UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

DEC 09 2013

Mr. John Viola
Project Executive
John Moriarty Associates, Inc.
3 Church Street
Winchester, MA 01890

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Site Redevelopment at 300 Mass Avenue in Cambridge, MA 02139, Middlesex County; Authorization # MAG910604

Dear Mr. Viola:

Based on the review of a Notice of Intent (NOI) submitted by the sites' consultant William J. Burns from McPhail Associates, LLC, on behalf of Mass Avenue West, SPE, 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 checklist 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 parameters the site's consultant has marked "Believed Present."

Also, please note that the metal included on the checklist is a dilution dependent pollutant and subject to limitations based on a dilution factor range (DFR), due to the ample dilution at the point of discharge (127) the DFR applicable for this pollutant is within a dilution range greater than one hundred (>100) established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limit for zinc of 1, 480 ug/L shall not be exceeded in the discharge.

Finally, please note the checklist of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on 12/01/2014. 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,

Thelma Murphy

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Lisa Peterson, Commissioner Cambridge PWD
William J. Burns, McPhail Associates, LLC

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910604**
Authorization Issued:	December, 2013
Facility/Site Name:	Site Redevelopment
Facility/Site Address:	300 Massachusetts Avenue, Cambridge, MA 02139, Middlesex County
	Email address of owner:PeterCalkins@forestcity.net
Legal Name of Operator:	John Moriarty Associates, Inc.
Operator contact name, title, and Address:	Mr. John M. Viola, Project Executive, 3 Church Street, Winchester, MA 01890
	Email: jviola@jm-a.com
Estimated date of Project Completion:	December 1, 2014
Category and Sub-Category:	Category III. Contaminated Construction Dewatering. Sub-category B. Known Contaminated Sites.
RGP Termination Date:	September 10, 2015
Receiving Water:	Charles River

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

	Parameter	**Effluent Limit/Method#/ML** (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#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) [1]	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/ML 5.0mg/L
	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/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

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L
	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 [5]	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/ ML 5ug/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/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) [6]	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
√	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	b. Benzo(a) Pyrene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	c. Benzo(b)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	d. Benzo(k)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	e. Chrysene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene [5]	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
√	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal parameter	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l [(11/12)] Freshwater Limts		Minimum level=ML	
	39. Antimony	5.6		ML	10
	40. Arsenic **	10		ML	20
	41. Cadmium **	0.2		ML	10
	42. Chromium III (trivalent) **	48.8		ML	15
	43. Chromium VI (hexavalent) **	11.4		ML	10
	44. Copper **	5.2		ML	15
	45. Lead **	1.3		ML	20
	46. Mercury **	0.9		ML	02
	47. Nickel **	29		ML	20
	48. Selenium **	5		ML	20
	49. Silver	1.2		ML	10
√	50. Zinc **	66.6		ML	15
	51. Iron	1,000		ML	20

	Other Parameters	Limit
√	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[13]
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab[13]
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab[13]
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab[14]
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab[14]
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab[14]
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab[14]
	61. Maximum Change in Temperature in MA – Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab[14]
	62. Maximum Change in Temperature in MA – Any Class SA water body - Coastal	1.5°F; 1/Month/Grab[14]
	63. Maximum Change in Temperature in MA – Any Class SB water body - July to September	1.5°F; 1/Month/Grab[14]
	64. Maximum Change in Temperature in MA –Any Class SB water body - October to June	4°F; 1/Month/Grab[14]

Footnotes:

[1] 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).
[2] 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.
[3] 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).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] 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.
[6] 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.
[7] 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.
[8] 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 "Oroclor 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.
[9]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).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] 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 x 1,000ug/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 x 2 =2,000 ug/L., etc. not to exceed the DF=5.
[12] 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).
[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.
[14] Temperature sampling per Method 170.1

McPHAIL ASSOCIATES, LLC

NOTICE OF INTENT FOR DISCHARGE UNDER MASSACHUSETTS REMEDIAL GENERAL PERMIT MAG910000

300 MASSACHUSETTS AVENUE

CAMBRIDGE MASSACHUSETTS

to

U.S. Environmental Protection Agency

November 22, 2013

Project No. 4564

McPHAIL ASSOCIATES, LLC

November 22, 2013

U.S Environmental Protection Agency
RGP-NOC Processing Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Attention: RGP-NOC Processing

Reference: 300 Massachusetts Avenue; Cambridge, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under Massachusetts
Remedial General Permit MAG910000

Ladies and Gentlemen:

The purpose of this letter report is to provide a summary of the site and groundwater quality information in support of an application for approval from the U.S. Environmental Protection Agency (EPA) for the temporary discharge of groundwater into the Charles River via a storm drain system during construction at the above referenced site. Refer to **Figure 1** Project Location Plan for the general site locus.

These services were performed and this permit application was prepared with the authorization of 300 Mass Ave West SPE, LLC. These services are subject to the limitations contained in **Attachment A**.

The required Notice of Intent Form contained in the RGP permit is included in **Appendix B**.

Applicant/Operator

The applicant for the Notice of Intent-Remedial General Permit is:

John Moriarty Associates, Inc.
3 Church Street
Winchester, MA 01890

Attention: Mr. John M. Viola

Tel: 781-729-3900
Fax: 781-729-8456

Existing Conditions

Fronting onto Massachusetts Avenue to the northeast, and bounded by Blanche Street to the northwest, Green Street to the southwest, and residential property to the southeast, the subject site occupies an approximate 50,000 square-foot plan area. Currently, the site is occupied by a building formerly occupied as a MIT Facilities Garage, three one-story commercial buildings, multi-unit residences and paved parking lots. The buildings at the subject site are currently unoccupied. The limits of the subject site are shown on **Figure 2**, which is based on a plan entitled Subsurface Investigation Plan.

The subject site and surrounding area are serviced by public utilities including municipal water, sewer and natural gas. Catch basins located in Green Street, Blanche Street and Massachusetts Avenue control surface drainage.

Proposed Scope of Site Development

The proposed redevelopment of the subject site includes the demolition of the existing site buildings and the construction of a 6-story, steel-framed building with two mechanical penthouse levels. The proposed building will occupy an approximate 40,000 square-foot plan area. No occupied below-grade space is proposed and the lowest level slab will be coincident with the surrounding grade.

Site Environmental Setting and Surrounding Historical Places

Based on the current Massachusetts Geographic Information Systems (GIS) DEP Priority Resources Map of Cambridge, the subject site is not located within the boundaries of a Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. There are no known public or private drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, and no habitats of Species of Special Concern or Threatened or Endangered Species within 500 feet of the subject site. There are no surface water bodies or wetland areas located at the subject site. The nearest surface water body is the Charles River, classified by the DEP as a Class B Surface Water Body, that is located approximately 0.5 miles to the southeast of the subject site. No areas designated as solid waste facilities (landfills) are located within 0.5 miles of the subject site. A copy of the DEP Priority Resources Map depicting the location of the subject property is included in **Appendix C**.

A review of the most recent federal listing of threatened and endangered species published by the U.S. Fish and Wildlife Service identified no threatened and/or endangered species at or in the vicinity of the discharge location and/or discharge outfall. In addition, a review of the Massachusetts Division of Fisheries and Wildlife on-line database identified no threatened or endangered species at the point of discharge and/or the discharge outfall. Based upon the above, the site is considered criterion A pursuant to Appendix IV of the RGP. A list of threatened and endangered species from the U.S. Fish and Wildlife Services and Massachusetts Division of Fisheries on-line databases is included in **Appendix C**.

A review of the National Register of Historical Places database for Middlesex County in Cambridge, Massachusetts lists the Necco Candy Factory building with the address of 250 Massachusetts Avenue which is located approximately 190 feet to the southeast of the subject site. The dewatering of groundwater at the site will be temporary and intermittent. In addition, the discharge of effluent will be to storm water catch basins located along Blanche Street and Green Street approximately 450 feet and 300 feet to the north of the Necco Candy Factory building. Therefore, based on the duration and location of discharge, dewatering activities are not considered to affect the Necco Candy Factory building. Hence, the site meets the Permit Eligibility Criteria 2 under the Remedial General Permit.

Release History

The presence of petroleum hydrocarbons, trichloroethene and polynuclear aromatic hydrocarbons (PAHs) has been identified in soil and groundwater at the subject site which exceed the applicable reporting thresholds established in 310 CMR 40.0000, the Massachusetts Contingency Plan (MCP). These MCP release conditions are documented with the DEP under Release Tracking Numbers (RTNs) 3-28530 and 3-31819. The following is a summary of assessment activities that have been completed for each site and response actions that are proposed to be completed during the upcoming redevelopment of the subject site.

RTN 3-28530

In summary, an historic release of No. 2 fuel oil occurred from an aboveground storage tank (AST) that was subsequently removed from what is now a former boiler room located within the southeastern portion of the former MIT Facilities Garage which occupies the subject site. A Phase II Comprehensive Site Assessment and Phase III Identification, Evaluation, and Selection of Comprehensive Remedial Action Alternatives, and Remedial Action Plan was submitted to the DEP for the RTN 3-28530 MCP site on December 18, 2012. The results of the Phase II Comprehensive Site Assessment indicate that concentrations of petroleum constituents which exceed the applicable MCP Method 1 S-1 and S-2 standards have affected soil located directly beneath the floor slab of the former boiler room and soils located immediately adjacent to the southern and eastern exterior walls of the boiler room. The analysis of groundwater obtained from within the MCP site indicates that the contaminants of concern are not present at concentrations which exceed the MCP Method 1 GW-2 or GW-3 standards. On May 23, 2013, a Phase IV Remedy Implementation Plan was submitted to the DEP for the excavation and off-site removal of soil affected by the No. 2 fuel oil release during redevelopment of subject site.

RTN 3-31819

In September 2013, a soil exploration program was performed across the subject site to pre-characterize soil and groundwater in anticipation of site redevelopment and associated excavation. The analytical results of soil samples identified MCP Reportable Concentrations of trichloroethene and some PAHs within the western portion of the subject site. On October 16, 2013, the DEP was notified of this release in soil as a 120-day reporting condition to which RTNs 3-31819 was assigned. A Release Abatement Measure (RAM) Plan will be prepared and submitted to the DEP for the management, excavation and off-site disposal of soil affected by the release.

Construction Site Dewatering

In connection with the planned redevelopment of the subject site, it is anticipated that excavation for construction of the proposed building foundations will extend below the surface of groundwater. Furthermore, the remedial excavation associated with RTN 3-28530 will also extend below the groundwater surface. Hence, groundwater dewatering will be necessary to facilitate construction of the proposed building foundations and the remedial excavation.

It is anticipated that dewatering by means of strategically located sumps and trenches should suffice during the remedial excavation and foundation construction operations. Intermittent groundwater discharge will be required during excavation at an estimated rate of 75 to 100 gallons per minute (GPM).

Construction dewatering will require the discharge of collected groundwater into the storm drain system under the requested Remedial General Permit. A review of available subgrade utility plans on the City of Cambridge GIS database indicates that connecting 12-inch diameter storm drains are located beneath Blanch Street and Green Street. Stormwater is collected within the Green Street storm drain and flows southeast into a 30-inch storm drain beneath Landsdowne Street. The 30-inch stormwater drain flows northeast where it connects to a 54-inch dedicated storm drain located beneath Massachusetts Avenue. Beneath Massachusetts Avenue, the 54-inch diameter storm drain flows southeast increasing to 72-inches in diameter at the intersection of Albany Street. The 72-inch diameter storm drain continues to run beneath Massachusetts Avenue and eventually beneath Memorial Drive where it discharges into the Charles River. The location of the relevant catch basins in relation to the subject site are indicated on **Figure 2**. The flow path of the discharge is shown in plans provided by the City of Cambridge GIS database which are included in **Figures 3A** through **3D**.

Summary of Groundwater Analysis

As briefly referenced above, during 2009 and 2012, groundwater samples were collected from observation wells B-101 (OW), B-106A (OW) and B-107 (OW) to further assess the nature and extent of the No. 2 fuel oil release to which RTN 3-28530 applies. In addition, as part of an environmental due diligence assessment completed in 2008 for the former MIT Facilities Garage building, samples of groundwater were obtained from monitoring wells B-1(OW) through B-4(OW) to further assess potential recognized environmental conditions. The groundwater samples were submitted for laboratory analysis for the presence of EPH with target PAHs, VPH and VOCs. The results of the groundwater testing are summarized in **Table 1**.

As shown on **Table 1**, the results of groundwater testing did not detect the presence of the compounds tested in excess of the applicable Method 1 GW-3 risk characterization standards that are protective of surface water. With the exception of groundwater samples obtained from monitoring wells at the southeastern portion of the subject site, the results of the analysis did not detect levels of petroleum constituents in excess of the RGP effluent limits. However, concentrations of total BTEX detected in groundwater samples obtained from monitoring wells B-3(OW) and B-101(OW), located within the southeastern portion of the former MIT Facilities Garage building, exceed the RGP effluent limit of 100 micrograms per liter (ug/l). As further discussed below, groundwater that is pumped during construction activities at the southeastern portion of the subject site will pass through a granular activated carbon filter to reduce levels of total BTEX to below the RGP effluent limit prior to off-site discharge.

More recently on September 13, 2013, McPhail Associates, LLC obtained a sample of groundwater from monitoring well B-2(OW) which is located within the parking lot that occupies the eastern portion of the subject site. The groundwater sample was submitted to a certified laboratory for analysis for the presence of compounds required under the EPA's Remediation General Permit (RGP) application, including total suspended solids (TSS), total residual chlorine, total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs) including total benzene, toluene, ethylbenzene and xylenes (BTEX), poly-aromatic hydrocarbons (PAHs), total phenols, pesticides and PCBs, and total recoverable metals.

The results of the laboratory analysis are summarized in **Table 2**, and laboratory data is included in **Appendix D**. The results of laboratory analysis indicate the following:

1. **TSS:** Total suspended solids (TSS) were detected at a concentration of 30 milligrams per liter (mg/l) which is at the 30 mg/l limit established by the US EPA for discharge into surface water. It is likely that proposed dewatering activities will cause concentrations of TSS in the influent to fluctuate which will require mitigation. As a result, groundwater will be pre-treated by passing the water through one (1) 5,000 gallon sediment settling tank and bag filters prior to discharge in order to reduce the concentration of TSS in the effluent.

2. **VOCs:** The groundwater sample did not exhibit concentrations of VOCs which exceeded the laboratory method detection limits. However, as noted above, concentrations of total BTEX which exceed the EPA RGP effluent limit of 100 ug/l were identified in groundwater at the southeastern portion of the subject site. It is anticipated that the treatment system will reduce levels of total BTEX to below the EPA effluent limit prior to discharge into the City of Cambridge storm drain system.

3. **TPH:** Laboratory analysis of the groundwater sample indicated no detectable levels of TPH. However, as noted above, concentrations of VPH and EPH fractions were detected in groundwater samples obtained from monitoring wells located at the southeastern portion of the

subject site. Total detectable concentrations of VPH and EPH did not exceed the RGP discharge limit of 5,000 ug/l.

4. **PAHs and Total Phenols:** The laboratory reported no detectable levels of total phenol or phthalate compounds. In addition, the total concentration of total Group II PAHs detected in the sample was below the RGP effluent limit of 100 ug/l. However, with the exception of dibenzo(a,h)anthracene, the groundwater sample exhibited the presence of each individual Group I PAH at a concentration in excess of the applicable RGP effluent limit of 0.0038 ug/l. The total concentration of Group I PAHs detected in the groundwater sample is 2.83 ug/l which is below the RGP effluent limit of 10 ug/l. As mentioned above and discussed in further detail below, groundwater will pass through a treatment system that will include a granular activated carbon filter prior to off-site discharge. It is anticipated that the treatment system will reduce levels of individual Group I PAHs to below the EPA effluent limit prior to discharge into the City of Cambridge storm drain system.

5. **PCBs:** The laboratory results indicated no detectable levels of PCBs.

6. **Total Metals:** The laboratory reported no detectable levels of antimony, chromium VI, mercury, or silver. Levels of arsenic, cadmium, chromium III, copper, lead, nickel, selenium, zinc and iron were reported at 0.6 ug/l, 0.5 ug/l, 1.3 ug/l, 8.9 ug/l, 3.3 ug/l, 1 ug/l, 1 ug/l, 124.1 ug/l and 150 ug/l, respectively. The detected levels of arsenic, chromium III, nickel, selenium, and iron are below the EPA effluent limits of 10 ug/l, 48.8 ug/l, 29 ug/l, 5 ug/l and 150 ug/l respectively, for discharge to a freshwater body.

   The detected levels of cadmium, copper, lead and zinc exceed the EPA effluent limits of 0.2 ug/l, 5.2 ug/l, 1.3 ug/l and 66.6 ug/l, respectively, for discharge into a freshwater body. However, based on calculations of the applicable dilution factor as shown below, the detected concentrations of cadmium, copper, lead and zinc do not exceed the applicable effluent limit for these total recoverable metals.

Dilution Factor Application for Total Metals

As mentioned above, total cadmium, copper, lead and zinc were detected at concentrations of 0.5 ug/l, 176.3 ug/l and 4,300 ug/l, respectively, which exceed their applicable EPA freshwater effluent limitations. As a result, a Dilution Factor (DF) was calculated for the detected levels of metals pursuant to the procedure contained in RGP MAG910000, Appendix V. The purpose of the DF calculation is to establish Total Recoverable Limits for metals, taking into consideration the anticipated dilution of the detected analyte upon discharge into the Charles River. The calculated DF was then used to find the appropriate Dilution Range Concentrations (DRCs) contained in MAG910000, Appendix IV. The Minimum Flow Rate calculated by the USGS Streamstats GIS database at the location of discharge into the Charles River for 7 consecutive days with a recurrence interval of 10 years (7Q10 flow) is 28.2 thus resulting in a DF of 127.5. A DF in excess of 100 corresponds to dilution concentrations of 260 ug/l, 2,070 ug/l, 430 ug/l and 1,480 ug/l for total cadmium, copper, lead and zinc, respectively. Therefore, based on calculations of the applicable dilution factor, the above referenced total metals do not exceed the applicable permit limitations.

Groundwater Treatment

Based on the results of the above referenced groundwater analyses and the presence of documented MCP release sites at the subject site, it is our opinion that a 5,000-gallon capacity settling tank, bag filter and granular activated carbon filter will be required to settle out particulate matter and lower the detected concentrations of total BTEX and Group I PAHs to meet the applicable effluent limits established by the US EPA prior to discharge. A schematic of the treatment system is shown on **Figure 4**.

This Best Management Practices Plan (BMPP) has been prepared as Appendix E to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Summary and Conclusions

The purpose of this report is to assess site environmental conditions and groundwater data to support an application for a Massachusetts Remedial General Permit for off-site discharge of groundwater which will be encountered during the remedial excavation associated with RTN 3-28530 and construction of the proposed building at 300 Massachusetts Avenue in Cambridge. The groundwater testing results reported in this application have been provided to the site owner.

Based on the results of the above referenced groundwater analyses in conjunction with the presence of documented MCP release sites at the subject site, groundwater treatment is necessary to meet allowable effluent limits established by the US EPA prior to discharge. The proposed groundwater treatment system will consist of one settling tank 5,000-gallons in capacity, a bag filter, and a granular activated carbon filter in series in order to meet the applicable discharge limits for total BTEX and Group I PAHs established by the RGP. However, should the effluent motoring results indicate levels of total BTEX or Group I PAHs in excess of the limits established in the Massachusetts Remedial General Permit, additional mitigative measures will be implemented to meet the allowable discharge limits.

We trust that the above satisfies your present requirements. Should you have any questions or comments concerning the above, please do not hesitate to contact us.

Very truly yours,

McPHAIL ASSOCIATES, LLC

William J. Burns

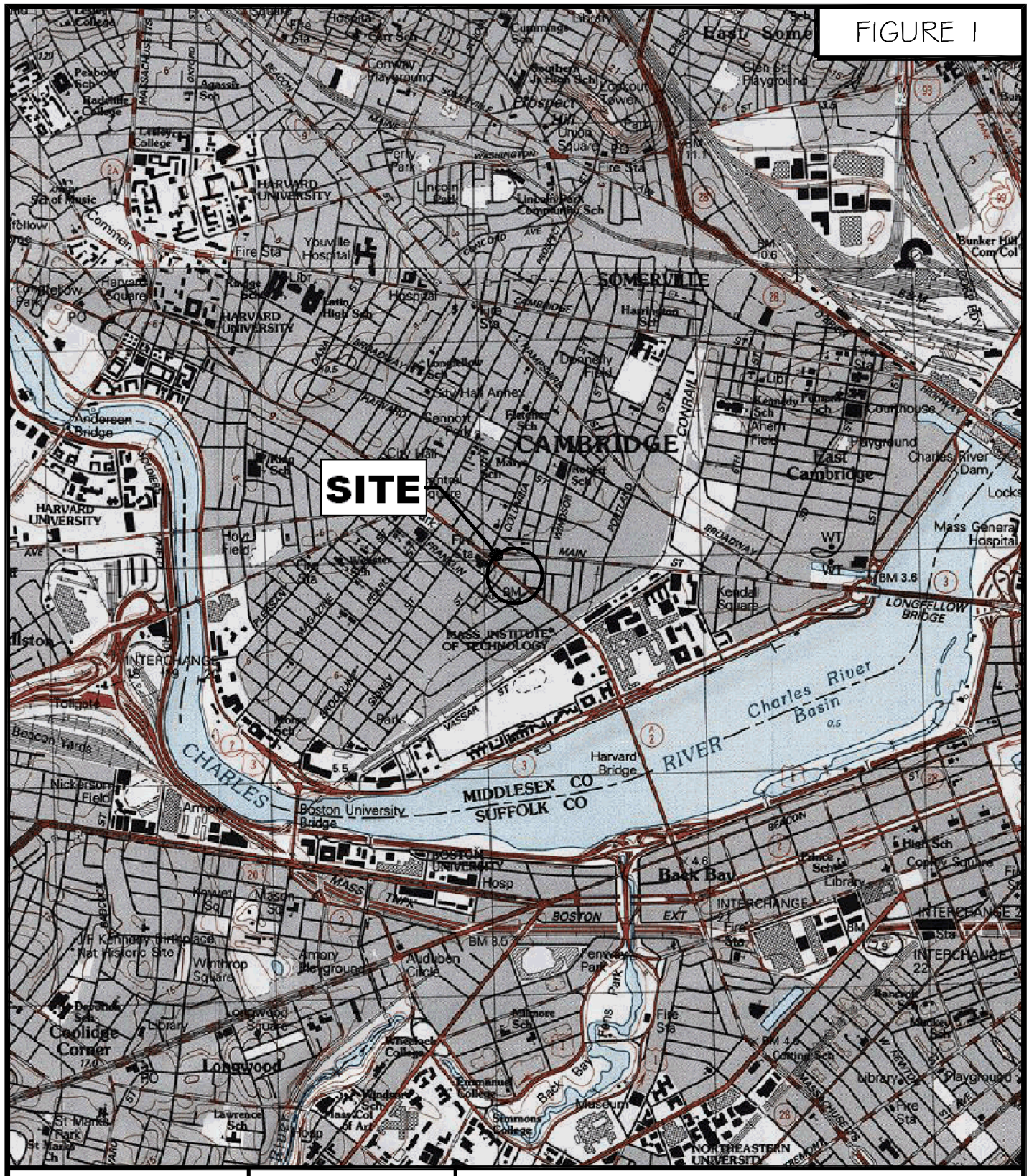
Ambrose J. Donovan, P.E., L.S.P.

Enclosures

F:\WP5\REPORTS\4564 RGP(REV).wpd
WJB/ajd

xc: 300 Mass Ave West SPE, LLC

FIGURE 1



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N

SCALE 1:25,000

PROJECT LOCATION PLAN

300 MASSACHUSETTS AVENUE

CAMBRIDGE MASSACHUSETTS

FIGURE 2

MASSACHUSETTS (PUBLIC – VARIABLE WIDTH) AVENUE

NORTH

BLANCHE STREET (PUBLIC 30.00' WIDE)

LANDSDOWNE STREET (PUBLIC – 50.00' WIDE)

GREEN STREET (PUBLIC – VARIABLE WIDTH)

GP-1
GP-2
GP-3
GP-4
GP-5
GP-6
GP-7
GP-8
GP-9
GP-10
B-1 (OW)
B-2 (OW)
B-3 (OW)
B-4 (OW)
B-101 (OW)
B-103 (OW)
B-105
B-106A (OW)
B-107 (OW)
B-201
B-202
B-203
B-204
S-1
S-2

APPROXIMATE LIMITS OF SUBJECT SITE

ESTIMATED LOCATION OF DISPOSAL SITE TO WHICH RTN 3-31819 APPLIES.

APPROXIMATE LOCATION OF FORMER USTs PREVIOUSLY REMOVED BY OTHERS CLOSED MCP SITE RTN: 3-0000278

LOCATIONS OF CATCH BASINS UTILIZED FOR DISCHARGE DURING CONSTRUCTION DEWATERING

ESTIMATED BOUNDARY OF DISPOSAL SITE TO WHICH RTN 3-28530 APPLIES

PASSAGEWAY (10' WIDE)

LEGEND

- — APPROXIMATE LOCATION OF GEOPROBE CONDUCTED BY IDS ON SEPTEMBER 6, 2013 FOR McPHAIL ASSOCIATES, LLC
- — APPROXIMATE LOCATION OF GEOPROBE PERFROMED BY TDS, INC. ON AUGUST 1, 2012 FOR McPHAIL ASSOCIATES, LLC
- — APPROXIMATE LOCATION OF HAND AUGER SAMPLE OBTAINED BY McPHAIL ASSOCIATES, INC. ON MAY 1, 2009
- — APPROXIMATE LOCATION OF BORING PERFORMED BY NEW HAMPSHIRE BORING ON APRIL 30 AND MAY 4, 2009 FOR McPHAIL ASSOCIATES, INC.
- — APPROXIMATE LOCATION OF BORING PERFORMED BY NEW HAMPSHIRE BORING ON NOVEMBER 6 AND 7, 2008 FOR McPHAIL ASSOCIATES, INC.
- — APPROXIMATE LOCATION OF HAND AUGER SAMPLE OBTAINED BY McPHAIL ASSOCIATES, INC. ON OCTOBER 22, 2008
- — APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. ON JULY 26, 2006
- (OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED, "DEMOLITION PLAN" DATED MAY 1, 2013 PREPARED BY KLING STUBBINS

GRAPHIC SCALE

40 0 40 80

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300 MASSACHUSETTS AVENUE

CAMBRIDGE MASSACHUSETTS

SITE PLAN

FOR

JOHN MORIARTY ASSOCIATES, INC.

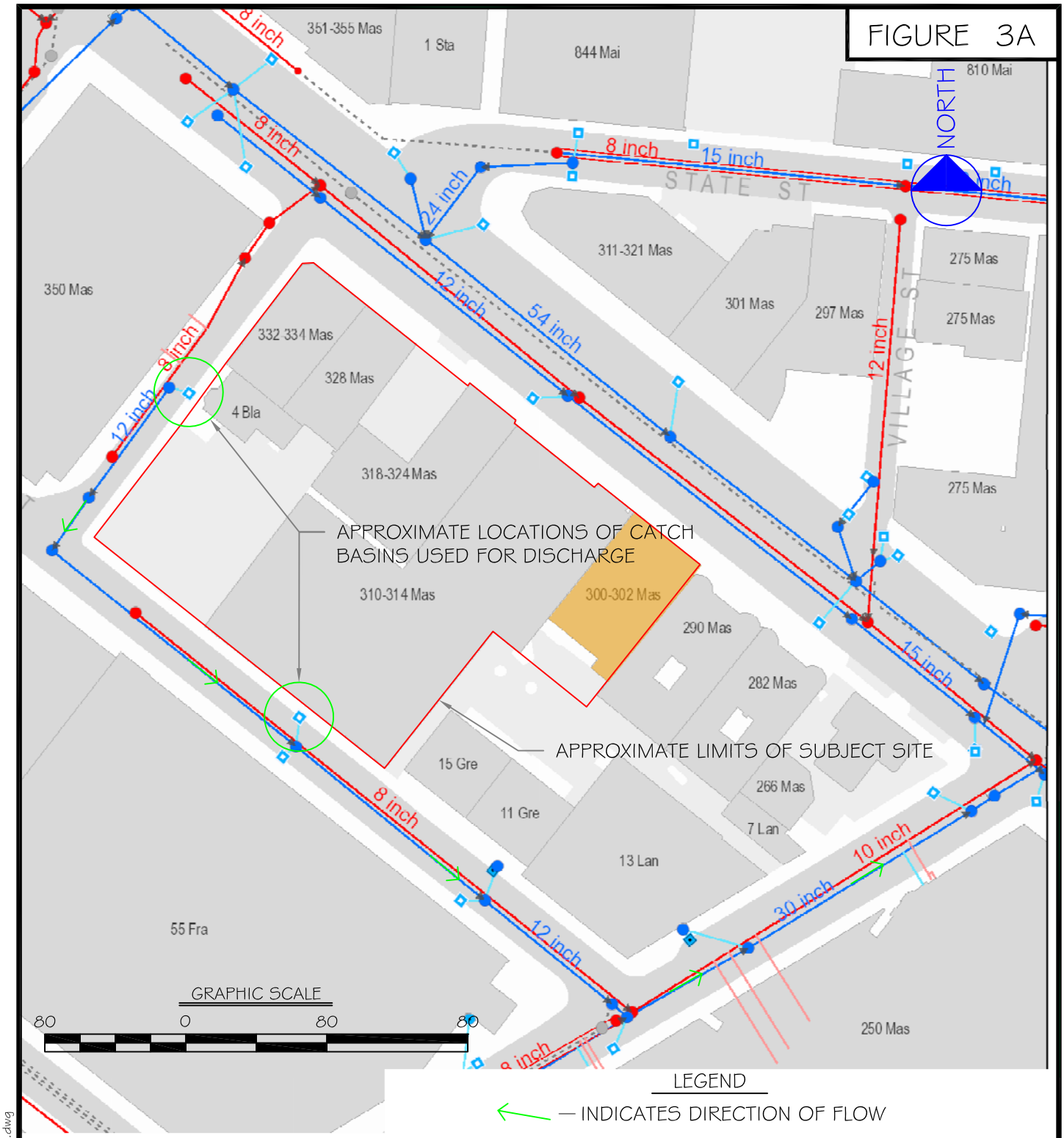
BY

McPHAIL ASSOCIATES, LLC

Date: NOVEMBER 2013	Dwn: F.G.P.	Chkd: W.J.B.	Scale: 1" = 40'
Project No: 4564			

FILE NAME: H:\Acad\JOBS\4564\RGP4564-F02rev1.dwg

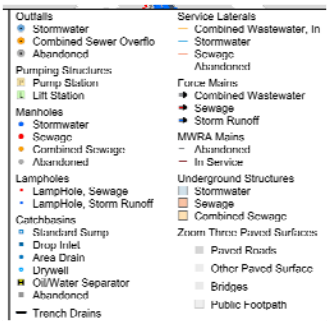
FIGURE 3A



LEGEND

— INDICATES DIRECTION OF FLOW

REFERENCE: CITY OF CAMBRIDGE ON-LINE SEWER AND WATER ATLAS DATABASE.



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300 MASSACHUSETTS AVENUE

CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PLAN

FOR

JOHN MORIARTY ASSOCIATES, INC.

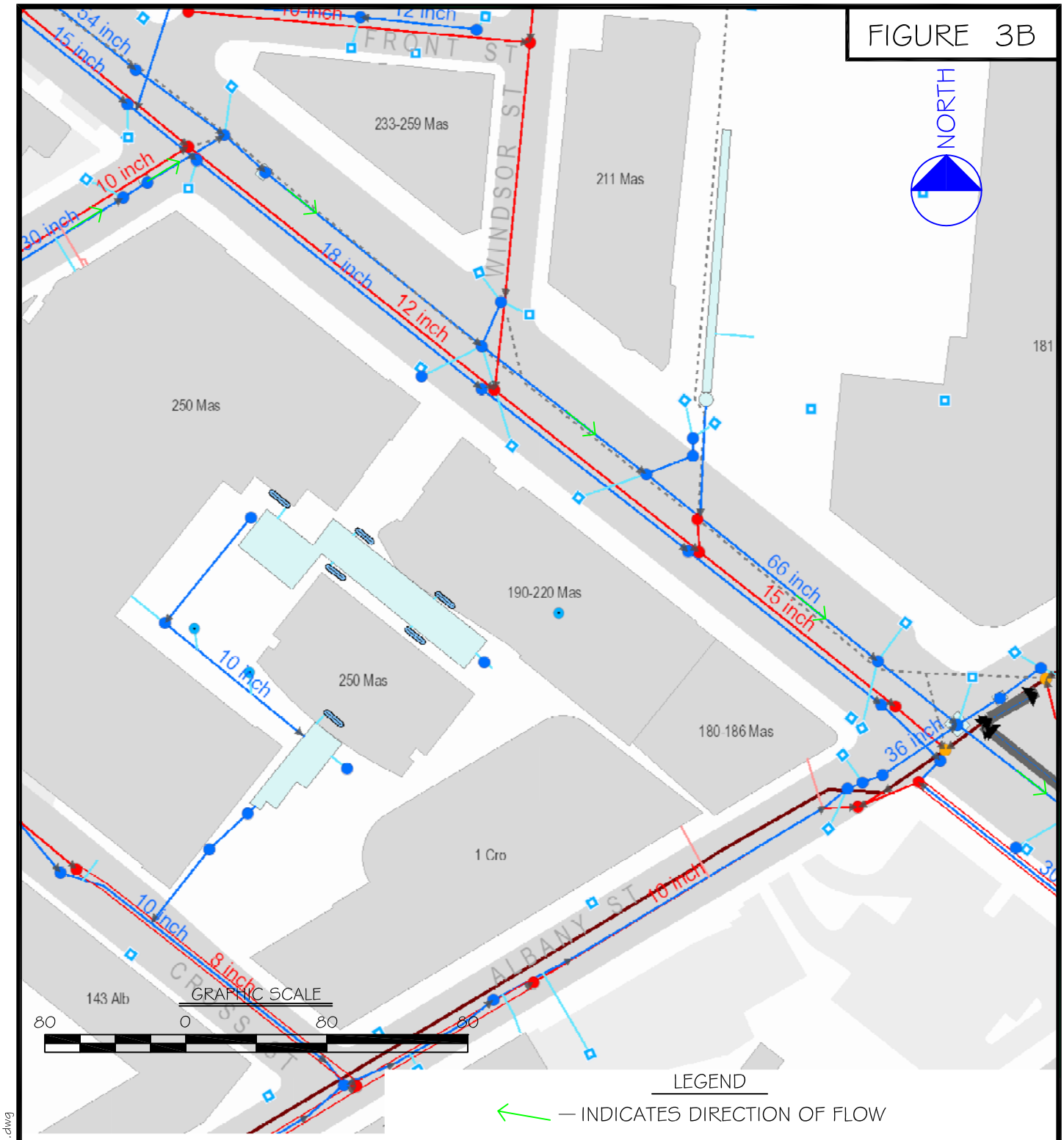
BY

McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2013	Dwn: F.G.P.	Chkd: W.J.B.	Scale: 1" = 80'
Project No: 4564			

FILE NAME: H:\AcadJOBS\4564\RGP4564-F03.dwg

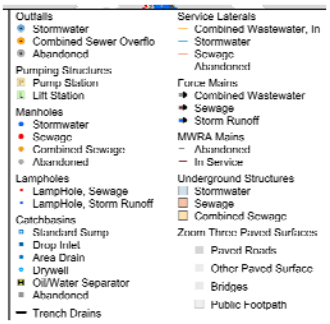
FIGURE 3B



LEGEND

— INDICATES DIRECTION OF FLOW

REFERENCE: CITY OF CAMBRIDGE ON-LINE SEWER AND WATER ATLAS DATABASE.



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300 MASSACHUSETTS AVENUE

CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PLAN

FOR

JOHN MORIARTY ASSOCIATES, INC.

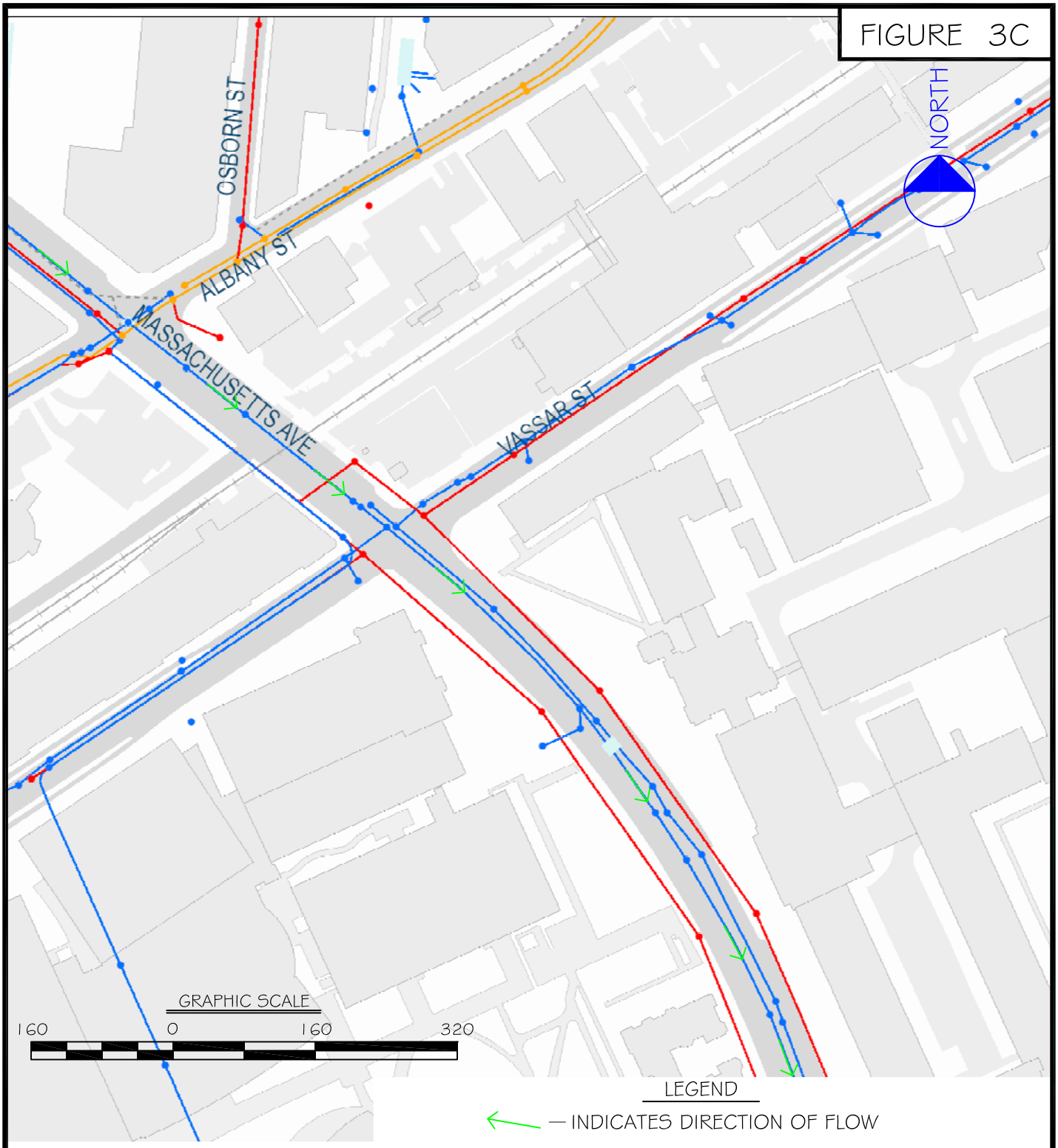
BY

McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2013	Dwn: F.G.P.	Chkd: W.J.B.	Scale: 1" = 80'
Project No: 4564			

FILE NAME: H:\AcadJOBS\4564\RGP4564-F03.dwg

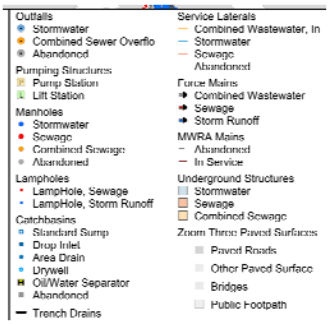
FIGURE 3C



LEGEND

— INDICATES DIRECTION OF FLOW

REFERENCE: CITY OF CAMBRIDGE ON-LINE SEWER AND WATER ATLAS DATABASE.



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300 MASSACHUSETTS AVENUE

CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PLAN

FOR

JOHN MORIARTY ASSOCIATES, INC.

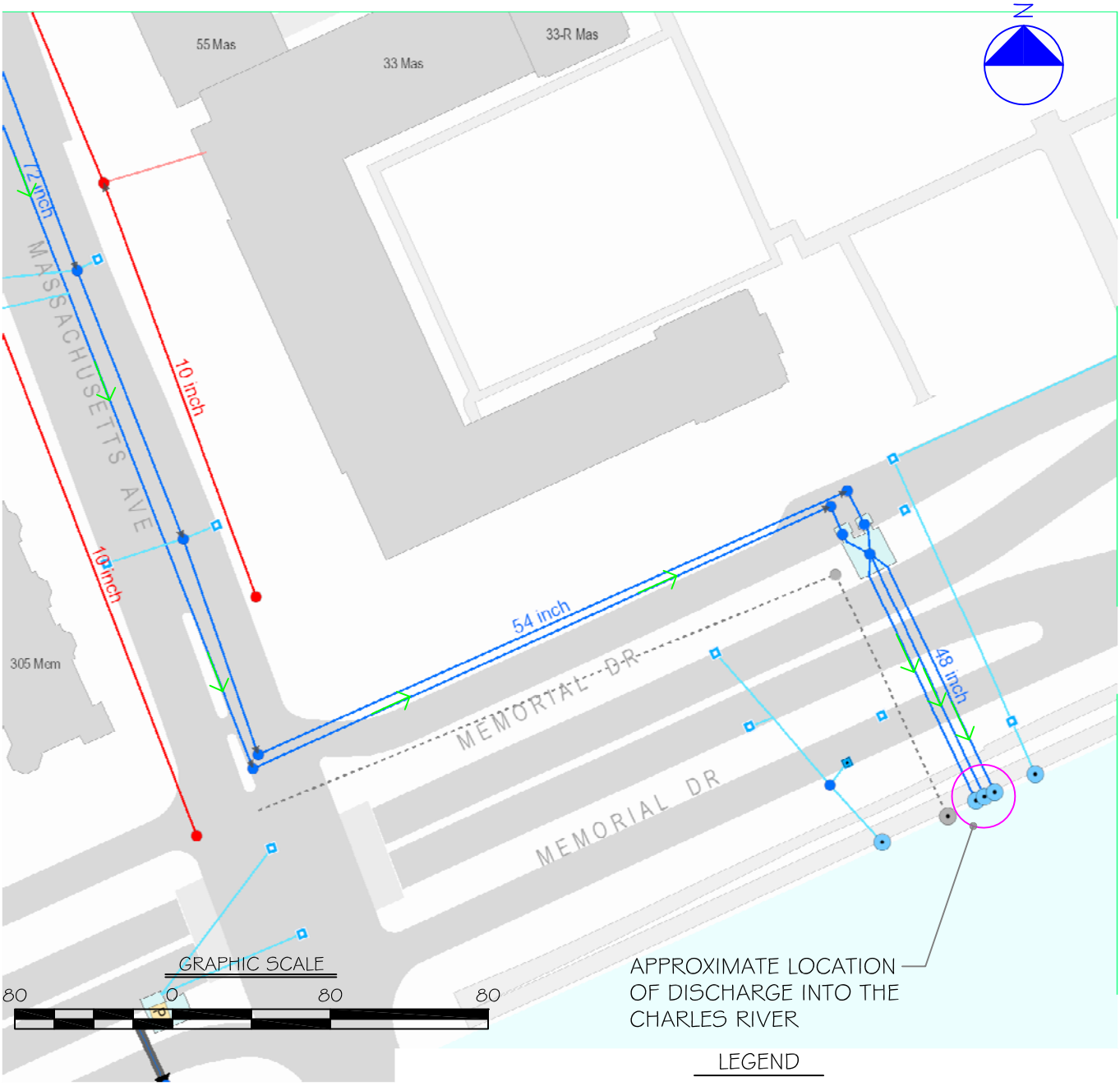
BY

McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2013	Dwn: F.G.P.	Chkd: W.J.B.	Scale: 1" = 160'
Project No: 4564			

FILE NAME: H:\AcadJOBS\4564\RGP4564-F03.dwg

FIGURE 3D



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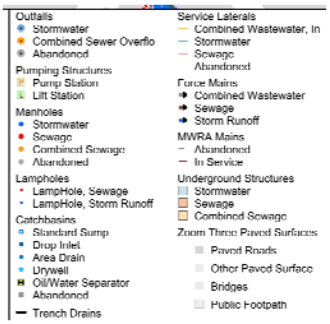
— INDICATES DIRECTION OF FLOW

REFERENCE: CITY OF CAMBRIDGE ON-LINE SEWER AND WATER ATLAS DATABASE.



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300 MASSACHUSETTS AVENUE

CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PLAN

FOR

JOHN MORIARTY ASSOCIATES, INC.

BY

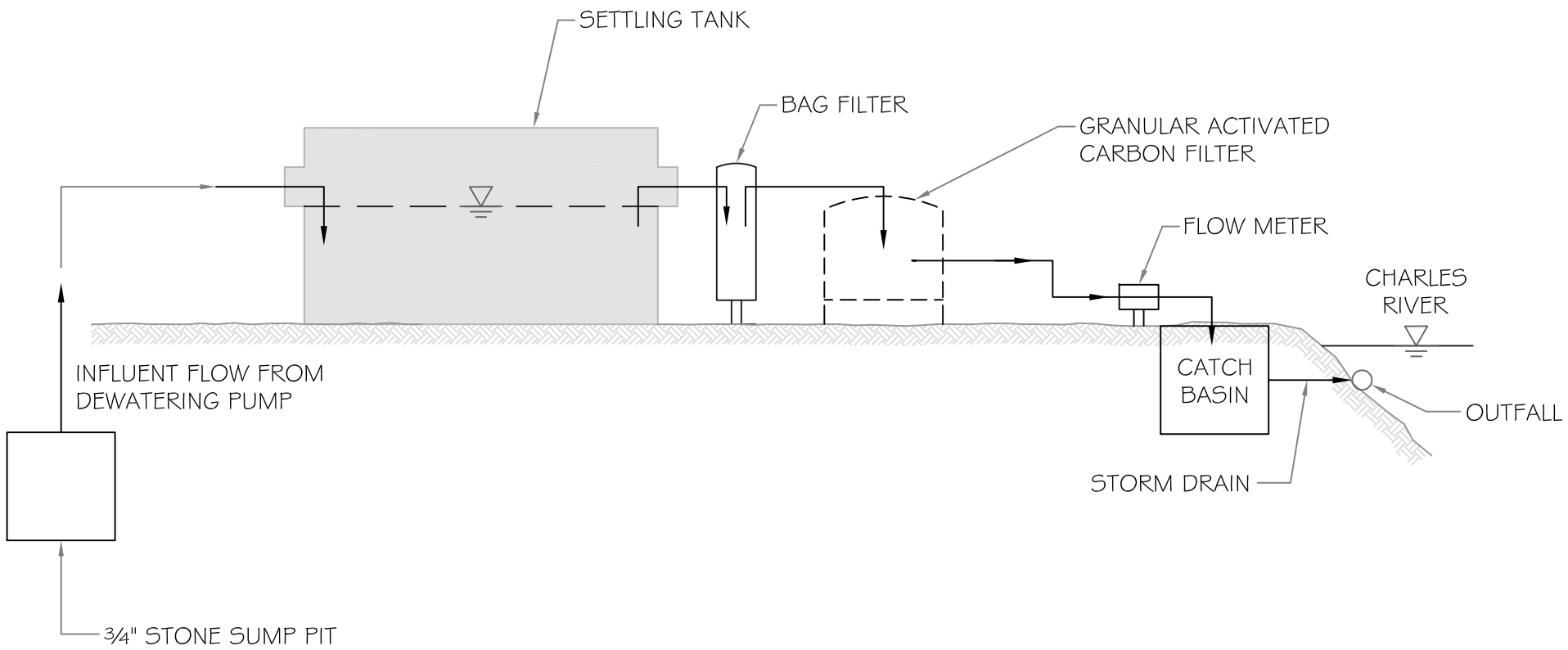
McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2013	Dwn: F.G.P.	Chkd: W.J.B.	Scale: 1" = 80'
Project No: 4564			

FILE NAME: H:\AcadJOBS\4564\RGP4564-F03.dwg

FILE NAME: H:\Acad\JOBS\4564\4564-E04.dwg

FIGURE 4



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300 MASSACHUSETTS AVENUE
CAMBRIDGE MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR
JOHN MORIARTY ASSOCIATES, INC.
BY
McPHAIL ASSOCIATES, LLC
CONSULTING GEOTECHNICAL ENGINEERS

Date: OCTOBER 2013	Dwn: M.B.S.	Chkd: W.J.B.	Scale: N.T.S.
Project No: 4564			

TABLE 1
ANALYTICAL RESULTS-GROUNDWATER

RTN 3-28530
300 Massachusetts Avenue; Cambridge, MA
Project No.4564

LOCATION	RCGW-2	GW-3	B-1(OW)	B-2(OW)	B-3(OW)	B-4(OW)	B-101 (OW)	B-101 (OW)	B-106A	B-106A (OW)	B-107	B-107 (OW)
SAMPLING DATE			11/14/2008	11/14/2008	11/14/2008	11/14/2008	5/6/2009	3/18/2013	5/6/2009	3/18/2013	5/6/2009	3/18/2013
LAB SAMPLE ID			L0817005-01	L0817005-02	L0817005-03	L0817005-04	L0905756-01	L1304507-01	L0905756-02	L1304507-02	L0905756-03	L1304507-03
EPH w/MS Targets (ug/l)												
C9-C18 Aliphatics	1000	20000	ND(100)	ND(102)	ND(103)	ND(103)	ND(102)	133	ND(100)	ND(100)	ND(102)	ND(100)
C19-C36 Aliphatics	20000	20000	ND(100)	ND(102)	ND(103)	ND(103)	ND(102)	ND(100)	ND(100)	ND(100)	ND(102)	ND(100)
C11-C22 Aromatics, Adjusted	30000	30000	ND(100)	ND(102)	238	ND(103)	468	523	197	ND(100)	ND(102)	ND(100)
Naphthalene	1000	20000	-	-	-	-	41.8	ND(10)	3.44	ND(10)	ND(0.408)	ND(10)
2-Methylnaphthalene	3000	3000	-	-	-	-	34	16.7	20.4	ND(10)	ND(0.408)	ND(10)
Acenaphthylene	3000	3000	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Acenaphthene	5000	5000	-	-	-	-	1	ND(10)	0.483	ND(10)	ND(0.408)	ND(10)
Fluorene	3000	3000	-	-	-	-	1.99	ND(10)	0.836	ND(10)	ND(0.408)	ND(10)
Phenanthrene	50	50	-	-	-	-	1.43	ND(10)	0.827	ND(10)	ND(0.408)	ND(10)
Anthracene	3000	3000	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Fluoranthene	200	200	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Pyrene	20	20	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Benzo(a)anthracene	1000	1000	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Chrysene	3000	3000	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Benzo(b)fluoranthene	400	400	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Benzo(k)fluoranthene	100	100	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Benzo(a)pyrene	500	500	-	-	-	-	ND(0.2)	ND(10)	ND(0.2)	ND(10)	ND(0.2)	ND(10)
Indeno(1,2,3-cd)Pyrene	100	100	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Dibenzo(a,h)anthracene	40	40	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
Benzo(ghi)perylene	3000	3000	-	-	-	-	ND(0.408)	ND(10)	ND(0.4)	ND(10)	ND(0.408)	ND(10)
MCP Volatile Organics (ug/l)												
Ethylbenzene	4000	4000	0.52	-	-	1.5	-	-	-	-	-	-
Trichloroethene	30	5000	ND(0.5)	-	-	1.8	-	-	-	-	-	-
p/m-Xylene	6000	500	2.4	-	-	2	-	-	-	-	-	-
o-Xylene	6000	500	1.2	-	-	ND(1)	-	-	-	-	-	-
cis-1,2-Dichloroethene	100	50000	ND(0.5)	-	-	1.7	-	-	-	-	-	-
n-Butylbenzene			ND(0.5)	-	-	1.4	-	-	-	-	-	-
sec-Butylbenzene			ND(0.5)	-	-	0.52	-	-	-	-	-	-
Isopropylbenzene	100000		ND(0.5)	-	-	0.97	-	-	-	-	-	-
p-Isopropyltoluene	10000		ND(0.5)	-	-	0.64	-	-	-	-	-	-
n-Propylbenzene	10000		ND(0.5)	-	-	3	-	-	-	-	-	-
1,3,5-Trimethylbenzene	1000		ND(2.5)	-	-	3	-	-	-	-	-	-
1,2,4-Trimethylbenzene	100000		3.3	-	-	4.4	-	-	-	-	-	-
SUM			7.42	-	-	20.93	-	-	-	-	-	
Volatile Petroleum Hydrocarbons (ug/l)												
C9-C10 Aromatics	4000	4000	-	130	689	-	1080	440	1340	184	-	ND(50)
C5-C8 Aliphatics, Adjusted	1000	4000	-	355	904	-	ND(500)	210	**1240**	310	-	ND(50)
C9-C12 Aliphatics, Adjusted	1000	20000	-	125	340	-	618	442	ND(250)	248	-	ND(50)
Benzene	2000	10000	-	ND(2)	ND(2)	-	ND(20)	5.86	ND(10)	ND(2)	-	ND(2)
Toluene	4000	4000	-	ND(2)	2.96	-	ND(20)	ND(2)	ND(10)	ND(2)	-	ND(2)
Ethylbenzene	4000	4000	-	ND(2)	55.8	-	283	ND(2)	17.4	ND(2)	-	ND(2)
p/m-Xylene	6000	500	-	ND(2)	73.5	-	244	ND(2)	50.8	ND(2)	-	ND(2)
o-Xylene	6000	500	-	ND(2)	7.3	-	24.4	ND(2)	ND(10)	ND(2)	-	ND(2)
Methyl tert butyl ether	1000	50000	-	9.89	6.89	-	ND(30)	ND(3)	ND(15)	ND(3)	-	ND(3)
Naphthalene	1000	20000	-	ND(10)	33.3	-	ND(100)	16.3	ND(50)	ND(4)	-	ND(4)

ND-not detected in excess of the laboratory
method detection limits in ()
Bold-exceeds RCGW-2 standard
Tested compounds not shown do not exceed laboratory
method detection limits.

TABLE 2
ANALYTICAL RESULTS - GROUNDWATER
RGP CHARACTERIZATION
(Results reported in micrograms per liter (ug/l) unless otherwise noted)

300 Massachusetts Avenue; Cambridge, MA
Project No. 4564

LOCATION	**RGP**	**B2 (OW)**
SAMPLING DATE	**Effluent**	**9/13/2013**
LAB SAMPLE ID	**Criteria**	**L1318092-01**
General Chemistry		
Solids, Total Suspended (mg/l)	30	30
TPH	5000	ND(4000)
Benzene	Total BTEX	ND(0.5)
Toluene	Total BTEX	ND(1)
Ethylbenzene	Total BTEX	ND(1)
p/m-Xylene	Total BTEX	ND(2)
o-Xylene	Total BTEX	ND(1)
Xylenes, Total	Total BTEX	ND
Total BTEX	100	ND
1,2-Dibromoethane	0.05	ND(0.01)
Methyl tert butyl ether	70	ND(2)
Tert-Butyl Alcohol	Monitor Only	ND(10)
Tertiary-Amyl Methyl Ether	Monitor Only	ND(2)
Naphthalene	20	ND(2)
Carbon tetrachloride	4.4	ND(1)
1,2-Dichlorobenzene	600	ND(1)
1,3-Dichlorobenzene	320	ND(1)
1,4-Dichlorobenzene	5	ND(1)
Total Dichlorobenzene		ND
1,1-Dichloroethane	70	ND(1)
1,2-Dichloroethane	5	ND(1)
1,1-Dichloroethene	3.2	ND(1)
cis-1,2-Dichloroethene	70	ND(1)
Methylene chloride	4.6	ND(2)
Tetrachloroethene	5	ND(1)
1,1,1-Trichloroethane	200	ND(1)
1,1,2-Trichloroethane	5	ND(1)
Trichloroethene	5	ND(1)
Vinyl chloride	2	ND(1)
Acetone	Monitor Only	ND(5)
1,4-Dioxane		ND(3)
2,4,6-Trichlorophenol		ND(5)
p-Chloro-m-cresol		ND(2)
2-Chlorophenol		ND(2)
2,4-Dichlorophenol		ND(5)
2,4-Dimethylphenol		ND(5)
2-Nitrophenol		ND(10)
4-Nitrophenol		ND(10)
2,4-Dinitrophenol		ND(20)
4,6-Dinitro-o-cresol		ND(10)
Phenol		ND(5)
2-Methylphenol		ND(5)
3-Methylphenol/4-Methylphenol		ND(5)
2,4,5-Trichlorophenol		ND(5)
Phenolics, Total	300	ND
Pentachlorophenol	1	ND(0.8)
Butyl benzyl phthalate	Total phthalate	ND(5)
Di-n-butylphthalate	Total phthalate	ND(5)
Di-n-octylphthalate	Total phthalate	ND(5)
Diethyl phthalate	Total phthalate	ND(5)
Dimethyl phthalate	Total phthalate	ND(5)
Total phthalate	3	ND
Bis(2-ethylhexyl)phthalate	6	ND(3)
Total Group I PAHs	10	2.83
Benzo(a)anthracene	0.0038	**0.28**
Benzo(a)pyrene	0.0038	**0.38**
Benzo(b)fluoranthene	0.0038	**0.81**
Benzo(k)fluoranthene	0.0038	**0.35**
Chrysene	0.0038	**0.59**
Dibenzo(a,h)anthracene	0.0038	ND(0.2)
Indeno(1,2,3-cd)Pyrene	0.0038	**0.42**
Total Group II PAHs	100	2.76
Acenaphthene	Total Group II	ND(0.2)
Acenaphthylene	Total Group II	ND(0.2)
Anthracene	Total Group II	ND(0.2)
Benzo(ghi)perylene	Total Group II	0.39
Fluoranthene	Total Group II	1.1
Fluorene	Total Group II	ND(0.2)
Naphthalene	Total Group II	ND(0.2)
Phenanthrene	Total Group II	0.48
Pyrene	Total Group II	0.79
Polychlorinated Biphenyls by GC (ug/l)		
Total PCBs	0.0000064	ND
Anions by Ion Chromatography (ug/l)		
Chloride	Monitor Only	159000
Total Metals (ug/l)		
Antimony, Total	5.6	ND(1)
Arsenic, Total	10	0.6
Cadmium, Total	0.2	0.5
Chromium, Total	48.8	1.3
Chromium, Hexavalent	11.4	ND(10)
Copper, Total	5.2	8.9
Lead, Total	1.3	3.3
Mercury, Total	0.9	ND(0.2)
Nickel, Total	29	1
Selenium, Total	5	1
Silver, Total	1.2	ND(0.4)
Zinc, Total	66.6	124.1
Iron, Total	1000	150

ND-not detected in excess of the laboratory
method detection limits in ()
Bold-exceeds RGP Effluent Standard

TABLE 3
Calculations of Mass of Compounds

300 Massachusetts Avenue;
Cambridge, Massachusetts
McPhail Job No. 4564

Max flow (GPM) =	100		
Max Flow (MGD) =	0.144		
Compound #	Max Concentration (ug/l)	Max Concentration (mg/l)	**MASS (kg)**
Arsenic	0.6	0.0006	**0.00033**
Cadmium	0.5	0.0005	**0.00027**
Chromium III	1.3	0.0013	**0.00071**
Copper	8.90	0.0089	**0.00486**
Lead	3.30	0.0033	**0.00180**
Nickel	1.00	0.001	**0.00055**
Selenium	1.00	0.001	**0.00055**
Zinc	124.10	0.1241	**0.06775**
Iron	150.00	0.15	**0.08188**
TSS	30.00	0.03	**0.01638**
TPH	1748.00	1.748	**0.95422**
Benzene	5.86	0.00586	**0.00320**
Benzo(a)anthracene	0.28	0.00028	**0.00015**
Benzo(a)pyrene	0.38	0.00038	**0.00021**
Benzo(b)fluoranthene	0.81	0.00081	**0.00044**
Benzo(k)fluoranthene	0.35	0.00035	**0.00019**
Chrysene	0.59	0.00059	**0.00032**
Indeno(1,2,3-cd)Pyrene	0.42	0.00042	**0.00023**
Benzo(ghi)perylene	0.39	0.00039	**0.00021**
Fluoranthene	1.10	0.0011	**0.00060**
Phenanthrene	0.48	0.00048	**0.00026**
Pyrene	0.79	0.00079	**0.00043**
Total Group I PAHs	2.83	0.00283	**0.00154**
Total Group II PAHs	2.76	0.00276	**0.00151**
Chloride	159000.00	159	**86.79665**

GPM = Gallons Per Minute
MGD = Million Gallons Per Day
ug/l = Micrograms per liter
mg/l = Milligrams per liter
kg = Kilograms

McPHAIL ASSOCIATES, LLC

ATTACHMENT A

LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from monitoring wells located at the 300 Massachusetts Avenue project site in Cambridge, Massachusetts, in support of an application for approval of construction site dewatering discharge into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts Remedial General Permit MAG910000.

The observations were made under the conditions stated in this report. The conclusions presented above were based on these observations. If variations in the nature and extent of subsurface conditions between the widely spaced subsurface explorations become evident in the future, it will be necessary to re-evaluate the conclusions presented herein after performing on-site observations and noting the characteristics of any variations.

The conclusions submitted in this report are based in part upon laboratory test data obtained from analysis of groundwater samples, and are contingent upon their validity. The data have been reviewed, and interpretations have been made in the text. It should also be noted that fluctuations in the types and levels of contaminants and variations in their flow paths may occur due to changes in seasonal water table, past practices used in disposal and other factors.

Laboratory analyses have been performed for specific constituents during the course of this site assessment, as described in the text. However, it should be noted that additional constituents not searched for during the current study may be present in soil and/or groundwater at the site.

This report and application have been prepared on behalf of and for the exclusive use of 300 Mass Ave West SPE, LLC and John Moriarty Associates, Inc. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party nor used in whole or in part by any other party without prior written consent of McPhail Associates, LLC.

McPHAIL ASSOCIATES, LLC

APPENDIX B

Notice of Intent Transmittal Form

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 **facility/site**: 300 Massachusetts Avenue		**Facility/site** mailing address:		
Location of **facility/site**: longitude: -71.097840 latitude: 42.36166	Facility SIC code(s):	Street: 300 Massachusetts Avenue		
b) Name of **facility/site owner:** 300 Mass Ave West SPE, LLC		Town: Cambridge		
Email address of facility/site owner: PeterCalkins@forestcity.net		State: MA	Zip: 02139	County: Middlesex
Telephone no. of facility/site **owner**: 617-914-2508				
Fax no. of facility/site **owner**:		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 38 Sidney Street; Suite 180				
Town: Cambridge	State: MA	Zip: 02139	County: Middlesex	
c) Legal name of **operator**: John Moriarty Associates, Inc.	**Operator** telephone no: 781-729-3900			
	Operator fax no.: 781-729-8456	**Operator** email: jviola@jm-a.com		
Operator contact name and title: Mr. John M. Viola, Project Excecutive				
Address of **operator** (if different from owner):	Street: 3 Church Street			
Town: Winchester	State: MA	Zip: 01890	County: Middlesex	

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.

Activity Category	**Activity Sub-Category**
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 ☒

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:

Temporary Construction Dewatering

b) Provide the following information about each discharge:

1) Number of discharge points: 2

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow: 0.223 Is maximum flow a **design value**? Y ○ N ◉
Average flow (include units): 0.112 cu.ft/s Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42.348 long. -71.133 pt.2: lat. 42.347 long. -71.133;
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 12/01/2013 end 12/01/2014

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). Please refer to the attached report

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.

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. Total Suspended Solids (TSS)		☐	☒	1	grab	302540D		30	0.01638		
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☐	☒	3	grab	74,1664A		1748	0.95422		
4. Cyanide (CN)	57125	☒	☐								
5. Benzene (B)	71432	☐	☒		grab	1,8260B		5.86	0.00320		
6. Toluene (T)	108883	☐	☒		grab	1,8260B	1	ND	ND		
7. Ethylbenzene (E)	100414	☐	☒		grab	1,8260B	1	ND	ND		
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☐	☒		grab	1,8260B		ND	ND		
9. Total BTEX [2]	n/a	☐	☒					ND	ND		
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐		grab	1,8260B	0.01	ND	ND		
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐		grab	1,8260B	2	ND	ND		
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐		grab	1,8260B	10	ND	ND		

***** 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.

[2] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

[3] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

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)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐		grab	1,8260B	2	ND	ND		
14. Naphthalene	91203	☒	☐		grab	1,8260B	2	ND	ND		
15. Carbon Tetrachloride	56235	☒	☐		grab	1,8260B	1	ND	ND		
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐		grab	1,8260B	1	ND	ND		
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐		grab	1,8260B	1	ND	ND		
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐		grab	1,8260B	1	ND	ND		
18a. Total dichlorobenzene		☒	☐		grab			ND	ND		
19. 1,1 Dichloroethane (DCA)	75343	☒	☐		grab	1,8260B	1	ND	ND		
20. 1,2 Dichloroethane (DCA)	107062	☒	☐		grab	1,8260B	1	ND	ND		
21. 1,1 Dichloroethene (DCE)	75354	☒	☐		grab	1,8260B	1	ND	ND		
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐		grab	1,8260B	1	ND	ND		
23. Methylene Chloride	75092	☒	☐		grab	1,8260B	2	ND	ND		
24. Tetrachloroethene (PCE)	127184	☒	☐		grab	1,8260B	1	ND	ND		
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐		grab	1,8260B	1	ND	ND		
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐		grab	1,8260B	1	ND	ND		
27. Trichloroethene (TCE)	79016	☐	☒		grab	1,8260B	1	ND	ND		

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)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐		grab	1,8260B	1	ND	ND		
29. Acetone	67641	☒	☐		grab	1,8260B	5	ND	ND		
30. 1,4 Dioxane	123911	☒	☐		grab	1,8260B	3	ND	ND		
31. Total Phenols	108952	☒	☐		grab	1,827C		ND	ND		
32. Pentachlorophenol (PCP)	87865	☒	☐		grab	1,827C	0.8	ND	ND		
33. Total Phthalates (Phthalate esters) [4]		☒	☐		grab	1,827C	ND	ND	ND		
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐		grab	1,827C	3	ND	ND		
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒					2.83	0.00154		
a. Benzo(a) Anthracene	56553	☐	☒		grab	1,827C		0.28	0.00015		
b. Benzo(a) Pyrene	50328	☐	☒		grab	1,827C		0.38	0.00021		
c. Benzo(b)Fluoranthene	205992	☐	☒		grab	1,827C		0.81	0.00044		
d. Benzo(k)Fluoranthene	207089	☐	☒		grab	1,827C		0.35	0.00019		
e. Chrysene	21801	☐	☒		grab	1,827C		0.59	0.00032		
f. Dibenzo(a,h)anthracene	53703	☒	☐		grab	1,827C	0.2	ND	ND		
g. Indeno(1,2,3-cd) Pyrene	193395	☐	☒		grab	1,827C		0.42	0.00023		
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐					2.76	0.00151		

[4] The sum of individual phthalate compounds.

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)
h. Acenaphthene	83329	☒	☐		grab	1,827C	0.2	ND	ND		
i. Acenaphthylene	208968	☒	☐		grab	1,827C	0.2	ND	ND		
j. Anthracene	120127	☒	☐		grab	1,827C	0.2	ND	ND		
k. Benzo(ghi) Perylene	191242	☒	☐		grab	1,827C		0.39	0.00021		
l. Fluoranthene	206440	☒	☐		grab	1,827C		1.1	0.0006		
m. Fluorene	86737	☒	☐		grab	1,827C	0.2	ND	ND		
n. Naphthalene	91203	☒	☐		grab	1,827C	0.2	ND	ND		
o. Phenanthrene	85018	☒	☐		grab	1,827C		0.48	0.00026		
p. Pyrene	129000	☒	☐		grab	1,827C		0.79	0.00043		
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐		grab			ND	ND		
38. Chloride	16887006	☐	☒		grab	44,300		159,000	86.8		
39. Antimony	7440360	☒	☐		grab	16020	1	ND	ND		
40. Arsenic	7440382	☒	☐		grab	16020		0.6	0.00033		
41. Cadmium	7440439	☒	☐		grab	16020		0.5	0.00027		
42. Chromium III (trivalent)	16065831	☒	☐		grab	30,3500CR-D		1.3	0.00071		
43. Chromium VI (hexavalent)	18540299	☒	☐		grab	30,3500CR-D	10	ND	ND		
44. Copper	7440508	☒	☐		grab	16020		8.9	0.00486		
45. Lead	7439921	☒	☐		grab	16020		3.3	0.0018		
46. Mercury	7439976	☒	☐		grab	3,245.1	0.2	ND	ND		
47. Nickel	7440020	☒	☐		grab	16020		1	ND		
48. Selenium	7782492	☒	☐		grab	16020		1	0.00055		
49. Silver	7440224	☒	☐		grab	16020	0.4	ND	0.00055		
50. Zinc	7440666	☒	☐		grab	16020		124.1	0.06775		
51. Iron	7439896	☒	☐		grab	19,200.7		150	0.08188		
Other (describe):		☐	☐								

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)
		☐	☐								
		☐	☐								

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

Step 1: 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○	If yes, which metals? cadmium, copper, lead and zinc
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** 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? Metal: cadmium DF: >100 Metal: copper DF: >100 Metal: lead DF: >100 Metal: zinc DF: >100 Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y○ N◉ If Y, list which metals:

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

5,000-gallon settling tank, bag filter and granular activated carbon filtration in series

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☐
	Chlorination ☐	De-chlorination ☐	Other (please describe):	Granular Activated Carbon Filter		

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 75 gpm Maximum flow rate of treatment system 100 gpm
Design flow rate of treatment system 100 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:
Stormdrains that discharge into the Charles River. Please refer to attached report for further details and plan

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 Class B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 28.2 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)?
chlorophyll-a, DDT, dissolved oxygen, oil and grease, nutrient/eutrophication, phosphorous, PCBs

Is there a final TMDL? Y ◉ N ○ If yes, for which pollutant(s)? Nutrients and phosphorus

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.

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 ○

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ○ N ○ Underway ○

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 ○

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

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 ○

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.

7. Supplemental information.

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

Please refer to attached report

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:	300 Massachusetts Avenue
Operator signature:	
Printed Name &Title:	John M. Viola Project Executive
Date:	11.25.13

McPHAIL ASSOCIATES, LLC

APPENDIX C

DEP Priority Resources Map

U.S. Fish and Wildlife Services - List of Threatened and Endangered Species

Massachusetts Division of Fisheries - List of Threatened and Endangered Species

MassDEP - Bureau of Waste Site Cleanup

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

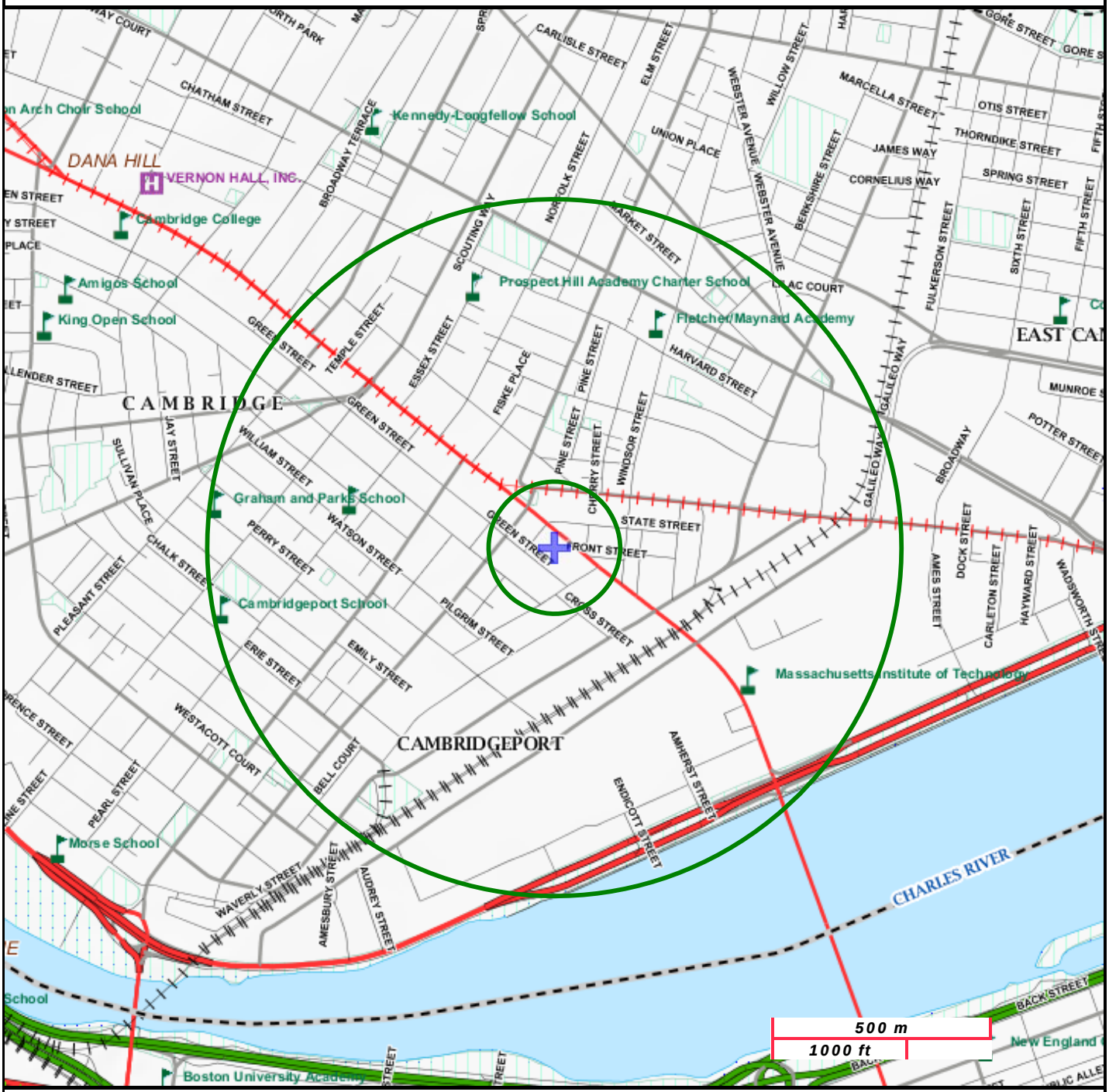
Site Information:

300 MASSACHUSETTS AVENUE CAMBRIDGE, MA

NAD83 UTM Meters:
4692120mN , 327164mE (Zone: 19)
November 22, 2013

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately repsponsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
June 2009

Total Approximate Acreage: 268,000 acres
Approximate acreage and designation date follow ACEC names below.

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

ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether boundary clarification has occurred. For more information please see, http://www.mass.gov/dcr/stewardship/acec/aboutMaps.htm.

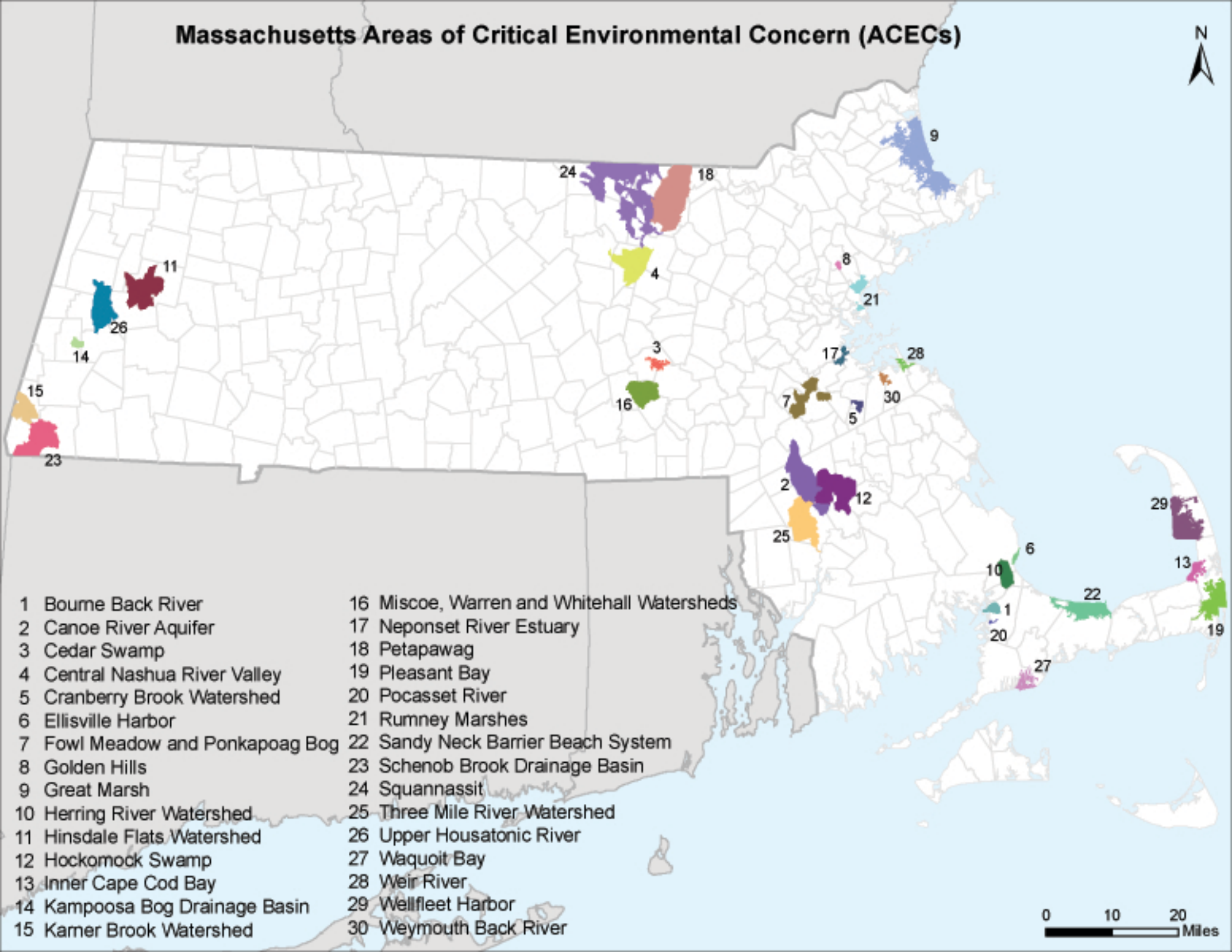
Towns with ACECs within their Boundaries June 2009

TOWN	ACEC
Ashby	Squannassit
Ayer	Petapawag
	Squannassit
Barnstable	Sandy Neck Barrier Beach System
Bolton	Central Nashua River Valley
Boston	Rumney Marshes
	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Bourne	Pocasset River
	Bourne Back River
	Herring River Watershed
Braintree	Cranberry Brook Watershed
Brewster	Pleasant Bay
	Inner Cape Cod Bay
Bridgewater	Hockomock Swamp
Canton	Fowl Meadow and Ponkapoag Bog
Chatham	Pleasant Bay
Cohasset	Weir River
Dalton	Hinsdale Flats Watershed
Dedham	Fowl Meadow and Ponkapoag Bog
Dighton	Three Mile River Watershed
Dunstable	Petapawag
Eastham	Inner Cape Cod Bay
	Wellfleet Harbor
Easton	Canoe River Aquifer
	Hockomock Swamp
Egremont	Karner Brook Watershed
Essex	Great Marsh
Falmouth	Waquoit Bay
Foxborough	Canoe River Aquifer
Gloucester	Great Marsh
Grafton	Miscoe-Warren-Whitehall Watersheds
Groton	Petapawag
	Squannassit
Harvard	Central Nashua River Valley
	Squannassit
Harwich	Pleasant Bay
Hingham	Weir River
	Weymouth Back River
Hinsdale	Hinsdale Flats Watershed
Holbrook	Cranberry Brook Watershed
Hopkinton	Miscoe-Warren-Whitehall Watersheds
	Cedar Swamp
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

TOWN	ACEC
Mt. Washington	Karner Brook Watershed
	Schenob Brook
Newbury	Great Marsh
Norton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Norwood	Fowl Meadow and Ponkapoag Bog
Orleans	Inner Cape Cod Bay
	Pleasant Bay
Pepperell	Petapawag
	Squannassit
Peru	Hinsdale Flats Watershed
Pittsfield	Upper Housatonic River
Plymouth	Herring River Watershed
	Ellisville Harbor
Quincy	Neponset River Estuary
Randolph	Fowl Meadow and Ponkapoag Bog
Raynham	Hockomock Swamp
Revere	Rumney Marshes
Rowley	Great Marsh
Sandwich	Sandy Neck Barrier Beach System
Saugus	Rumney Marshes
	Golden Hills
Sharon	Canoe River Aquifer
	Fowl Meadow and Ponkapoag Bog
Sheffield	Schenob Brook
Shirley	Squannassit
Stockbridge	Kampoosa Bog Drainage Basin
Taunton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Truro	Wellfleet Harbor
Townsend	Squannassit
Tyngsborough	Petapawag
Upton	Miscoe-Warren-Whitehall Watersheds
Wakefield	Golden Hills
Washington	Hinsdale Flats Watershed
	Upper Housatonic River
Wellfleet	Wellfleet Harbor
W Bridgewater	Hockomock Swamp
Westborough	Cedar Swamp
Westwood	Fowl Meadow and Ponkapoag Bog
Weymouth	Weymouth Back River
Winthrop	Rumney Marshes

.

Massachusetts Areas of Critical Environmental Concern (ACECs)



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

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	Bourne (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

New England Field Office

Conserving the Nature of New England

Thursday, January 31, 2013

ENDANGERED SPECIES
- Overview
- Consultation
- N.E. Listed Species
- Species Under Review
- Recovery Activities
- Habitat Conservation
- Images
- Biological Opinions

PARTNERS FOR FISH & WILDLIFE
- Overview
- Restoration Initiatives
- Species & Habitats of Special Concern
- Accomplishments
- How to Participate
- Habitat Restoration
- Links

ENVIRONMENTAL CONTAMINANTS
- Overview
- BTAG
- NRDAR
- Special Studies
- Oil Spills

FEDERAL ACTIVITIES
- Overview
- Federal Projects & Permits
- Wetland Permits
- FERC_ Hydropower Projects
- River Flow Protection
- Wind Energy Projects

OUTREACH
- NH Envirothon
- Kids Corner
- Let's Go Outside

Staff Directory

Our Location

HOME

BOOKMARK

Endangered Species

New England Listed Species

The following federally-listed species are protected in New England. This list includes links to species information on our National Fish and Wildlife Service website including current Federal Register documents, HCPs, Recovery Plans, Life History accounts.

Vertebrates

Mammals
Eastern Cougar -**Puma (=Felis) concolor couguar**
Gray Wolf -**Canis lupus**
Indiana Bat - **Myotis sodalis**
Canada Lynx - **Lynx canadensis**

Birds
Atlantic Coast Piping Plover - **Charadrius melodus**
*Birds of North America Species Account **Piping Plover***
*Atlantic Coast piping plover website **Piping Plover***
Roseate Tern – **Sterna dougallii dougallii**
*Birds of North America Species Account **Roseate Tern***

Reptiles
Bog Turtle - **Clemmys muhlenbergii**
Northern Redbelly Cooter (Plymouth redbelly turtle) **Pseudemys rubriventris bangsii**
***Northern Redbelly Cooter 5-year Review**;(pdf size 1.6MB*) May 2007*

Fish
Atlantic Salmon - **Salmo salar** (Maine only)
Maine Atlantic Salmon Atlas

Invertebrates

Insects
American Burying Beetle - **Nicrophorus americanus**
Karner Blue Butterfly - **Lycaeides melissa samuelis**
*Karner Blue Butterfly **Fact sheet***
Northeastern Beach Tiger Beetle - **Cicindela dorsalis dorsalis**
Puritan Tiger Beetle - **Cicindela puritana**
***Draft Puritan Tiger Beetle;** (pdf size 2.4MB*) 5-year Review*

Mussels
Dwarf Wedgemussel - ***Alasmidonta heterodon***
Dwarf Wedgemussel 5-Year Status Review 2007 *(pdf size 1.14MB*)*

Plants
Jesup 's Milkvetch - **Astragalus robbinsii var. jesupi**
Northeastern Bulrush - **Scirpus ancistrochaetus**
Sandplain Gerardia - **Agalinis acuta**
Small Whorled Pogonia - **Isotria medeoloides**
Seabeach Amaranth - **Amaranthus pumilus** (historic)
American Chaffseed - **Schwalbea americana** (historic)
Eastern Prairie Fringed Orchid - **Platanthera leucophaea** (Maine only)
Furbish's Lousewort - **Pedicularis furbishiae** (Maine only)

Candidate species and species recently delisted are identified below, including links for additional information regarding their status.

Candidate Species

The Service has recently completed a status assessment for the following species and determined that federally listing is "warranted, but precluded", i.e. the status of the species indicates that it should be listed but the listing is superceded by higher listing actions.

While there is currently no obligation for Federal Agencies to consult with us regarding these species, coordination is encouraged to avoid project delays that may occur as a result of the species becoming federally-listed during the planning or construction phases of a given project. In addition, the Service is interested in promoting conservation actions that may result in benefits to these species that will prevent the need to list it. Information regarding our **candidate conservation** program may help you decide if you would like to become involved.

- **New England Cottontail; Sylvilagus transitionalis**
- Red Knot **Calidris canutus rufa**; **Red Knot Fact Sheet**

Delisted Species

Bald Eagle - **Haliaeetus leucocephalus**
Bald Eagle Guidance

NCTC Eagle Cam

This Bald Eagle image is a link to a Service website that chronicles the activities of the eagle nest located on the grounds of the USFWS National Conservation Training Center near the Potomac River in Shepherdstown, West Virginia. The nest has been active for four seasons, fledging several juvenile bald eagles.

Files in PDF format will require Acrobat Reader to access the content. If you do not have a copy, please select the link [or click the image] to take you to the Adobe website where you can download a free copy. Get Adobe Acrobat Reader

Last updated: October 28, 2010

USGS Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Thu Oct 31 2013 06:05:02 Mountain Daylight Time
Site Location: Massachusetts
NAD27 Latitude: 42.3554 (42 21 19)
NAD27 Longitude: -71.0892 (-71 05 21)
NAD83 Latitude: 42.3555 (42 21 20)
NAD83 Longitude: -71.0887 (-71 05 19)
ReachCode: 01090001000111
Measure: 16.22
Drainage Area: 307 mi2
Percent Urban: 47.2 %
Percent Impervious: 19.6 %

Low Flows Basin Characteristics

100% Statewide Low Flow (307 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	307 (above max value 149)	1.61	149
Mean Basin Slope from 250K DEM (percent)	2.34	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.24	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Probability of Perennial Flow Basin Characteristics

100% Perennial Flow Probability (307 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	307 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	46.72	0	100
Percent Forest (percent)	39.41	0	100
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flows Streamflow Statistics

Statistic	Flow (ft^3/s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	329				
D60	273				
D70	189				
D75	155				
D80	122				
D85	98.4				
D90	77.3				
D95	52.4				
D98	35				
D99	29.1				
M7D2Y	55.8				
AUGD50	105				
M7D10Y	28.2				

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi2, as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics		
Statistic	**Value**	**Standard Error (percent)**
PROBPEREN	1	

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	CAM.1366
Historic Name:	New England Confectionery Company Factory
Common Name:	NECCO Candy Factory - Novartis Institutes Biotech
Address:	250 Massachusetts Ave
City/Town:	Cambridge
Village/Neighborhood:	Cambridgeport; Cambridgeport, South
Local No:	68-47,51
Year Constructed:	
Architect(s):	Harris, Hegeman Company; Lockwood, Greene and Company; Lutze, F. C.; O'Hagan, Audrey J. S.; Stubbins, Hugh and Associates; Tsoi/Kobus and Associates
Architectural Style(s):	Moderne
Use(s):	Food Processing and Packaging; Industrial Complex or District; Laboratory - Research Facility
Significance:	Architecture; Commerce; Engineering; Industry; Invention; Science; Social History
Area(s):	
Designation(s):	Nat'l Register Individual Property (11/9/2005)

The Massachusetts Historical Commission (MHC) has converted this paper record to digital format as part of ongoing projects to scan records of the Inventory of Historic Assets of the Commonwealth and National Register of Historic Places nominations for Massachusetts. Efforts are ongoing and not all inventory or National Register records related to this resource may be available in digital format at this time.

The MACRIS database and scanned files are highly dynamic; new information is added daily and both database records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

Users of this digital material acknowledge that they have read and understood the MACRIS Information and Disclaimer (http://mhc-macris.net/macrisdisclaimer.htm)

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

This file was accessed on:

Friday, November 01, 2013 at 3:49: PM

CAM. 1366

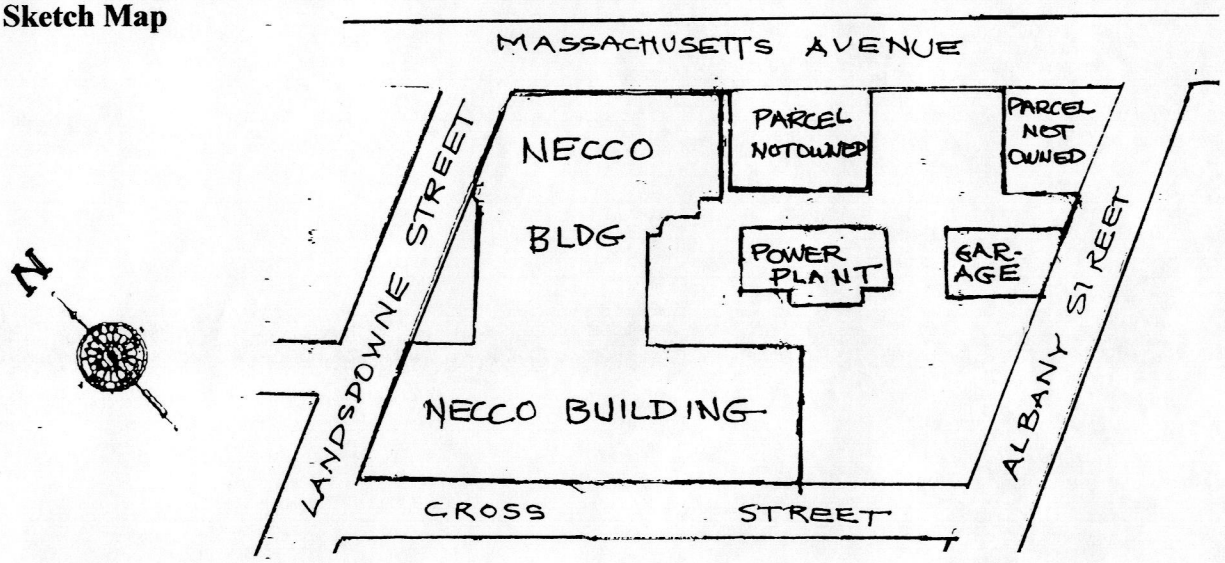
#1366

FORM B – BUILDING

Massachusetts Historical Commission
Massachusetts Archives Building
220 Morrissey Boulevard
Boston, Massachusetts 02125

Photograph
See attached plasticene pages with color photos for Determination of Eligibility

Sketch Map



Recorded by: Frederick W. Lyman

Organization: American Landmarks, LLC, Preservation Consultants

Date August, 2001

Assessor's Number USGS Quad Area(s) Form Number (All to be provided)

City: Cambridge, Massachusetts

Place Central Square/MIT environs

Address: 254 Massachusetts Avenue, Cambridge, MA 02139 (at Albany and Landsdowne Streets)

Historic Name: New England Confectionery Company

Uses: Present: Manufacture of Candies

Original: Manufacture of Candies

Date of Construction: 1925- 1927

Source: Building Records, City of Cambridge

CAM. 1366
#1366

Style/Form Moderne (Industrial)

Architect/Builder: Architects: Lockwood, Greene & Co., Architects & Engineers
(F.C.Lutze, PE Designer)
Builders: Hegeman Harris Company, Inc., Builders

Exterior Material: Reinforced Concrete with Brick and Limestone trim

Foundation: Reinforced Concrete

Wall/Trim: Buff-colored, speckled brick with limestone relief in the form of watertable, decorative trim (e.g. door enframements) and banding .

Roof: Flat (tar and gravel)

Outbuildings/Secondary Structures: Power House; Vehicle garage (3-bay) (Altered).

Major Alterations *:*

There are remarkably few alterations to the factory of any note. In 1946 most rolled steel casement and hopper window sash which had been original equipment were replaced by translucent glass block in all openings except for the windows of the 6th floor executive offices (which remained 8/8 double hung wood sash with a fixed 8-pane transom sash) and the rear SW wall. That rear elevation was gradually changed over to glass block between 1985 and 1990.

A large smoke stack which once dominated the complex was torn down in three stages over a twenty year period between the 1960s and 1980s.

A three-bay garage bulding not originally part of the complex plan was added to the plan in 1927.

Condition: Excellent

Moved No. Date (not applicable)

Acreage: 3

Setting urban industrial

McPHAIL ASSOCIATES, LLC

APPENDIX D

Laboratory Analytical Data

ANALYTICAL REPORT

Lab Number:	L1318092
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	4564/300 MASS AVE
Project Number:	4564.2.C1
Report Date:	09/23/13

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1318092-01	B2 (OW)	CAMBRIDGE	09/13/13 14:50

Project Name: 4564/300 MASS AVE **Lab Number:** L1318092

Project Number: 4564.2.C1 **Report Date:** 09/23/13

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	NO
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	4564/300 MASS AVE	**Lab Number:**	L1318092
Project Number:	4564.2.C1	**Report Date:**	09/23/13

Case Narrative (continued)

Volatile Organics

In reference to question H:

The initial calibration, associated with L1318092-01, did not meet the method required minimum response factor on the lowest calibration standard for 4-methyl-2-pentanone (0.09555) and 1,4-dioxane (0.00206), as well as the average response factor for 4-methyl-2-pentanone and 1,4-dioxane.

The continuing calibration standard, associated with L1318092-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

In reference to question H:

The WG636200-2/-3 LCS/LCSD recoveries, associated with L1318092-01, are above the acceptance criteria for 2,4-dinitrotoluene (157%/170%), 2,6-dinitrotoluene (157%/171%), 4-bromophenyl phenyl ether (141%/155%), isophorone (LCSD at 141%), bis(2-ethylhexyl)phthalate (LCSD at 146%), butyl benzyl phthalate (CSD at 157%), di-n-butylphthalate (LCSD at 146%), di-n-octylphthalate (147%/158%), diethyl phthalate (LCSD at 147%), dimethyl phthalate (LCSD at 144%), acetophenone (LCSD at 145%), 2,4,6-trichlorophenol (149%/159%), 2,4-dichlorophenol (131%/140%), 2,4-dimethylphenol (144%/142%), 2-nitrophenol (145%/155%), 2,4-dinitrophenol (LCSD at 142%), and 2,4,5-trichlorophenol (147%/160%); however, the associated samples are non-detect for these target compounds. The results of the original analysis are reported.

PCBs

In reference to question B:

At the client's request, the analytical method specified in the CAM protocol was not followed.

Metals

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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: Cynthia McQueen

Title: Technical Director/Representative Date: 09/23/13

ORGANICS

VOLATILES

Project Name: 4564/300 MASS AVE
Lab Number: L1318092
Project Number: 4564.2.C1
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID:	L1318092-01	Date Collected:	09/13/13 14:50
Client ID:	B2 (OW)	Date Received:	09/13/13
Sample Location:	CAMBRIDGE	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	14,504.1	Extraction Date:	09/16/13 11:42
Analytical Date:	09/16/13 17:01		
Analyst:	SH		

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

Project Name: 4564/300 MASS AVE
Lab Number: L1318092
Project Number: 4564.2.C1
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID: L1318092-01
Client ID: B2 (OW)
Sample Location: CAMBRIDGE
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 09/17/13 12:53
Analyst: MM

Date Collected: 09/13/13 14:50
Date Received: 09/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: 4564/300 MASS AVE **Lab Number:** L1318092

Project Number: 4564.2.C1 **Report Date:** 09/23/13

SAMPLE RESULTS

Lab ID: L1318092-01 Date Collected: 09/13/13 14:50

Client ID: B2 (OW) Date Received: 09/13/13

Sample Location: CAMBRIDGE Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Project Name: 4564/300 MASS AVE **Lab Number:** L1318092

Project Number: 4564.2.C1 **Report Date:** 09/23/13

SAMPLE RESULTS

Lab ID: L1318092-01 Date Collected: 09/13/13 14:50

Client ID: B2 (OW) Date Received: 09/13/13

Sample Location: CAMBRIDGE Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
tert-Butyl Alcohol	ND		ug/l	10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130

Project Name: 4564/300 MASS AVE
Lab Number: L1318092
Project Number: 4564.2.C1
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID:	L1318092-01	Date Collected:	09/13/13 14:50
Client ID:	B2 (OW)	Date Received:	09/13/13
Sample Location:	CAMBRIDGE	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	97,8260C-SIM		
Analytical Date:	09/18/13 13:21		
Analyst:	MM		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 09/16/13 15:41
Analyst: SH

Extraction Date: 09/16/13 11:42

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG636372-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--	A

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/13 07:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG636715-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/13 07:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG636715-3					
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/13 07:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG636715-3					
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--
tert-Butyl Alcohol	ND		ug/l	10	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C-SIM
Analytical Date: 09/18/13 06:53
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by SIM - Westborough Lab for sample(s): 01 Batch: WG637330-3					
1,4-Dioxane	ND		ug/l	3.0	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG636372-2						
1,2-Dibromoethane	109		-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	106		-		70-130	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG636715-1 WG636715-2								
Methylene chloride	92		92		70-130	0		20
1,1-Dichloroethane	97		98		70-130	1		20
Chloroform	90		91		70-130	1		20
Carbon tetrachloride	88		89		70-130	1		20
1,2-Dichloropropane	94		99		70-130	5		20
Dibromochloromethane	77		79		70-130	3		20
1,1,2-Trichloroethane	89		91		70-130	2		20
Tetrachloroethene	92		95		70-130	3		20
Chlorobenzene	93		94		70-130	1		20
Trichlorofluoromethane	86		89		70-130	3		20
1,2-Dichloroethane	90		91		70-130	1		20
1,1,1-Trichloroethane	90		93		70-130	3		20
Bromodichloromethane	87		91		70-130	4		20
trans-1,3-Dichloropropene	86		90		70-130	5		20
cis-1,3-Dichloropropene	94		93		70-130	1		20
1,1-Dichloropropene	90		92		70-130	2		20
Bromoform	83		90		70-130	8		20
1,1,2,2-Tetrachloroethane	96		98		70-130	2		20
Benzene	94		95		70-130	1		20
Toluene	93		94		70-130	1		20
Ethylbenzene	93		95		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG636715-1 WG636715-2								
Chloromethane	88		78		70-130	12		20
Bromomethane	73		75		70-130	3		20
Vinyl chloride	88		89		70-130	1		20
Chloroethane	86		85		70-130	1		20
1,1-Dichloroethene	88		90		70-130	2		20
trans-1,2-Dichloroethene	90		91		70-130	1		20
Trichloroethene	93		94		70-130	1		20
1,2-Dichlorobenzene	92		95		70-130	3		20
1,3-Dichlorobenzene	92		94		70-130	2		20
1,4-Dichlorobenzene	90		95		70-130	5		20
Methyl tert butyl ether	87		87		70-130	0		20
p/m-Xylene	93		94		70-130	1		20
o-Xylene	93		96		70-130	3		20
cis-1,2-Dichloroethene	95		99		70-130	4		20
Dibromomethane	92		92		70-130	0		20
1,2,3-Trichloropropane	92		98		70-130	6		20
Styrene	94		96		70-130	2		20
Dichlorodifluoromethane	73		74		70-130	1		20
Acetone	111		97		70-130	13		20
Carbon disulfide	82		86		70-130	5		20
2-Butanone	127		128		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG636715-1 WG636715-2								
4-Methyl-2-pentanone	103		104		70-130	1		20
2-Hexanone	106		105		70-130	1		20
Bromochloromethane	94		97		70-130	3		20
Tetrahydrofuran	98		106		70-130	8		20
2,2-Dichloropropane	91		93		70-130	2		20
1,2-Dibromoethane	92		94		70-130	2		20
1,3-Dichloropropane	93		95		70-130	2		20
1,1,1,2-Tetrachloroethane	88		90		70-130	2		20
Bromobenzene	89		93		70-130	4		20
n-Butylbenzene	93		94		70-130	1		20
sec-Butylbenzene	90		94		70-130	4		20
tert-Butylbenzene	92		96		70-130	4		20
o-Chlorotoluene	92		96		70-130	4		20
p-Chlorotoluene	91		94		70-130	3		20
1,2-Dibromo-3-chloropropane	83		83		70-130	0		20
Hexachlorobutadiene	98		97		70-130	1		20
Isopropylbenzene	92		95		70-130	3		20
p-Isopropyltoluene	92		95		70-130	3		20
Naphthalene	89		92		70-130	3		20
n-Propylbenzene	92		95		70-130	3		20
1,2,3-Trichlorobenzene	92		93		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG636715-1 WG636715-2								
1,2,4-Trichlorobenzene	90		93		70-130	3		20
1,3,5-Trimethylbenzene	94		95		70-130	1		20
1,2,4-Trimethylbenzene	93		96		70-130	3		20
Ethyl ether	89		91		70-130	2		20
Isopropyl Ether	89		89		70-130	0		20
Ethyl-Tert-Butyl-Ether	93		95		70-130	2		20
Tertiary-Amyl Methyl Ether	94		98		70-130	4		20
1,4-Dioxane	117		120		70-130	3		20
tert-Butyl Alcohol	110		113		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		94		70-130
Toluene-d8	99		97		70-130
4-Bromofluorobenzene	100		105		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by SIM - Westborough Lab Associated sample(s): 01 Batch: WG637330-1 WG637330-2								
1,4-Dioxane	72		74		70-130	3		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636372-3 QC Sample: L1317831-01 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.254	0.290	115		-	-		70-130	-		20	A

SEMIVOLATILES

Project Name: 4564/300 MASS AVE
Lab Number: L1318092
Project Number: 4564.2.C1
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID:	L1318092-01	Date Collected:	09/13/13 14:50
Client ID:	B2 (OW)	Date Received:	09/13/13
Sample Location:	CAMBRIDGE	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	97,8270D	Extraction Date:	09/15/13 09:27
Analytical Date:	09/17/13 19:17		
Analyst:	PS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--	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	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
Acetophenone	ND		ug/l	5.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1

Project Name: 4564/300 MASS AVE **Lab Number:** L1318092

Project Number: 4564.2.C1 **Report Date:** 09/23/13

SAMPLE RESULTS

Lab ID: L1318092-01 Date Collected: 09/13/13 14:50

Client ID: B2 (OW) Date Received: 09/13/13

Sample Location: CAMBRIDGE Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	53		15-110
Phenol-d6	31		15-110
Nitrobenzene-d5	81		30-130
2-Fluorobiphenyl	87		30-130
2,4,6-Tribromophenol	**117**	Q	15-110
4-Terphenyl-d14	109		30-130

Project Name: 4564/300 MASS AVE
Lab Number: L1318092
Project Number: 4564.2.C1
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID:	L1318092-01	Date Collected:	09/13/13 14:50
Client ID:	B2 (OW)	Date Received:	09/13/13
Sample Location:	CAMBRIDGE	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	97,8270D-SIM	Extraction Date:	09/15/13 09:25
Analytical Date:	09/17/13 20:58		
Analyst:	HL		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics by SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	1.1		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	0.28		ug/l	0.20	--	1
Benzo(a)pyrene	0.38		ug/l	0.20	--	1
Benzo(b)fluoranthene	0.81		ug/l	0.20	--	1
Benzo(k)fluoranthene	0.35		ug/l	0.20	--	1
Chrysene	0.59		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	0.39		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	0.48		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	0.42		ug/l	0.20	--	1
Pyrene	0.79		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		15-110
Phenol-d6	27		15-110
Nitrobenzene-d5	82		30-130
2-Fluorobiphenyl	76		30-130
2,4,6-Tribromophenol	110		15-110
4-Terphenyl-d14	113		30-130

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/17/13 18:04
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/15/13 09:27

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG636200-1					
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Isophorone	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	2.0	--
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--
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	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
Acetophenone	ND		ug/l	5.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/17/13 18:04
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/15/13 09:27

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG636200-1					
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		15-110
Phenol-d6	28		15-110
Nitrobenzene-d5	74		30-130
2-Fluorobiphenyl	77		30-130
2,4,6-Tribromophenol	83		15-110
4-Terphenyl-d14	106		30-130

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D-SIM
Analytical Date: 09/17/13 01:50
Analyst: HL

Extraction Method: EPA 3510C
Extraction Date: 09/15/13 09:25

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics by SIM - Westborough Lab for sample(s): 01 Batch: WG636201-1					
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: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D-SIM
Analytical Date: 09/17/13 01:50
Analyst: HL

Extraction Method: EPA 3510C
Extraction Date: 09/15/13 09:25

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics by SIM - Westborough Lab for sample(s): 01 Batch: WG636201-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		15-110
Phenol-d6	24		15-110
Nitrobenzene-d5	72		30-130
2-Fluorobiphenyl	70		30-130
2,4,6-Tribromophenol	74		15-110
4-Terphenyl-d14	90		30-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG636200-2 WG636200-3								
1,2,4-Trichlorobenzene	101		116		40-140	14		20
Bis(2-chloroethyl)ether	116		122		40-140	5		20
1,2-Dichlorobenzene	99		113		40-140	13		20
1,3-Dichlorobenzene	98		111		40-140	12		20
1,4-Dichlorobenzene	97		111		40-140	13		20
3,3'-Dichlorobenzidine	103		115		40-140	11		20
2,4-Dinitrotoluene	**157**	Q	**170**	Q	40-140	8		20
2,6-Dinitrotoluene	**157**	Q	**171**	Q	40-140	9		20
Azobenzene	131		140		40-140	7		20
4-Bromophenyl phenyl ether	**141**	Q	**155**	Q	40-140	9		20
Bis(2-chloroisopropyl)ether	116		122		40-140	5		20
Bis(2-chloroethoxy)methane	127		131		40-140	3		20
Isophorone	135		**141**	Q	40-140	4		20
Nitrobenzene	116		126		40-140	8		20
Bis(2-Ethylhexyl)phthalate	137		**146**	Q	40-140	6		20
Butyl benzyl phthalate	140		**157**	Q	40-140	11		20
Di-n-butylphthalate	135		**146**	Q	40-140	8		20
Di-n-octylphthalate	**147**	Q	**158**	Q	40-140	7		20
Diethyl phthalate	137		**147**	Q	40-140	7		20
Dimethyl phthalate	134		**144**	Q	40-140	7		20
Aniline	56		61		40-140	9		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG636200-2 WG636200-3								
4-Chloroaniline	84		90		40-140	7		20
Dibenzofuran	129		136		40-140	5		20
Acetophenone	138		**145**	Q	40-140	5		20
2,4,6-Trichlorophenol	**149**	Q	**159**	Q	30-130	6		20
2-Chlorophenol	118		124		30-130	5		20
2,4-Dichlorophenol	**131**	Q	**140**	Q	30-130	7		20
2,4-Dimethylphenol	**144**	Q	**142**	Q	30-130	1		20
2-Nitrophenol	**145**	Q	**155**	Q	30-130	7		20
4-Nitrophenol	50		58		30-130	15		20
2,4-Dinitrophenol	127		**142**	Q	30-130	11		20
Phenol	57		60		30-130	5		20
2-Methylphenol	114		119		30-130	4		20
3-Methylphenol/4-Methylphenol	108		113		30-130	5		20
2,4,5-Trichlorophenol	**147**	Q	**160**	Q	30-130	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG636200-2 WG636200-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	78		85		15-110
Phenol-d6	54		58		15-110
Nitrobenzene-d5	119		130		30-130
2-Fluorobiphenyl	123		**137**	Q	30-130
2,4,6-Tribromophenol	**138**	Q	**154**	Q	15-110
4-Terphenyl-d14	117		**136**	Q	30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01 Batch: WG636201-2 WG636201-3								
Acenaphthene	111		113		40-140	2		20
2-Chloronaphthalene	100		104		40-140	4		20
Fluoranthene	136		140		40-140	3		20
Hexachlorobutadiene	76		74		40-140	3		20
Naphthalene	96		93		40-140	3		20
Benzo(a)anthracene	131		137		40-140	4		20
Benzo(a)pyrene	130		136		40-140	5		20
Benzo(b)fluoranthene	132		134		40-140	2		20
Benzo(k)fluoranthene	129		**143**	Q	40-140	10		20
Chrysene	114		122		40-140	7		20
Acenaphthylene	116		113		40-140	3		20
Anthracene	139		93		40-140	**40**	Q	20
Benzo(ghi)perylene	119		121		40-140	2		20
Fluorene	111		115		40-140	4		20
Phenanthrene	127		112		40-140	13		20
Dibenzo(a,h)anthracene	126		129		40-140	2		20
Indeno(1,2,3-cd)Pyrene	123		124		40-140	1		20
Pyrene	133		134		40-140	1		20
2-Methylnaphthalene	103		100		40-140	3		20
Pentachlorophenol	95		99		30-130	4		20
Hexachlorobenzene	108		105		40-140	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01 Batch: WG636201-2 WG636201-3								
Hexachloroethane	83		81		40-140	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	71		71		15-110
Phenol-d6	47		47		15-110
Nitrobenzene-d5	116		118		30-130
2-Fluorobiphenyl	107		106		30-130
2,4,6-Tribromophenol	**138**	Q	**149**	Q	15-110
4-Terphenyl-d14	124		130		30-130

PCBS

Project Name: 4564/300 MASS AVE
Lab Number: L1318092
Project Number: 4564.2.C1
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID:	L1318092-01	Date Collected:	09/13/13 14:50
Client ID:	B2 (OW)	Date Received:	09/13/13
Sample Location:	CAMBRIDGE	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 608
Analytical Method:	5,608	Extraction Date:	09/17/13 22:01
Analytical Date:	09/20/13 19:56	Cleanup Method1:	EPA 3665A
Analyst:	KB	Cleanup Date1:	09/18/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	09/18/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	98		30-150	A

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 09/20/13 20:21
Analyst: KB

Extraction Method: EPA 608
Extraction Date: 09/17/13 22:01
Cleanup Method1: EPA 3665A
Cleanup Date1: 09/18/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 09/18/13

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG636893-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	49		30-150	A
Decachlorobiphenyl	95		30-150	A

Matrix Spike Analysis
Batch Quality Control

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636893-3 QC Sample: L1318092-01 Client ID: B2 (OW)													
Aroclor 1016	ND	1	0.776	78		-	-		40-140	-		50	A
Aroclor 1260	ND	1	0.755	76		-	-		40-140	-		50	A

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65				30-150	A
Decachlorobiphenyl	97				30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG636893-2									
Aroclor 1016	72		-		40-140	-		50	A
Aroclor 1260	73		-		40-140	-		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	52				30-150	A
Decachlorobiphenyl	92				30-150	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636893-4 QC Sample: L1317986-02 Client ID: DUP Sample							
Aroclor 1016	ND	ND	ug/l	NC		50	A
Aroclor 1221	ND	ND	ug/l	NC		50	A
Aroclor 1232	ND	ND	ug/l	NC		50	A
Aroclor 1242	ND	ND	ug/l	NC		50	A
Aroclor 1248	ND	ND	ug/l	NC		50	A
Aroclor 1254	ND	ND	ug/l	NC		50	A
Aroclor 1260	ND	ND	ug/l	NC		50	A

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		66		30-150	A
Decachlorobiphenyl	91		96		30-150	A

METALS

Project Name: 4564/300 MASS AVE
Lab Number: L1318092
Project Number: 4564.2.C1
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID: L1318092-01
Client ID: B2 (OW)
Sample Location: CAMBRIDGE
Matrix: Water

Date Collected: 09/13/13 14:50
Date Received: 09/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.0010	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Arsenic, Total	0.0006		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Cadmium, Total	0.0005		mg/l	0.0002	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Chromium, Total	0.0013		mg/l	0.0010	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Copper, Total	0.0089		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Iron, Total	0.15		mg/l	0.05	--	1	09/16/13 09:57	09/17/13 13:37	EPA 3005A	97,6010C	TT
Lead, Total	0.0033		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Mercury, Total	ND		mg/l	0.0002	--	1	09/21/13 10:30	09/23/13 14:43	EPA 7470A	97,7470A	JH
Nickel, Total	0.0010		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Selenium, Total	0.001		mg/l	0.001	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Silver, Total	ND		mg/l	0.0004	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK
Zinc, Total	0.1241		mg/l	0.0050	--	1	09/16/13 09:57	09/17/13 18:18	EPA 3005A	97,6020A	AK

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1
Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG636334-1										
Iron, Total	ND		mg/l	0.05	--	1	09/16/13 09:57	09/17/13 13:26	97,6010C	TT

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG636335-1										
Antimony, Total	ND		mg/l	0.0010	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Arsenic, Total	ND		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Cadmium, Total	ND		mg/l	0.0002	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Chromium, Total	ND		mg/l	0.0010	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Copper, Total	ND		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Lead, Total	ND		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Nickel, Total	ND		mg/l	0.0005	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Selenium, Total	ND		mg/l	0.001	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Silver, Total	ND		mg/l	0.0004	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK
Zinc, Total	ND		mg/l	0.0050	--	1	09/16/13 09:57	09/17/13 16:57	97,6020A	AK

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG637985-1										
Mercury, Total	ND		mg/l	0.0002	--	1	09/21/13 10:30	09/23/13 14:37	97,7470A	JH

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG636334-2 WG636334-3								
Iron, Total	99		100		80-120	1		20
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG636335-2 WG636335-3								
Antimony, Total	82		84		80-120	2		20
Arsenic, Total	90		95		80-120	5		20
Cadmium, Total	108		110		80-120	2		20
Chromium, Total	92		94		80-120	2		20
Copper, Total	100		102		80-120	2		20
Lead, Total	97		101		80-120	4		20
Nickel, Total	100		101		80-120	1		20
Selenium, Total	99		102		80-120	3		20
Silver, Total	94		99		80-120	5		20
Zinc, Total	104		105		80-120	1		20
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG637985-2 WG637985-3								
Mercury, Total	101		104		80-120	3		20

INORGANICS
&
MISCELLANEOUS

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

SAMPLE RESULTS

Lab ID: L1318092-01
Client ID: B2 (OW)
Sample Location: CAMBRIDGE
Matrix: Water

Date Collected: 09/13/13 14:50
Date Received: 09/13/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	09/14/13 02:00	09/14/13 02:36	97,7196A	EL
General Chemistry - Westborough Lab										
Chromium, Trivalent	ND		mg/l	0.010	--	1	-	09/19/13 14:19	107,-	JO
Solids, Total Suspended	30.		mg/l	5.0	NA	1	-	09/16/13 12:15	30,2540D	DW
TPH	ND		mg/l	4.00	--	1	09/17/13 07:15	09/17/13 14:00	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab										
Chloride	159.		mg/l	25.0	--	50	-	09/17/13 02:43	44,300.0	AU

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1
Lab Number: L1318092
Report Date: 09/23/13

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab for sample(s): 01 Batch: WG636077-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	09/14/13 02:00	09/14/13 02:34	97,7196A	EL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG636294-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/16/13 12:15	30,2540D	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG636685-1										
TPH	ND		mg/l	4.00	--	1	09/17/13 07:15	09/17/13 14:00	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG636914-1										
Chloride	ND		mg/l	0.500	--	1	-	09/16/13 22:06	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: 4564/300 MASS AVE

Project Number: 4564.2.C1

Lab Number: L1318092

Report Date: 09/23/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG636077-2 WG636077-3								
Chromium, Hexavalent	107		104		80-120	3		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG636685-2								
TPH	85		-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG636914-2								
Chloride	105		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636685-4 QC Sample: L1318092-01 Client ID: B2 (OW)												
TPH	ND	20.4	16.9	83		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636914-3 QC Sample: L1317873-04 Client ID: MS Sample												
Chloride	333	100	433	100		-	-		40-151	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636294-2 QC Sample: L1318026-01 Client ID: DUP Sample						
Solids, Total Suspended	110	110	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636685-3 QC Sample: L1317986-01 Client ID: DUP Sample						
TPH	9.59	9.48	mg/l	1		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636914-4 QC Sample: L1317873-04 Client ID: DUP Sample						
Chloride	333	333.	mg/l	0		18

Project Name: 4564/300 MASS AVE
Project Number: 4564.2.C1

Lab Number: L1318092
Report Date: 09/23/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1318092-01A	Vial HCl preserved	B	N/A	2	Y	Absent	MCP-8260SIM-10(14),MCP-8260-10(14)
L1318092-01B	Vial HCl preserved	B	N/A	2	Y	Absent	MCP-8260SIM-10(14),MCP-8260-10(14)
L1318092-01C	Vial HCl preserved	B	N/A	2	Y	Absent	MCP-8260SIM-10(14),MCP-8260-10(14)
L1318092-01D	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	504(14)
L1318092-01E	Vial Na2S2O3 preserved	B	N/A	2	Y	Absent	504(14)
L1318092-01F	Plastic 250ml unpreserved	B	7	2	Y	Absent	CL-300(28)
L1318092-01G	Plastic 250ml HNO3 preserved	B	<2	2	Y	Absent	MCP-FE-6010T-10(180),MCP-CR-6020T-10(180),MCP-7470T-10(28),MCP-CU-6020T-10(180),MCP-ZN-6020T-10(180),MCP-AS-6020T-10(180),MCP-NI-6020T-10(180),MCP-AG-6020T-10(180),MCP-CD-6020T-10(180),MCP-SE-6020T-10(180),MCP-PB-6020T-10(180),MCP-SB-6020T-10(180)
L1318092-01H	Plastic 500ml unpreserved	B	7	2	Y	Absent	MCP-HEXCR7196-10(1)
L1318092-01I	Plastic 1000ml unpreserved	A	7	4	Y	Absent	TSS-2540(7)
L1318092-01J	Amber 1000ml Na2S2O3	B	7	2	Y	Absent	PCB-608(7)
L1318092-01K	Amber 1000ml Na2S2O3	B	7	2	Y	Absent	PCB-608(7)
L1318092-01L	Amber 1000ml unpreserved	B	7	2	Y	Absent	MCP-8270SIM-10(7)
L1318092-01M	Amber 1000ml unpreserved	A	7	4	Y	Absent	MCP-8270SIM-10(7)
L1318092-01N	Amber 1000ml unpreserved	B	7	2	Y	Absent	MCP-8270-10(7)
L1318092-01O	Amber 1000ml unpreserved	B	7	2	Y	Absent	MCP-8270-10(7)
L1318092-01P	Amber 1000ml HCl preserved	B	N/A	2	Y	Absent	TPH-1664(28)
L1318092-01Q	Amber 1000ml HCl preserved	A	N/A	4	Y	Absent	TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name:	4564/300 MASS AVE	**Lab Number:**	L1318092
Project Number:	4564.2.C1	**Report Date:**	09/23/13

GLOSSARY

Acronyms

EDL - Estimated 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 EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

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.

LFB - Laboratory Fortified Blank: 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.

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.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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

A - Spectra identified as "Aldol Condensation Product".

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 ten times (10x) 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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - 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.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report

Project Name:	4564/300 MASS AVE	**Lab Number:**	L1318092
Project Number:	4564.2.C1	**Report Date:**	09/23/13

Data Qualifiers

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	4564/300 MASS AVE	**Lab Number:**	L1318092
Project Number:	4564.2.C1	**Report Date:**	09/23/13

REFERENCES

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.

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.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

107 Alpha Analytical - In-house calculation method.

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 August 29, 2013 - 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, Nickel, Selenium, Silver, Sodium, Thallium, 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) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

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, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

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, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, 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, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

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, SM4500Cl-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), LACHAT 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, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, 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, 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, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2064. ***NELAP Accredited.***
Drinking Water (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

Non-Potable Water (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

Solid & Chemical Materials (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

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, 245.1, 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, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, 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, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 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, 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, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***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, 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, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$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.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm

9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B 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, 6010C, 6020A, 245.1, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 351.1, 353.2, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500Norg-C, 4500NO3-F, 5310C, 2130B, 2320B, 2340B, 2540C, 5540C, 3005A, 3015, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A, 8082A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010C, 6020A, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9040B, 9045C, 9010C, 9012B, 9251, SM3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A/B-prep, 8082A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Serial_No:09231317:36

CHAIN OF CUSTODY

ALPHA ANALYTICAL — World Class Chemistry

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

1/5

Date Rec'd in Lab: 9/13/13

ALPHA Job #: L1318092

Project Information

Project Name: 4564/300 Mass Ave
Project Location: Cambridge
Project #: 4564.2.C1
Project Manager: Bill Burns
ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

Client: McPhail Associates
Address: 2269 Mass Ave, Cambridge MA 02140
Phone: 617-868-1420
Email:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program ____ Criteria ____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 9/20/2013

Additional Project Information:

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
NPDES RGP Package

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS (MCP)	METALS (RCRA)	EPH	VPH	PCB/PEST	TPH	NPDES RGP Package					Sample Comments	TOTAL # BOTTLES
18092-01	B2 (OW)	9/13/13	2:50	GW	SC									X						17

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Stephane Chardulle	9/13/13 3:30	[signature]	9/13/13 16:30
[signature]	9/13/13 1800	William McCleod	9/13/13 1800

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1318092

Instrument ID: Jack.i Calibration Date: 17-SEP-2013 Time: 05:23

Lab File ID: 0917A04 Init. Calib. Date(s): 03-SEP-2 03-SEP-2

Sample No: 8260 CCAL Init. Calib. Times : 05:54 09:07

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.4708	.34194	.1	-27	20	F
chloromethane	.41049	.36128	.1	-12	20	
vinyl chloride	.6328	.55908	.1	-12	20	
bromomethane	100	73.455	.1	-27	20	F
chloroethane	.37297	.32019	.1	-14	20	
trichlorofluoromethane	.79451	.68429	.1	-14	20	
ethyl ether	.21327	.19071	.05	-11	20	
1,1,-dichloroethene	.49303	.43491	.1	-12	20	
carbon disulfide	1.3095	1.0793	.1	-18	20	
freon-113	.5208	.45742	.1	-12	20	
iodomethane	.59422	.31276	.05	-47	20	F
acrolein	.03712	.06249	.05	68	20	F
methylene chloride	.5626	.51997	.1	-8	20	
acetone	100	111	.1	11	20	
trans-1,2-dichloroethene	.52677	.47464	.1	-10	20	
methyl acetate	.22335	.20728	.1	-7	20	
methyl tert butyl ether	.86931	.75416	.1	-13	20	
tert butyl alcohol	.01796	.0197	.05	10	20	F
Diisopropyl Ether	1.5649	1.3891	.01	-11	20	
1,1-dichloroethane	.99566	.96192	.2	-3	20	
acrylonitrile	.11413	.11126	.05	-3	20	
Halothane	.30611	.30579	.05	0	20	
Ethyl-Tert-Butyl-Ether	1.2231	1.1368	.05	-7	20	
vinyl acetate	.80014	.71265	.05	-11	20	
cis-1,2-dichloroethene	.60687	.57392	.1	-5	20	
2,2-dichloropropane	.74228	.67366	.05	-9	20	
cyclohexane	.94018	.8973	.01	-5	30	
bromochloromethane	.27412	.25893	.05	-6	20	
chloroform	.9989	.89841	.2	-10	20	
carbontetrachloride	.73816	.64617	.1	-12	20	
tetrahydrofuran	.0972	.09565	.05	-2	20	
ethyl acetate	.26967	.25278	.05	-6	20	
1,1,1-trichloroethane	.85224	.76619	.1	-10	20	
1,1-dichloropropene	.7277	.65749	.05	-10	20	
2-butanone	.12303	.15605	.1	27	20	F
benzene	2.1226	2.0002	.5	-6	20	
Tertiary-Amyl Methyl Ether	.91877	.86541	.05	-6	20	
1,2-dichloroethane	.63884	.57236	.1	-10	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1318092

Instrument ID: Jack.i Calibration Date: 17-SEP-2013 Time: 05:23

Lab File ID: 0917A04 Init. Calib. Date(s): 03-SEP-2 03-SEP-2

Sample No: 8260 CCAL Init. Calib. Times : 05:54 09:07

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
methyl cyclohexane	.70291	.6451	.01	-8	30	
trichloroethene	.51282	.47723	.2	-7	20	
dibromomethane	.27249	.25017	.05	-8	20	
1,2-dichloropropane	.51458	.48419	.1	-6	20	
bromodichloromethane	.6346	.55338	.2	-13	20	
1,4-dioxane	.00218	.00254	.05	17	20	F
2-chloroethylvinyl ether	.04267	.11616	.05	172	20	F
cis-1,3-dichloropropene	.71284	.67168	.2	-6	20	
toluene	1.6320	1.5118	.4	-7	20	
tetrachloroethene	.66982	.61404	.2	-8	20	
4-methyl-2-pentanone	.08985	.09224	.1	3	20	F
trans-1,3-dichloropropene	.64474	.55373	.1	-14	20	
1,1,2-trichloroethane	.3437	.30509	.1	-11	20	
ethyl-methacrylate	.49263	.46181	.01	-6	30	
chlorodibromomethane	100	76.949	.1	-23	20	F
1,3-dichloropropane	.72201	.66966	.05	-7	20	
1,2-dibromoethane	.40153	.37086	.1	-8	20	
2-hexanone	.18978	.20123	.1	6	20	
chlorobenzene	1.8040	1.6747	.5	-7	20	
ethyl benzene	3.0032	2.7983	.1	-7	20	
1,1,1,2-tetrachloroethane	.55482	.48834	.05	-12	20	
p/m xylene	1.2052	1.1243	.1	-7	20	
o xylene	1.1634	1.0852	.3	-7	20	
bromoform	100	83.310	.1	-17	20	
styrene	1.9046	1.7952	.3	-6	20	
isopropylbenzene	4.8573	4.4522	.1	-8	20	
bromobenzene	1.3290	1.1862	.05	-11	20	
n-propylbenzene	5.0736	4.6831	.05	-8	20	
1,4-dichlorobutane	1.2942	1.1980	.01	-7	30	
1,1,2,2,-tetrachloroethane	.79873	.7695	.3	-4	20	
4-ethyltoluene	4.8199	4.4523	.05	-8	20	
2-chlorotoluene	3.8909	3.5718	.05	-8	20	
1,2,3-trichloropropane	.6565	.60654	.05	-8	20	
1,3,5-trimethybenzene	3.8922	3.6381	.05	-7	20	
trans-1,4-dichloro-2-butene	.2384	.23251	.05	-2	20	
4-chorotoluene	3.5995	3.2657	.05	-9	20	
tert-butylbenzene	3.0862	2.8426	.05	-8	20	
1,2,4-trimethylbenzene	3.8890	3.6194	.05	-7	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1318092

Instrument ID: Jack.i Calibration Date: 17-SEP-2013 Time: 05:23

Lab File ID: 0917A04 Init. Calib. Date(s): 03-SEP-2 03-SEP-2

Sample No: 8260 CCAL Init. Calib. Times : 05:54 09:07

Compound	RRF	RRF	MIN RRF	%D	MAX %D
sec-butylbenzene	4.2593	3.8483	.01	-10	20
p-isopropyltoluene	3.6493	3.3711	.05	-8	20
1,3-dichlorobenzene	2.3838	2.1837	.6	-8	20
1,4-dichlorobenzene	2.4358	2.1908	.5	-10	20
p-diethylbenzene	2.0486	1.8701	.05	-9	20
n-butylbenzene	2.8445	2.6376	.05	-7	20
1,2-dichlorobenzene	2.2102	2.0334	.4	-8	20
1,2,4,5-tetramethylbenzene	3.2845	3.0501	.05	-7	20
1,2-dibromo-3-chloropropane	.12706	.1053	.05	-17	20
1,3,5-trichlorobenzene	.67965	.68083	.05	0	20
1,2,4-trichlorobenzene	1.2001	1.0843	.2	-10	20
hexachlorobutadiene	.45686	.44556	.05	-2	20
naphthalene	2.6612	2.3567	.05	-11	20
1,2,3-trichlorobenzene	1.0162	.93464	.05	-8	20
dibromofluoromethane	.27818	.27326	.05	-2	20
1,2-dichloroethane-d4	.26535	.24531	.05	-8	20
toluene-d8	1.2231	1.2141	.01	-1	20
4-bromofluorobenzene	.86426	.8652	.05	0	20

FORM VII MCP-8260-10

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APPENDIX E

Best Management Practice 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 dewatering that will occur during the 300 Massachusetts Avenue project site located in Cambridge, 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

If groundwater is encountered during construction, dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavations directly into a settling tank. The effluent will then flow through any necessary treatment systems and discharge through hoses into a storm water catch basins located off of Blanche Street and Green Street. Based upon a review of the City of Cambridge on-line stormwater drain GIS database, the stormwater drains beneath Blanch Street and Green Street ultimately discharges into the Charles River. Dewatering effluent treatment will consist of bag filters and granular activated carbon filtration to remove suspended soil particulates and petroleum constituents prior to off-site discharge.

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 days 1and 3 of initial discharge 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

McPHAIL ASSOCIATES, LLC

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 settling tanks, bag filters, carbon filter system, 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 Contractor.

Miscellaneous Items

It is anticipated that the erosion control measures and the nature of the site will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control. Site security for the treatment system will be covered within the overall site security plan.

No adverse affects on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is the Charles River which is located approximately 0.5 miles to the southeast of the subject site. Dewatering effluent will be pumped into a settling tank. Water within the settling tank will pumped through bag filters and a granular activated carbon filter in series prior to discharge into the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly to the treatment system from the excavation with use of hoses and localized sumps to minimize handling. The Contractor will establish staging areas for equipment or materials storage that may be possible sources of pollution away from any dewatering activities, to the extent practicable.

Sediment from the tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. The spent carbon will be recycled and/or removed from the site to an appropriate receiving facility. Bag filters will be disposed of as necessary.