	1950
BOS.5161	Charlestown Navy Yard - Building 192A - Powerhouse	Navy Yard	Boston	1950
BOS.5162	Charlestown Navy Yard - Building 224 - Powerhouse	Navy Yard	Boston	1950
BOS.5163	Charlestown Navy Yard - Building 275 - Powerhouse	Navy Yard	Boston	1950
BOS.5164	Charlestown Navy Yard - Building 278 - Powerhouse	Navy Yard	Boston	1950
BOS.5165	Charlestown Navy Yard - Bldg 211B - Service Bldg	Navy Yard	Boston	1960
BOS.5166	Charlestown Navy Yard - Bldg 215B/C - Service Bldg	Navy Yard	Boston	1960
BOS.5167	Charlestown Navy Yard - Bldg 226 - Service Bldg	Navy Yard	Boston	1960
BOS.5168	Charlestown Navy Yard - Bldg 228 - Service Bldg	Navy Yard	Boston	1960
BOS.5169	Charlestown Navy Yard - Bldg 230 - Service Bldg	Navy Yard	Boston	1960
BOS.5170	Charlestown Navy Yard - Bldg 233 - Service Bldg	Navy Yard	Boston	1960
BOS.5171	Charlestown Navy Yard - Bldg 124 - Latrine	Navy Yard	Boston	1903
BOS.5172	Charlestown Navy Yard - Bldg M-1 - Tool House	Navy Yard	Boston	1944
BOS.5173	Charlestown Navy Yard - Bldg M-37 - Temporary	Navy Yard	Boston	1923



Inv. No.	Property Name	Street	Town	Year
	Shed			
BOS.5174	Charlestown Navy Yard - Temporary Sheds	Navy Yard	Boston	1900
BOS.9054	USS Constitution	Navy Yard	Boston	1797
BOS.9061	Charlestown Navy Yard - Building 220	Navy Yard	Boston	1943
BOS.9062	Charlestown Navy Yard - Buildings 221 and 223	Navy Yard	Boston	1942
BOS.9063	Charlestown Navy Yard - Building 222	Navy Yard	Boston	1870
BOS.9064	Charlestown Navy Yard - Bldg 234 - Railroad Scales	Navy Yard	Boston	1918
BOS.9065	Charlestown Navy Yard - Bldg 236 - Tennis Courts	Navy Yard	Boston	1945
BOS.9066	Charlestown Navy Yard - Building 237	Navy Yard	Boston	1945
BOS.9067	Charlestown Navy Yard - Bldgs 238-240 and 246-255	Navy Yard	Boston	1940
BOS.9069	Charlestown Navy Yard - Bldg 258 - Police Shelter	Navy Yard	Boston	1958
BOS.9070	Charlestown Navy Yard - Building 259 - Sand Hopper	Navy Yard	Boston	1955
BOS.9071	Charlestown Navy Yard - Bldg 261 - Saluting Guns	Navy Yard	Boston	1945
BOS.9072	Charlestown Navy Yard - Bldg 262 - Crane Tracks	Navy Yard	Boston	1935
BOS.9073	Charlestown Navy Yard - Bldg 263 - Pickling Tanks	Navy Yard	Boston	1935
BOS.9074	Charlestown Navy Yard - Bldg 264 - Cooling Tower	Navy Yard	Boston	1955
BOS.9075	Charlestown Navy Yard - Building 168 - Ash Silo	Navy Yard	Boston	1920
BOS.9078	Charlestown Navy Yard - Dry Dock 1	Navy Yard	Boston	1827
BOS.9079	Charlestown Navy Yard - Dry Dock 2	Navy Yard	Boston	1827
BOS.9080	Charlestown Navy Yard - Dry Dock 5	Navy Yard	Boston	1940
BOS.9081	Charlestown Navy Yard - Shipway 1	Navy Yard	Boston	
BOS.9082	Charlestown Navy Yard - Shipway 2	Navy Yard	Boston	1822
BOS.9083	Charlestown Navy Yard - Pier 1	Navy Yard	Boston	1901
BOS.9084	Charlestown Navy Yard - Pier 2	Navy Yard	Boston	1905
BOS.9085	Charlestown Navy Yard - Pier 3	Navy Yard	Boston	1903
BOS.9086	Charlestown Navy Yard - Pier 4	Navy Yard	Boston	1903
BOS.9087	Charlestown Navy Yard - Pier 5	Navy Yard	Boston	1920
BOS.9088	Charlestown Navy Yard - Pier 6	Navy Yard	Boston	1920
BOS.9089	Charlestown Navy Yard - Pier 7	Navy Yard	Boston	1903
BOS.9090	Charlestown Navy Yard - Pier 8	Navy Yard	Boston	
BOS.9091	Charlestown Navy Yard - Pier 9	Navy Yard	Boston	
BOS.9092	Charlestown Navy Yard - Pier 10	Navy Yard	Boston	1920

Inv. No.	Property Name	Street	Town	Year
BOS.9093	Charlestown Navy Yard - Pier 11	Navy Yard	Boston	1940
BOS.9094	Charlestown Navy Yard - Marine Railway #11	Navy Yard	Boston	1917
BOS.9095	Charlestown Navy Yard - Timber - Wet Dock Sites	Navy Yard	Boston	
BOS.9096	Charlestown Navy Yard - Marine Parade Ground	Navy Yard	Boston	1810
BOS.9097	Charlestown Navy Yard - First Avenue	Navy Yard	Boston	1827
BOS.9098	Charlestown Navy Yard - Second Avenue	Navy Yard	Boston	1827
BOS.9099	Charlestown Navy Yard - Third Avenue	Navy Yard	Boston	1827
BOS.9100	Charlestown Navy Yard - Fourth Avenue	Navy Yard	Boston	1827
BOS.9101	Charlestown Navy Yard - Sixteenth Street	Navy Yard	Boston	1827
BOS.9102	Charlestown Navy Yard - Fifth Avenue	Navy Yard	Boston	1827
BOS.9103	Charlestown Navy Yard - First Street	Navy Yard	Boston	1827
BOS.9104	Charlestown Navy Yard - Sixth Street	Navy Yard	Boston	1827
BOS.9105	Charlestown Navy Yard - Eighth Street	Navy Yard	Boston	1827
BOS.9106	Charlestown Navy Yard - Ninth Street	Navy Yard	Boston	1827
BOS.9107	Charlestown Navy Yard - Tenth Street	Navy Yard	Boston	1827
BOS.9108	Charlestown Navy Yard - Thirteenth Street	Navy Yard	Boston	1827
BOS.9109	Charlestown Navy Shipyard - Baxter Road	Navy Yard	Boston	1904
BOS.9110	Charlestown Navy Ship Yard - Bandstand	Navy Yard	Boston	1950
BOS.9111	Charlestown Navy Yard - Commandant's Brick Walks	Navy Yard	Boston	1914
BOS.9112	Charlestown Navy Yard - Commandant's Driveway	Navy Yard	Boston	1911
BOS.9113	Charlestown Navy Yard - Crane Tracks	Navy Yard	Boston	1905
BOS.9117	Charlestown Navy Yard - Railroad Tracks	Navy Yard	Boston	1863
BOS.9118	Charlestown Navy Yard - Abrasive Grit Hopper	Navy Yard	Boston	1963
BOS.9119	Charlestown Navy Yard - Auxiliary Pier	Navy Yard	Boston	1911
BOS.9120	Charlestown Navy Yard - Dry Dock 1 - Capstan 1	Navy Yard	Boston	1906
BOS.9121	Charlestown Navy Yard - Dry Dock 1 - Capstan 2	Navy Yard	Boston	1906
BOS.9122	Charlestown Navy Yard - Dry Dock 1 - Capstan 3	Navy Yard	Boston	1906
BOS.9123	Charlestown Navy Yard - Curtain Gate - View Gate	Navy Yard	Boston	1957
BOS.9124	Charlestown Navy Yard - Finger Pier	Navy Yard	Boston	1951
BOS.9125	Charlestown Navy Yard - Gate 1	Navy Yard	Boston	1959
BOS.9126	Charlestown Navy Yard - Gate 2	Navy Yard	Boston	1938
BOS.9127	Charlestown Navy Yard - Gate 3	Navy Yard	Boston	1825
BOS.9128	Charlestown Navy Yard - Gate 4	Navy Yard	Boston	1929
BOS.9129	Charlestown Navy Yard - Granite Wall	Navy Yard	Boston	1821
BOS.9130	Charlestown Navy Yard - Railroad Gate	Navy Yard	Boston	1933

Inv. No.	Property Name	Street	Town	Year
BOS.9131	Charlestown Navy Yard - Saluting Battery Bunker	Navy Yard	Boston	1948
BOS.9132	Charlestown Navy Yard - Torii Gate	Navy Yard	Boston	1955
BOS.9134	Charlestown Navy Yard - B & M Boxcar 76060	Navy Yard	Boston	1957
BOS.9135	Charlestown Navy Yard - B & M Boxcar 76457	Navy Yard	Boston	1957
BOS.9136	Charlestown Navy Yard - Portal Crane 30	Navy Yard	Boston	1943
BOS.9137	Charlestown Navy Yard - Portal Crane 62	Navy Yard	Boston	1943
BOS.9138	Charlestown Navy Yard - Portal Crane 65	Navy Yard	Boston	1943
BOS.9139	Charlestown Navy Yard - Dry Dock Caisson	Navy Yard	Boston	1901
BOS.9141	USS Cassin Young	Navy Yard	Boston	1943
BOS.9482	Charlestown Navy Yard - Bldg 235 - Truck Scale	Navy Yard	Boston	1957
BOS.9047	Charlestown Bridge	North Washington St	Boston	1898
BOS.4805	Gilman, John F. House	23 Oak St	Boston	1865
BOS.4806	Gilman, John F. House	25 Oak St	Boston	1865
BOS.4807	Carr, Samuel House	31 Oak St	Boston	1840
BOS.4808	Mulliken, John W. - Barnicoat, John W. II House	101 Old Rutherford Ave	Boston	1835
BOS.4809	Sisson, Robert House	117 Old Rutherford Ave	Boston	1809
BOS.4810	Hunnewell, John L. - Breed, Ebenezer House	11 Park St	Boston	1840
BOS.4811	Hunnewell, John L. - Breed, Ebenezer House	13 Park St	Boston	1840
BOS.4812	Hunnewell, John L. - Breed, Ebenezer House	15 Park St	Boston	1840
BOS.4818	Hunnewell, John L. - Breed, Ebenezer House	17 Park St	Boston	1840
BOS.4819	Hunnewell, John L. - Breed, Ebenezer House	19 Park St	Boston	1840
BOS.4820	Hunnewell, John L. - Breed, Ebenezer House	21 Park St	Boston	1840
BOS.4821		23-25 Park St	Boston	1820
BOS.4823	Stetson, David House	47-49 Park St	Boston	1840
BOS.4825	Stetson, David House	51 Park St	Boston	1830
BOS.4826	Stetson, David Double House	52 Park St	Boston	1820
BOS.4827	Chadwick, John Double House	53-55 Park St	Boston	1805
BOS.4828	Towne, Orr N. House	3 Parker St	Boston	1844
BOS.13959	Pruden, Israel R. Double House	32 Parker St	Boston	1860
BOS.4833	Pratt, Caleb House	32 Pearl St	Boston	1843
BOS.4834	Pratt, Caleb House	34 Pearl St	Boston	1843
BOS.4835	Pratt, Caleb House	36 Pearl St	Boston	1843
BOS.4836		55 Pearl St	Boston	
BOS.4837	Littlefield, Ivory Double House	62-64 Pearl St	Boston	1844
BOS.4840	Pierce, Charles Double House	63-65 Pearl St	Boston	1844
BOS.4838		68-70 Pearl St	Boston	1844
BOS.4839		72-74 Pearl St	Boston	1844

Inv. No.	Property Name	Street	Town	Year
BOS.4841	Williams, Gilbert House	79 Pearl St	Boston	1856
BOS.4842	Williams, Sheldon Double House	89-91 Pearl St	Boston	1845
BOS.4829	Page, Benjamin House	1 Pearl Street Pl	Boston	1846
BOS.4830	Page, Benjamin House	2 Pearl Street Pl	Boston	1846
BOS.4831	Page, Benjamin House	3 Pearl Street Pl	Boston	1846
BOS.4832	Page, Benjamin House	4 Pearl Street Pl	Boston	1846
BOS.4844	Lawrence, Edward A. - Parker, Benjamin House	71-71B Perkins St	Boston	1871
BOS.807	Phipps Street Burying Ground	Phipps St	Boston	1630
BOS.4850	Brown, James - Goodnow, Levi Double House	22-24 Pleasant St	Boston	1851
BOS.4852	Kettle, Andrew House	23 Pleasant St	Boston	1808
BOS.4853	Bacon, William H. House	58 Pleasant St	Boston	1852
BOS.4854	Smith, Willilam T. House and Cigar Shop	60 Pleasant St	Boston	1854
BOS.4845	Foss, Jacob House	1 Pleasant Street Ct	Boston	1850
BOS.4846	Foss, Jacob House	2 Pleasant Street Ct	Boston	1850
BOS.4847	Foss, Jacob House	3 Pleasant Street Ct	Boston	1850
BOS.4848	Foss, Jacob House	4 Pleasant Street Ct	Boston	1850
BOS.4855	Edmands, James C. House	1 Prescott St	Boston	1804
BOS.4856	Cutter, Thomas M. House	21 Prescott St	Boston	1868
BOS.4857	Pool, Lott House	23 Prescott St	Boston	1824
BOS.4858	O'Riordan, Jeremiah P. Apartment House	8-10 Prospect St	Boston	1903
BOS.4860	Larkin, Isaac House	5 Putnam St	Boston	1806
BOS.4861	Howland, Zenas C. - Waitt, Israel Double House	8-10 Putnam St	Boston	1852
BOS.4863	Clough, Ebenezer House Ell	10R Putnam St	Boston	1798
BOS.4864	Leeman, Daniel Double House	12-14 Putnam St	Boston	1805
BOS.4422	Carter, Daniel House	19 Putnam St	Boston	1795
BOS.4866	Crosby Steam Gage and Valve Company Factory	24 Roland St	Boston	1888
BOS.4867	Puritan Brewery - Commercial Brewery	40 Roland St	Boston	1898
BOS.12850	Wirth's Bottling Co. - Hanover Bottling Co.	52 Roland St	Boston	1908
BOS.12851	Hood, H. P. Ice Cream Company	56 Roland St	Boston	1917
BOS.944	Tobin Bridge	Route 1	Boston	1950
BOS.4868	Page, Enoch House	5 Russell St	Boston	1841
BOS.4869	Weston, David B. - Mason, Rufus House	19 Russell St	Boston	1857
BOS.4878	Caldwell, John B. Double House	20-22 Russell St	Boston	1845
BOS.4870	Weston, David B. - Mason, Rufus House	21 Russell St	Boston	1857
BOS.4871	Weston, David B. - Mason, Rufus House	23 Russell St	Boston	1857
BOS.4879	Williams, Gilbert House	24 Russell St	Boston	1859
BOS.4872	Weston, David B. - Mason, Rufus House	25 Russell St	Boston	1857



Inv. No.	Property Name	Street	Town	Year
BOS.4880	Williams, Gilbert House	26 Russell St	Boston	1859
BOS.4873	Weston, David B. - Mason, Rufus House	27 Russell St	Boston	1857
BOS.4881	Williams, Gilbert House	28 Russell St	Boston	1859
BOS.4874	Weston, David B. - Mason, Rufus House	29 Russell St	Boston	1857
BOS.4882	Williams, Gilbert House	30 Russell St	Boston	1859
BOS.4875	Weston, David B. - Mason, Rufus House	31 Russell St	Boston	1857
BOS.4883	Williams, Gilbert House	32 Russell St	Boston	1859
BOS.4876	Weston, David B. - Mason, Rufus House	33 Russell St	Boston	1857
BOS.4877	Weston, David B. - Mason, Rufus House	35 Russell St	Boston	1857
BOS.4884	Emery, James Double House	58-60 Russell St	Boston	1837
BOS.4886	Monroe, George S. House	115 Russell St	Boston	1859
BOS.12852	Rosev Dairy	420-438 Rutherford Ave	Boston	1950
BOS.13986		480 Rutherford Ave	Boston	1953
BOS.13987		480 Rutherford Ave	Boston	1950
BOS.12853	Hood, H. P. and Sons Milk Company	500 Rutherford Ave	Boston	1928
BOS.12854	Hood, H. P. and Sons Power Station	500 Rutherford Ave	Boston	1928
BOS.12855	Sawyer, Henry Printers	586 Rutherford Ave	Boston	1900
BOS.4888		2-4 Salem St	Boston	1795
BOS.4893	Osgood, Thomas House	8 Salem St	Boston	1799
BOS.4887	Rice, Capt. Thomas House	2 Salem Street Ave	Boston	1826
BOS.4889	Rand, James H. House	3 Salem Street Ave	Boston	1869
BOS.4890	Rand, James H. House	4 Salem Street Ave	Boston	1869
BOS.4891	Rand, James H. House	5 Salem Street Ave	Boston	1869
BOS.4892	Malloon, Joseph W. House	6 Salem Street Ave	Boston	1869
BOS.4894		39 School St	Boston	1895
BOS.4895	Bellows, Albert J. House	1 Seminary St	Boston	1845
BOS.4896	Osgood and Hart Iron Foundry	3 Sherman St	Boston	1870
BOS.4897		10 Soley St	Boston	1850
BOS.4898	Rand, James H. House	22 Soley St	Boston	1867
BOS.4899	Rand, James H. House	24 Soley St	Boston	1867
BOS.4900	Rand, James H. House	26 Soley St	Boston	1867
BOS.4901	Rand, James H. House	28 Soley St	Boston	1867
BOS.4902	Rand, James H. House	30 Soley St	Boston	1867
BOS.4903	Rand, James H. House	32 Soley St	Boston	1867
BOS.4904	Rand, James H. House	34 Soley St	Boston	1867
BOS.4905	Rand, James H. House	36 Soley St	Boston	1867
BOS.4906	Fosdick, John House	48 Soley St	Boston	1806
BOS.4907	Stinehart, W. House	60 Soley St	Boston	1868

Inv. No.	Property Name	Street	Town	Year
BOS.12857	Fraser and Malloy Associates Building	Spice St	Boston	1935
BOS.4908	D'Este, Julian Brass Finishing Company and Foundry	6 Spice St	Boston	1895
BOS.12856	Wright, Henry E. and Son Milk Can Factory	24-26 Spice St	Boston	1890
BOS.12849	Boston and Maine Railroad Roundhouse	D St	Boston	1900
BOS.4910	Bray, Joseph E. House	18 Sullivan St	Boston	1865
BOS.4911	Bray, Joseph E. House	20 Sullivan St	Boston	1865
BOS.4912	Bray, Joseph E. House	22 Sullivan St	Boston	1865
BOS.4913	Bray, Joseph E. House	24 Sullivan St	Boston	1865
BOS.4914	Bray, Joseph E. House	26 Sullivan St	Boston	1865
BOS.4915	Harrington, Thaddeus House	42 Sullivan St	Boston	1810
BOS.4916	Kidney, James W. House	52 Sullivan St	Boston	1863
BOS.4917	Caldwell, John B. Double House	57-59 Sullivan St	Boston	1845
BOS.4681	Wiggins Lumber Terminal Complex - Building #1	50 Terminal St	Boston	1910
BOS.12866	Wiggins Lumber Terminal Complex - Building #2	50 Terminal St	Boston	1910
BOS.12867	United State Gypsum Company	200 Terminal St	Boston	1928
BOS.5039	Charlestown Savings Bank	1-4 Thompson Sq	Boston	1876
BOS.4918	Thompson - Sawyer House	9 Thompson St	Boston	1800
BOS.4919	Brown, Ezra - Tirrell, Artemus Double House	1-3 Tremont St	Boston	1845
BOS.4921		2 Tremont St	Boston	1868
BOS.4922	Littlefield, Ivory House	4 Tremont St	Boston	1868
BOS.4923	Chase, Silas E. House	6 Tremont St	Boston	1868
BOS.4924		8 Tremont St	Boston	1868
BOS.4925	Whitehead, George House	16 Tremont St	Boston	1848
BOS.4926	Tufts, Charles Double House	19 Tremont St	Boston	1860
BOS.4927	Warren, Sampson - Adams, Uriel House	7 Trenton St	Boston	1868
BOS.4928	Warren, Sampson - Adams, Uriel House	9 Trenton St	Boston	1868
BOS.4929	Warren, Sampson - Adams, Uriel House	11 Trenton St	Boston	1868
BOS.4930	Warren, Sampson - Adams, Uriel House	13 Trenton St	Boston	1868
BOS.4931	Warren, Sampson - Adams, Uriel House	15 Trenton St	Boston	1868
BOS.4932	Warren, Sampson - Adams, Uriel House	17 Trenton St	Boston	1868
BOS.4933	Adams, Uriel Double House	22 Trenton St	Boston	1865
BOS.4934	Adams, Uriel Double House	24 Trenton St	Boston	1865
BOS.4935	Hichborn, William House	27 Trenton St	Boston	1860
BOS.4949	Saint Catherine of Siena Roman Catholic School	13 Tufts St	Boston	1910
BOS.4936	Foster, Jacob Jr. - Kendall, Loammi House	9 Union St	Boston	1828
BOS.4937	Foster, Jacob Jr. - Kendall, Loammi House	11 Union St	Boston	1828
BOS.4938	Foster, Jacob Jr. - Kendall, Loammi House	13 Union St	Boston	1828

Inv. No.	Property Name	Street	Town	Year
BOS.4939	Forster, Jacob Double House	19-21 Union St	Boston	1800
BOS.4940	Bradford, Jeremiah B. - Remick, Hiram P. Townhouse	23 Union St	Boston	1857
BOS.4941	Field, Apollos House	30 Union St	Boston	1814
BOS.4942	Gilmore, John Double House	31 Union St	Boston	1807
BOS.4943	MacKentire, Eliab P. - Tufts, Nathan A. House	35 Union St	Boston	1849
BOS.4944	MacKentire, Eliab P. - Tufts, Nathan A. House	37 Union St	Boston	1849
BOS.4945	MacKentire, Eliab P. - Tufts, Nathan A. House	39 Union St	Boston	1849
BOS.4946	Saint Catherine of Siena Roman Catholic Church	Vine St	Boston	1887
BOS.4947	Saint Catherine of Siena Roman Catholic Rectory	49 Vine St	Boston	1890
BOS.4950	Green, Mary Ann House	5 Walker St	Boston	1851
BOS.4951	Green, Mary Ann House	7 Walker St	Boston	1851
BOS.4317	Green, Mary Ann House	9 Walker St	Boston	1851
BOS.4952	Green, Mary Ann House	11 Walker St	Boston	1851
BOS.4953	Edwards, Clarence R. Jr. High School	30 Walker St	Boston	1931
BOS.4954	Pratt, Caleb House	31 Walker St	Boston	1847
BOS.4955	Pratt, Caleb House	33 Walker St	Boston	1847
BOS.4956	Pratt, Caleb House	35 Walker St	Boston	1847
BOS.4957	Stone, John - Page, Susan Double House	1-2 Wall St	Boston	1850
BOS.4958	Hitchings, Nathaniel House	3 Wall St	Boston	1846
BOS.4959	Jordan, George W. House	4 Wall St	Boston	1846
BOS.4960	Mason, David B. - Mason, Rufus House	7 Wall St	Boston	1857
BOS.4961	Mason, David B. - Mason, Rufus House	9 Wall St	Boston	1857
BOS.4962	Mason, David B. - Mason, Rufus House	11 Wall St	Boston	1857
BOS.4963	Mason, David B. - Mason, Rufus House	13 Wall St	Boston	1857
BOS.4964	Mason, David B. - Mason, Rufus House	15 Wall St	Boston	1857
BOS.4965	Mason, David B. - Mason, Rufus House	17 Wall St	Boston	1857
BOS.4966	Mason, David B. - Mason, Rufus House	19 Wall St	Boston	1857
BOS.4967	Bragdon, William House	1 Wallace Ct	Boston	1850
BOS.4968	Bragdon, William House	2 Wallace Ct	Boston	1850
BOS.4969	Bragdon, William House	3 Wallace Ct	Boston	1850
BOS.4970	Bragdon, William House	4 Wallace Ct	Boston	1850
BOS.4971	Bragdon, William House	5 Wallace Ct	Boston	1850
BOS.4972	Bragdon, William House	6 Wallace Ct	Boston	1850
BOS.4973	Bragdon, William House	7 Wallace Ct	Boston	1850
BOS.4974	Bragdon, William House	8 Wallace Ct	Boston	1850
BOS.4975	Saint Mary's Roman Catholic Parochial School	49 Warren St	Boston	1901

Inv. No.	Property Name	Street	Town	Year
BOS.4976	Saint Mary's Roman Catholic Church	53 Warren St	Boston	1887
BOS.4977	Wiley, Robert R. Town House	59 Warren St	Boston	1871
BOS.4984	Coburn, Daniel J. Double House	72-74 Warren St	Boston	1837
BOS.4978	Fernald, William Town House	77 Warren St	Boston	1840
BOS.4985	Brown, David House	78 Warren St	Boston	1837
BOS.4979	Fernald, William Town House	79 Warren St	Boston	1840
BOS.4980	Fiske, Benjamin - Bridge, William Stoddard House	81 Warren St	Boston	1808
BOS.4981		81 1/2 Warren St	Boston	1885
BOS.4982	Kettel, Andrew House	85 Warren St	Boston	1800
BOS.4986	Sawyer, William - Thompson, Timothy Double House	88 Warren St	Boston	1805
BOS.4983	Thompson, Timothy Jr. Double House	107-109 Warren St	Boston	1840
BOS.4524	Turner, Job A. - Cudworth, Samuel S. Town House	2 Washington St	Boston	1846
BOS.4988	Dow, Moses A. Town House	5 Washington St	Boston	1858
BOS.4989	Seymour, Friend Town House	6 Washington St	Boston	1867
BOS.4990	Seymour, Friend Town House	8 Washington St	Boston	1867
BOS.4991	Seymour, Friend Town House	10 Washington St	Boston	1867
BOS.4992	Seymour, Friend Town House	12 Washington St	Boston	1867
BOS.4987	Kendall, Isaac House	25 Washington St	Boston	1830
BOS.4993	Souther, Joseph Town House	27 Washington St	Boston	1830
BOS.4994	Tufts, Joseph Town House	29 Washington St	Boston	1830
BOS.4995	Wesson, John House	31 Washington St	Boston	1842
BOS.4996	Wesson, John House	33 Washington St	Boston	1842
BOS.4997	Wesson, John House	35 Washington St	Boston	1842
BOS.4998	Adams, James Double House	37-39 Washington St	Boston	1838
BOS.5000	Warren, James House	40 Washington St	Boston	1804
BOS.5001		42 Washington St	Boston	
BOS.5002		44 Washington St	Boston	1830
BOS.5003		57-59 Washington St	Boston	1840
BOS.5004	Charlestown Wharf Company Row House	74 Washington St	Boston	1839
BOS.5005	Charlestown Wharf Company Row House	76 Washington St	Boston	1839
BOS.5006	Charlestown Wharf Company Row House	78 Washington St	Boston	1839
BOS.5007	Charlestown Wharf Company Row House	80 Washington St	Boston	1839
BOS.5008	Charlestown Wharf Company Row House	82 Washington St	Boston	1839
BOS.5009	Charlestown Wharf Company Row House	84 Washington St	Boston	1839
BOS.5010	Charlestown Wharf Company Row House	86 Washington St	Boston	1839
BOS.5011	Wiley, William House	1 Washington Terr	Boston	1794



Inv. No.	Property Name	Street	Town	Year
BOS.5083	Hoosac Stores 3	25 Water St	Boston	1875
BOS.5081	Hoosac Stores 1 and 2	115 Water St	Boston	1895
BOS.5082	Hoosac Stores 1 and 2 Scale House	115 Water St	Boston	
BOS.13983		27 West St	Boston	1935
BOS.9050	Training Field, The	Winthrop St	Boston	1640
BOS.5012	Smith, Joseph House	27 Winthrop St	Boston	1848
BOS.5013	Klous, E. F. and Issac Apartment Building	29-31 Winthrop St	Boston	1883
BOS.5014	Wiley, Robert R. - Cushing, Isaac C. House	30 Winthrop St	Boston	1860
BOS.5015	Wiley, Robert R. - Cushing, Isaac C. House	32 Winthrop St	Boston	1860
BOS.5016	Charlestown Engine House #50	32A Winthrop St	Boston	1915
BOS.5017	Wilson, Samuel S. House	33 Winthrop St	Boston	1868
BOS.5019	O'Reilly, John Boyle House	34 Winthrop St	Boston	1860
BOS.5018	Brock, Bridget House	35 Winthrop St	Boston	1894
BOS.5020		36 Winthrop St	Boston	1860
BOS.5025	Hatch House	37 Winthrop St	Boston	1880
BOS.5021		38 Winthrop St	Boston	1860
BOS.5022		40 Winthrop St	Boston	1860
BOS.5023		42 Winthrop St	Boston	1860
BOS.5024		44 Winthrop St	Boston	1860
BOS.5026	Saint Mary's Roman Catholic Church Parish Hall	54 Winthrop St	Boston	1913
BOS.5029	Osgood, Thomas - Bird, Capt. Comfort House	56 Winthrop St	Boston	1798
BOS.5030	Murray, Harriet B. Apartment Building	58-60 Winthrop St	Boston	1901
BOS.5031	Brown, Nathaniel House	65 Winthrop St	Boston	1855
BOS.5032	Tufts, Nathan F. House	67 Winthrop St	Boston	1855
BOS.5033	Hall, Francis Town House	70 Winthrop St	Boston	1870
BOS.5034	Newall, Charles F. Town House	72 Winthrop St	Boston	1870
BOS.5035	Wood, David House	2 Wood St	Boston	1800
BOS.5036	Goodridge, Abijah - Barrett, Jonas House	27 Wood St	Boston	1841



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the official list of the Nation's historic places worthy of preservation

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The Documentation consists of

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- We are currently digitizing our records and have put many of them online in our [database at: \*\*http://nrhp.focus.nps.gov/\*\*](#)
- Our database contains digitized files for National Historic Landmarks, National Park properties that are listed in the National Register, Multiple Property (MPS) Covers, and the files for many states.
- The [download center](#) has many useful finding aids: for historic contexts (MPS Covers), all listed properties, and Determinations of Eligibility.
- Visit our archives. Open Monday through Friday 9:00am to noon. For security reasons, an appointment is necessary to access our building. To schedule an appointment please contact Jeff Joeckel: 202-354-2225 or [e-mail](#)
- Many State Historic Preservation Offices (SHPOs) have digitized their files and put them online. The depth of information available varies from state to state, but ranges from basic locational information to searchable databases with downloadable narrative descriptions and photos. You can check their websites to see if they have the information you need. [List of SHPOs extended information](#).

- Request copies of individual nominations either via [e-mail](#) please include your mailing address and the property name, county, and state. or postal mail:

National Register of Historic Places  
National Park Service  
1849 C St., NW (MS 2280)  
Washington, DC 20240

Please note, due to irradiation of USPS mail in Washington, DC, we recommend sending official correspondence to us by direct or overnight mail at the following address:

1201 Eye St., NW  
8th Floor (MS 2280)  
Washington, DC 20005



**Did You Know? [Eagle Saloon, Karnofsky Tailor Shop and House, and Iroquois Theater](#)**

Jazz, Movies, and More: South Rampart Street in New Orleans was home to a variety of theaters, clubs, and African-American owned businesses. Frequented by many, like Louis Armstrong, find out what else this lively block had to offer patrons.

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## Boston Naval Shipyard [Image]

URL: <http://pdfhost.focus.nps.gov/docs/NHLS/Text/66000134.pdf>  
Link will open in a new browser window

URL: <http://pdfhost.focus.nps.gov/docs/NHLS/Photos/66000134.pdf>  
Link will open in a new browser window

Publisher: National Park Service

Published: 11/15/1966

Access: Public access

Restrictions: All Rights Reserved

Format/Size: Physical document with text, photos and map

Language: eng: English

Note: E of Chelsea St., Charlestown

Item No.: 66000134 *NHLS (National Historic Landmark System)*

Subject: **EVENT**

Subject: **ARCHITECTURE/ENGINEERING**

Subject: **INFORMATION POTENTIAL**

Subject: **ARCHITECTURE**

Subject: **ENGINEERING**

Subject: **HISTORIC - NON-ABORIGINAL**



Subject: INDUSTRY  
Subject: INVENTION  
Subject: MILITARY  
Subject: TRANSPORTATION  
Subject: DISTRICT  
Subject: 1925-1949  
Subject: 1900-1924  
Subject: 1875-1899  
Subject: 1850-1874  
Subject: 1825-1849  
Subject: 1800-1824  
Keywords: Parris,Alexander,et al.;1800  
Park name: Boston National Historical Park  
Place: MASSACHUSETTS -- Suffolk County -- Boston  
Park code: BOST

Record Number: 430336  
Record Owner: National Register of Historic Places

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Last updated: 05/03/11

73



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

November 12, 2004

Jamie M. Fay  
 Fort Point Associates, Inc.  
 286 Congress Street  
 6<sup>th</sup> Floor  
 Boston, MA 02210

RE: Proposed Construction of Building 39A, Historic Monument Transfer Area, Charlestown Navy Yard; MHC# 30471

Dear Mr. Fay:

The Massachusetts Historical Commission has reviewed the information you submitted concerning the proposed project referenced above. As you are aware, the proposed project site is in the Charlestown Navy Yard, a district which is listed in the State and National Registers of Historic Places and is a National Historic Landmark.

The MHC has reviewed the project changes contained in the documents you sent. The MHC has concerns regarding the addition of rooftop balconies to the plan. Specifically, the MHC notes that the National Park Service may not approve the plan should it include balconies. The MHC requests that you provide the MHC with the comments and determination of the National Park Service concerning the overall design of the building and the proposed roof balconies. MHC suggests a conference call to discuss this project with the National Park Service, the participants of which would include MHC staff, yourself, and National Park Service staff. As you are aware, the National Park Service must approve proposed projects sited within the Historic Monument Area.

MHC also reiterates its request to review and comment on more detailed elevations as they become available.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). Please do not hesitate to contact Ann Lattinville of my staff if you have any questions.

Sincerely,

Brona Simon  
 Deputy State Historic Preservation Officer  
 Massachusetts Historical Commission

cc: Alisa McCann, NPS, Chesapeake/Allegheny System Support Office  
 Ellen Lipsey, BLC  
 BRA  
 Ruth Raphael, NPS, Boston National Historical Park

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



IN REPLY REFER TO:

H30(NER-PP/PA)

February 16, 2006

## United States Department of the Interior

NATIONAL PARK SERVICE  
Northeast Region  
United States Custom House  
200 Chestnut Street  
Philadelphia, PA 19106

*Received 3/21/06*

Mr. Geoff Lewis  
Boston Redevelopment Authority  
One City Hall Square  
Boston, MA 02201-1007

Dear Mr. Lewis:

Thank you for your letter of November 30, 2005, regarding the three development options proposed for Parcel 39A. Our office has reviewed the three proposals and has discussed them with David Carlson of your agency. As conveyed to you in my voicemail message, our office supports Option 2, a four-story building with skylights. We note and approve the new building height of 66'4", one foot and four inches higher than the existing approved guidelines for the parcel.

Please do not hesitate to contact me with any questions at either 215-597-0651 or [lisa\\_mccann@nps.gov](mailto:lisa_mccann@nps.gov).

Sincerely,

Alisa McCann  
Architectural Historian

cc:

T. Savage, Superintendent, BNHP  
D. Carlson, Boston Redevelopment Authority  
E. Lipsey, Boston Landmarks Commission  
E. Bell, Massachusetts Historical Commission

**APPENDIX D**

**Endangered Species Act Documentation**



# MassDEP - Bureau of Waste Site Cleanup

## MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

**Site Name:**

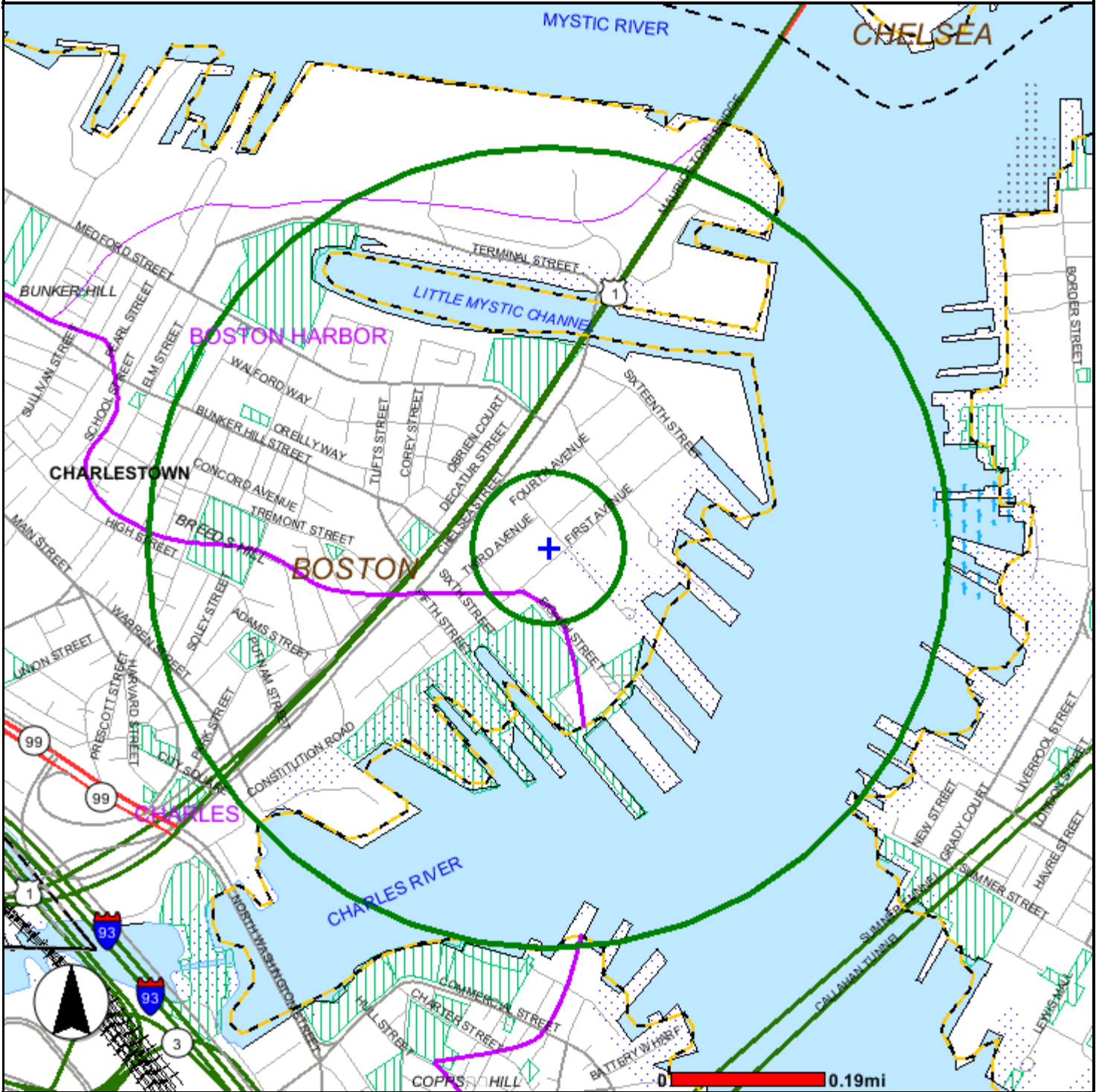
45 First Avenue  
45 First Avenue  
Boston-Charlestown, MA  
RTN  
NAD83 MA Coordinates:  
236822mE, 902946mN



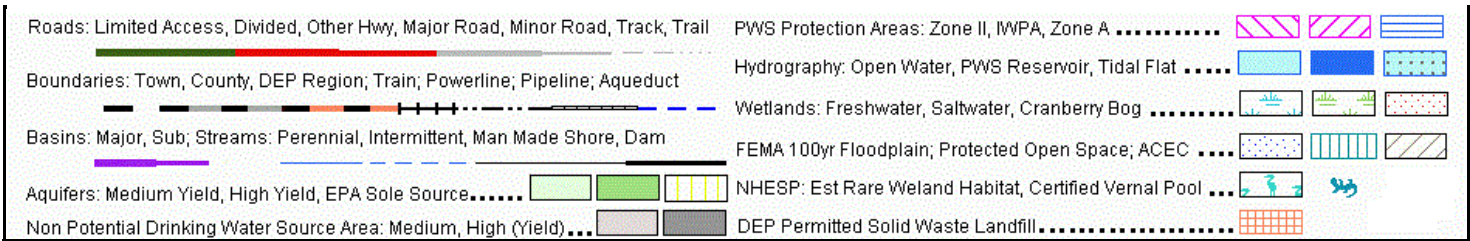
The information shown on this map is the best available at the date of printing. For more information please refer to [www.mass.gov/mgis/massgis.htm](http://www.mass.gov/mgis/massgis.htm)



May 3, 2011



# Map Output





# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5087  
<http://www.fws.gov/newengland>

January 3, 2011

To Whom It May Concern:

This project was reviewed for the presence of federally-listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office

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# MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN

November 2010

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**Total Approximate Acreage: 268,000 acres**

Approximate acreage and designation date follow ACEC names below.

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**Bourne Back River**

(1,850 acres, 1989) Bourne

**Canoe River Aquifer and Associated Areas** (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

**Cedar Swamp**

(1,650 acres, 1975) Hopkinton and Westborough

**Central Nashua River Valley**

(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

**Cranberry Brook Watershed**

(1,050 acres, 1983) Braintree and Holbrook

**Ellisville Harbor**

(600 acres, 1980) Plymouth

**Fowl Meadow and Ponkapoag Bog**

(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

**Golden Hills**

(500 acres, 1987) Melrose, Saugus, and Wakefield

**Great Marsh (originally designated as Parker River/Essex Bay)**

(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

**Herring River Watershed**

(4,450 acres, 1991) Bourne and Plymouth

**Hinsdale Flats Watershed**

(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

**Hockomock Swamp**

(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

**Inner Cape Cod Bay**

(2,600 acres, 1985) Brewster, Eastham, and Orleans

**Kampoosa Bog Drainage Basin**

(1,350 acres, 1995) Lee and Stockbridge

**Karner Brook Watershed**

(7,000 acres, 1992) Egremont and Mount Washington

**Miscoe, Warren, and Whitehall Watersheds**

(8,700 acres, 2000) Grafton, Hopkinton, and Upton

**Neponset River Estuary**

(1,300 acres, 1995) Boston, Milton, and Quincy

**Petapawag**

(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

**Pleasant Bay**

(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

**Pocasset River**

(160 acres, 1980) Bourne

**Rumney Marshes**

(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

**Sandy Neck Barrier Beach System**

(9,130 acres, 1978) Barnstable and Sandwich

**Schenob Brook Drainage Basin**

(13,750 acres, 1990) Mount Washington and Sheffield

**Squannassit**

(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

**Three Mile River Watershed**

(14,280 acres, 2008) Dighton, Norton, Taunton

**Upper Housatonic River**

(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

**Waquoit Bay**

(2,580 acres, 1979) Falmouth and Mashpee

**Weir River**

(950 acres, 1986) Cohasset, Hingham, and Hull

**Wellfleet Harbor**

(12,480 acres, 1989) Eastham, Truro, and Wellfleet

**Weymouth Back River**

(800 acres, 1982) Hingham and Weymouth



**Towns with ACECs within their Boundaries**
**November 2010**

<b>TOWN</b>	<b>ACEC</b>	<b>TOWN</b>	<b>ACEC</b>
Ashby	Squannassit	Mt. Washington	Karner Brook Watershed
Ayer	Petapawag		Schenob Brook
	Squannassit	Newbury	Great Marsh
Barnstable	Sandy Neck Barrier Beach System	Norton	Hockomock Swamp
Bolton	Central Nashua River Valley		Canoe River Aquifer
Boston	Rumney Marshes		Three Mile River Watershed
	Fowl Meadow and Ponkapoag Bog	Norwood	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary	Orleans	Inner Cape Cod Bay
Bourne	Pocasset River		Pleasant Bay
	Bourne Back River	Pepperell	Petapawag
	Herring River Watershed		Squannassit
Braintree	Cranberry Brook Watershed	Peru	Hinsdale Flats Watershed
Brewster	Pleasant Bay	Pittsfield	Upper Housatonic River
	Inner Cape Cod Bay	Plymouth	Herring River Watershed
Bridgewater	Hockomock Swamp		Ellisville Harbor
Canton	Fowl Meadow and Ponkapoag Bog	Quincy	Neponset River Estuary
Chatham	Pleasant Bay	Randolph	Fowl Meadow and Ponkapoag Bog
Cohasset	Weir River	Raynham	Hockomock Swamp
Dalton	Hinsdale Flats Watershed	Revere	Rumney Marshes
Dedham	Fowl Meadow and Ponkapoag Bog	Rowley	Great Marsh
Dighton	Three Mile River Watershed	Sandwich	Sandy Neck Barrier Beach System
Dunstable	Petapawag	Saugus	Rumney Marshes
Eastham	Inner Cape Cod Bay		Golden Hills
	Wellfleet Harbor	Sharon	Canoe River Aquifer
Easton	Canoe River Aquifer		Fowl Meadow and Ponkapoag Bog
	Hockomock Swamp	Sheffield	Schenob Brook
Egremont	Karner Brook Watershed	Shirley	Squannassit
Essex	Great Marsh	Stockbridge	Kampoosa Bog Drainage Basin
Falmouth	Waquoit Bay	Taunton	Hockomock Swamp
Foxborough	Canoe River Aquifer		Canoe River Aquifer
Gloucester	Great Marsh		Three Mile River Watershed
Grafton	Miscoe-Warren-Whitehall Watersheds	Truro	Wellfleet Harbor
		Townsend	Squannassit
Groton	Petapawag	Tyngsborough	Petapawag
	Squannassit	Upton	Miscoe-Warren-Whitehall Watersheds
Harvard	Central Nashua River Valley		
	Squannassit	Wakefield	Golden Hills
Harwich	Pleasant Bay	Washington	Hinsdale Flats Watershed
Hingham	Weir River		Upper Housatonic River
	Weymouth Back River	Wellfleet	Wellfleet Harbor
Hinsdale	Hinsdale Flats Watershed	W Bridgewater	Hockomock Swamp
Holbrook	Cranberry Brook Watershed	Westborough	Cedar Swamp
Hopkinton	Miscoe-Warren-Whitehall Watersheds	Westwood	Fowl Meadow and Ponkapoag Bog
		Weymouth	Weymouth Back River
	Cedar Swamp	Winthrop	Rumney Marshes
Hull	Weir River		
Ipswich	Great Marsh		
Lancaster	Central Nashua River Valley		
	Squannassit		
Lee	Kampoosa Bog Drainage Basin		
	Upper Housatonic River		
Lenox	Upper Housatonic River		
Leominster	Central Nashua River Valley		
Lunenburg	Squannassit		
Lynn	Rumney Marshes		
Mansfield	Canoe River Aquifer		
Mashpee	Waquoit Bay		
Melrose	Golden Hills		
Milton	Fowl Meadow and Ponkapoag Bog		
	Neponset River Estuary		

# MassDEP - Bureau of Waste Site Cleanup

## MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

**Site Name:**

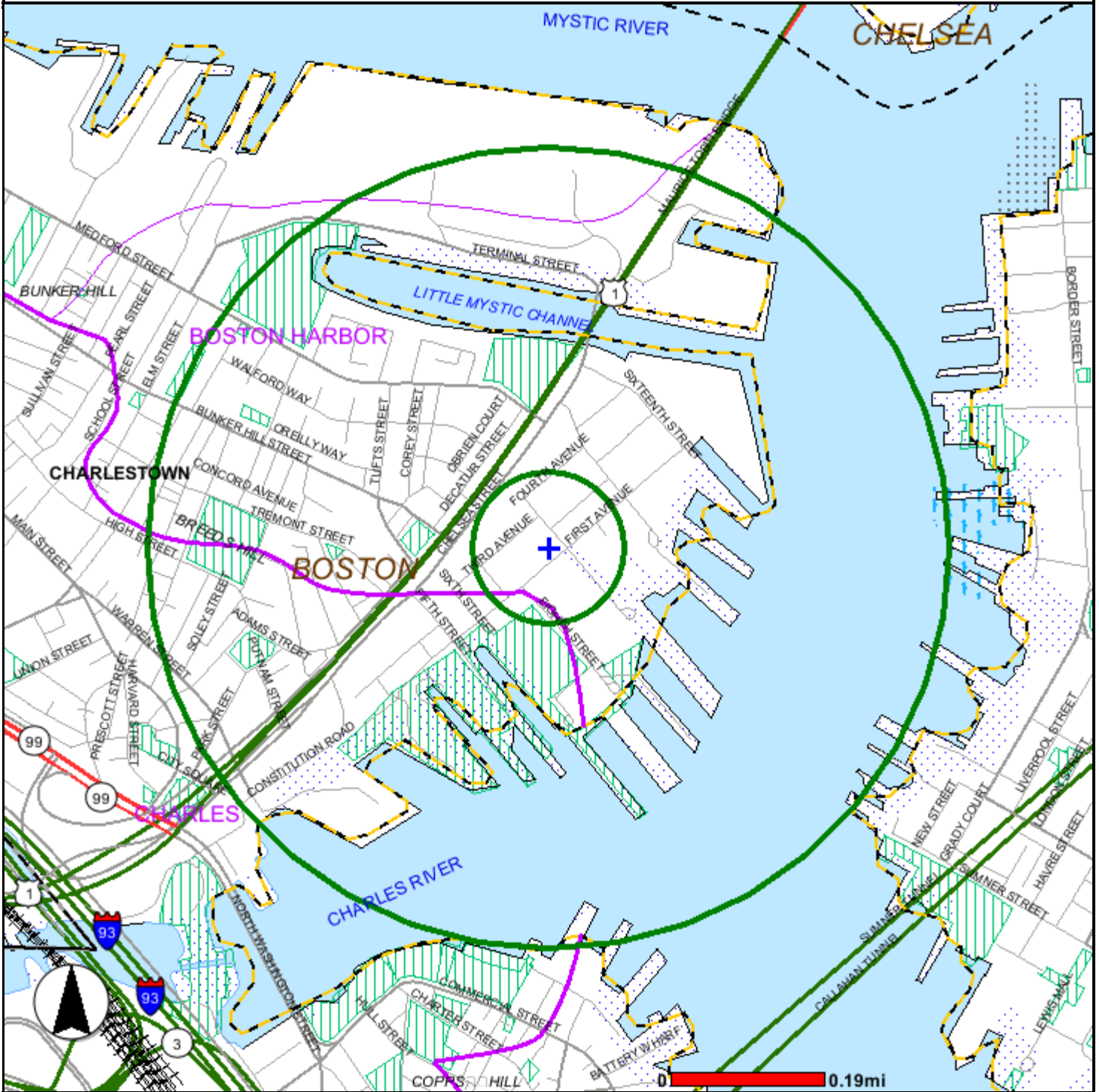
45 First Avenue  
45 First Avenue  
Boston-Charlestown, MA  
RTN  
NAD83 MA Coordinates:  
236822mE, 902946mN



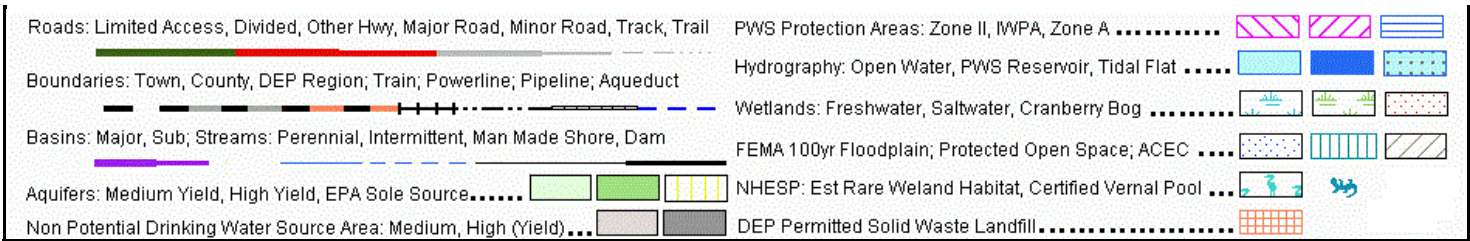
The information shown on this map is the best available at the date of printing. For more information please refer to [www.mass.gov/mgis/massgis.htm](http://www.mass.gov/mgis/massgis.htm)



May 3, 2011



# Map Output



The Official Website of the Department of Fish and Game (DFG)

Department of Fish and Game

Commissioner Mary B. Griffin



DFG Home Mass.Gov Home State Agencies State Online Services



**MassWildlife**  
Massachusetts Division of Fisheries & Wildlife

Wayne F. MacCallum, Director



Natural Heritage & Endangered Species

Home Recreation Wildlife Fisheries Natural Heritage Habitat Education



## Rare Species by Town

### MESA (Massachusetts Endangered Species Act) and Federal Status

#### Quick Links

- » Town Index
- » MESA List
- » Contact Us

E = Endangered    T = Threatened    SC = Special Concern

#### Most Recent Observation

This field represents the most recent observation of that species in a town. However, because they are rare, many MESA-listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to be able to conduct methodical species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five years historic.

Click on a town below to view MESA-listed species for that town. To print the species for a particular town, highlight the species using your mouse, go to Print under the File Menu, click on 'Selection' under 'Print Range' and click OK.

For more information about a particular species, view the list of [Natural Heritage Fact Sheets](#).

These data were extracted from the database of the Natural Heritage and Endangered Species Program in September 2009.

[Barnstable](#) | [Barre](#) | [Becket](#) | [Bedford](#) | [Belchertown](#) | [Bellingham](#) | [Belmont](#) | [Berkley](#) | [Berlin](#) | [Bernardston](#) | [Beverly](#) | [Billerica](#) | [Blackstone](#) | [Blandford](#) | [Bolton](#) | [Boston](#) | [Bourne](#) | [Boxborough](#) | [Boxford](#) | [Boylston](#) | [Braintree](#) | [Brewster](#) | [Bridgewater](#) | [Brimfield](#) | [Brockton](#) | [Brookfield](#) | [Brookline](#) | [Buckland](#) | [Burlington](#)

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BARNSTABLE	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		2009
BARNSTABLE	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1993
BARNSTABLE	Bird	Asio flammeus	Short-eared Owl	E		Historic



BARNSTABLE	Bird	<i>Asio otus</i>	Long-eared Owl	SC		1978
BARNSTABLE	Bird	<i>Charadrius melodus</i>	Piping Plover	T	T	2006
BARNSTABLE	Bird	<i>Parula americana</i>	Northern Parula	T		1989
BARNSTABLE	Bird	<i>Sterna dougallii</i>	Roseate Tern	E	E	2008
BARNSTABLE	Bird	<i>Sterna hirundo</i>	Common Tern	SC		2008
BARNSTABLE	Bird	<i>Sterna paradisaea</i>	Arctic Tern	SC		1901
BARNSTABLE	Bird	<i>Sternula antillarum</i>	Least Tern	SC		2007
BARNSTABLE	Butterfly/Moth	<i>Abagrotis nefascia</i>	Coastal Heathland Cutworm	SC		1982
BARNSTABLE	Butterfly/Moth	<i>Bagisara rectifascia</i>	Straight Lined Mallow Moth	SC		1951
BARNSTABLE	Butterfly/Moth	<i>Cingilia catenaria</i>	Chain Dot Geometer	SC		1954
BARNSTABLE	Butterfly/Moth	<i>Hemileuca maia</i>	Barrens Buckmoth	SC		1994
BARNSTABLE	Butterfly/Moth	<i>Itame</i> sp. 1 nr. <i>inextricata</i>	Pine Barrens Itame	SC		1968
BARNSTABLE	Butterfly/Moth	<i>Papaipema stenocelis</i>	Chain Fern Borer Moth	T		1950
BARNSTABLE	Butterfly/Moth	<i>Papaipema sulphurata</i>	Water-willow Stem Borer	T		2004
BARNSTABLE	Butterfly/Moth	<i>Pieris oleracea</i>	Mustard White	T		1949
BARNSTABLE	Butterfly/Moth	<i>Satyrrium favonius</i>	Oak Hairstreak	SC		1982
BARNSTABLE	Butterfly/Moth	<i>Zale</i> sp. 1 nr. <i>lunifera</i>	Pine Barrens Zale	SC		1951
BARNSTABLE	Crustacean	<i>Eulimnadia agassizii</i>	Agassiz's Clam Shrimp	E		2009
BARNSTABLE	Dragonfly/Damselfly	<i>Anax longipes</i>	Comet Darner	SC		2004
BARNSTABLE	Dragonfly/Damselfly	<i>Enallagma carunculatum</i>	Tule Bluet	SC		1941
BARNSTABLE	Dragonfly/Damselfly	<i>Enallagma laterale</i>	New England Bluet	SC		1989
BARNSTABLE	Dragonfly/Damselfly	<i>Enallagma pictum</i>	Scarlet Bluet	T		2005
BARNSTABLE	Dragonfly/Damselfly	<i>Enallagma recurvatum</i>	Pine Barrens Bluet	T		2004
BARNSTABLE	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1993
BARNSTABLE	Mussel	<i>Alasmidonta undulata</i>	Triangle Floater	SC		2007
BARNSTABLE	Mussel	<i>Leptodea ochracea</i>	Tidewater Mucket	SC		2007
BARNSTABLE	Mussel	<i>Ligumia nasuta</i>	Eastern Pondmussel	SC		2007
BARNSTABLE	Reptile	<i>Malaclemys terrapin</i>	Diamond-backed Terrapin	T		2007
BARNSTABLE	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		2007
BARNSTABLE	Snail	<i>Ferrissia walkeri</i>	Walker's Limpet	SC		2006

BARNSTABLE	Vascular Plant	Amelanchier nantucketensis	Nantucket Shadbush	SC	1993
BARNSTABLE	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T	1916
BARNSTABLE	Vascular Plant	Carex mitchelliana	Mitchell's Sedge	T	1988
BARNSTABLE	Vascular Plant	Corema conradii	Broom Crowberry	SC	1916
BARNSTABLE	Vascular Plant	Crocانthemum dumosum	Bushy Rockrose	SC	1999
BARNSTABLE	Vascular Plant	Dichantheium ovale ssp. pseudopubescens	Commons's Panic-grass	SC	1986
BARNSTABLE	Vascular Plant	Dichantheium wrightianum	Wright's Panic- grass	SC	2004
BARNSTABLE	Vascular Plant	Lachnanthes caroliana	Redroot	SC	2004
BARNSTABLE	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC	2006
BARNSTABLE	Vascular Plant	Linum intercursum	Sandplain Flax	SC	1989
BARNSTABLE	Vascular Plant	Linum medium var. texanum	Rigid Flax	T	1983
BARNSTABLE	Vascular Plant	Lipocarpa micrantha	Dwarf Bulrush	T	1898
BARNSTABLE	Vascular Plant	Listera cordata	Heartleaf Twayblade	E	1916
BARNSTABLE	Vascular Plant	Malaxis bayardii	Bayard's Green Adder's-mouth	E	1989
BARNSTABLE	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T	1960s
BARNSTABLE	Vascular Plant	Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic-grass	SC	1989
BARNSTABLE	Vascular Plant	Polygonum puritanorum	Pondshore Knotweed	SC	2003
BARNSTABLE	Vascular Plant	Rhexia mariana	Maryland Meadow Beauty	E	1967
BARNSTABLE	Vascular Plant	Rhynchospora nitens	Short-beaked Bald-sedge	T	2002
BARNSTABLE	Vascular Plant	Rhynchospora scirpoides	Long-beaked Bald-sedge	SC	1995
BARNSTABLE	Vascular Plant	Rhynchospora torreyana	Torrey's Beak- sedge	E	2007
BARNSTABLE	Vascular Plant	Sabatia campanulata	Slender Marsh Pink	E	2008
BARNSTABLE	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC	2008
BARNSTABLE	Vascular Plant	Sagittaria teres	Terete Arrowhead	SC	2004
BARNSTABLE	Vascular Plant	Scleria pauciflora	Papillose Nut Sedge	E	1986
BARNSTABLE	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC	1919
BARNSTABLE	Vascular Plant	Sphenopholis pennsylvanica	Swamp Oats	T	1988

BARNSTABLE	Vascular Plant	<i>Spiranthes vernalis</i>	Grass-leaved Ladies'-tresses	T	1986
BARNSTABLE	Vascular Plant	<i>Tipularia discolor</i>	Cranefly Orchid	E	1983
BARNSTABLE	Vascular Plant	<i>Utricularia subulata</i>	Subulate Bladderwort	SC	1918

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BARRE	Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	SC		2007
BARRE	Bird	<i>Botaurus lentiginosus</i>	American Bittern	E		1930
BARRE	Bird	<i>Ixobrychus exilis</i>	Least Bittern	E		2005
BARRE	Butterfly/Moth	<i>Psectraglaea carnosus</i>	Pink Sallow	SC		2007
BARRE	Dragonfly/Damselfly	<i>Neurocordulia yamaskanensis</i>	Stygian Shadowdragon	SC		2004
BARRE	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		2005
BARRE	Mussel	<i>Alasmidonta undulata</i>	Triangle Floater	SC		1999
BARRE	Mussel	<i>Strophitus undulatus</i>	Creeper	SC		1999
BARRE	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		2006
BARRE	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		2005
BARRE	Vascular Plant	<i>Asclepias purpurascens</i>	Purple Milkweed	E		1865
BARRE	Vascular Plant	<i>Clematis occidentalis</i>	Purple Clematis	SC		2008
BARRE	Vascular Plant	<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC		1950
BARRE	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1870
BARRE	Vascular Plant	<i>Viola adunca</i>	Sand Violet	SC		2006

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BECKETT	Bird	<i>Botaurus lentiginosus</i>	American Bittern	E		1991
BECKETT	Butterfly/Moth	<i>Erora laeta</i>	Early Hairstreak	T		2005
BECKETT	Dragonfly/Damselfly	<i>Boyeria grafiana</i>	Ocellated Darner	SC		2004
BECKETT	Dragonfly/Damselfly	<i>Somatochlora forcipata</i>	Forcipate Emerald	SC		1973
BECKETT	Fish	<i>Catostomus catostomus</i>	Longnose Sucker	SC		1979
BECKETT	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1994
BECKETT	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		2006
BECKETT	Vascular Plant	<i>Arceuthobium pusillum</i>	Dwarf Mistletoe	SC		1904
BECKETT	Vascular Plant	<i>Carex livida</i>	Glaucous Sedge	E		Historic
BECKETT	Vascular Plant	<i>Carex pauciflora</i>	Few-flowered Sedge	E		Historic
BECKETT	Vascular Plant	<i>Lygodium palmatum</i>	Climbing Fern	SC		Historic
BECKETT	Vascular Plant	<i>Sisyrinchium mucronatum</i>	Slender Blue-eyed Grass	E		2001

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BEDFORD	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC		2009
BEDFORD	Bird	<i>Accipiter striatus</i>	Sharp-shinned Hawk	SC		1902
BEDFORD	Bird	<i>Bartramia longicauda</i>	Upland Sandpiper	E		2000
BEDFORD	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1998
BEDFORD	Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	T		2008
BEDFORD	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		1995
BEDFORD	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		2004
BEDFORD	Vascular Plant	<i>Aristida purpurascens</i>	Purple Needlegrass	T		1884
BEDFORD	Vascular Plant	<i>Bolboschoenus fluviatilis</i>	River Bulrush	SC		2002
BEDFORD	Vascular Plant	<i>Carex oligosperma</i>	Few-fruited Sedge	E		2007
BEDFORD	Vascular Plant	<i>Gentiana andrewsii</i>	Andrews' Bottle Gentian	E		1882
BEDFORD	Vascular Plant	<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC		1899
BEDFORD	Vascular Plant	<i>Ludwigia sphaerocarpa</i>	Round-fruited False-loosestrife	E		1885
BEDFORD	Vascular Plant	<i>Nabalus serpentarius</i>	Lion's Foot	E		1883
BEDFORD	Vascular Plant	<i>Nuphar microphylla</i>	Tiny Cow-lily	E		1883
BEDFORD	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1900
BEDFORD	Vascular Plant	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchis	T		1888
BEDFORD	Vascular Plant	<i>Scirpus longii</i>	Long's Bulrush	T		2007
BEDFORD	Vascular Plant	<i>Senna hebecarpa</i>	Wild Senna	E		1883
BEDFORD	Vascular Plant	<i>Viola brittoniana</i>	Britton's Violet	T		2007

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BELCHERTOWN	Amphibian	<i>Ambystoma opacum</i>	Marbled Salamander	T		2006
BELCHERTOWN	Beetle	<i>Cicindela purpurea</i>	Purple Tiger Beetle	SC		1941
BELCHERTOWN	Bird	<i>Botaurus lentiginosus</i>	American Bittern	E		2008
BELCHERTOWN	Bird	<i>Gallinula chloropus</i>	Common Moorhen	SC		1932
BELCHERTOWN	Bird	<i>Haliaeetus leucocephalus</i>	Bald Eagle	E		2008
BELCHERTOWN	Bird	<i>Ixobrychus exilis</i>	Least Bittern	E		2007
BELCHERTOWN	Bird	<i>Podilymbus podiceps</i>	Pied-billed Grebe	E		1932



BELCHERTOWN	Bird	<i>Tyto alba</i>	Barn Owl	SC	1951
BELCHERTOWN	Crustacean	<i>Eubbranchipus intricatus</i>	Intricate Fairy Shrimp	SC	1970s
BELCHERTOWN	Dragonfly/Damselfly	<i>Enallagma laterale</i>	New England Bluet	SC	2008
BELCHERTOWN	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC	1998
BELCHERTOWN	Mammal	<i>Synaptomys cooperi</i>	Southern Bog Lemming	SC	1974
BELCHERTOWN	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC	2007
BELCHERTOWN	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC	2006
BELCHERTOWN	Vascular Plant	<i>Acer nigrum</i>	Black Maple	SC	1891
BELCHERTOWN	Vascular Plant	<i>Asclepias purpurascens</i>	Purple Milkweed	E	1875
BELCHERTOWN	Vascular Plant	<i>Blephilia ciliata</i>	Downy Wood-mint	E	1891
BELCHERTOWN	Vascular Plant	<i>Lygodium palmatum</i>	Climbing Fern	SC	2000
BELCHERTOWN	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T	1883
BELCHERTOWN	Vascular Plant	<i>Podostemum ceratophyllum</i>	Threadfoot	SC	1925
BELCHERTOWN	Vascular Plant	<i>Ranunculus pensylvanicus</i>	Bristly Buttercup	SC	1871
BELCHERTOWN	Vascular Plant	<i>Scheuchzeria palustris</i>	Pod-grass	E	1872
BELCHERTOWN	Vascular Plant	<i>Utricularia resupinata</i>	Resupinate Bladderwort	T	1873

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BELLINGHAM	Amphibian	<i>Ambystoma opacum</i>	Marbled Salamander	T		2007
BELLINGHAM	Fish	<i>Lampetra appendix</i>	American Brook Lamprey	T		2001
BELLINGHAM	Vascular Plant	<i>Aristida purpurascens</i>	Purple Needlegrass	T		1894
BELLINGHAM	Vascular Plant	<i>Goodyera repens</i>	Dwarf Rattlesnake-plantain	E		1886
BELLINGHAM	Vascular Plant	<i>Panicum philadelphicum</i> ssp. <i>philadelphicum</i>	Philadelphia Panic-grass	SC		1986

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BELMONT	Amphibian	<i>Ambystoma</i>	Jefferson Salamander	SC		1800s

		jeffersonianum			
BELMONT	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC	Historic
BELMONT	Bird	Tyto alba	Barn Owl	SC	1952
BELMONT	Bird	Gallinula chloropus	Common Moorhen	SC	Historic
BELMONT	Bird	Cistothorus platensis	Sedge Wren	E	1868
BELMONT	Dragonfly/Damselfly	Somatochlora linearis	Mocha Emerald	SC	2005
BELMONT	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T	1852
BELMONT	Vascular Plant	Carex gracilescens	Slender Woodland Sedge	E	1932

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BERKLEY	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		1913
BERKLEY	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		1912
BERKLEY	Reptile	Glyptemys insculpta	Wood Turtle	SC		1991
BERKLEY	Reptile	Malaclemys terrapin	Diamond-backed Terrapin	T		1982
BERKLEY	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2007
BERKLEY	Vascular Plant	Bidens eatonii	Eaton's Beggar-ticks	E		1923
BERKLEY	Vascular Plant	Cardamine longii	Long's Bitter-cress	E		1997
BERKLEY	Vascular Plant	Carex polymorpha	Variable Sedge	E		1908

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BERLIN	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		1800s
BERLIN	Amphibian	Ambystoma opacum	Marbled Salamander	T		2000
BERLIN	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		1936
BERLIN	Bird	Ammodramus henslowii	Henslow's Sparrow	E		Historic
BERLIN	Mussel	Alasmidonta varicosa	Brook Floater (Swollen Wedgemussel)	E		1859
BERLIN	Reptile	Glyptemys insculpta	Wood Turtle	SC		1993
BERLIN	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1991
BERLIN	Vascular Plant	Asclepias purpurascens	Purple Milkweed	E		1915
BERLIN	Vascular Plant	Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic-grass	SC		1944

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
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BERNARDSTON	Butterfly/Moth	<i>Erora laeta</i>	Early Hairstreak	T	1988
BERNARDSTON	Vascular Plant	<i>Actaea racemosa</i>	Black Cohosh	E	1998

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BEVERLY	Beetle	<i>Cicindela purpurea</i>	Purple Tiger Beetle	SC		1925
BEVERLY	Bird	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	E		1987
BEVERLY	Vascular Plant	<i>Magnolia virginiana</i>	Sweetbay Magnolia	E		1995
BEVERLY	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1874
BEVERLY	Vascular Plant	<i>Potamogeton vaseyi</i>	Vasey's Pondweed	E		1878
BEVERLY	Vascular Plant	<i>Suaeda calceoliformis</i>	American Sea-blite	SC		1902

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BILLERICA	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC		2008
BILLERICA	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1961
BILLERICA	Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	T		1992
BILLERICA	Vascular Plant	<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC		1917
BILLERICA	Vascular Plant	<i>Ludwigia sphaerocarpa</i>	Round-fruited False-loosestrife	E		1889
BILLERICA	Vascular Plant	<i>Nabalus serpentarius</i>	Lion's Foot	E		1871
BILLERICA	Vascular Plant	<i>Nuphar microphylla</i>	Tiny Cow-lily	E		1869
BILLERICA	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1900
BILLERICA	Vascular Plant	<i>Viola brittoniana</i>	Britton's Violet	T		1915

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BLACKSTONE	Fish	<i>Lampetra appendix</i>	American Brook Lamprey	T		2001
BLACKSTONE	Mussel	<i>Alasmidonta undulata</i>	Triangle Floater	SC		1999
BLACKSTONE	Mussel	<i>Strophitus undulatus</i>	Creeper	SC		1999

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BLANDFORD	Bird	<i>Bartramia longicauda</i>	Upland Sandpiper	E		Historic
BLANDFORD	Bird	<i>Botaurus lentiginosus</i>	American Bittern	E		2005

BLANDFORD	Bird	<i>Circus cyaneus</i>	Northern Harrier	T	1923
BLANDFORD	Bird	<i>Cistothorus platensis</i>	Sedge Wren	E	1982
BLANDFORD	Dragonfly/Damselfly	<i>Enallagma laterale</i>	New England Bluet	SC	2008
BLANDFORD	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC	1995
BLANDFORD	Vascular Plant	<i>Rhododendron maximum</i>	Great Laurel	T	1946
BLANDFORD	Vascular Plant	<i>Sisyrinchium mucronatum</i>	Slender Blue-eyed Grass	E	1919

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOLTON	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC		2006
BOLTON	Amphibian	<i>Ambystoma opacum</i>	Marbled Salamander	T		2008
BOLTON	Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	SC		2007
BOLTON	Bird	<i>Botaurus lentiginosus</i>	American Bittern	E		1990
BOLTON	Bird	<i>Ixobrychus exilis</i>	Least Bittern	E		1985
BOLTON	Bird	<i>Podilymbus podiceps</i>	Pied-billed Grebe	E		1984
BOLTON	Bird	<i>Rallus elegans</i>	King Rail	T		1999
BOLTON	Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	T		2009
BOLTON	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		1999
BOLTON	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		1989
BOLTON	Vascular Plant	<i>Carex typhina</i>	Cat-tail Sedge	T		1999
BOLTON	Vascular Plant	<i>Corallorhiza odontorhiza</i>	Autumn Coralroot	SC		2006

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOSTON	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC		2003
BOSTON	Amphibian	<i>Scaphiopus holbrookii</i>	Eastern Spadefoot	T		1932
BOSTON	Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	SC		1910
BOSTON	Beetle	<i>Cicindela purpurea</i>	Purple Tiger Beetle	SC		1928
BOSTON	Beetle	<i>Cicindela rufiventris hentzii</i>	Hentz's Redbelly Tiger Beetle	T		1927
BOSTON	Bird	<i>Accipiter striatus</i>	Sharp-shinned Hawk	SC		1898
BOSTON	Bird	<i>Ammodramus savannarum</i>	Grasshopper Sparrow	T		1993



BOSTON	Bird	<i>Bartramia longicauda</i>	Upland Sandpiper	E	1993
BOSTON	Bird	<i>Falco peregrinus</i>	Peregrine Falcon	E	2007
BOSTON	Bird	<i>Gavia immer</i>	Common Loon	SC	1824
BOSTON	Bird	<i>Poocetes gramineus</i>	Vesper Sparrow	T	1985
BOSTON	Bird	<i>Sterna hirundo</i>	Common Tern	SC	2008
BOSTON	Bird	<i>Sternula antillarum</i>	Least Tern	SC	2007
BOSTON	Bird	<i>Tyto alba</i>	Barn Owl	SC	1989
BOSTON	Bird	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	E	Historic
BOSTON	Butterfly/Moth	<i>Apodrepanulatrix liberaria</i>	New Jersey Tea Inchworm	E	Historic
BOSTON	Butterfly/Moth	<i>Abagrotis nefascia</i>	Coastal Heathland Cutworm	SC	2001
BOSTON	Butterfly/Moth	<i>Metarranthis apiciaria</i>	Barrens Metarranthis Moth	E	1934
BOSTON	Butterfly/Moth	<i>Rhodoecia aurantiago</i>	Orange Sallow Moth	T	1988
BOSTON	Dragonfly/Damselfly	<i>Somatochlora linearis</i>	Mocha Emerald	SC	2009
BOSTON	Fish	<i>Gasterosteus aculeatus</i>	Threespine Stickleback	T	2000
BOSTON	Mussel	<i>Alasmidonta undulata</i>	Triangle Floater	SC	2005
BOSTON	Mussel	<i>Ligumia nasuta</i>	Eastern Pondmussel	SC	1841
BOSTON	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC	1939
BOSTON	Vascular Plant	<i>Ageratina aromatica</i>	Lesser Snakeroot	E	1896
BOSTON	Vascular Plant	<i>Aristida purpurascens</i>	Purple Needlegrass	T	1800s
BOSTON	Vascular Plant	<i>Aristida tuberculosa</i>	Seabeach Needlegrass	T	1877
BOSTON	Vascular Plant	<i>Asclepias verticillata</i>	Linear-leaved Milkweed	T	1878
BOSTON	Vascular Plant	<i>Boechera missouriensis</i>	Green Rock-cress	T	1930
BOSTON	Vascular Plant	<i>Carex striata</i>	Walter's Sedge	E	Historic
BOSTON	Vascular Plant	<i>Desmodium cuspidatum</i>	Large-bracted Tick-trefoil	T	1896
BOSTON	Vascular Plant	<i>Eriophorum gracile</i>	Slender Cottongrass	T	1885
BOSTON	Vascular Plant	<i>Houstonia longifolia</i>	Long-leaved Bluet	E	1918
BOSTON	Vascular Plant	<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC	1933
BOSTON	Vascular Plant	<i>Linum medium</i> var. <i>texanum</i>	Rigid Flax	T	1909
BOSTON	Vascular Plant	<i>Lycopus rubellus</i>	Gypsywort	E	1896
BOSTON	Vascular Plant	<i>Myriophyllum alterniflorum</i>	Alternate-flowered Water-milfoil	E	Historic
BOSTON	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T	1884
BOSTON	Vascular Plant	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchis	T	1908

BOSTON	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E		1891
BOSTON	Vascular Plant	Rumex pallidus	Seabeach Dock	T		1984
BOSTON	Vascular Plant	Sanicula odorata	Long-styled Sanicle	T		Historic
BOSTON	Vascular Plant	Scirpus longii	Long's Bulrush	T		1907
BOSTON	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC		2001
BOSTON	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC		1909
BOSTON	Vascular Plant	Viola brittoniana	Britton's Violet	T		1909

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOURNE	Amphibian	Ambystoma opacum	Marbled Salamander	T		1936
BOURNE	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		2003
BOURNE	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		1935
BOURNE	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		2001
BOURNE	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		2007
BOURNE	Bird	Charadrius melodus	Piping Plover	T	T	2006
BOURNE	Bird	Circus cyaneus	Northern Harrier	T		2007
BOURNE	Bird	Poocetes gramineus	Vesper Sparrow	T		2006
BOURNE	Bird	Sterna dougallii	Roseate Tern	E	E	2008
BOURNE	Bird	Sterna hirundo	Common Tern	SC		2008
BOURNE	Bird	Sternula antillarum	Least Tern	SC		2007
BOURNE	Bird	Tyto alba	Barn Owl	SC		1974
BOURNE	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC		1996
BOURNE	Butterfly/Moth	Acrionicta albarufa	Barrens Daggermoth	T		1998
BOURNE	Butterfly/Moth	Bagisara rectifascia	Straight Lined Mallow Moth	SC		1998
BOURNE	Butterfly/Moth	Catocala herodias gerhardi	Gerhard's Underwing Moth	SC		1999
BOURNE	Butterfly/Moth	Cicinnus melsheimeri	Melsheimer's Sack Bearer	T		1998
BOURNE	Butterfly/Moth	Cingilia catenaria	Chain Dot Geometer	SC		2006
BOURNE	Butterfly/Moth	Hemileuca maia	Barrens Buckmoth	SC		2006
BOURNE	Butterfly/Moth	Itame sp. 1 nr. inextricata	Pine Barrens Itame	SC		1998
BOURNE	Butterfly/Moth	Metarranthis pilosaria	Coastal Swamp Metarranthis Moth	SC		1998
BOURNE	Butterfly/Moth	Papaipema sulphurata	Water-willow Stem Borer	T		1994
BOURNE	Butterfly/Moth	Zale sp. 1 nr. lunifera	Pine Barrens Zale	SC		1997
BOURNE	Dragonfly/Damselfly	Anax longipes	Comet Darner	SC		2007
BOURNE	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		2004
BOURNE	Dragonfly/Damselfly	Enallagma	Pine Barrens Bluet	T		1998

		recurvatum				
BOURNE	Dragonfly/Damselfly	Rhionaeschna mutata	Spatterdock Darner	SC		2007
BOURNE	Fish	Notropis bifrenatus	Bridle Shiner	SC		1993
BOURNE	Mussel	Leptodea ochracea	Tidewater Mucket	SC		1996
BOURNE	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		1997
BOURNE	Reptile	Malaclemys terrapin	Diamond-backed Terrapin	T		2004
BOURNE	Reptile	Pseudemys rubriventris pop. 1	Northern Red-bellied Cooter	E	E	2003
BOURNE	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2009
BOURNE	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1901
BOURNE	Vascular Plant	Asclepias verticillata	Linear-leaved Milkweed	T		1915
BOURNE	Vascular Plant	Crocanthemum dumosum	Bushy Rockrose	SC		2000
BOURNE	Vascular Plant	Eleocharis ovata	Ovate Spike-sedge	E		1992
BOURNE	Vascular Plant	Hypericum adpressum	Creeping St. John's-wort	T		2007
BOURNE	Vascular Plant	Juncus debilis	Weak Rush	E		1993
BOURNE	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		2005
BOURNE	Vascular Plant	Lygodium palmatum	Climbing Fern	SC		1992
BOURNE	Vascular Plant	Malaxis bayardii	Bayard's Green Adder's-mouth	E		1919
BOURNE	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		2006
BOURNE	Vascular Plant	Polygonum glaucum	Sea-beach Knotweed	SC		1913
BOURNE	Vascular Plant	Polygonum puritanorum	Pondshore Knotweed	SC		1994
BOURNE	Vascular Plant	Rhynchospora scirpoides	Long-beaked Bald-sedge	SC		1986
BOURNE	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC		1996
BOURNE	Vascular Plant	Sagittaria teres	Terete Arrowhead	SC		1994
BOURNE	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC		1913
BOURNE	Vascular Plant	Spiranthes vernalis	Grass-leaved Ladies'-tresses	T		1896
BOURNE	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC		1995
BOURNE	Vascular Plant	Triosteum perfoliatum	Broad Tinker's-weed	E		2004

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOXBOROUGH	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2007
BOXBOROUGH	Reptile	Emydoidea blandingii	Blanding's Turtle	T		2003
BOXBOROUGH	Reptile	Glyptemys insculpta	Wood Turtle	SC		2002
BOXBOROUGH	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2001

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOXFORD	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC		2008
BOXFORD	Amphibian	<i>Ambystoma opacum</i>	Marbled Salamander	T		1983
BOXFORD	Bird	<i>Tyto alba</i>	Barn Owl	SC		1957
BOXFORD	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1999
BOXFORD	Mussel	<i>Ligumia nasuta</i>	Eastern Pondmussel	SC		Historic
BOXFORD	Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	T		2008
BOXFORD	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		2000
BOXFORD	Vascular Plant	<i>Asclepias purpurascens</i>	Purple Milkweed	E		1883
BOXFORD	Vascular Plant	<i>Carex livida</i>	Glaucous Sedge	E		1890
BOXFORD	Vascular Plant	<i>Eriophorum gracile</i>	Slender Cottongrass	T		1909
BOXFORD	Vascular Plant	<i>Gentiana andrewsii</i>	Andrews' Bottle Gentian	E		1881
BOXFORD	Vascular Plant	<i>Houstonia longifolia</i>	Long-leaved Bluet	E		1882
BOXFORD	Vascular Plant	<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC		2004
BOXFORD	Vascular Plant	<i>Myriophyllum alterniflorum</i>	Alternate-flowered Water-milfoil	E		2004
BOXFORD	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1905
BOXFORD	Vascular Plant	<i>Panicum philadelphicum</i> ssp. <i>philadelphicum</i>	Philadelphia Panic-grass	SC		1953
BOXFORD	Vascular Plant	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchis	T		1881
BOXFORD	Vascular Plant	<i>Potamogeton vaseyi</i>	Vasey's Pondweed	E		2004
BOXFORD	Vascular Plant	<i>Senna hebecarpa</i>	Wild Senna	E		1882
BOXFORD	Vascular Plant	<i>Sparganium natans</i>	Small Bur-reed	E		1997
BOXFORD	Vascular Plant	<i>Viola adunca</i>	Sand Violet	SC		2004

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOYLSTON	Amphibian	<i>Ambystoma opacum</i>	Marbled Salamander	T		1995
BOYLSTON	Bird	<i>Gavia immer</i>	Common Loon	SC		2008
BOYLSTON	Bird	<i>Haliaeetus leucocephalus</i>	Bald Eagle	E		2009
BOYLSTON	Bird	<i>Podilymbus podiceps</i>	Pied-billed Grebe	E		1978
BOYLSTON	Butterfly/Moth	<i>Rhodoecia aurantiago</i>	Orange Sallow Moth	T		2008
BOYLSTON	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1951
BOYLSTON	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		1983
BOYLSTON	Vascular Plant	<i>Hydrophyllum canadense</i>	Broad Waterleaf	E		1943



BOYLSTON	Vascular Plant	<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC		1932
BOYLSTON	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		2000

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BRAINTREE	Dragonfly/Damselfly	<i>Anax longipes</i>	Comet Darner	SC		1970
BRAINTREE	Dragonfly/Damselfly	<i>Enallagma laterale</i>	New England Bluet	SC		1969
BRAINTREE	Dragonfly/Damselfly	<i>Somatochlora linearis</i>	Mocha Emerald	SC		1989
BRAINTREE	Mussel	<i>Ligumia nasuta</i>	Eastern Pondmussel	SC		2000
BRAINTREE	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		1997
BRAINTREE	Vascular Plant	<i>Asclepias purpurascens</i>	Purple Milkweed	E		1922
BRAINTREE	Vascular Plant	<i>Houstonia longifolia</i>	Long-leaved Bluet	E		1886

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BREWSTER	Bird	<i>Charadrius melodus</i>	Piping Plover	T	T	2006
BREWSTER	Bird	<i>Parula americana</i>	Northern Parula	T		2006
BREWSTER	Bird	<i>Sterna dougallii</i>	Roseate Tern	E	E	2008
BREWSTER	Bird	<i>Sterna hirundo</i>	Common Tern	SC		2008
BREWSTER	Butterfly/Moth	<i>Abagrotis nefascia</i>	Coastal Heathland Cutworm	SC		1981
BREWSTER	Butterfly/Moth	<i>Apamea inebriata</i>	Drunk Apamea Moth	SC		1981
BREWSTER	Butterfly/Moth	<i>Bagisara rectifascia</i>	Straight Lined Mallow Moth	SC		1982
BREWSTER	Butterfly/Moth	<i>Papaipema sulphurata</i>	Water-willow Stem Borer	T		1994
BREWSTER	Dragonfly/Damselfly	<i>Enallagma laterale</i>	New England Bluet	SC		2000
BREWSTER	Dragonfly/Damselfly	<i>Enallagma pictum</i>	Scarlet Bluet	T		2003
BREWSTER	Dragonfly/Damselfly	<i>Enallagma recurvatum</i>	Pine Barrens Bluet	T		2005
BREWSTER	Dragonfly/Damselfly	<i>Rhionaeschna mutata</i>	Spatterdock Darner	SC		1987
BREWSTER	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1961
BREWSTER	Reptile	<i>Malaclemys terrapin</i>	Diamond-backed Terrapin	T		2002
BREWSTER	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		2008
BREWSTER	Vascular Plant	<i>Carex mitchelliana</i>	Mitchell's Sedge	T		2006
BREWSTER	Vascular Plant	<i>Corema conradii</i>	Broom Crowberry	SC		1994
BREWSTER	Vascular Plant	<i>Crocantemum dumosum</i>	Bushy Rockrose	SC		2006

BREWSTER	Vascular Plant	Dichantherium dichotomum ssp. mattamuskeetense	Mattamuskeet Panic-grass	E	1918
BREWSTER	Vascular Plant	Dichantherium ovale ssp. pseudopubescens	Commons's Panic-grass	SC	2006
BREWSTER	Vascular Plant	Gamochaeta purpurea	Purple Cudweed	E	1924
BREWSTER	Vascular Plant	Isoetes acadiensis	Acadian Quillwort	E	1989
BREWSTER	Vascular Plant	Lachnanthes caroliana	Redroot	SC	2002
BREWSTER	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC	1931
BREWSTER	Vascular Plant	Lipocarpa micrantha	Dwarf Bulrush	T	2006
BREWSTER	Vascular Plant	Mertensia maritima	Oysterleaf	E	2001
BREWSTER	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T	1992
BREWSTER	Vascular Plant	Opuntia humifusa	Prickly Pear	E	1989
BREWSTER	Vascular Plant	Polygonum puritanorum	Pondshore Knotweed	SC	2003
BREWSTER	Vascular Plant	Rhexia mariana	Maryland Meadow Beauty	E	2008
BREWSTER	Vascular Plant	Rhynchospora scirpoides	Long-beaked Bald-sedge	SC	1986
BREWSTER	Vascular Plant	Rumex pallidus	Seabeach Dock	T	1994
BREWSTER	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC	2004
BREWSTER	Vascular Plant	Sagittaria teres	Terete Arrowhead	SC	2008
BREWSTER	Vascular Plant	Spartina cynosuroides	Salt Reedgrass	T	2004
BREWSTER	Vascular Plant	Utricularia resupinata	Resupinate Bladderwort	T	2002

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BRIDGEWATER	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1997
BRIDGEWATER	Bird	Asio otus	Long-eared Owl	SC		1978
BRIDGEWATER	Bird	Bartramia longicauda	Upland Sandpiper	E		1980
BRIDGEWATER	Bird	Tyto alba	Barn Owl	SC		1981
BRIDGEWATER	Butterfly/Moth	Papaipema sulphurata	Water-willow Stem Borer	T		1994
BRIDGEWATER	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		1994
BRIDGEWATER	Dragonfly/Damselfly	Enallagma	Scarlet Bluet	T		2004

BRIDGEWATER	Mussel	<i>Alasmidonta undulata pictum</i>	Triangle Floater	SC		1999
BRIDGEWATER	Mussel	<i>Leptodea ochracea</i>	Tidewater Mucket	SC		1997
BRIDGEWATER	Mussel	<i>Ligumia nasuta</i>	Eastern Pondmussel	SC		1997
BRIDGEWATER	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		2004
BRIDGEWATER	Reptile	<i>Pseudemys rubriventris</i> pop. 1	Northern Red-bellied Cooter	E	E	2005
BRIDGEWATER	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		2009
BRIDGEWATER	Vascular Plant	<i>Ludwigia sphaerocarpa</i>	Round-fruited False-loosestrife	E		2005
BRIDGEWATER	Vascular Plant	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchis	T		1912
BRIDGEWATER	Vascular Plant	<i>Sabatia kennedyana</i>	Plymouth Gentian	SC		2005
BRIDGEWATER	Vascular Plant	<i>Scirpus longii</i>	Long's Bulrush	T		1988

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BRIMFIELD	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC		2000
BRIMFIELD	Bird	<i>Botaurus lentiginosus</i>	American Bittern	E		1997
BRIMFIELD	Bird	<i>Ixobrychus exilis</i>	Least Bittern	E		2007
BRIMFIELD	Dragonfly/Damselfly	<i>Ophiogomphus aspersus</i>	Brook Snaketail	SC		2004
BRIMFIELD	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1999
BRIMFIELD	Mussel	<i>Alasmidonta undulata</i>	Triangle Floater	SC		1982
BRIMFIELD	Mussel	<i>Strophitus undulatus</i>	Creeper	SC		1982
BRIMFIELD	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		2006
BRIMFIELD	Vascular Plant	<i>Isoetes lacustris</i>	Lake Quillwort	E		1930

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BROCKTON	Butterfly/Moth	<i>Metarranthis apiciaria</i>	Barrens Metarranthis Moth	E		1909
BROCKTON	Dragonfly/Damselfly	<i>Enallagma laterale</i>	New England Bluet	SC		2003
BROCKTON	Vascular Plant	<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC		1900

BROCKTON	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1902
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Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BROOKFIELD	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		1990
BROOKFIELD	Amphibian	Ambystoma opacum	Marbled Salamander	T		1996
BROOKFIELD	Bird	Bartramia longicauda	Upland Sandpiper	E		Historic
BROOKFIELD	Bird	Botaurus lentiginosus	American Bittern	E		2008
BROOKFIELD	Bird	Cistothorus platensis	Sedge Wren	E		1992
BROOKFIELD	Bird	Haliaeetus leucocephalus	Bald Eagle	E		2008
BROOKFIELD	Bird	Ixobrychus exilis	Least Bittern	E		2007
BROOKFIELD	Bird	Podilymbus podiceps	Pied-billed Grebe	E		1993
BROOKFIELD	Bird	Rallus elegans	King Rail	T		2007
BROOKFIELD	Dragonfly/Damselfly	Rhionaeschna mutata	Spatterdock Darner	SC		2003
BROOKFIELD	Fish	Notropis bifrenatus	Bridle Shiner	SC		2003
BROOKFIELD	Mussel	Alasmidonta undulata	Triangle Floater	SC		1999
BROOKFIELD	Vascular Plant	Carex polymorpha	Variable Sedge	E		2004
BROOKFIELD	Vascular Plant	Clematis occidentalis	Purple Clematis	SC		2007
BROOKFIELD	Vascular Plant	Lipocarpa micrantha	Dwarf Bulrush	T		2007
BROOKFIELD	Vascular Plant	Myriophyllum alterniflorum	Alternate-flowered Water-milfoil	E		1898
BROOKFIELD	Vascular Plant	Poa saltuensis ssp. languida	Drooping Speargrass	E		2000
BROOKFIELD	Vascular Plant	Potamogeton vaseyi	Vasey's Pondweed	E		1998
BROOKFIELD	Vascular Plant	Ranunculus pennsylvanicus	Bristly Buttercup	SC		2007
BROOKFIELD	Vascular Plant	Scirpus longii	Long's Bulrush	T		2000

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BROOKLINE	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		Historic



BROOKLINE	Beetle	<i>Cicindela rufiventris hentzii</i>	Hentz's Redbelly Tiger Beetle	T	Historic
BROOKLINE	Bird	<i>Accipiter striatus</i>	Sharp-shinned Hawk	SC	1905
BROOKLINE	Bird	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	E	1932
BROOKLINE	Vascular Plant	<i>Houstonia longifolia</i>	Long-leaved Bluet	E	1897
BROOKLINE	Vascular Plant	<i>Linum medium var. texanum</i>	Rigid Flax	T	1903
BROOKLINE	Vascular Plant	<i>Lipocarpa micrantha</i>	Dwarf Bulrush	T	1902
BROOKLINE	Vascular Plant	<i>Platanthera flava var. herbiola</i>	Pale Green Orchis	T	1912
BROOKLINE	Vascular Plant	<i>Viola brittoniana</i>	Britton's Violet	T	1913

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BUCKLAND	Amphibian	<i>Ambystoma jeffersonianum</i>	Jefferson Salamander	SC		1989
BUCKLAND	Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	SC		2001
BUCKLAND	Butterfly/Moth	<i>Erora laeta</i>	Early Hairstreak	T		1988
BUCKLAND	Dragonfly/Damselfly	<i>Boyeria grafiana</i>	Ocellated Darner	SC		2004
BUCKLAND	Dragonfly/Damselfly	<i>Gomphus abbreviatus</i>	Spine-crowned Clubtail	E		2004
BUCKLAND	Dragonfly/Damselfly	<i>Neurocordulia yamaskanensis</i>	Stygian Shadowdragon	SC		2004
BUCKLAND	Dragonfly/Damselfly	<i>Rhionaeschna mutata</i>	Spatterdock Darner	SC		2004
BUCKLAND	Fish	<i>Catostomus catostomus</i>	Longnose Sucker	SC		1989
BUCKLAND	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		2007
BUCKLAND	Vascular Plant	<i>Alnus viridis ssp. crispa</i>	Mountain Alder	T		2004
BUCKLAND	Vascular Plant	<i>Amelanchier sanguinea</i>	Roundleaf Shadbush	SC		1911
BUCKLAND	Vascular Plant	<i>Aplectrum hyemale</i>	Putty-root	E		1904
BUCKLAND	Vascular Plant	<i>Corallorhiza odontorhiza</i>	Autumn Coralroot	SC		2006
BUCKLAND	Vascular Plant	<i>Huperzia selago</i>	Mountain Firmoss	E		1899
BUCKLAND	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1913
BUCKLAND	Vascular Plant	<i>Platanthera dilatata</i>	Leafy White Orchis	T		1932
BUCKLAND	Vascular Plant	<i>Sanicula odorata</i>	Long-styled Sanicle	T		1907
BUCKLAND	Vascular Plant	<i>Symphyotrichum tradescantii</i>	Tradescant's Aster	T		2002

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent
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					Observation
BURLINGTON	Fish	Notropis bifrenatus	Bridle Shiner	SC	1994
BURLINGTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC	1998
BURLINGTON	Vascular Plant	Carex polymorpha	Variable Sedge	E	2008
BURLINGTON	Vascular Plant	Nabalus serpentarius	Lion's Foot	E	1906

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Updated: October 27, 2009

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Massachusetts Division of Fisheries and Wildlife, 1 Rabbit Hill Rd, Westborough, MA 01581

Tel: (508) 389-6300; Fax: (508) 389-7890

Natural Heritage & Endangered Species Program Tel: (508) 389-6360; Fax: (508) 389-7891

**Remediation General Permit  
Appendix II**

**Endangered Species Act: List of Species by County  
in Massachusetts and in New Hampshire**

The following is the U.S. Fish and Wildlife Service (FWS) listing of federally endangered and threatened species for counties in Massachusetts and New Hampshire. If you are located close to the border of a county or your site is located in one county and your discharge points are located in another, you must look under both counties.

The New Hampshire and Massachusetts lists were updated on 7/31/2008; however, please note that species are listed and de-listed periodically. To get the most current list at the time you are conducting your endangered species assessment, see the FWS Endangered Species Program website at <http://www.fws.gov/endangered/> and the U.S. FWS New England Field Office website at <http://www.fws.gov/newengland/index.htm>

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES  
 IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Boume (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Raynham and Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Glocester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, and Wareham
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied cooter is present in Plymouth County.

7/31/2008

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES  
 IN NEW HAMPSHIRE**

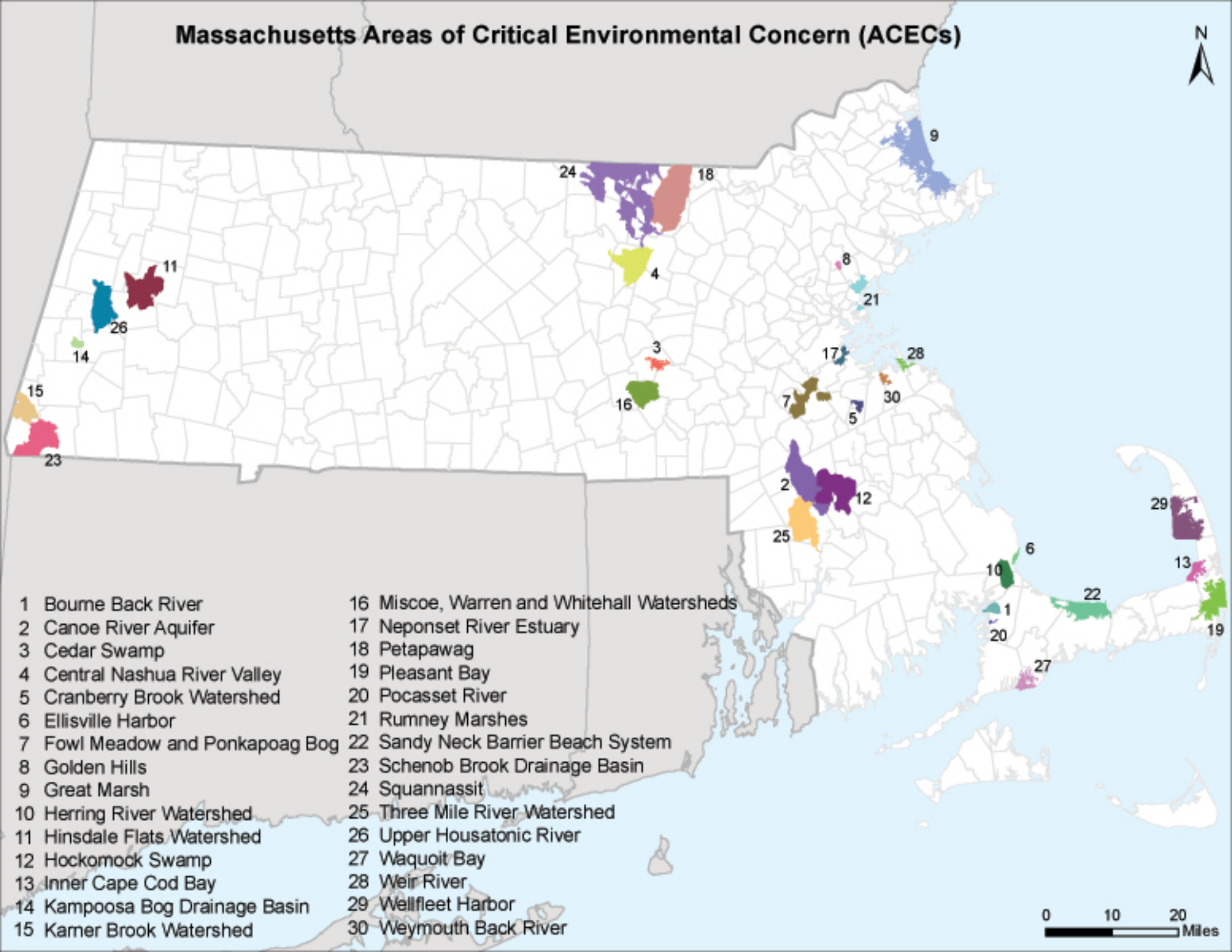
COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Eaton, Madison Wolfeboro, Brookfield and Wakefield
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzy, Keene and Surry
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Weare
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Danbury, Epsom, Warner and Allenstown
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Small whorled Pogonia	Threatened	Forests	Northwood, Nottingham, and Epping
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon and Walpole
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont

- Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.
- Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.
- There is no federally-designated Critical Habitat in New Hampshire.

7/31/2008



# Massachusetts Areas of Critical Environmental Concern (ACECs)



- |                                 |  |
|---------------------------------|--|
| 1 Bourne Back River             | 16 Miscoe, Warren and Whitehall Watersheds |
| 2 Canoe River Aquifer           | 17 Neponset River Estuary                  |
| 3 Cedar Swamp                   | 18 Petapawag                               |
| 4 Central Nashua River Valley   | 19 Pleasant Bay                            |
| 5 Cranberry Brook Watershed     | 20 Pocasset River                          |
| 6 Ellisville Harbor             | 21 Rumney Marshes                          |
| 7 Fowl Meadow and Ponkapoag Bog | 22 Sandy Neck Barrier Beach System         |
| 8 Golden Hills                  | 23 Schenob Brook Drainage Basin            |
| 9 Great Marsh                   | 24 Squannassit                             |
| 10 Herring River Watershed      | 25 Three Mile River Watershed              |
| 11 Hinsdale Flats Watershed     | 26 Upper Housatonic River                  |
| 12 Hockomock Swamp              | 27 Waquoit Bay                             |
| 13 Inner Cape Cod Bay           | 28 Weir River                              |
| 14 Kamposoa Bog Drainage Basin  | 29 Wellfleet Harbor                        |
| 15 Kerner Brook Watershed       | 30 Weymouth Back River                     |



**APPENDIX E**

**BWSC Permit Application**

## Boston Water and Sewer Commission's Dewatering Discharge Permit Application

Facility/Business Name: 45 First Avenue Development

Mailing Address: 306 Dartmouth Street Boston, Massachusetts 02116

Authorized Representative concerning information provided herein:

Name: Charles V. Reed Title: Vice President

Phone #: (617) 266-4850 Beeper #: \_\_\_\_\_ Fax #: 617-266-8820

Owner of property being dewatered Raymond Property Company, LLC

Location of Discharge:

Street: X Neighborhood: \_\_\_\_\_ Phone # \_\_\_\_\_

Discharge is to a: Sanitary Sewer Combined Sewer Storm Drain (Circle One)

BWSC Outfall #: SDO074, SDO075, and/or SDO076 Receiving Waters: Little Mystic Channel/Inner Boston Harbor

**Note: Discharge (after sedimentation and treatment) will be to storm drain located within the site; refer to NPDES text for complete description of discharge.**

Temporary Discharges: 7/01/2011 To 7/01/2012 (Provide anticipated dates of discharge)

\_\_\_\_ Groundwater Remediation \_\_\_\_ Tank Removal/Installation X Foundation Excavation  
\_\_\_\_ Utility/Manhole Pumping \_\_\_\_ Test Pit \_\_\_\_ Trench Excavation  
\_\_\_\_ Accum. Surface Water \_\_\_\_ Hydrogeologic Testing \_\_\_\_ Other \_\_\_\_\_

Permanent Discharges:

\_\_\_\_ Foundation Drainage \_\_\_\_ Crawl Space/Footing Drain  
\_\_\_\_ Accumulated Surface Water \_\_\_\_ Non-contact/Uncontaminated Cooling  
\_\_\_\_ Non-contact/Uncontaminated Process \_\_\_\_ Other \_\_\_\_\_

1. Attach a Site Plan showing the source of the discharge and the location of the point of discharge (i.e. the sewer pipe or catch basin). **(Refer to NPDES Application Attached)**
2. If discharging to a sanitary or combined sewer, attach a copy of MWRA's Sewer Use Discharge permit or application. Include meter number, size, make and start reading. All discharges to sanitary or combined sewer are assessed current sewer charges.
3. If discharging to a separate storm drain, attach a copy of EPA's NPDES Permit or NOI application, or NPDES Permit exclusion letter for the discharge, as well as other relevant information. **(Attached)**
4. Dewatering Drainage Permit will be denied or revoked if applicant fails to obtain the necessary permits from MWRA or EPA.

Submit to: Mr. Francis M. McLaughlin Phone: 617-989-7000  
Manager, Engineering Customer Services Fax: 617-989-7732  
Boston Water and Sewer Commission  
980 Harrison Avenue  
Roxbury, MA 02119

\_\_\_\_\_  
BWSC Use Only

Date Received: \_\_\_\_\_ Comments: \_\_\_\_\_

**APPENDIX F**

**Laboratory Data Report**



## ANALYTICAL REPORT

Lab Number:	L1106003
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129
ATTN:	Jessica Cristallo
Phone:	(617) 886-7323
Project Name:	CHARLESTOWN SHIPYARD
Project Number:	28143-101
Report Date:	05/06/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)





**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L1106003-01	HA-2011-B2	Not Specified	05/02/11 12:05
L1106003-02	TRIP BLANK	Not Specified	05/02/11 00:00

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

#### Sample Receipt

The sample was received below the appropriate pH for the Total Cyanide analysis. The laboratory added additional NaOH to a pH >12.

#### Volatile Organics

L1106003-01 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The WG465261-7 LCS recovery, associated with L1106003-01, was above the acceptance criteria for Vinyl acetate (168%); however, the associated sample was non-detect for this target compound. The results of the original analysis are reported.

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

### Case Narrative (continued)

#### Semivolatile Organics by SIM

L1106003-01 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

#### Semivolatile Organics

The WG466121-2/-3 LCS/LCSD recoveries, associated with L1106003-01, were above the acceptance criteria for 2,4-Dinitrotoluene (106%/98%); however, the associated sample was non-detect for this target compound. The results of the original analysis are reported.

#### PCBs


The surrogate recovery for the WG466237-1 Method Blank, associated with L1106003-01, is below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene (3%). The associated sample is non-detect and has acceptable surrogate recoveries; therefore, no further actions were taken.

#### Chloride

L1106003-01 has an elevated detection limit due to the dilution required to quantitate the result within the calibration range.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 05/06/11

# ORGANICS

# VOLATILES



**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

Lab ID: L1106003-01

Date Collected: 05/02/11 12:05

Client ID: HA-2011-B2

Date Received: 05/02/11

Sample Location: Not Specified

Field Prep: Not Specified

Matrix: Water

Analytical Method: 14,504.1

Extraction Date: 05/05/11 13:00

Analytical Date: 05/05/11 14:16

Analyst: SH

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Pesticides by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.010	--	1

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

Lab ID: L1106003-01 D  
 Client ID: HA-2011-B2  
 Sample Location: Not Specified  
 Matrix: Water  
 Analytical Method: 5,624  
 Analytical Date: 05/03/11 14:46  
 Analyst: TT

Date Collected: 05/02/11 12:05  
 Date Received: 05/02/11  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	50	--	10
1,1-Dichloroethane	ND		ug/l	15	--	10
Chloroform	ND		ug/l	15	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	35	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	15	--	10
2-Chloroethylvinyl ether	ND		ug/l	100	--	10
Tetrachloroethene	ND		ug/l	15	--	10
Chlorobenzene	ND		ug/l	35	--	10
Trichlorofluoromethane	ND		ug/l	50	--	10
1,2-Dichloroethane	ND		ug/l	15	--	10
1,1,1-Trichloroethane	ND		ug/l	20	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	15	--	10
cis-1,3-Dichloropropene	ND		ug/l	15	--	10
Bromoform	ND		ug/l	10	--	10
1,1,2,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	360		ug/l	10	--	10
Toluene	770		ug/l	10	--	10
Ethylbenzene	400		ug/l	10	--	10
Chloromethane	ND		ug/l	100	--	10
Bromomethane	ND		ug/l	50	--	10
Vinyl chloride	ND		ug/l	20	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	15	--	10
cis-1,2-Dichloroethene	ND		ug/l	10	--	10
Trichloroethene	ND		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	50	--	10
1,3-Dichlorobenzene	ND		ug/l	50	--	10

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

Lab ID: L1106003-01 D

Date Collected: 05/02/11 12:05

Client ID: HA-2011-B2

Date Received: 05/02/11

Sample Location: Not Specified

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/l	50	--	10
p/m-Xylene	1100		ug/l	20	--	10
o-xylene	440		ug/l	10	--	10
Xylene (Total)	1500		ug/l	20	--	10
Styrene	ND		ug/l	10	--	10
Acetone	ND		ug/l	100	--	10
Carbon disulfide	ND		ug/l	50	--	10
2-Butanone	160		ug/l	100	--	10
Vinyl acetate	ND		ug/l	200	--	10
4-Methyl-2-pentanone	ND		ug/l	100	--	10
2-Hexanone	ND		ug/l	100	--	10
Acrolein	87		ug/l	80	--	10
Acrylonitrile	ND		ug/l	100	--	10
Methyl tert butyl ether	ND		ug/l	200	--	10
Dibromomethane	ND		ug/l	10	--	10
1,4-Dioxane	ND		ug/l	20000	--	10
Tert-Butyl Alcohol	ND		ug/l	1000	--	10
Tertiary-Amyl Methyl Ether	ND		ug/l	200	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	114		80-120
Fluorobenzene	116		80-120
4-Bromofluorobenzene	94		80-120

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

**Lab ID:** L1106003-02  
**Client ID:** TRIP BLANK  
**Sample Location:** Not Specified  
**Matrix:** Water  
**Analytical Method:** 14,504.1  
**Analytical Date:** 05/05/11 14:28  
**Analyst:** SH

**Date Collected:** 05/02/11 00:00  
**Date Received:** 05/02/11  
**Field Prep:** Not Specified  
**Extraction Date:** 05/05/11 13:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Pesticides by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.010	--	1

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 5,624  
Analytical Date: 05/03/11 08:47  
Analyst: TT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG465261-8					
Methylene chloride	ND		ug/l	5.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Chloroform	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	3.5	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Tetrachloroethene	ND		ug/l	1.5	--
Chlorobenzene	ND		ug/l	3.5	--
Trichlorofluoromethane	ND		ug/l	5.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	1.5	--
cis-1,3-Dichloropropene	ND		ug/l	1.5	--
Bromoform	ND		ug/l	1.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	10	--
Bromomethane	ND		ug/l	5.0	--
Vinyl chloride	ND		ug/l	2.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.5	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--



Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 5,624  
 Analytical Date: 05/03/11 08:47  
 Analyst: TT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG465261-8					
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	10	--
Vinyl acetate	ND		ug/l	20	--
4-Methyl-2-pentanone	ND		ug/l	10	--
2-Hexanone	ND		ug/l	10	--
Acrolein	ND		ug/l	8.0	--
Acrylonitrile	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	20	--
Dibromomethane	ND		ug/l	1.0	--
1,4-Dioxane	ND		ug/l	2000	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	100		80-120
Fluorobenzene	106		80-120
4-Bromofluorobenzene	103		80-120

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 14,504.1

Analytical Date: 05/05/11 13:40

Analyst: SH

Extraction Date: 05/05/11 13:00

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG466339-1					
1,2-Dibromoethane	ND		ug/l	0.010	--
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD

**Lab Number:** L1106003

**Project Number:** 28143-101

**Report Date:** 05/06/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG465261-7								
Methylene chloride	116		-		1-221	-		30
1,1-Dichloroethane	109		-		59-155	-		30
Chloroform	106		-		51-138	-		30
Carbon tetrachloride	114		-		70-140	-		30
1,2-Dichloropropane	108		-		1-210	-		30
Dibromochloromethane	104		-		53-149	-		30
1,1,2-Trichloroethane	101		-		52-150	-		30
2-Chloroethylvinyl ether	104		-		1-305	-		30
Tetrachloroethene	101		-		64-148	-		30
Chlorobenzene	98		-		37-160	-		30
Trichlorofluoromethane	130		-		17-181	-		30
1,2-Dichloroethane	106		-		49-155	-		30
1,1,1-Trichloroethane	111		-		52-162	-		30
Bromodichloromethane	105		-		35-155	-		30
trans-1,3-Dichloropropene	106		-		17-183	-		30
cis-1,3-Dichloropropene	108		-		1-227	-		30
Bromoform	101		-		45-169	-		30
1,1,1,2-Tetrachloroethane	96		-		46-157	-		30
Benzene	116		-		37-151	-		30
Toluene	109		-		47-150	-		30
Ethylbenzene	95		-		37-162	-		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG465261-7								
Chloromethane	124		-		1-273	-		30
Bromomethane	136		-		1-242	-		30
Vinyl chloride	106		-		1-251	-		30
Chloroethane	127		-		14-230	-		30
1,1-Dichloroethene	116		-		1-234	-		30
trans-1,2-Dichloroethene	110		-		54-156	-		30
cis-1,2-Dichloroethene	105		-		60-140	-		30
Trichloroethene	108		-		71-157	-		30
1,2-Dichlorobenzene	93		-		18-190	-		30
1,3-Dichlorobenzene	91		-		59-156	-		30
1,4-Dichlorobenzene	96		-		18-190	-		30
p/m-Xylene	95		-		40-160	-		30
o-Xylene	90		-		40-160	-		30
XYLENE (TOTAL)	94		-		40-160	-		30
Styrene	142		-		40-160	-		30
Acetone	109		-		40-160	-		30
Carbon disulfide	135		-		40-160	-		30
2-Butanone	111		-		40-160	-		30
Vinyl acetate	168	Q	-		40-160	-		30
4-Methyl-2-pentanone	106		-		40-160	-		30
2-Hexanone	103		-		40-160	-		30

## Lab Control Sample Analysis

Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG465261-7								
Acrolein	137		-		40-160	-		30
Acrylonitrile	102		-		40-160	-		30
Dibromomethane	106		-		70-130	-		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Pentafluorobenzene	104				80-120
Fluorobenzene	106				80-120
4-Bromofluorobenzene	94				80-120

Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG466339-2								
Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
1,2-Dibromoethane	111		-		70-130	-		20
1,2-Dibromo-3-chloropropane	100		-		70-130	-		20



## Matrix Spike Analysis

### Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD

**Lab Number:** L1106003

**Project Number:** 28143-101

**Report Date:** 05/06/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465261-3 QC Sample: L1105811-01 Client ID: MS Sample												
Methylene chloride	7.1	20	21	71		-	-		1-221	-		30
1,1-Dichloroethane	ND	20	14	72		-	-		59-155	-		30
Chloroform	39	20	52	69		-	-		51-138	-		30
Carbon tetrachloride	ND	20	16	78		-	-		70-140	-		30
1,2-Dichloropropane	ND	20	14	73		-	-		1-210	-		30
Dibromochloromethane	ND	20	14	72		-	-		53-149	-		30
1,1,2-Trichloroethane	ND	20	13	67		-	-		52-150	-		30
2-Chloroethylvinyl ether	ND	20	13	63		-	-		1-305	-		30
Tetrachloroethene	ND	20	14	68		-	-		64-148	-		30
Chlorobenzene	ND	20	13	65		-	-		37-160	-		30
Trichlorofluoromethane	ND	20	18	90		-	-		17-181	-		30
1,2-Dichloroethane	ND	20	14	72		-	-		49-155	-		30
1,1,1-Trichloroethane	ND	20	15	75		-	-		52-162	-		30
Bromodichloromethane	4.7	20	19	70		-	-		35-155	-		30
trans-1,3-Dichloropropene	ND	20	13	64		-	-		17-183	-		30
cis-1,3-Dichloropropene	ND	20	14	68		-	-		1-227	-		30
Bromoform	ND	20	14	69		-	-		45-169	-		30
1,1,2,2-Tetrachloroethane	ND	20	13	66		-	-		46-157	-		30
Benzene	ND	20	16	78		-	-		35-151	-		30
Toluene	ND	20	15	73		-	-		47-150	-		30
Ethylbenzene	ND	20	13	65		-	-		37-162	-		30

## Matrix Spike Analysis

### Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD

**Lab Number:** L1106003

**Project Number:** 28143-101

**Report Date:** 05/06/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465261-3 QC Sample: L1105811-01 Client ID: MS Sample												
Chloromethane	ND	20	17	85		-	-		1-273	-		30
Bromomethane	ND	20	19	96		-	-		1-242	-		30
Vinyl chloride	ND	20	14	72		-	-		1-251	-		30
Chloroethane	ND	20	17	83		-	-		14-230	-		30
1,1-Dichloroethene	ND	20	16	80		-	-		1-234	-		30
trans-1,2-Dichloroethene	ND	20	14	72		-	-		54-156	-		30
cis-1,2-Dichloroethene	ND	20	14	70		-	-		60-140	-		30
Trichloroethene	ND	20	14	71		-	-		71-157	-		30
1,2-Dichlorobenzene	ND	20	12	63		-	-		18-190	-		30
1,3-Dichlorobenzene	ND	20	12	60		-	-		59-156	-		30
1,4-Dichlorobenzene	ND	20	12	63		-	-		18-190	-		30
p/m-Xylene	ND	40	26	66		-	-		40-160	-		30
o-Xylene	ND	20	12	61		-	-		40-160	-		30
XYLENE (TOTAL)	ND	60	38	64		-	-		40-160	-		30
Styrene	ND	20	19	97		-	-		40-160	-		30
Acetone	40	50	72	65		-	-		40-160	-		30
Carbon disulfide	ND	20	17	84		-	-		40-160	-		30
2-Butanone	16	50	55	77		-	-		40-160	-		30
Vinyl acetate	ND	40	33	82		-	-		40-160	-		30
4-Methyl-2-pentanone	ND	50	35	70		-	-		40-160	-		30
2-Hexanone	ND	50	34	69		-	-		40-160	-		30

## Matrix Spike Analysis

Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465261-3 QC Sample: L1105811-01 Client ID: MS Sample												
Acrolein	ND	40	37	93		-	-		40-160	-		30
Acrylonitrile	ND	40	28	70		-	-		40-160	-		30
Dibromomethane	ND	20	15	74		-	-			-		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
4-Bromofluorobenzene	97				80-120
Fluorobenzene	106				80-120
Pentafluorobenzene	106				80-120

Pesticides by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG466339-3 QC Sample: L1106003-01 Client ID: HA-2011-B2

1,2-Dibromoethane	ND	0.245	0.262	107		-	-		70-130	-		20
1,2-Dibromo-3-chloropropane	ND	0.245	0.212	87		-	-		70-130	-		20

## Lab Duplicate Analysis

Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Project Number: 28143-101

Lab Number: L1106003

Report Date: 05/06/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465261-4 QC Sample: L1105811-01 Client ID: DUP Sample						
Methylene chloride	7.1	6.8	ug/l	4		30
1,1-Dichloroethane	ND	ND	ug/l	NC		30
Chloroform	39	38	ug/l	3		30
Carbon tetrachloride	ND	ND	ug/l	NC		30
1,2-Dichloropropane	ND	ND	ug/l	NC		30
Dibromochloromethane	ND	ND	ug/l	NC		30
1,1,2-Trichloroethane	ND	ND	ug/l	NC		30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC		30
Tetrachloroethene	ND	ND	ug/l	NC		30
Chlorobenzene	ND	ND	ug/l	NC		30
Trichlorofluoromethane	ND	ND	ug/l	NC		30
1,2-Dichloroethane	ND	ND	ug/l	NC		30
1,1,1-Trichloroethane	ND	ND	ug/l	NC		30
Bromodichloromethane	4.7	4.8	ug/l	2		30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC		30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC		30
Bromoform	ND	ND	ug/l	NC		30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC		30
Benzene	ND	ND	ug/l	NC		30

## Lab Duplicate Analysis

Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Project Number: 28143-101

Lab Number: L1106003

Report Date: 05/06/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465261-4 QC Sample: L1105811-01 Client ID: DUP Sample					
Toluene	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
Chloromethane	ND	ND	ug/l	NC	30
Bromomethane	ND	ND	ug/l	NC	30
Vinyl chloride	ND	ND	ug/l	NC	30
Chloroethane	ND	ND	ug/l	NC	30
1,1-Dichloroethene	ND	ND	ug/l	NC	30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC	30
cis-1,2-Dichloroethene	ND	ND	ug/l	NC	30
Trichloroethene	ND	ND	ug/l	NC	30
1,2-Dichlorobenzene	ND	ND	ug/l	NC	30
1,3-Dichlorobenzene	ND	ND	ug/l	NC	30
1,4-Dichlorobenzene	ND	ND	ug/l	NC	30
p/m-Xylene	ND	ND	ug/l	NC	30
o-Xylene	ND	ND	ug/l	NC	30
XYLENE (TOTAL)	ND	ND	ug/l	NC	30
Styrene	ND	ND	ug/l	NC	30
Acetone	40	36	ug/l	11	30
Carbon disulfide	ND	ND	ug/l	NC	30



## Lab Duplicate Analysis

Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Project Number: 28143-101

Lab Number: L1106003

Report Date: 05/06/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465261-4 QC Sample: L1105811-01 Client ID: DUP Sample					
2-Butanone	16	15	ug/l	6	30
Vinyl acetate	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone	ND	ND	ug/l	NC	30
2-Hexanone	ND	ND	ug/l	NC	30
Acrolein	ND	ND	ug/l	NC	30
Acrylonitrile	ND	ND	ug/l	NC	30
Dibromomethane	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	108		107		80-120
Fluorobenzene	105		104		80-120
4-Bromofluorobenzene	104		108		80-120

# SEMIVOLATILES

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

Lab ID: L1106003-01  
 Client ID: HA-2011-B2  
 Sample Location: Not Specified  
 Matrix: Water  
 Analytical Method: 1,8270C  
 Analytical Date: 05/05/11 14:04  
 Analyst: JB

Date Collected: 05/02/11 12:05  
 Date Received: 05/02/11  
 Field Prep: Not Specified  
 Extraction Method: EPA 3510C  
 Extraction Date: 05/04/11 12:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Benzidine	ND		ug/l	50	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	5.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	50	--	1
2,4-Dinitrotoluene	ND		ug/l	6.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	5.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	5.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	5.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	5.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	30	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	5.0	--	1
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	15	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	5.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	20	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	7.0	--	1
Dibenzofuran	ND		ug/l	5.0	--	1
n-Nitrosodimethylamine	ND		ug/l	50	--	1

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

Lab ID: L1106003-01

Date Collected: 05/02/11 12:05

Client ID: HA-2011-B2

Date Received: 05/02/11

Sample Location: Not Specified

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
P-Chloro-M-Cresol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	6.0	--	1
2,4-Dichlorophenol	ND		ug/l	10	--	1
2,4-Dimethylphenol	ND		ug/l	10	--	1
2-Nitrophenol	ND		ug/l	20	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	30	--	1
4,6-Dinitro-o-cresol	ND		ug/l	20	--	1
Phenol	ND		ug/l	7.0	--	1
2-Methylphenol	ND		ug/l	6.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	6.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	10	--	1
Carbazole	ND		ug/l	5.0	--	1
Pyridine	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	68		15-120
2,4,6-Tribromophenol	77		10-120
4-Terphenyl-d14	77		41-149

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

Lab ID: L1106003-01 D  
 Client ID: HA-2011-B2  
 Sample Location: Not Specified  
 Matrix: Water  
 Analytical Method: 1,8270C-SIM  
 Analytical Date: 05/06/11 09:24  
 Analyst: AS

Date Collected: 05/02/11 12:05  
 Date Received: 05/02/11  
 Field Prep: Not Specified  
 Extraction Method: EPA 3510C  
 Extraction Date: 05/04/11 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS-SIM - Westborough Lab</b>						
Acenaphthene	2.6		ug/l	1.0	--	5
2-Chloronaphthalene	ND		ug/l	1.0	--	5
Fluoranthene	ND		ug/l	1.0	--	5
Hexachlorobutadiene	ND		ug/l	2.5	--	5
Naphthalene	100		ug/l	1.0	--	5
Benzo(a)anthracene	ND		ug/l	1.0	--	5
Benzo(a)pyrene	ND		ug/l	1.0	--	5
Benzo(b)fluoranthene	ND		ug/l	1.0	--	5
Benzo(k)fluoranthene	ND		ug/l	1.0	--	5
Chrysene	ND		ug/l	1.0	--	5
Acenaphthylene	ND		ug/l	1.0	--	5
Anthracene	ND		ug/l	1.0	--	5
Benzo(ghi)perylene	ND		ug/l	1.0	--	5
Fluorene	1.2		ug/l	1.0	--	5
Phenanthrene	1.7		ug/l	1.0	--	5
Dibenzo(a,h)anthracene	ND		ug/l	1.0	--	5
Indeno(1,2,3-cd)Pyrene	ND		ug/l	1.0	--	5
Pyrene	ND		ug/l	1.0	--	5
1-Methylnaphthalene	28		ug/l	1.0	--	5
2-Methylnaphthalene	39		ug/l	1.0	--	5
Pentachlorophenol	ND		ug/l	4.0	--	5
Hexachlorobenzene	ND		ug/l	4.0	--	5
Hexachloroethane	ND		ug/l	4.0	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	62		21-120
Phenol-d6	43		10-120
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	101		15-120
2,4,6-Tribromophenol	117		10-120
4-Terphenyl-d14	123		41-149



**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270C  
Analytical Date: 05/05/11 12:26  
Analyst: JB

Extraction Method: EPA 3510C  
Extraction Date: 05/04/11 12:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG466121-1					
Acenaphthene	ND		ug/l	5.0	--
Benzidine	ND		ug/l	50	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	5.0	--
2-Chloronaphthalene	ND		ug/l	6.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
3,3'-Dichlorobenzidine	ND		ug/l	50	--
2,4-Dinitrotoluene	ND		ug/l	6.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	5.0	--
Fluoranthene	ND		ug/l	5.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	5.0	--
4-Bromophenyl phenyl ether	ND		ug/l	5.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	5.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	10	--
Hexachlorocyclopentadiene	ND		ug/l	30	--
Hexachloroethane	ND		ug/l	5.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	5.0	--
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	15	--
Bis(2-Ethylhexyl)phthalate	ND		ug/l	5.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270C  
Analytical Date: 05/05/11 12:26  
Analyst: JB

Extraction Method: EPA 3510C  
Extraction Date: 05/04/11 12:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG466121-1					
Benzo(a)anthracene	ND		ug/l	5.0	--
Benzo(a)pyrene	ND		ug/l	5.0	--
Benzo(b)fluoranthene	ND		ug/l	5.0	--
Benzo(k)fluoranthene	ND		ug/l	5.0	--
Chrysene	ND		ug/l	5.0	--
Acenaphthylene	ND		ug/l	5.0	--
Anthracene	ND		ug/l	5.0	--
Benzo(ghi)perylene	ND		ug/l	5.0	--
Fluorene	ND		ug/l	5.0	--
Phenanthrene	ND		ug/l	5.0	--
Dibenzo(a,h)anthracene	ND		ug/l	5.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	7.0	--
Pyrene	ND		ug/l	5.0	--
Aniline	ND		ug/l	20	--
4-Chloroaniline	ND		ug/l	5.0	--
1-Methylnaphthalene	ND		ug/l	5.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	7.0	--
Dibenzofuran	ND		ug/l	5.0	--
2-Methylnaphthalene	ND		ug/l	5.0	--
n-Nitrosodimethylamine	ND		ug/l	50	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
P-Chloro-M-Cresol	ND		ug/l	5.0	--
2-Chlorophenol	ND		ug/l	6.0	--
2,4-Dichlorophenol	ND		ug/l	10	--
2,4-Dimethylphenol	ND		ug/l	10	--
2-Nitrophenol	ND		ug/l	20	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	30	--
4,6-Dinitro-o-cresol	ND		ug/l	20	--

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270C  
 Analytical Date: 05/05/11 12:26  
 Analyst: JB

Extraction Method: EPA 3510C  
 Extraction Date: 05/04/11 12:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG466121-1					
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	7.0	--
2-Methylphenol	ND		ug/l	6.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	6.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	10	--
Carbazole	ND		ug/l	5.0	--
Pyridine	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	38		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	86		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	97		41-149

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270C-SIM  
**Analytical Date:** 05/05/11 10:47  
**Analyst:** AS

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/04/11 12:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG466123-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8270C-SIM

Extraction Method: EPA 3510C

Analytical Date: 05/05/11 10:47

Extraction Date: 05/04/11 12:44

Analyst: AS

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG466123-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	63		21-120
Phenol-d6	47		10-120
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	93		15-120
2,4,6-Tribromophenol	90		10-120
4-Terphenyl-d14	111		41-149

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG466121-2 WG466121-3								
Acenaphthene	77		77		37-111	0		30
1,2,4-Trichlorobenzene	62		65		39-98	5		30
2-Chloronaphthalene	85		96		40-140	12		30
1,2-Dichlorobenzene	61		64		40-140	5		30
1,4-Dichlorobenzene	58		62		36-97	7		30
2,4-Dinitrotoluene	106	Q	98	Q	24-96	8		30
2,6-Dinitrotoluene	93		91		40-140	2		30
Fluoranthene	102		95		40-140	7		30
4-Chlorophenyl phenyl ether	90		91		40-140	1		30
n-Nitrosodi-n-propylamine	65		73		41-116	12		30
Butyl benzyl phthalate	103		96		40-140	7		30
Anthracene	94		94		40-140	0		30
Pyrene	98		91		26-127	7		30
P-Chloro-M-Cresol	82		91		23-97	10		30
2-Chlorophenol	68		81		27-123	17		30
2-Nitrophenol	75		81		30-130	8		30
4-Nitrophenol	58		50		10-80	15		30
2,4-Dinitrophenol	89		86		20-130	3		30
Pentachlorophenol	98		92		9-103	6		30
Phenol	34		37		12-110	8		30



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG466121-2 WG466121-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	42		48		21-120
Phenol-d6	32		34		10-120
Nitrobenzene-d5	63		71		23-120
2-Fluorobiphenyl	72		77		15-120
2,4,6-Tribromophenol	95		89		10-120
4-Terphenyl-d14	94		90		41-149

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG466123-2 WG466123-3

Acenaphthene	102		99		37-111	3	40
2-Chloronaphthalene	111		104		40-140	7	40
Fluoranthene	122		117		40-140	4	40
Anthracene	114		116		40-140	2	40
Pyrene	119		113		26-127	5	40
Pentachlorophenol	74		69		9-103	7	40

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG466123-2 WG466123-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64		61		21-120
Phenol-d6	46		44		10-120
Nitrobenzene-d5	111		109		23-120
2-Fluorobiphenyl	88		85		15-120
2,4,6-Tribromophenol	113		111		10-120
4-Terphenyl-d14	108		108		41-149

# PCBS

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11**SAMPLE RESULTS**

**Lab ID:** L1106003-01  
**Client ID:** HA-2011-B2  
**Sample Location:** Not Specified  
**Matrix:** Water  
**Analytical Method:** 5,608  
**Analytical Date:** 05/06/11 07:40  
**Analyst:** SH

**Date Collected:** 05/02/11 12:05  
**Date Received:** 05/02/11  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 608  
**Extraction Date:** 05/05/11 00:54  
**Cleanup Method1:** EPA 3665A  
**Cleanup Date1:** 05/05/11  
**Cleanup Method2:** EPA 3660B  
**Cleanup Date2:** 05/05/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Polychlorinated Biphenyls by GC - Westborough Lab						
Aroclor 1016	ND		ug/l	0.250	--	1
Aroclor 1221	ND		ug/l	0.250	--	1
Aroclor 1232	ND		ug/l	0.250	--	1
Aroclor 1242	ND		ug/l	0.250	--	1
Aroclor 1248	ND		ug/l	0.250	--	1
Aroclor 1254	ND		ug/l	0.250	--	1
Aroclor 1260	ND		ug/l	0.250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	62		30-150	A

**Project Name:** CHARLESTOWN SHIPYARD**Lab Number:** L1106003**Project Number:** 28143-101**Report Date:** 05/06/11

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 5,608  
 Analytical Date: 05/06/11 06:49  
 Analyst: SH

Extraction Method: EPA 608  
 Extraction Date: 05/05/11 00:54  
 Cleanup Method1: EPA 3665A  
 Cleanup Date1: 05/05/11  
 Cleanup Method2: EPA 3660B  
 Cleanup Date2: 05/05/11

Parameter	Result	Qualifier	Units	RL	MDL
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG466237-1					
Aroclor 1016	ND		ug/l	0.250	--
Aroclor 1221	ND		ug/l	0.250	--
Aroclor 1232	ND		ug/l	0.250	--
Aroclor 1242	ND		ug/l	0.250	--
Aroclor 1248	ND		ug/l	0.250	--
Aroclor 1254	ND		ug/l	0.250	--
Aroclor 1260	ND		ug/l	0.250	--

Surrogate	%Recovery	Qualifier	Acceptance	
			Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	3	Q	30-150	A
Decachlorobiphenyl	49		30-150	A

## Matrix Spike Analysis

Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466237-3 QC Sample: L1106003-01 Client ID: HA-2011-B2												
Aroclor 1016	ND	2	2.09	105		-	-		40-126	-		30
Aroclor 1260	ND	2	1.76	88		-	-		40-127	-		30

Surrogate	MS		MSD		Acceptance Criteria	Column
	% Recovery	Qualifier	% Recovery	Qualifier		
2,4,5,6-Tetrachloro-m-xylene	63				30-150	A
Decachlorobiphenyl	56				30-150	A



### Lab Control Sample Analysis Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG466237-2								
Aroclor 1016	76		-		40-126	-		30
Aroclor 1260	67		-		40-127	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	52				30-150	A
Decachlorobiphenyl	53				30-150	A

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466237-4 QC Sample: L1106003-01 Client ID: HA-2011-B2						
Aroclor 1016	ND	ND	ug/l	NC		30
Aroclor 1221	ND	ND	ug/l	NC		30
Aroclor 1232	ND	ND	ug/l	NC		30
Aroclor 1242	ND	ND	ug/l	NC		30
Aroclor 1248	ND	ND	ug/l	NC		30
Aroclor 1254	ND	ND	ug/l	NC		30
Aroclor 1260	ND	ND	ug/l	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		75		30-150	A
Decachlorobiphenyl	62		62		30-150	A



## METALS

Project Name: CHARLESTOWN SHIPYARD

Lab Number: L1106003

Project Number: 28143-101

Report Date: 05/06/11

## SAMPLE RESULTS

Lab ID: L1106003-01

Date Collected: 05/02/11 12:05

Client ID: HA-2011-B2

Date Received: 05/02/11

Sample Location: Not Specified

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	0.0018		mg/l	0.0010	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Arsenic, Total	0.0079		mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Cadmium, Total	ND		mg/l	0.0002	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Chromium, Total	0.0009		mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Copper, Total	0.0036		mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Iron, Total	0.59		mg/l	0.05	--	1	05/04/11 10:55	05/05/11 18:42	EPA 3005A	19,200.7	AI
Lead, Total	0.0109		mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Mercury, Total	ND		mg/l	0.0002	--	1	05/04/11 17:30	05/05/11 10:59	EPA 245.1	3,245.1	AH
Nickel, Total	0.0031		mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Selenium, Total	ND		mg/l	0.001	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Silver, Total	ND		mg/l	0.0004	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM
Zinc, Total	0.0238		mg/l	0.0050	--	1	05/04/11 10:55	05/05/11 18:59	EPA 3005A	1,6020	BM



**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG466149-1									
Iron, Total	ND	mg/l	0.05	--	1	05/04/11 10:55	05/05/11 17:50	19,200.7	AI

### Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG466150-1									
Antimony, Total	ND	mg/l	0.0010	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Arsenic, Total	ND	mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Cadmium, Total	ND	mg/l	0.0002	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Chromium, Total	ND	mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Copper, Total	ND	mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Lead, Total	ND	mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Nickel, Total	ND	mg/l	0.0005	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Selenium, Total	ND	mg/l	0.001	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Silver, Total	ND	mg/l	0.0004	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM
Zinc, Total	ND	mg/l	0.0050	--	1	05/04/11 10:55	05/05/11 18:04	1,6020	BM

### Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG466204-1									
Mercury, Total	ND	mg/l	0.0002	--	1	05/04/11 17:30	05/05/11 10:55	3,245.1	AH

### Prep Information

Digestion Method: EPA 245.1

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD

**Project Number:** 28143-101

**Lab Number:** L1106003

**Report Date:** 05/06/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG466149-2								
Iron, Total	100		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG466150-2								
Antimony, Total	96		-		80-120	-		
Arsenic, Total	101		-		80-120	-		
Cadmium, Total	103		-		80-120	-		
Chromium, Total	94		-		80-120	-		
Copper, Total	99		-		80-120	-		
Lead, Total	103		-		80-120	-		
Nickel, Total	99		-		80-120	-		
Selenium, Total	100		-		80-120	-		
Silver, Total	99		-		80-120	-		
Zinc, Total	102		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG466204-2								
Mercury, Total	96		-		85-115	-		



### Matrix Spike Analysis Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01    QC Batch ID: WG466149-4    QC Sample: L1106081-02    Client ID: MS Sample												
Iron, Total	37	1	39	200		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01    QC Batch ID: WG466150-4    QC Sample: L1106081-02    Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5192	104		-	-		80-120	-		20
Arsenic, Total	0.0016	0.12	0.1262	104		-	-		80-120	-		20
Cadmium, Total	ND	0.051	0.0516	101		-	-		80-120	-		20
Chromium, Total	0.0031	0.2	0.1919	94		-	-		80-120	-		20
Copper, Total	0.0029	0.25	0.2394	95		-	-		80-120	-		20
Lead, Total	ND	0.51	0.5608	110		-	-		80-120	-		20
Nickel, Total	0.0039	0.5	0.4760	94		-	-		80-120	-		20
Selenium, Total	0.002	0.12	0.115	94		-	-		80-120	-		20
Silver, Total	ND	0.05	0.0486	97		-	-		80-120	-		20
Zinc, Total	0.0230	0.5	0.5024	96		-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01    QC Batch ID: WG466204-4    QC Sample: L1106010-08    Client ID: MS Sample												
Mercury, Total	0.0005	0.001	0.0010	44	Q	-	-		70-130	-		20

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466149-3 QC Sample: L1106081-02 Client ID: DUP Sample</b>						
Iron, Total	37	37	mg/l	0		20
<b>Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466150-3 QC Sample: L1106081-02 Client ID: DUP Sample</b>						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.0016	0.0015	mg/l	8		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.0031	0.0031	mg/l	3		20
Copper, Total	0.0029	0.0030	mg/l	3		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.0039	0.0040	mg/l	3		20
Selenium, Total	0.002	0.003	mg/l	17		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.0230	0.0185	mg/l	22	Q	20
<b>Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466204-3 QC Sample: L1106010-08 Client ID: DUP Sample</b>						
Mercury, Total	0.0005	0.0006	mg/l	18		20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

**SAMPLE RESULTS**

**Lab ID:** L1106003-01  
**Client ID:** HA-2011-B2  
**Sample Location:** Not Specified  
**Matrix:** Water

**Date Collected:** 05/02/11 12:05  
**Date Received:** 05/02/11  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Solids, Total Suspended	5.6		mg/l	5.0	NA	1	-	05/06/11 07:40	30,2540D	DW
Cyanide, Total	ND		mg/l	0.005	--	1	05/04/11 11:00	05/06/11 14:08	30,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	05/02/11 19:15	30,4500CL-D	KK
pH (H)	8.2		SU	-	NA	1	-	05/02/11 21:30	30,4500H+-B	KK
TPH	ND		mg/l	4.00	--	1	05/03/11 15:00	05/06/11 11:15	74,1664A	JO
Phenolics, Total	0.05		mg/l	0.03	--	1	05/03/11 18:00	05/04/11 02:29	4,420.1	TP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	05/03/11 00:10	05/03/11 01:02	30,3500CR-D	TP
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	300		mg/l	12	--	25	-	05/05/11 22:39	44,300.0	AU



**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG465790-3										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	05/02/11 19:15	30,4500CL-D	KK
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG465806-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	05/03/11 00:10	05/03/11 01:01	30,3500CR-D	TP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG465942-2										
TPH	ND		mg/l	4.00	--	1	05/03/11 15:00	05/06/11 11:15	74,1664A	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG466000-2										
Phenolics, Total	ND		mg/l	0.03	--	1	05/03/11 18:00	05/04/11 02:28	4,420.1	TP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG466071-2										
Cyanide, Total	ND		mg/l	0.005	--	1	05/04/11 11:00	05/06/11 13:57	30,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG466270-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	05/06/11 07:40	30,2540D	DW
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG466466-1										
Chloride	ND		mg/l	0.50	--	1	-	05/05/11 21:15	44,300.0	AU

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG465790-1								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG465796-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG465806-2								
Chromium, Hexavalent	99		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG465942-1								
TPH	90		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG466000-1								
Phenolics, Total	98		-		82-111	-		12
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG466071-1								
Cyanide, Total	98		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG466466-2								
Chloride	102		-		90-110	-		





### Matrix Spike Analysis Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01    QC Batch ID: WG465806-3    QC Sample: L1106003-01    Client ID: HA-2011-B2												
Chromium, Hexavalent	ND	0.1	0.104	104	-	-	-	-	85-115	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 01    QC Batch ID: WG465942-3    QC Sample: L1106049-02    Client ID: MS Sample												
TPH	ND	20.8	17.0	0	-	-	-	-	64-132	-	-	34
General Chemistry - Westborough Lab Associated sample(s): 01    QC Batch ID: WG466000-3    QC Sample: L1105929-02    Client ID: MS Sample												
Phenolics, Total	ND	0.8	0.74	92	-	-	-	-	77-124	-	-	12
General Chemistry - Westborough Lab Associated sample(s): 01    QC Batch ID: WG466071-3    QC Sample: L1106003-01    Client ID: HA-2011-B2												
Cyanide, Total	ND	0.2	0.186	93	-	-	-	-	90-110	-	-	30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01    QC Batch ID: WG466466-3    QC Sample: L1106138-01    Client ID: MS Sample												
Chloride	280	100	390	107	-	-	-	-	40-151	-	-	18

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465790-2 QC Sample: L1106003-01 Client ID: HA-2011-B2						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465796-2 QC Sample: L1106007-01 Client ID: DUP Sample						
pH	7.0	7.0	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465806-4 QC Sample: L1106003-01 Client ID: HA-2011-B2						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG465942-4 QC Sample: L1106003-01 Client ID: HA-2011-B2						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466000-4 QC Sample: L1105929-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		12
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466071-4 QC Sample: L1106003-01 Client ID: HA-2011-B2						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466270-2 QC Sample: L1106038-01 Client ID: DUP Sample						
Solids, Total Suspended	1900	1800	mg/l	5		32
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG466466-4 QC Sample: L1106138-01 Client ID: DUP Sample						
Chloride	280	300	mg/l	7		18

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

#### Cooler Information Custody Seal

##### Cooler

B Absent

#### Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1106003-01A	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	624(7)
L1106003-01B	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	624(7)
L1106003-01C	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	504(14)
L1106003-01D	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	504(14)
L1106003-01E	Plastic 1000ml unpreserved	B	7	2	Y	Absent	TSS-2540(7)
L1106003-01F	Plastic 1000ml unpreserved	B	7	2	Y	Absent	CL-300(28),TRC-4500(1),PH-4500(.01)
L1106003-01G	Amber 500ml H2SO4preserved	B	<2	2	Y	Absent	TPHENOL-420(28)
L1106003-01H	Plastic 500ml unpreserved	B	7	2	Y	Absent	HEXCR-3500(1)
L1106003-01I	Plastic 250ml NaOH preserved	B	>12	2	Y	Absent	TCN-4500(14)
L1106003-01J	Plastic 250ml HNO3 preserved	B	<2	2	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1106003-01K	Amber 1000ml unpreserved	B	7	2	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1106003-01L	Amber 1000ml unpreserved	B	7	2	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1106003-01M	Amber 1000ml unpreserved	B	7	2	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1106003-01N	Amber 1000ml unpreserved	B	7	2	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1106003-01O	Amber 1000ml Na2S2O3	B	7	2	Y	Absent	PCB-608(7)
L1106003-01P	Amber 1000ml Na2S2O3	B	7	2	Y	Absent	PCB-608(7)
L1106003-01Q	Amber 1000ml HCl preserved	B	N/A	2	Y	Absent	TPH-1664(28)
L1106003-01R	Amber 1000ml HCl preserved	B	N/A	2	Y	Absent	TPH-1664(28)
L1106003-02A	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	504(14)
L1106003-02B	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	504(14)

\*Values in parentheses indicate holding time in days

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

## GLOSSARY

### Acronyms

EPA	-Environmental Protection Agency.
LCS	-Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	-Laboratory Control Sample Duplicate: Refer to LCS.
MDL	-Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	-Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	-Matrix Spike Sample Duplicate: Refer to MS.
NA	-Not Applicable.
NC	-Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	-Not Ignitable.
RL	-Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	-Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

### Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

<b>A</b>	-Spectra identified as "Aldol Condensation Product".
<b>B</b>	-The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
<b>C</b>	-Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
<b>D</b>	-Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
<b>E</b>	-Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
<b>G</b>	-The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
<b>H</b>	-The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
<b>I</b>	-The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
<b>P</b>	-The RPD between the results for the two columns exceeds the method-specified criteria.

Report Format: Data Usability Report



**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

*Data Qualifiers*

- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** CHARLESTOWN SHIPYARD  
**Project Number:** 28143-101

**Lab Number:** L1106003  
**Report Date:** 05/06/11

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- 5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
- 14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 74 Method 1664, Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.





## Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.  
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

### Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

### Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

*Drinking Water* (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water* (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LCHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.***

*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.***

*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.***

*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.**

**Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. *NELAP Accredited.***

*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. **NELAP Accredited via NY-DOH.**

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commission on Environmental Quality** Certificate/Lab ID: T104704476-09-1. **NELAP Accredited.**

*Non-Potable Water (Inorganic Parameters:* EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH<sub>3</sub>-H, 4500NO<sub>2</sub>B, 4500P-E, 4500 S<sup>2-</sup> D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste (Inorganic Parameters:* EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.

*Drinking Water (Inorganic Parameters:* SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water (Inorganic Parameters:* EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO<sub>3</sub>-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste (Inorganic Parameters:* EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methyl naphthalenes, Total Dimethyl naphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.



**APPENDIX G**

**Material Safety Data Sheets (MSDS)**

# USFILTER WESTATES CARBON AQUACARB® 830 AND 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)



FOR MUNICIPAL, INDUSTRIAL AND  
REMEDIAL WATER TREATMENT

## Description & Applications

AquaCarb<sup>®</sup> 830 and AquaCarb<sup>®</sup> 1240 are high activity granular activated carbons manufactured from selected grades of bituminous coal. Manufactured by direct activation, they exhibit exceptional hardness and attrition resistance and have become a cost effective choice for use in municipal, industrial and remedial water treatment applications. These high surface area microporous carbons have been specifically developed for the removal of a broad range of organic contaminants from potable, waste and process waters.

- ANSI/NSF Standard 61 classified for use in potable water applications
- Fully conforms to physical, performance and leachability requirements established by the current ANSI/AWWA B604 (which includes the Food Chemical Codex requirements)

- A detailed quality assurance program guarantees consistent quality from lot to lot and shipment to shipment

## Quality Control

All AquaCarb<sup>®</sup> activated carbons are extensively quality checked at our State of California certified environmental and carbon testing laboratory located in Los Angeles, CA. USFilter's laboratory is fully equipped to provide complete quality control analyses using ASTM standard test methods in order to assure the consistent quality of all AquaCarb<sup>®</sup> carbons.

Our technical staff offers hands-on guidance in selecting the most appropriate system, operating conditions and carbon to meet your needs. For more information, contact your nearest USFilter representative.

**USFilter**

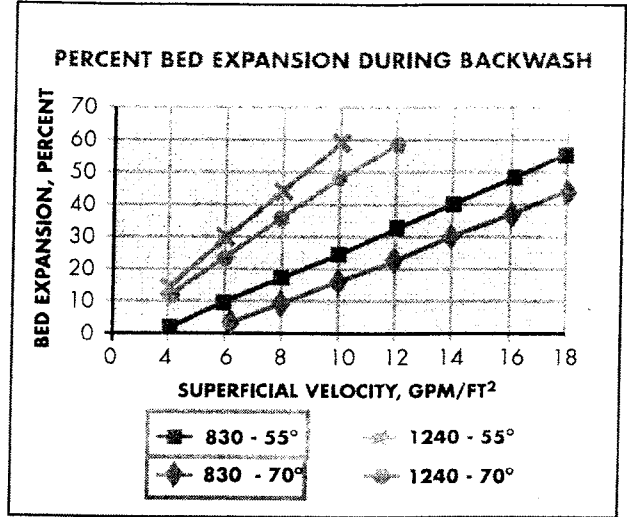
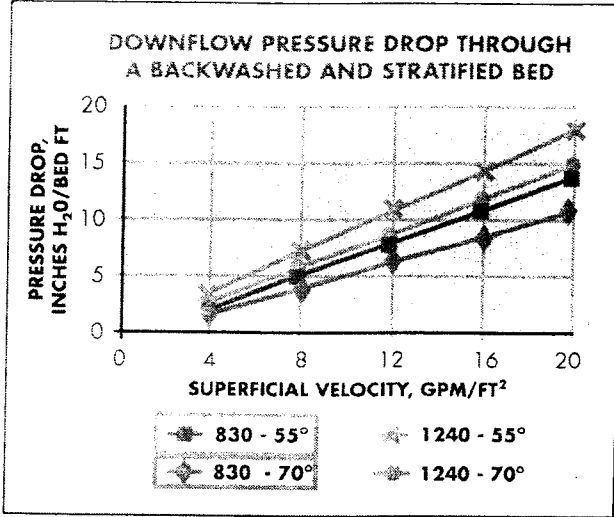


# AQUACARB® 830

# AQUACARB® 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)



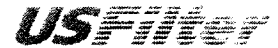
Safety Note: Wet activated carbon depletes oxygen from the air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Read Material Safety Data Sheet (MSDS) before using this product.

All information presented herein is believed reliable and in accordance with accepted engineering practices. USFilter makes no warranties as to the completeness of this information. Users are responsible for evaluating individual product suitability for specific applications. USFilter assumes no liability whatsoever for any special, indirect or consequential damages arising from the sale, resale or misuse of its products.

### SPECIFICATIONS/TYPICAL PROPERTIES

Specification	AquaCarb® 830	AquaCarb® 1240
Carbon Type	Bituminous Coal	Bituminous Coal
Mesh Size, U.S. Sieve	8 x 30	12 x 40
Effective Size, mm	0.8 - 1.1	0.55 - 0.75
Uniformity Coefficient (max)	2.1	1.9
Iodine No., mg <sub>l</sub> /g (min.)	900	1000
Abrasion No., Wt. % (min.)	80	80
Apparent Density, g/cc	0.46 - 0.54	0.46 - 0.54

USFilter reserves the right to change the specifications referred to in this literature at any time, without prior notice. AquaCarb is a trademark of United States Filter Corporation or its affiliates.



Westates  
Customer and  
Technical Service Network:

- Gulf Coast Region 800.659.1723  
(Louisiana) 225.744.3153
- Western Region 800.659.1771
- Mid-Atlantic Region 800.659.1717
- Midwest Region 708.345.7290
- Northwest Region 800.659.1718
- Southeast Region 225.744.3153
- New England Region 800.659.1717

EN 1080-1:2002

[www.usfilter.com](http://www.usfilter.com)

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## Model NCO Bag or Cartridge Filter Housings

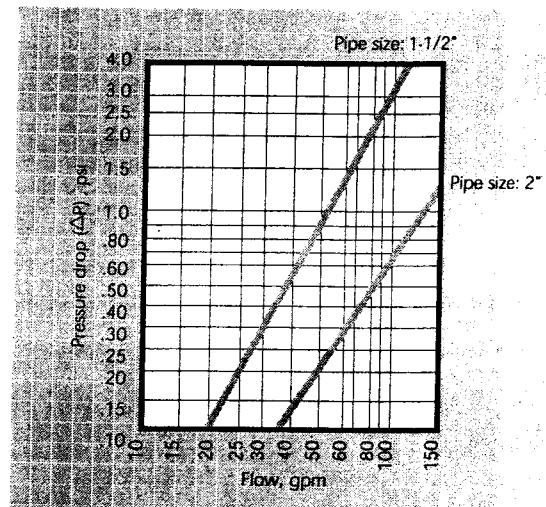
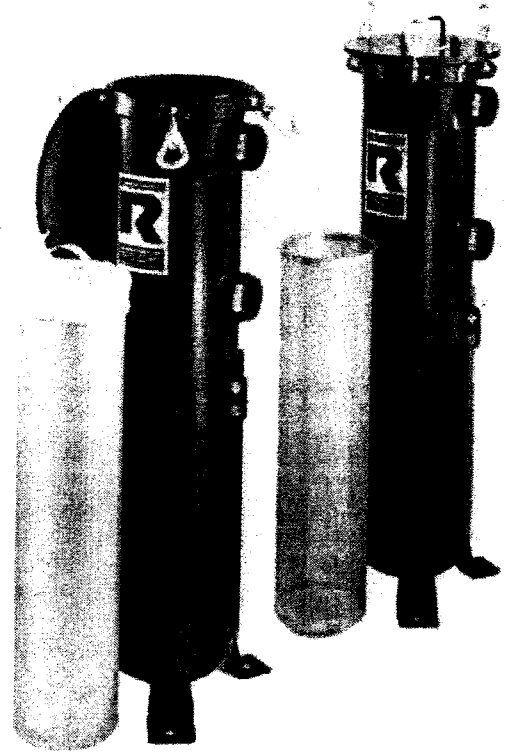
Low cost filter housings for flow rates to 100 gpm\*

NCO high-capacity filters offer an exceptional value in basic filtration applications. Offered in a size 2 and size 12 bag housing, the NCO is also available with our Platinum 700 cartridge series.

NCO housings provide large dirt-holding capacity combined with a rugged design rated to 150 psi. The housings incorporate a newly designed hinged, eyenut cover that is easily removed, reducing time spent on bag or cartridge change-out. The NCO bag housing offers versatility for any piping arrangement, utilizing our unistyle design (side and bottom outlet). Two connection sizes are available for both bag and cartridge filters.

The NCO housings are electropolished creating a smooth, easy-to-clean surface. Customize them with several options including, gauges and switches. A variety of filter bags or cartridges (rated 0.5 $\mu$  absolute to 100 $\mu$  nominal) can be utilized in this housing. Keep your filtration process cost effective without sacrificing quality.

- Permanently piped housings are opened without special tools
- Carbon or stainless steel housings
- Covers are O-ring sealed
- O-ring seals: Buna N, EPR and Viton®
- 150 psi rated housing
- Heavy-duty basket, over 50% open area
- Uses standard number 1, 2 or 12 size bags and 500 or 700 series cartridges



\* Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.

- Filter selection surface area is:
  - 2.3 square feet (number 1 size bag),
  - 4.4 square feet (number 2 size bag),
  - 5.6 square feet (number 12 size bag)
- 85 square feet (500 series cartridge)
- 125 square feet (700 series cartridge)
- 1-1/2-inch or 2-inch NPT inlet and outlet
- 1/4-inch NPT vent connection
- Adjustable leg assembly

# How To Order

Build an ordering code as shown in the example.



QUALITY SYSTEM  
REGISTERED TO  
ISO 9001:1994

**Example :**      **Housing**      **Options**  
**NCO8-30-2P-\* - 150-C-B-PB**

**MODEL**

**NCO8** (#1, #2 bag & 500 cartridge)  
**NLCO8** (#12 bag)  
**NCO8135** (700 cartridge)  
**NCO8135** convertible

**BASKET SIZE**

15-inch (NCO only) = **15**  
30-inch (NCO or NLCO) = **30**  
NCO8135 = **No Symbol**

**PIPE SIZE**

1-1/2-inch female NPT = **1-1/2P**  
2-inch female NPT = **2P**

**OUTLET STYLE**

Side/Bottom Unistyle (NCO or NLCO) = **\***  
Bottom = **1**

**PRESSURE RATING**

150 psi = **150**

**HOUSING MATERIAL**

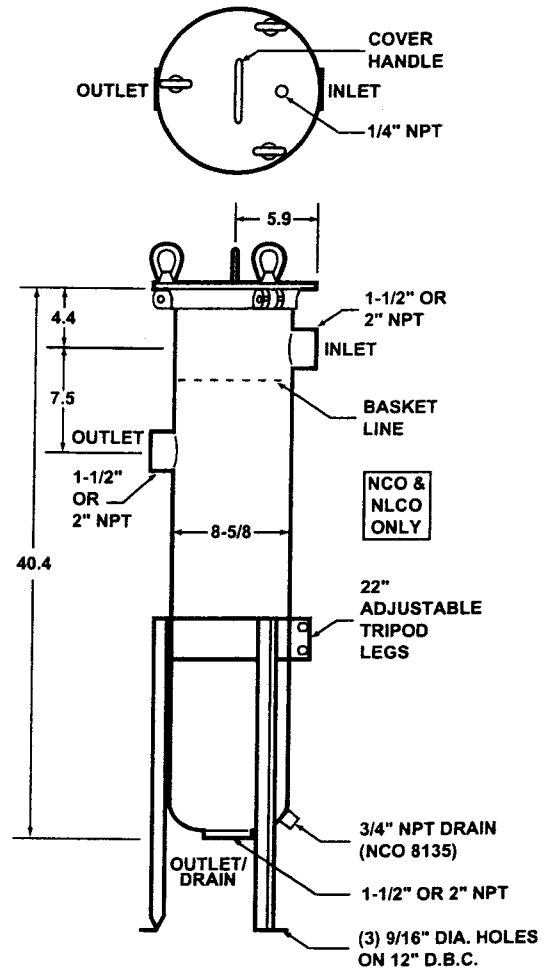
Carbon steel = **C**  
304 Stainless steel = **S**

**COVER SEAL**

Buna N = **B**  
Ethylene propylene = **E**  
Viton® Fluoroelastomer = **V**

**BASKET TYPE**

Filter bag basket (NCO or NLCO) = **PB**  
700 Cartridge (NCO8135) = **700**  
Convertible (NCO8135) = **700PB**



1. Filter bags are specified separately. See Rosedale Master Catalog 3rd edition.
2. Basket material is compatible with housing.
3. Weight (approximately): 70 lbs.



**Rosedale Products, Inc.**

3730 W. Liberty Rd, Ann Arbor, MI 48103  
Tel: 800-821-5373 or 734-665-8201  
Fax: 734-665-2214  
<http://www.rosedaleproducts.com/>  
E-mail: [filters@rosedaleproducts.com](mailto:filters@rosedaleproducts.com)



Call us today for our complete catalog or visit our web site to see our entire product line.



**ASM-10-HP**


**ANION EXCHANGE RESIN  
ARSENIC SELECTIVE**

**RESINTECH ASM-10-HP** is a strongly basic hybrid anion exchange resin specially formulated to selectively remove arsenic. It is supplied in the salt form as clean, moist, tough, uniform, spherical beads.

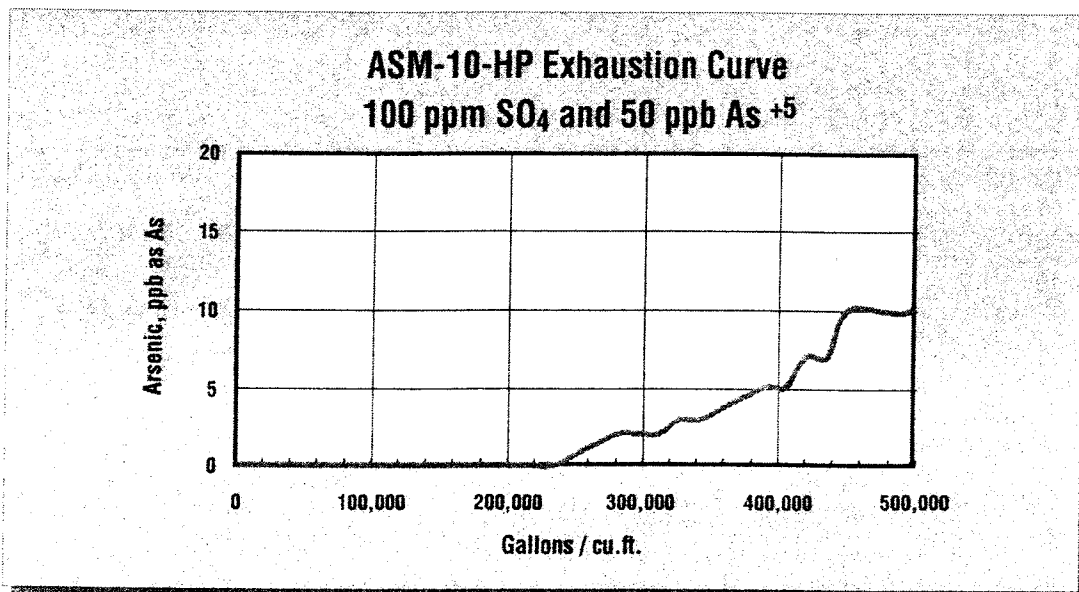
*RESINTECH ASM-10-HP* exhibits extraordinary throughput capacity in arsenic removal service on potable water supplies. Its performance is virtually unaffected by common anions, such as chlorides, bicarbonates or sulfates. It is effective over the entire pH range of potable water.

*RESINTECH ASM-10-HP* is also available in organic trap, perchlorate selective and nitrate selective configured resins. These resins are fully selective for arsenic, but still retain their original ion exchange selectivity.

## FEATURES & BENEFITS

- **TREMENDOUS AFFINITY FOR ARSENIC OVER OTHER ANIONS**  
Highest arsenic removal capacity of organic based arsenic removal media
- **MADE FROM NSF/ANSI-61 VALIDATED ANION EXCHANGE RESIN** 
- **NO ARSENIC DUMPING**  
Effluent arsenic levels will not exceed influent levels if resin is operated past exhaustion point
- **EFFECTIVE ACROSS THE ENTIRE POTABLE WATER pH RANGE**
- **SINGLE USE OR REGENERABLE APPLICATIONS**
- **SUPERIOR PHYSICAL STABILITY**  
Spherical and uniform particle size provide low pressure drop and greater resistance to bed compaction. Unlike granular, coated medias, ASM-10-HP will not shed particles.

## Exhaustion Curve



# RESINTECH® ASM-10-HP

## PHYSICAL PROPERTIES (CI form)

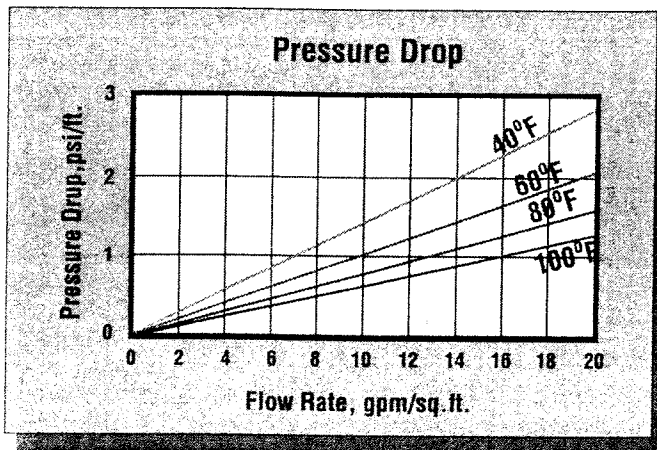
Polymer Structure	Styrene with DVB
Functional Group	R-N-R <sup>+</sup> Cl <sup>-</sup>
Ionic Form, as shipped	Chloride
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50 Nominal
- 50 mesh (U.S. Std)	Less than 1 Percent
pH Range	4 to 10
Water Retention	35 to 55 Percent
Solubility	Insoluble
Approximate Shipping Weight	44 lbs./ft <sup>3</sup>
Total Capacity	>1.0 meq / mL
Sphericity	> 93 Percent

## WATER QUALITY GUIDELINES

Feedwater quality (aside from arsenic) should generally be of potable quality. Please consult your ResinTech technical salesman for recommendations outside the following guidelines:

Conductivity	1000 micromhos/cm
Chloride	250 ppm
Sulfate	250 ppm
pH	5.5 to 9.5
Phosphate	5 ppm
Silica	10 ppm
Turbidity	5 NTU
Chlorine	0.3 ppm

## HYDRAULIC PROPERTIES



### PRESSURE DROP

The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various water temperatures.

## SUGGESTED OPERATING CONDITIONS

Flow Rate	2 to 10 gpm/cu. ft. 1 to 20 gpm/sq. ft.
Pressure Loss	25 psi max.
Temperature	170°F max.

## OPERATING CAPACITY

Under ideal conditions, the 1<sup>st</sup> cycle throughput capacity for arsenic removal with approximately 50 ppb As<sup>+5</sup> in the inlet is greater than 500,000 gallons per cu. ft., while producing less than 10 ppb of effluent arsenic. The throughput capacity varies inversely with changes in the influent arsenic levels.

RESINTECH ASM-10-HP has modest capacity for arsenite (As<sup>+3</sup>). It is suggested that if the arsenite concentration exceeds 20% of the total arsenic present, the feedwater should be pre-chlorinated to ensure conversion to arsenate (As<sup>+5</sup>).

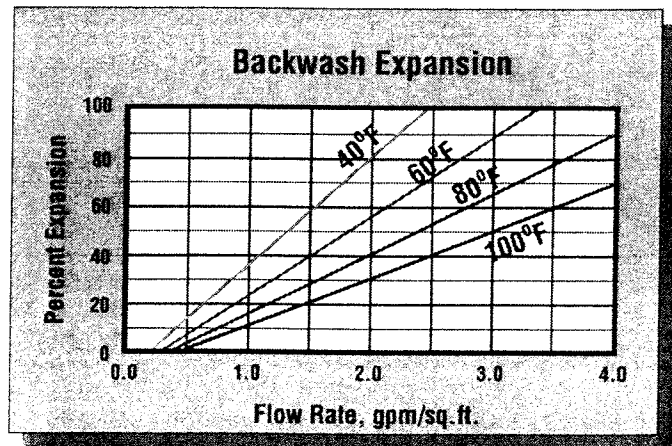
ASM-10-HP is also selective for other oxy-anions, such as selenate. It will remove modest amounts of both phosphate and silica.

## REGENERATION

ResinTech ASM-10-HP can be partially regenerated in the field with alkaline brine. For additional information contact your local ResinTech representative.

## DISPOSAL

It is recommended that users review local regulations and consult with local authorities on the best method of disposal.



### BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed.

**\*CAUTION: DO NOT MIX ION EXCHANGE RESIN WITH STRONG OXIDIZING AGENTS.** Nitric acid and other strong oxidizing agents can cause explosive reactions when mixed with organic materials, such as ion exchange resins.

Material Safety Data Sheets (MSDS) are available for all ResinTech Inc. products. To obtain a copy, contact your local ResinTech sales representative or our corporate headquarters. They contain important health and safety information. That information may be needed to protect your employees and customers from any known health and safety hazards associated with our products. We recommend that you secure and study the pertinent MSDS for our products and any other products being used. These suggestions and data are based on information we believe to be reliable. They are offered in good faith. However, we do not make any guarantee or warranty. We caution against using these products in an unsafe manner or in violation of any patents. Further, we assume no liability for the consequences of any such actions.

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ASM-10-HP091604




**CGS**

**CATION EXCHANGE RESIN  
SOFTENING GRADE  
Na FORM**

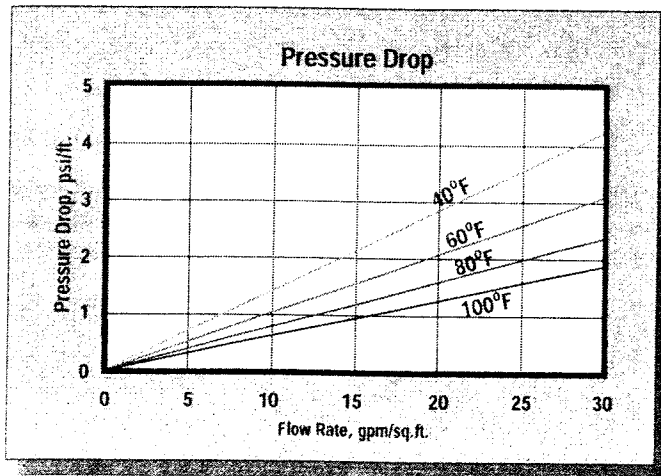
**RESINTECH CGS** is a high purity, light colored, high capacity, gel type sulfonated polystyrene cation resin supplied in the sodium form as moist, tough uniform spherical beads. *ResinTech CGS* specifically is intended for use in all water softening applications, including beverages, potable water and water used for food processing. It's high capacity and high DVB content provide long life and good chlorine resistance in all potable water applications. (It is also available as a dark colored product *RESINTECH CGS-BL* with identical properties.)

## FEATURES & BENEFITS

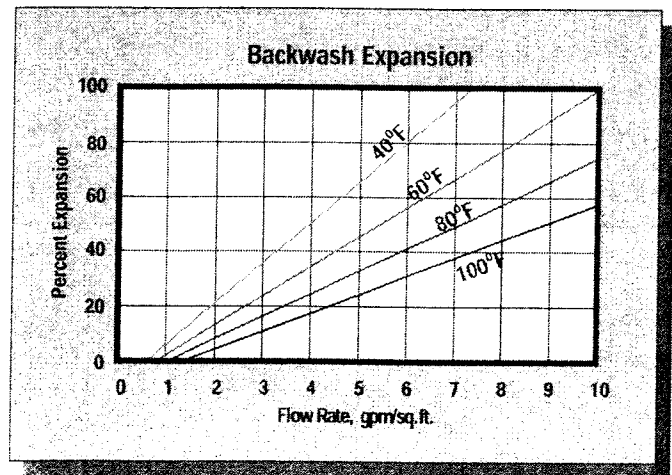
- **COMPLIES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS**  
Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the F.D.A. \*
- **EXCELLENT REGENERATION EFFICIENCY**  
Virtually the same operating capacity as premium grade *ResinTech CG8-BL*
- **NSF/ANSI-61 VALIDATED** 
- **UNIFORM PARTICLE SIZE**  
16 to plus 50 mesh range; gives a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.
- **SUPERIOR PHYSICAL STABILITY**  
90% plus sphericity and high crush strengths together with a very uniform particle size provide greater resistance to bead breakage while maintaining low pressure drops.
- **LOW COLOR THROW**

\*For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to insure compliance with extractable levels.

## HYDRAULIC PROPERTIES



**PRESSURE DROP** - The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate, at various temperatures.



**BACKWASH** - After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of *RESINTECH CGS* in the sodium form.



# RESINTECH® CGS

## PHYSICAL PROPERTIES

Polymer Structure	Styrene Crosslinked with DVB
Functional Group	R-(SO <sub>3</sub> ) <sup>-</sup> M <sup>+</sup>
Ionic Form, as shipped	Sodium
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std)	< 5 percent
-50 mesh (U.S. Std)	< 1 percent
pH Range	0 to 14
Sphericity	90+ percent
Uniformity Coefficient	Approx. 1.6
Water Retention	
Sodium Form	48 to 54 percent
Solubility	Insoluble
Shipping Weight	
Sodium Form	48 lbs./cu.ft.
Total Capacity	
Sodium Form	1.8 meq/ml min

## SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Sodium Form	250 <sup>0</sup> F
Minimum Bed Depth	24 inches
Backwash Rate	50 to 75% Bed Expansion
Regenerant (NaCl or KCl)	
Concentration	10 to 15 percent
Flow Rate	0.5 to 1.5 gpm/cu.ft.
Contact Time	> 20 minutes
Level	4 to 15 pounds/cu.ft.
Displacement Rate	Same as Regen Flow Rate
Volume	10 to 15 gallons/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Volume	35 to 60 gallons/cu.ft.
Service Flow Rate	2 to 10 gpm/cu.ft.

## OPERATING CAPACITY

### Sodium Chloride (NaCl) Regeneration

The sodium cycle operating capacity of *RESINTECH CGS* for hardness removal at various regeneration levels with an influent calcium/magnesium ratio of 2/1 and a hardness level of 500 ppm, as CaCO<sub>3</sub>, is shown in the following table:

Pounds NaOH/cu.ft.	Capacity Kilograins/cu.ft.
5	20.0
7.5	25.4
10	29.0
15	33.0

### Potassium Chloride (KCl) Regeneration

The potassium cycle operating capacity of *RESINTECH CGS* for hardness removal at various regeneration levels with an influent calcium/magnesium ratio of 2/1 and a hardness level of 500 ppm, as CaCO<sub>3</sub>, is shown in the following table:

Pounds NaOH/cu.ft.	Capacity Kilograins/cu.ft.
5	16.6
7.5	21.8
10	26.6
15	31.2

## APPLICATIONS

### Softening

*RESINTECH CGS* is ideally suited for industrial, commercial, or residential softening applications where free chlorine is not present because of its high capacity, uniform particle size and good physical stability.

**\*CAUTION: DO NOT MIX ION EXCHANGE RESIN WITH STRONG OXIDIZING AGENTS.** Nitric acid and other strong oxidizing agents can cause explosive reactions when mixed with organic materials such as ion exchange resins.

Material Safety Data Sheets (MSDS) are available for all ResinTech Inc. products. To obtain a copy, contact your local ResinTech sales representative or our corporate headquarters. They contain important health and safety information that information may be needed to protect your employees and customers from any known health and safety hazards associated with our products. We recommend that you secure and study the pertinent MSDS for our products and any other products being used. These suggestions and data are based on information we believe to be reliable. They are offered in good faith. However, we do not make any guarantee or warranty. We caution against using these products in an unsafe manner or in violation of any patents. Further, we assume no liability for the consequences of any such actions.

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CGSver010603

#	QTY.	DESCRIPTION
1	2	C.S. STD. Flanged&Dished Non-Code tank head 3/16" THK.
2	1	C.S. 3/16" THK. x 48" OD x 36" Long
3	2	C.S. Elliptical Non-Code Manway Assembly 12"x16" w/ 2 yoke
4	2	3" SCH 40, C.S. Black Pipe Threaded Coupling
5	2	3" SCH 40, C.S. Close Threaded Nipple
6	2	3" SCH 40, C.S. Black Pipe 90° Elbow
7	2	1" SCH 40, C.S. 4" Long Threaded Nipple
8	4	Angle 4" x 4" x 1/4" Support Leg
9	2	HSS 8" x 4" x 1/4" Base
10	2	Angle 2 1/2" x 2 1/2" x 1/2" x 1/4" Cross Tie
11	2	Lifting Lug (Design by Fabricator, See Note 2)

**GENERAL NOTES**

- 1) MATERIAL SHALL BE CARBON STEEL GRADE A 36 UNLESS NOTED OTHERWISE.
- 2) FABRICATOR TO DESIGN LIFTING LUGS TO MEET 4000 LBS LIFTING REQUIREMENT.
- 3) TANK INTERIOR SHALL BE SANDBLASTED TO SSPC-SP-5 WHITE METAL FINISH, PAINTING BY OTHERS.
- 4) TANK EXTERIOR SANDBLASTING AND PAINTING BY OTHERS.
- 5) TANK SHALL BE LEVEL +/- ONE DEGREE.
- 6) FABRICATION TOLERANCE SHALL BE +/- (1/4) INCH.
- 7) UNLESS NOTED OTHERWISE, ALL WELDS SHALL BE SEAL WELD, ALL JOINTS SHALL BE WELDED BOTH SIDE WHERE APPLICABLE.
- 8) STEEL PLATES JOINING METHOD SHOWN ARE INTENDED FOR REFERENCES ONLY, FINAL STEEL JOINING METHOD SHALL BE DETERMINE BY FABRICATOR TO SUIT THEIR SHOP PREFERENCES.
- 9) THE TANK SHALL BE PRESSURE TESTED TO HOLD WATER AT FULL CAPACITY AT 75 PSI PRIOR SHIPMENT.
- 10) THIS DRAWINGS IS THE PROPERTY OF GROUND/WATER TREATMENT & TECHNOLOGY, INC

A	FOR QUOTATION	06/28/05	DATE
NO.	REVISIONS		DATE
SCALE: NONE		APPROVED: TLO	
DATE: 06/27/05		DRAWN BY: TLO	

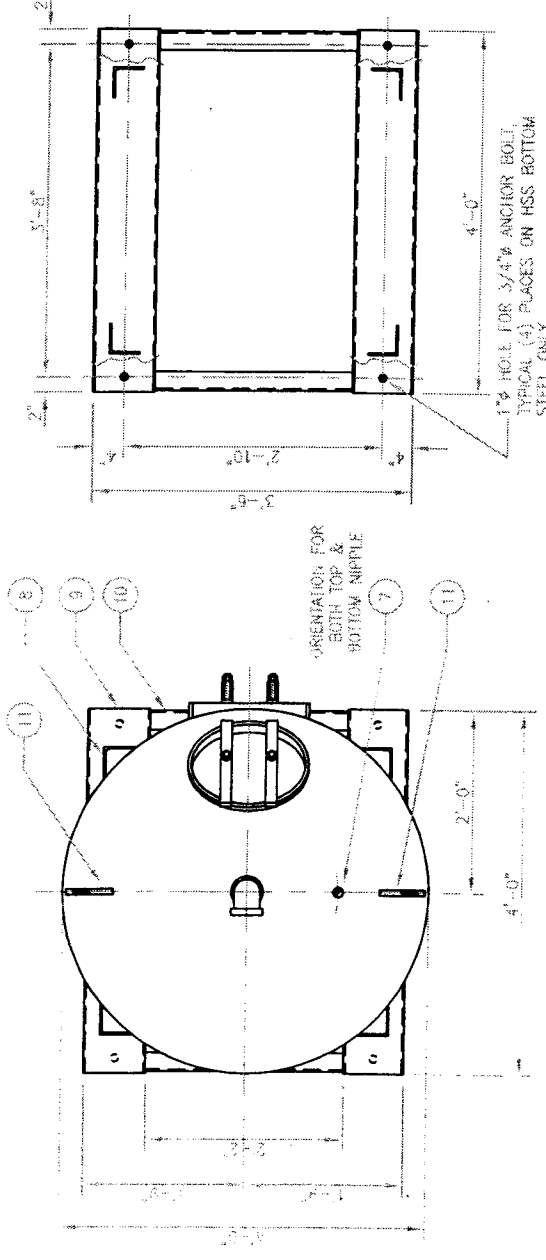
**1000 LBS LIQUID PHASE ADSORPTION TANK  
GENERAL ARRANGEMENT & DETAILS**



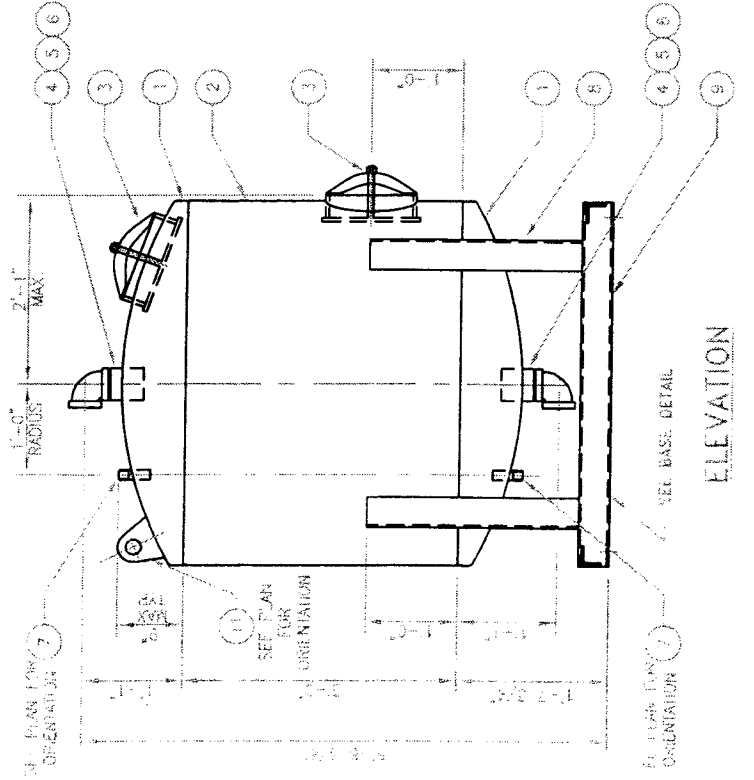
**GROUNDWATER TREATMENT & TECHNOLOGY**  
P.O. BOX 1174  
DENVERVILLE, NJ 07834

FILE: 11-1181

DRAWING NUMBER: M-01



**BASE DETAIL**



**RESINTECH SBG1** is a high capacity, shock resistant, gelular, Type 1, strongly basic anion exchange resin supplied in the chloride or hydroxide form as moist, tough, uniform, spherical beads. *RESINTECH SBG1* is intended for use in all types of deionization systems and chemical processing applications. It is similar to *RESINTECH SBG1P* but has a higher volumetric capacity and exhibits lower TOC leach rates. This makes it the better performer in single use applications such as in cartridge deionization and when high levels of regeneration are used such as in polishing mixed beds. On the other hand, *RESINTECH SBG1P* is more resistant to organic fouling and gives higher operating capacities at low regeneration levels such as those used in make up demineralizers.

### FEATURES & BENEFITS

- **COMPLIES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS.**

Conforms to paragraph 21CFR173.125 of the Food Additives Regulations of the F.D.A.\*

- **HIGH TOTAL CAPACITY**

Provides longer run lengths in single use applications or where high levels of regeneration are used such as in mixed bed polishers, cartridge demineralizers.

- **UNIFORM PARTICLE SIZE**

16 to plus 50 mesh range; gives a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.

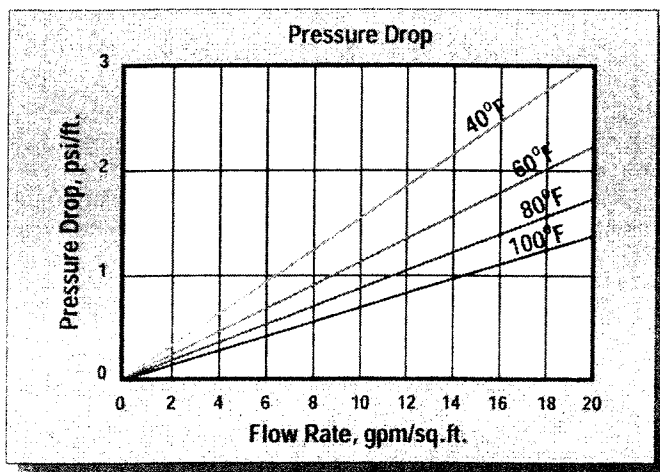
- **SUPERIOR PHYSICAL STABILITY**

- **LOWER TOC LEACH RATE**

Makes it ideal for polishing mixed beds in wafer washing and other high purity water polishing applications.

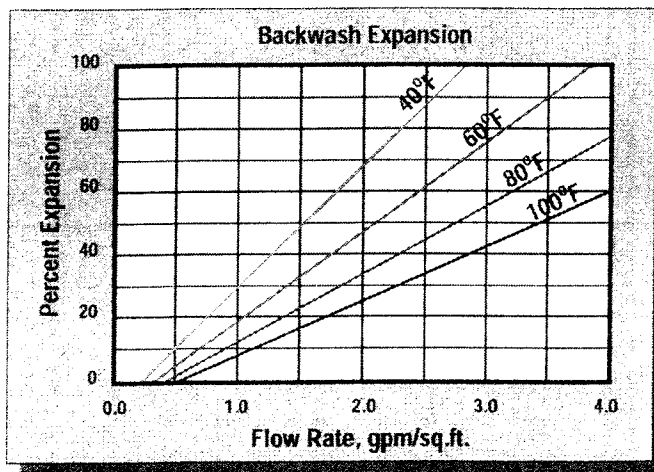
\*For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to ensure compliance with extractable levels.

### HYDRAULIC PROPERTIES



#### PRESSURE DROP

The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate, at various temperatures.



#### BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of *RESINTECH SBG1* in the sodium form.

# RESINTECH® SBG1

## PHYSICAL PROPERTIES

Polymer Structure	Styrene Crosslinked with DVB
Functional Group	R-N-(CH <sub>3</sub> ) <sub>3</sub> <sup>+</sup> Cl <sup>-</sup>
Ionic Form, as shipped	Chloride or Hydroxide
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std)	< 5 percent
-50 mesh (U.S. Std)	< 1 percent
pH Range	0 to 14
Sphericity	> 93 percent
Uniformity Coefficient	Approx. 1.6
Water Retention	
Chloride Form	43 to 50 percent
Hydroxide Form	Approx. 53 to 60 percent
Solubility	Insoluble
Approximate Shipping Weight	
Cl Form	44 lbs/cu.ft.
OH Form	41 lbs/cu.ft.
Swelling Cl- to OH-	18 to 25 percent
Total Capacity	
Cl Form	1.45 meq/ml min
OH Form	1.15 meq/ml min

## SUGGESTED OPERATING CONDITIONS

Maximum Continuous Temperature	
Hydroxide Form	140°F
alt Form	170°F
Minimum Bed Depth	24 inches
Backwash Rate	50 to 75 percent Bed Expansion
Regenerant Concentration*	2 to 6 percent
Regenerant Flow Rate	0.25 to 1.0 gpm/cu.ft.
Regenerant Contact Time	At least 40 Minutes
Regenerant Level	4 to 10 pounds/cu.ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 gals/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gals/cu.ft.
Service Flow Rates	
Polishing Mixed Beds	3 to 15 gpm/cu.ft.
Non-Polishing Apps.	2 to 4 gpm/cu.ft.

## OPERATING CAPACITY

The operating capacity of *RESINTECH SBG1* for a variety of acids at various regeneration levels when treating an influent with a concentration 500 ppm, expressed as CaCO<sub>3</sub> is shown in the following table:

Pounds NaOH/ft <sup>3</sup>	Capacity Kilograms per cubic foot			
	HCl	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SiO <sub>3</sub>	H <sub>2</sub> CO <sub>3</sub>
4	11.3	14.0	14.7	18.6
6	12.8	16.3	17.3	19.8
8	14.3	13.3	19.5	21.6
10	15.5	20.0	22.2	22.2

## APPLICATIONS

**DEMINERALIZATION** – *RESINTECH SBG1* is highly recommended for use in mixed bed demineralizers, wherever complete ion removal; superior physical and osmotic stability and low TOC leachables are required such as in wafer fabrication and other ultrapure applications.

*RESINTECH SBG1* has high total capacity and low swelling on regeneration and provides maximum operating capacity in cartridge deionization applications. It is ideal for single use applications such as precious metal recovery, radwaste disposal and purification of toxic waste streams.

Highly crosslinked Type 1, styrenic anion exchangers have greater thermal and oxidation resistance than other types of strong base resins. They can be operated and regenerated at higher temperatures. The combination of lower porosity, high total capacity and Type 1 functionality make *RESINTECH SBG1* the resin of choice when water temperatures exceed 85°F and where the combination of carbon dioxide, borate and silica exceed 40% of the total anions.

*RESINTECH SBG1P* and *RESINTECH SBG1* are quite similar; the difference between them is the degree of porosity. *RESINTECH SBG1P* has greater porosity that gives it faster kinetics, and greater ability to reversibly sorb slow moving ions such as Naturally occurring Organic Matter (NOM). At lower regeneration levels and where chlorides make up a substantial portion of the anion load, or where the removal and elution of naturally occurring organics is of concern *RESINTECH SBG1P*, SBACR or SBG2 should be considered. At the higher regeneration levels used in mixed bed polishers *RESINTECH SBG1* provides higher capacity, and the lowest possible TOC leach rates.

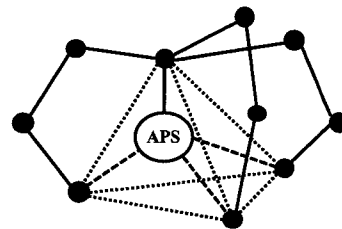
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SBG1 Serv 050102

# Applied Polymer Systems, Inc.



## Material Safety Data Sheet

### 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

**Product Name:** APS 702aa Flocc Log

**Supplied:** Applied Polymer Systems, Inc.  
519 Industrial Drive  
Woodstock, GA 30189  
www.siltstop.com  
Tel. 678-494-5998  
Fax. 678-494-5298

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Identification of the preparation:** Anionic water-soluble Co-polymer gel

### 3. HAZARD IDENTIFICATION

Placement of these materials on wet walking surface will create extreme slipping hazard.

### 4. FIRST AID MEASURES

**Inhalation:** None

**Skin contact:** Contact with wet skin could cause dryness and chapping. Wash with soap and water. Use of rubber gloves required.

**Eye contact:** Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.

**Ingestion:** Consult a physician

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Water, water spray, foam, carbon dioxide, dry powder.

**Special fire-fighting precautions:** Flocc Logs that become wet render surfaces extremely slippery.

**Protective equipment for firefighters:** No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** No special precautions required.

**Methods for cleaning up:** Dry wipe as well as possible. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

**Handling:** Avoid contact with skin and eyes. Wash hands after handling.

**Storage:** Keep in a cool, dry place.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Specializing in the Optimization of Water Treatment Systems, Flocculents, and Drill Fluids. Polymer Characterization and Application for: Erosion Control, Acid Rock Drainage Mitigation, Solubilized Metal Control, and Dredging.

**Engineering controls:** Use dry handling areas only.

**Personal protection equipment**

**Respiratory Protection:** None  
**Hand protection:** Dry cloth, leather or rubber gloves.  
**Eye Protection:** Safety glasses with side shields. Do not wear contact lenses.  
**Skin protection:** No special protective clothing required.  
**Hygiene measures:** Wash hands before breaks and at end of work day.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Form:** Granular semi-solid gel  
**Color:** White to Brown  
**Odor:** None  
**pH:** 7.89  
**Melting point:** N/A  
**Flash point:** N/A  
**Vapor density:** N/A

**10. STABILITY AND REACTIVITY**

**Stability:** Product is stable, no hazardous polymerization will occur.  
**Materials to avoid:** Oxidizing agents may cause exothermic reactions.  
**Hazardous decomposition products:** Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Oral:** LC 50/*Daphnia Magna*/48h/>420mg/L  
**Inhalation:** None

**12. ECOLOGICAL INFORMATION**

**Water Flea:** LC 50/*Daphnia Magna*/48h/>420mg/l  
**Algae:** EC 50/*Selenastrum capricornutum*/96h>500mg/l  
**Bioaccumulation:** The product is not expected to bioaccumulate.  
**Persistence / degradability:** Not readily biodegradable: (~85% after 180 days ).

**13. TRANSPORT AND REGULATORY INFORMATION**

Not regulated by DOT, RCRA status-Not a hazardous waste

**NFPA and HMIS ratings:**

NFPA	Health:	3	Flammability:	0	Reactivity:	1
HMIS	Health	2	Flammability	0	Reactivity	1



[Back](#)

## Floc Log Specifications:

### Floc Log Specifications:

ANSI/NSF Standard Drinking Water Treatment Chemical Additives  
EPA/600/R-98/182 168 Hr. Chronic Toxicity Test (Pimephales promelas)  
EPA/600/4-90/027F 48Hr. Acute Static Screen Toxicity Test (Daphnia Magna)

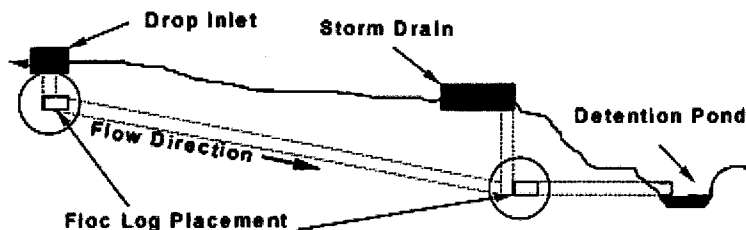
APS, Inc. currently has over (40) types of Floc Log ®. Each are designed for specific soils or lithologies. Each Floc Log ® is tailored for the specific requirement of water chemistry and soil within your geographical area. Most soils within EPA Region 4 have been classified and will not require a soil and water sample. Areas outside EPA Region 4 will require a soil and water sample. There is no charge for this analysis.

Floc Log ® is available in two forms, clarifier and particle. Clarifier Floc Log ® is used for colloidal water and very fine suspended particles. Particle Floc Log ® is used for heavily particle laden water in areas before sediment traps and sediment ponds.

**Enhancement tools and Engineering designs  
are available on request:**

**APS Particle Curtain, APS Soft Armor,  
APS Floc Log Mix Tank, APS Byron Box**

**Consult your local distributor or Applied Polymer Systems, Inc. for proper Floc Log ® type, correct application and other Silt Stop products.**



**Applied Polymer Systems, Inc.**  
519 Industrial Drive • Woodstock, GA 30189  
678.494.5998  
[info@siltstop.com](mailto:info@siltstop.com)