



**NOTICE OF INTENT FOR DISCHARGE
PURSUANT TO MASSACHUSETTS
REMEDATION GENERAL PERMIT
MAG910000**

**600 MASSACHUSETTS AVENUE
CAMBRIDGE, MASSACHUSETTS**

JANUARY 25, 2021

Prepared For:

United States Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code OEP06-01
Boston, MA 02109-3912

On Behalf Of:

NEI General Contracting
27 Pacella Park Drive
Randolph, MA 02368

2269 Massachusetts Avenue
Cambridge, MA 02140
www.mcphailgeo.com
(617) 868-1420

PROJECT NO. 6691



January 25, 2021

United States Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code OEP06-01
Boston, MA 02109-3912

Attention: EPA/OEP RGP Applications Coordinator
Reference: 600 Massachusetts Avenue; Cambridge, Massachusetts
Notice of Intent for Temporary Construction Dewatering Discharge;
Massachusetts Remediation General Permit MAG910000

Ladies and Gentlemen:

On behalf of NEI General Contracting, McPhail Associates, LLC (McPhail) has prepared the attached Notice of Intent (NOI) for coverage under the Remediation General Permit (RGP) MAG910000 for the discharge of construction dewatering effluent into the Charles River via the City of Cambridge drainage system. The temporary construction dewatering discharge will occur during redevelopment of the property located at 600 Massachusetts Avenue in Cambridge, Massachusetts (subject site). Refer to **Figure 1** for the general site locus.

These services were performed and this permit application was prepared in accordance with the authorization of Cifrino Mass Ave Realty LLC. These services are subject to the limitations contained in **Appendix A**.

This project is considered Activity Category III-G as defined in the RGP. Category III-G is defined as Contaminated Site Dewatering from Sites with Known Contamination. Based on current groundwater analysis completed at the subject site, the constituents of concern (COCs) are those identified under subcategory A (inorganics). The Notice of Intent (NOI) Form contained in the RGP permit is included in **Appendix B**.

APPLICANT/OPERATOR

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

NEI General Contracting
27 Pacella Park Drive
Randolph, MA 02368

Attention: Mr. Michael Martin

Tel: 781-356-7666
Email: mmartin@neigc.com



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EXISTING SITE CONDITIONS

The subject site is comprised of the properties identified as 596-600 Massachusetts Avenue that are bounded by Green Street to the south and Massachusetts Avenue to the north. The subject site abuts existing buildings to the east and west which are located within a city block that is bounded by River and Pearl Streets. The boundaries of the subject site, which define the limits of our work, are shown on the enclosed **Figure 2**.

The approximately 22,000 square-foot subject site is occupied by a 4-story brick building and its remaining portions are occupied by a single-story building that are constructed on a common foundation. The common foundation occupies the entire area of the subject site and contains one level of below grade space, the bottom of which is located at about Elevation +17.8. The average ground surface level along Massachusetts Avenue and Green Street is at about Elevation +26 and Elevation +24, respectively. Elevations referenced herein are in feet and refer to the Cambridge City Base (CCB) Datum.

REDEVELOPMENT

The redevelopment of the subject site is understood to include the demolition of the eastern portion of the one-story building and replacement with a new six-story structure that will consist of residential units on the upper levels and commercial space on the first level. The existing four-story building is planned to be renovated. Based on our correspondence with the design team, the lowest level floor slab within the southern portion of the existing one-story building will be lowered by about 3 feet below the existing lowest level floor slab, from approximately Elevation +17.8 to about Elevation +14.8.

SITE ENVIRONMENTAL SETTING AND SURROUNDING HISTORICAL PLACES

Based on an online edition of the Massachusetts Geographic Information Systems MassDEP Phase I Map, the subject site is not located within the boundaries of a Sole Source Aquifer, Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. Further, there are no public drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, no habitats of Species of Special Concern or Threatened or Endangered Species within specified distances of the subject site. The Phase I Map indicates that there are no water bodies or wetland areas at the subject site. The closest body of water is the Charles River located approximately 3,500 feet to west and south of the subject site. No areas designated as solid waste sites (landfills) are noted as being located within 1,000 feet of the site. A copy of the MassDEP Phase I Map is included in **Appendix C**.

A review of information provided by the U.S. Fish and Wildlife Service in an Information for Planning and Conservation (IPaC) Trust Resource Report for the subject site did not identify the presence of threatened or endangered species at or in the vicinity of the discharge location and/or discharge outfall. Further, the Trust Resource Report did not identify the presence of a critical habitat in the vicinity of the discharge outfall and/or discharge location. Based upon the above, the site is considered a Criterion A pursuant to Appendix IV



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of the RGP. A copy of the IPaC Trust Resource Report and U.S. Fish and Wildlife Service's Nationwide Standard Conservation Measures are included in **Appendix C**.

The subject site building, listed at 596-610 Massachusetts Avenue that was constructed in 1899, is listed by the Massachusetts Historical Commission (MHC) under MHC# CAM 632 and under the historic name of Manhattan Market – Purity Supreme Super Market. The subject site property is further identified by the National Register of Historic Places as part of the larger Central Square Historic District listed under Reference #900000128. A copy of the State of Massachusetts MACRIS report is included in **Appendix C**. As further discussed below, treated construction dewatering effluent will be discharged into the City of Cambridge drain system that flows into the Charles River. The dewatering of groundwater at the subject site during redevelopment activities will be temporary and intermittent, and groundwater discharged as part of the redevelopment will be controlled and monitored. Treatment systems will consist of temporary structures. Therefore, based on the anticipated duration of construction dewatering and the location of its discharge into the Charles River, construction dewatering activities are not considered to affect the historical elements of the subject site historical listings. Hence, the site meets Permit Eligibility Criterion B in accordance with Appendix III of the RGP.

SITE AND RELEASE HISTORY

Based on available historical records, the subject site was likely developed in the 1820's. The existing subject site building was constructed between 1897 and 1902 based on Sanborn Fire Insurance Maps of the Central Square area and was utilized as the Manhattan Market from as early as 1888 to about 1938, then as a bakery from as early as 1934 to sometime between 1950 and 1974. Reportedly, new building facades were constructed in 1938-1939. Since 1974, Supreme Liquors has occupied the subject site building.

Based upon a review of the MassDEP online database for Waste Site and Reportable Releases, the subject site is not a listed release site.

CONSTRUCTION SITE DEWATERING DETAILS

Excavation for the proposed lowest level slab will extend to approximately Elevation +14.8 and excavation for foundation bearings surfaces is anticipated to extend to below recorded groundwater levels, which range from about Elevation +12.8 to Elevation +12.3. Given the proposed depth of the footing bearing surfaces below the existing groundwater level, it is anticipated that localized sumping will control groundwater flow into the footing excavations. It is anticipated that the rate of construction dewatering to facilitate excavation will be on the order of 50 to 100 gallons per minute (gpm). This estimate does not include surface run-off which will be removed from the excavation during periods of precipitation.

Given that the common foundation of the existing buildings occupy the entire area of the subject site, temporary on-site collection and recharge of groundwater is not feasible as part of the proposed construction activities. As a result, construction dewatering will require



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the discharge of collected groundwater into the municipal storm drain system under the requested Remediation General Permit.

The location of the relevant stormwater catch basin in relation to the subject site and the flow path of the discharge is shown in plans provided by the City of Cambridge drainage system which is included in **Figure 3** and **Appendix B**. A review of available subgrade utility plans provided by the City of Cambridge indicates that stormwater is collected within catch basins along Green Street and connects to the stormwater drain system. The stormwater drains beneath this portion of Green Street runs east underneath Pearl Street, north toward Massachusetts Avenue then south beneath Brookline Street, and east beneath Pacific Street before running under railroad tracks and running south underneath Endicott Street to Outfall No. D10 into the Charles River.

SUMMARY OF GROUNDWATER ANALYSIS

In May and December 2020, McPhail obtained samples of groundwater at the subject site from observation well B-2(OW). The groundwater samples were submitted to a certified laboratory for analysis for the presence of Type A (Inorganics) compounds required to be tested for under the EPA's Remediation General Permit (RGP) application as well as Extractable Petroleum Hydrocarbons (EPH), Organochlorine Pesticides, Polychlorinated Biphenyls (PCBs), Semi-Volatile Organic Compounds (SVOCs), and VOCs. Analytical results of the testing of the above referenced groundwater samples that were obtained are summarized on the enclosed **Table 1**. Laboratory data is included in **Appendix D**.

An upstream surface water sample was obtained from the Charles River (42° 21' 20" N, 71° 05' 45" W) in October 2020 and analyzed for the presence of pH, total metals, hardness, and ammonia. Analytical results of the testing of the above referenced sample that was obtained are summarized on the enclosed **Table 2**. Laboratory data is included in **Appendix E**.

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 15.97 MGD thus resulting in a DF of 111.9 assuming a design flow rate of 100 GPM.

With the exception of arsenic, iron, and total suspended solids (TSS), results of laboratory testing did not detect concentrations of the tested compounds in excess of the Water Quality-Based Effluent Limitations (WQBELs). It is noted that the concentrations of arsenic and iron did not exceed applicable MCP reporting thresholds established in Appendix VI of the RGP. Documentation of NOI support calculations is included in **Appendix B**. It is anticipated that the construction dewatering treatment system that is discussed below will



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reduce concentrations of arsenic, iron, and TSS in the effluent to below the applicable TBELs.

In accordance with the RGP, the proposed dewatering associated with this permit application is considered Contaminated/Formerly Contaminated Site Dewatering (Category III). Given that the site contamination is considered "Known," this project is considered Activity Category III-G as defined in the RGP. Based on the activity category, and in accordance with the RGP, contamination Type A: Inorganics, as defined in Table 2 of the RGP apply to the discharge.

GROUNDWATER TREATMENT

Based upon the anticipated rates of construction dewatering in conjunction with the results of the above referenced groundwater analyses, it is our opinion that one 10,000-gallon capacity settling tank and bag filters in series will be necessary to settle out and remove particulate matter and thus reduce levels of metals in the effluent to meet allowable discharge limits established by the US EPA prior to discharge. A schematic of the treatment system is shown on **Figure 4**.

A Best Management Practices Plan (BMPP) has been prepared as **Appendix F** 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 summarize site environmental conditions and groundwater data to support a Notice of Intent to discharge under the Remediation General Permit for the off-site discharge of dewatered groundwater which will be encountered during the redevelopment of the property located at 600 Massachusetts Avenue in Cambridge, Massachusetts. 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, treatment of construction dewatering will be necessary to meet the effluent limits established by the US EPA prior to off-site discharge. The proposed construction dewatering effluent treatment system will consist of one 10,000-gallon capacity settling tank with bag filters in series. However, should the effluent monitoring results identify concentrations of contaminants that are in excess of the limits established by the RGP, additional mitigative measures will be implemented to meet the allowable discharge limits.



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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

A handwritten signature in blue ink, appearing to read "Kathryn E. Hanrahan".

Kathryn E. Hanrahan

A handwritten signature in blue ink, appearing to read "William J. Burns".

William J. Burns, L.S.P., L.E.P.

N:\Working Documents\Reports\6691_600MassAveCambridge_RGP_012521.docx

KEH/wjb

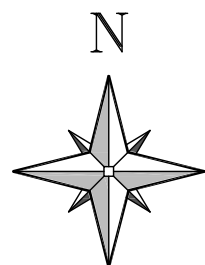


FIGURES

FIGURE I



Geotechnical and
 Geoenvironmental Engineers
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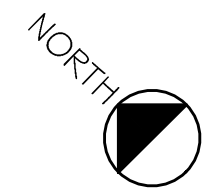
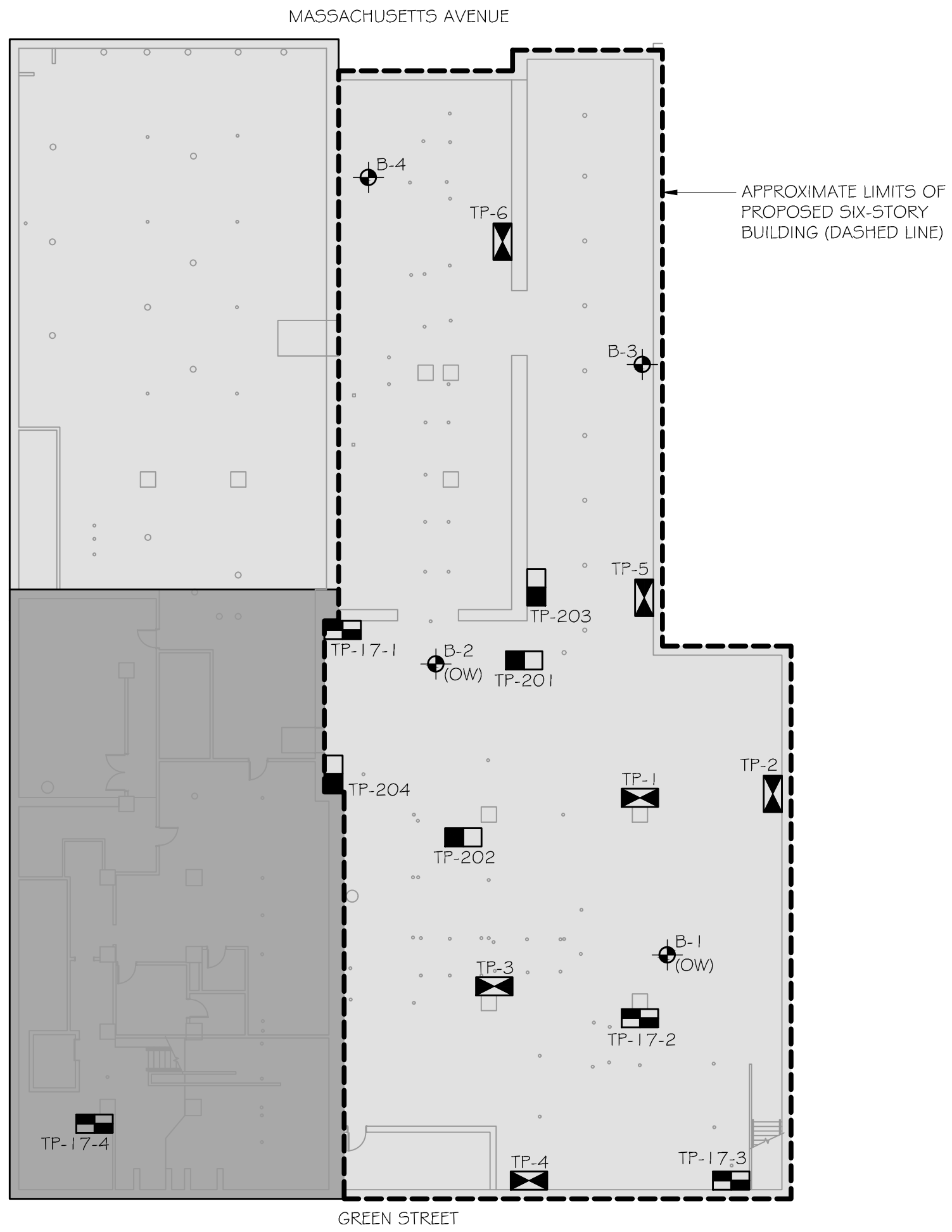
SCALE 1:25,000

PROJECT LOCATION PLAN







600 MASSACHUSETTS AVENUE

CAMBRIDGE

MASSACHUSETTS



LEGEND

-  — APPROXIMATE LOCATION OF TEST PIT PERFORMED BY OTHERS FOR McPHAIL ASSOCIATES, LLC
-  — APPROXIMATE LOCATION OF TEST PIT PERFORMED BY CRYAN LANDSCAPE CONTRACTORS, INC. FOR GZA
-  — APPROXIMATE LOCATION OF TEST PIT PERFORMED BY OTHERS FOR McPHAIL ASSOCIATES, LLC
-  — APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. ON NOVEMBER 6, 2018 FOR McPHAIL ASSOCIATES, LLC
- (OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE
-  — APPROXIMATE LIMITS OF EXISTING ONE-STORY PORTION OF BUILDING
-  — APPROXIMATE LIMITS OF FOUR-STORY PORTION OF BUILDING

REFERENCE: THIS PLAN WAS PREPARED FROM A DRAWING ENTITLED, "600 MASS AVE - FLOOR PLAN - EXISTING 00 BASEMENT" PROVIDED BY PETER QUINN ARCHITECTS, LLC



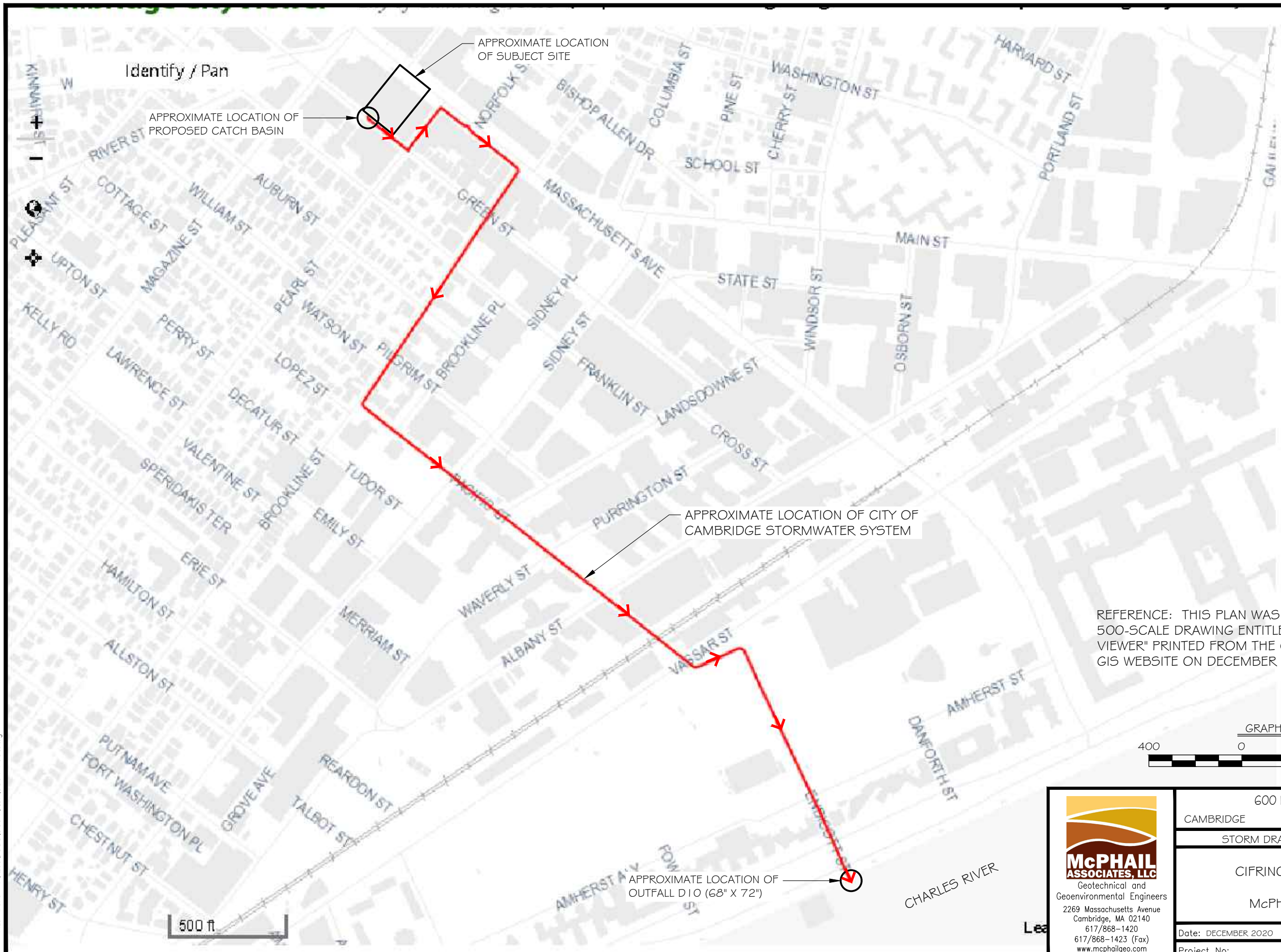
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600 MASSACHUSETTS AVENUE			
CAMBRIDGE		MASSACHUSETTS	
SUBSURFACE EXPLORATION PLAN			
FOR			
CIFRINO MASS AVE REALTY LLC			
BY			
McPHAIL ASSOCIATES, LLC			
Date: MAY 2020	Dwn: M.B.S.	Chkd: C.M.E.	Scale: 1" = 20'
Project No: 6691			

FIGURE 3



Identify / Pan

APPROXIMATE LOCATION OF PROPOSED CATCH BASIN

APPROXIMATE LOCATION OF SUBJECT SITE

APPROXIMATE LOCATION OF CITY OF CAMBRIDGE STORMWATER SYSTEM

APPROXIMATE LOCATION OF OUTFALL D10 (68" X 72")

REFERENCE: THIS PLAN WAS PREPARED FROM A 500-SCALE DRAWING ENTITLED "CAMBRIDGE CITY VIEWER" PRINTED FROM THE CITY OF CAMBRIDGE GIS WEBSITE ON DECEMBER 2, 2020



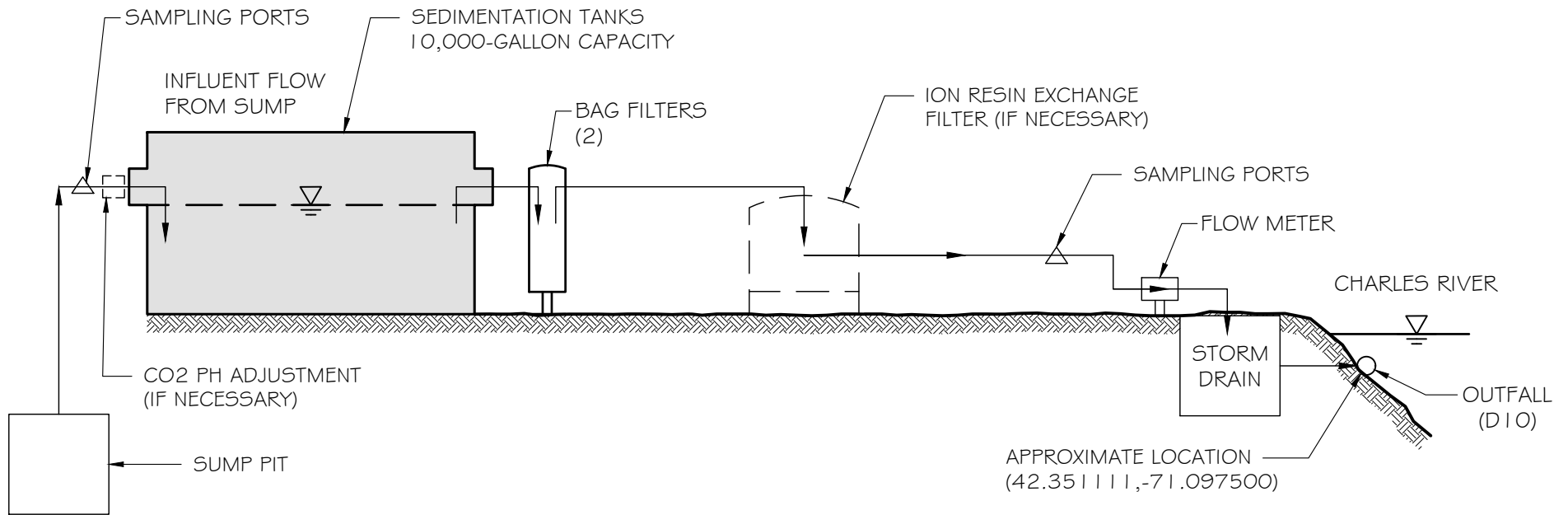
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600 MASSACHUSETTS AVENUE	
CAMBRIDGE	MASSACHUSETTS
STORM DRAIN DISCHARGE FLOW PATH PLAN	
FOR	
CIFRINO MASS AVE REALTY LLC	
BY	
McPHAIL ASSOCIATES, LLC	
Date: DECEMBER 2020	Dwn: F.G.P. Chkd: K.E.H.
Project No: 6691	Scale: 1" = 400'

FIGURE 4



 <p>McPHAIL ASSOCIATES, LLC Geotechnical and Geoenvironmental Engineers 2269 Massachusetts Avenue Cambridge, MA 02140 617/868-1420 617/868-1423 (Fax) www.mcphailgeo.com</p>	600 MASSACHUSETTS AVENUE	
	CAMBRIDGE	MASSACHUSETTS
	SCHEMATIC OF TREATMENT SYSTEM	
	FOR CIFRINO MASS AVE REALTY LLC BY McPHAIL ASSOCIATES, LLC CONSULTING GEOTECHNICAL ENGINEERS	
Date: DECEMBER 2020	Dwn: F.G.P.	Chkd: K.E.H.
Project No: 6691	Scale: N.T.S.	



TABLES

TABLE 1
Laboratory Analytical Results - Groundwater

600 Massachusetts Ave
Cambridge, MA
McPhail Project No. 6691

LOCATION	DEP RCGW-2	Technology Based Effluent Limitation	Water Quality Based Effluent Limitation	B-2(OW)
SAMPLING DATE				5/13/2020
LAB SAMPLE ID				L2019722-01
				L2019722-01 R
				L2053769-01
SAMPLE TYPE				WATER
A. Inorganics				
Ammonia (mg/L)				0.23
Chloride (µg/L)				1180000
Total Residual Chlorine (mg/L)		0.2	0.011	0.07
Total Suspended Solids (mg/L)		30		69
Antimony (µg/L)	8000	206	640	ND(50)
Arsenic (µg/L)	900	104	10	40
Cadmium (µg/L)	4	10.2	0.25	ND(5)
Total Chromium (µg/L)	300			3.81
Chromium, Trivalent (µg/L)		323	74	ND(10)
Chromium, Hexavalent (µg/L)		323	11	ND(10)
Copper (µg/L)	1000	242	9	ND(10)
Iron (µg/L)		5000	1000	3730
Lead (µg/L)	10	160	2.5	ND(10)
Mercury (µg/L)	20	0.739	0.77	ND(0.2)
Nickel (µg/L)	200	1450	52	ND(25)
Selenium (µg/L)	100	235.8	5	ND(10)
Silver (µg/L)	7	35.1	3.2	ND(7)
Zinc (µg/L)	900	420	120	ND(50)
Cyanide (mg/L)		178	0.0052	ND(0.005)
Hardness (mg/L)				699
pH (H)		6.5-8.3	6.5-8.3	7
B. Non-Halogenated VOCs				
Total BTEX (µg/L)		100		ND(10)
Benzene (µg/L)	1000	5		ND(10)
1,4 Dioxane (µg/L)		200		-
Acetone (mg/L)	50	7.97		ND(0.1)
Phenol (µg/L)	2000	1,080	300	ND(5)
C. Halogenated VOCs				
Carbon Tetrachloride (µg/L)	2	4.4	1.6	ND(10)
1,2 Dichlorobenzene (µg/L)	2000	600		ND(50)
1,3 Dichlorobenzene (µg/L)	6000	320		ND(50)
1,4 Dichlorobenzene (µg/L)	60	5.0		ND(50)
Total dichlorobenzene (µg/L)		763		-
1,1 Dichloroethane (µg/L)	2000	70		ND(15)
1,2 Dichloroethane (µg/L)	5	5.0		ND(15)
1,1 Dichloroethylene (µg/L)	80	3.2		ND(10)
Ethylene Dibromide (µg/L)		0.05		-
Methylene Chloride (µg/L)	2000	4.6		ND(10)
1,1,1 Trichloroethane (µg/L)	4000	200		ND(20)
1,1,2 Trichloroethane (µg/L)	900	5.0		ND(15)
Trichloroethylene (µg/L)	5	5.0		ND(10)
Tetrachloroethylene (µg/L)	50	5.0	3.3	ND(10)
cis-1,2 Dichloroethylene (µg/L)	20	70		ND(10)
Vinyl Chloride (µg/L)	2	2.0		ND(10)
D. Non-Halogenated SVOCs				
Total Phthalates (µg/L)		190	3.0	-
Diethylhexyl phthalate (µg/L)		101	2.2	-
Total Group I PAHs (µg/L)		1.0		ND
Benzo(a)anthracene (µg/L)	1000	As Total PAHs	0.0038	ND(2)
Benzo(a)pyrene (µg/L)	500		0.0038	ND(2)
Benzo(b)fluoranthene (µg/L)	400		0.0038	ND(2)
Benzo(k)fluoranthene (µg/L)	100		0.0038	ND(2)
Chrysene (µg/L)	70		0.0038	ND(2)
Dibenzo(a,h)anthracene (µg/L)	40		0.0038	ND(2)
Indeno(1,2,3-cd)pyrene (µg/L)	100		0.0038	ND(2)
Total Group II PAHs (µg/L)		100		ND
Naphthalene (µg/L)	700	20		ND(2)
E. Halogenated SVOCs				
Total PCBs (µg/L)	5	0.000064		ND(0.2)
Pentachlorophenol (µg/L)	200	1.0		ND(5)
F. Fuels Parameters				
Total Petroleum Hydrocarbons (mg/L)		5		-
C19-C36 Aliphatics (µg/L)	50000			119
Ethanol (mg/L)				-
Methyl-tert-Butyl Ether (µg/L)		70	20	-
tert-Butyl Alcohol (µg/L)		120		-
tert-Amyl Methyl Ether (µg/L)		90		-

ND - Not detected in excess of the laboratory detection limit
(#) - Detection Limit
Bold - Exceeds WQBEL Criteria

TABLE 2
Laboratory Analytical Results - Receiving Water

600 Massachusetts Ave
 Cambridge, MA
 McPhail Project No. 6691

LOCATION	EPA	RGP-RECEIVING
SAMPLING DATE	Freshwater	10/2/2020
LAB SAMPLE ID	Aquatic Life	L2042092-01
SAMPLE TYPE	Chronic	WATER
A. Inorganics		
Ammonia (mg/L)		0.102
Antimony (µg/L)		ND(4)
Arsenic (µg/L)	150	3.68
Cadmium (µg/L)	0.25	ND(0.2)
Total Chromium (µg/L)		ND(1)
Copper (µg/L)		3.05
Iron (µg/L)	1000	134
Lead (µg/L)	2.5	4.72
Mercury (µg/L)	0.77	ND(0.2)
Nickel (µg/L)	52	2
Selenium (µg/L)	5	11.34
Silver (µg/L)		ND(0.4)
Zinc (µg/L)	120	ND(10)
Cyanide (mg/L)		ND(5000)
Hardness (mg/L)		456
pH (H)		7.8

ND - Not detected in excess of
 the laboratory detection limit
 (#) - Detection Limit
 Bold - Exceeds WQBEL Criteria



**APPENDIX A:
LIMITATIONS**



LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from on-site monitoring wells in connection with the development of the 600 Massachusetts Avenue project 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 Remediation 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 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 at the site, and other factors.

Laboratory analyses have been performed for specific constituents during the course of this assessment, as described in the text.

This report and application have been prepared on behalf of and for the exclusive use of NEI General Contracting and Cifrino Mass Ave Realty. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, other than submission to relevant governmental agencies, nor used in whole or in part by any other party without the prior written consent of McPhail Associates, LLC.



APPENDIX B:

**NOTICE OF INTENT TRANSMITTAL FORM
& CITY OF CAMBRIDGE DEWATERING APPLICATION**

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

1. Name of site: 600 Massachusetts Avenue	Site address: 600 Massachusetts Avenue		
	Street:		
	City: Cambridge	State: MA	Zip: 02139
2. Site owner Cifrino Mass Ave Realty LLC c/o Superior Realty Co., LLC Owner is (check one): <input type="checkbox"/> Federal <input type="checkbox"/> State/Tribal <input checked="" type="checkbox"/> Private <input type="checkbox"/> Other; if so, specify:	Contact Person: Mr. Thomas Cifrino		
	Telephone: 617-661-8629	Email: tmcifrino@supremeliquors.net	
	Mailing address: 540 Gallivan Boulevard		
	Street:		
	City: Dorchester	State: MA	Zip: 02134
3. Site operator, if different than owner NEI General Contracting	Contact Person: Michael Martin		
	Telephone: 781-356-7666	Email: mmartin@neigc.com	
	Mailing address:		
	Street: 27 Pacella Park Drive		
	City: Randolph	State: MA	Zip: 02368
4. NPDES permit number assigned by EPA: NPDES permit is (check all that apply): <input type="checkbox"/> RGP <input type="checkbox"/> DGP <input type="checkbox"/> CGP <input type="checkbox"/> MSGP <input type="checkbox"/> Individual NPDES permit <input type="checkbox"/> Other; if so, specify:	5. Other regulatory program(s) that apply to the site (check all that apply):		
	<input type="checkbox"/> MA Chapter 21e; list RTN(s):	<input type="checkbox"/> CERCLA	
		<input type="checkbox"/> UIC Program	
	<input type="checkbox"/> NH Groundwater Management Permit or Groundwater Release Detection Permit:	<input type="checkbox"/> POTW Pretreatment	
		<input type="checkbox"/> CWA Section 404	

B. Receiving water information:

1. Name of receiving water(s): Charles River	Waterbody identification of receiving water(s): MA72-38	Classification of receiving water(s): B
Receiving water is (check any that apply): <input type="checkbox"/> Outstanding Resource Water <input type="checkbox"/> Ocean Sanctuary <input type="checkbox"/> territorial sea <input type="checkbox"/> Wild and Scenic River		
2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Are sensitive receptors present near the site? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify:		
3. Indicate if the receiving water(s) is listed in the State’s Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. chlorophyll-a, dissolved oxygen supersaturation, e.coli, harmful algal blooms, nutrient/eutrophication biological indicators, odor, phosphorus, transparency/clarity		
4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.		15.97 MGD
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.		111.9
6. Has the operator received confirmation from the appropriate State for the 7Q10 and dilution factor indicated? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, indicate date confirmation received: 12/10/2020		
7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

C. Source water information:

1. Source water(s) is (check any that apply):			
<input checked="" type="checkbox"/> Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> The receiving water	<input type="checkbox"/> Potable water; if so, indicate municipality or origin: <input type="checkbox"/> Other; if so, specify:
		<input type="checkbox"/> A surface water other than the receiving water; if so, indicate waterbody:	

2. Source water contaminants: arsenic, iron, total suspended solids	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): <input type="checkbox"/> Existing discharge <input checked="" type="checkbox"/> New discharge <input type="checkbox"/> New source	
Outfall(s): Outfall No. D10	Outfall location(s): (Latitude, Longitude) 42.355679, -71.096313
Discharges enter the receiving water(s) via (check any that apply): <input type="checkbox"/> Direct discharge to the receiving water <input checked="" type="checkbox"/> Indirect discharge, if so, specify: Discharge indirectly into Charles River through City of Cambridge Stormwater System <input type="checkbox"/> A private storm sewer system <input checked="" type="checkbox"/> A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Has the operator has received permission from the owner to use such system for discharges? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, if so, explain, with an estimated timeframe for obtaining permission: Upon approval of this NOI Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Provide the expected start and end dates of discharge(s) (month/year): January 2021 - December 2021	
Indicate if the discharge is expected to occur over a duration of: <input checked="" type="checkbox"/> less than 12 months <input type="checkbox"/> 12 months or more <input type="checkbox"/> is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

2. Activity Category: (check all that apply)	3. Contamination Type Category: (check all that apply)	
<input type="checkbox"/> I – Petroleum-Related Site Remediation <input type="checkbox"/> II – Non-Petroleum-Related Site Remediation <input checked="" type="checkbox"/> III – Contaminated Site Dewatering <input type="checkbox"/> IV – Dewatering of Pipelines and Tanks <input type="checkbox"/> V – Aquifer Pump Testing <input type="checkbox"/> VI – Well Development/Rehabilitation <input type="checkbox"/> VII – Collection Structure Dewatering/Remediation <input type="checkbox"/> VIII – Dredge-Related Dewatering	<p>a. If Activity Category I or II: (check all that apply)</p> <input type="checkbox"/> A. Inorganics <input type="checkbox"/> B. Non-Halogenated Volatile Organic Compounds <input type="checkbox"/> C. Halogenated Volatile Organic Compounds <input type="checkbox"/> D. Non-Halogenated Semi-Volatile Organic Compounds <input type="checkbox"/> E. Halogenated Semi-Volatile Organic Compounds <input type="checkbox"/> F. Fuels Parameters	
	<p>b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</p>	
	<input checked="" type="checkbox"/> G. Sites with Known Contamination	<input type="checkbox"/> H. Sites with Unknown Contamination
	<p>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)</p> <input checked="" type="checkbox"/> A. Inorganics <input type="checkbox"/> B. Non-Halogenated Volatile Organic Compounds <input type="checkbox"/> C. Halogenated Volatile Organic Compounds <input type="checkbox"/> D. Non-Halogenated Semi-Volatile Organic Compounds <input type="checkbox"/> E. Halogenated Semi-Volatile Organic Compounds <input type="checkbox"/> F. Fuels Parameters	<p>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</p>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✓	1	121.4500		0.23	0.23	Report mg/L	---
Chloride		✓	1	44,300.0		1180000	1180000	Report µg/l	---
Total Residual Chlorine		✓	1	121.4500		0.07	0.07	0.2 mg/L	
Total Suspended Solids		✓	1	121.2540D	5000	69000	69000	30 mg/L	
Antimony	✓		1	200.7	50	<DL	<DL	206 µg/L	
Arsenic		✓	1	200.7	5	40	40	104 µg/L	
Cadmium	✓		1	200.7	5	<DL	<DL	10.2 µg/L	
Chromium III	✓		1	107	10	<DL	<DL	323 µg/L	
Chromium VI	✓		1	7196A	10	<DL	<DL	323 µg/L	
Copper	✓		1	200.7	10	<DL	<DL	242 µg/L	
Iron		✓	1	200.7	10	3730	3730	5,000 µg/L	
Lead	✓		1	200.7	10	<DL	<DL	160 µg/L	
Mercury	✓		1	245.1	0.2	<DL	<DL	0.739 µg/L	
Nickel	✓		1	200.7	25	<DL	<DL	1,450 µg/L	
Selenium	✓		1	200.7	10	<DL	<DL	235.8 µg/L	
Silver	✓		1	200.7	7	<DL	<DL	35.1 µg/L	
Zinc	✓		1	200.7	50	<DL	<DL	420 µg/L	
Cyanide			1	121.4500				178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✓		1	128,624.1	10	<DL	<DL	100 µg/L	---
Benzene	✓		1	128,624.1	10	<DL	<DL	5.0 µg/L	---
1,4 Dioxane			0					200 µg/L	---
Acetone	✓		1	624.1	100	<DL	<DL	7.97 mg/L	---
Phenol	✓		1	625.1	5.0	<DL	<DL	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓		1	624.1	10	<DL	<DL	4.4 µg/L	
1,2 Dichlorobenzene	✓		1	624.1	50	<DL	<DL	600 µg/L	---
1,3 Dichlorobenzene	✓		1	624.1	50	<DL	<DL	320 µg/L	---
1,4 Dichlorobenzene	✓		1	624.1	50	<DL	<DL	5.0 µg/L	---
Total dichlorobenzene			0					763 µg/L in NH	---
1,1 Dichloroethane	✓		1	624.1	15	<DL	<DL	70 µg/L	---
1,2 Dichloroethane	✓		1	624.1	15	<DL	<DL	5.0 µg/L	---
1,1 Dichloroethylene	✓		1	624.1	10	<DL	<DL	3.2 µg/L	---
Ethylene Dibromide			0					0.05 µg/L	---
Methylene Chloride	✓		1	624.1	10	<DL	<DL	4.6 µg/L	---
1,1,1 Trichloroethane	✓		1	624.1	20	<DL	<DL	200 µg/L	---
1,1,2 Trichloroethane	✓		1	624.1	15	<DL	<DL	5.0 µg/L	---
Trichloroethylene	✓		1	624.1	10	<DL	<DL	5.0 µg/L	---
Tetrachloroethylene	✓		1	624.1	10	<DL	<DL	5.0 µg/L	
cis-1,2 Dichloroethylene	✓		1	624.1	10	<DL	<DL	70 µg/L	---
Vinyl Chloride	✓		1	624.1	10	<DL	<DL	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates			0					190 µg/L	
Diethylhexyl phthalate			0					101 µg/L	
Total Group I PAHs	✓		1	625.1	2	<DL	<DL	1.0 µg/L	---
Benzo(a)anthracene	✓		1	625.1	2	<DL	<DL	As Total PAHs	
Benzo(a)pyrene	✓		1	625.1	2	<DL	<DL		
Benzo(b)fluoranthene	✓		1	625.1	2	<DL	<DL		
Benzo(k)fluoranthene	✓		1	625.1	2	<DL	<DL		
Chrysene	✓		1	625.1	2	<DL	<DL		
Dibenzo(a,h)anthracene	✓		1	625.1	2	<DL	<DL		
Indeno(1,2,3-cd)pyrene	✓		1	625.1	2	<DL	<DL		

E. Treatment system information

<p>1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)</p> <p><input type="checkbox"/> Adsorption/Absorption <input type="checkbox"/> Advanced Oxidation Processes <input type="checkbox"/> Air Stripping <input type="checkbox"/> Granulated Activated Carbon (“GAC”)/Liquid Phase Carbon Adsorption <input type="checkbox"/> Ion Exchange <input type="checkbox"/> Precipitation/Coagulation/Flocculation <input checked="" type="checkbox"/> Separation/Filtration <input type="checkbox"/> Other; if so, specify:</p>	
<p>2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge. Settling tank with bag filters. If necessary to meet discharge limits, pH adjustment or ion media resin vessels will be added as a NOC.</p> <p>Identify each major treatment component (check any that apply): <input checked="" type="checkbox"/> Fractionation tanks <input type="checkbox"/> Equalization tank <input type="checkbox"/> Oil/water separator <input type="checkbox"/> Mechanical filter <input type="checkbox"/> Media filter <input type="checkbox"/> Chemical feed tank <input type="checkbox"/> Air stripping unit <input checked="" type="checkbox"/> Bag filter <input type="checkbox"/> Other; if so, specify:</p> <p>Indicate if either of the following will occur (check any that apply): <input type="checkbox"/> Chlorination <input type="checkbox"/> De-chlorination</p>	
<p>3. Provide the design flow capacity in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: sedimentation tank Is use of a flow meter feasible? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, if so, provide justification:</p>	100
<p>Provide the proposed maximum effluent flow in gpm.</p>	100
<p>Provide the average effluent flow in gpm.</p>	50
<p>If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:</p>	N/A
<p>4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	

F. Chemical and additive information

<p>1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)</p> <p><input type="checkbox"/> Algaecides/biocides <input type="checkbox"/> Antifoams <input type="checkbox"/> Coagulants <input type="checkbox"/> Corrosion/scale inhibitors <input type="checkbox"/> Disinfectants <input type="checkbox"/> Flocculants <input type="checkbox"/> Neutralizing agents <input type="checkbox"/> Oxidants <input type="checkbox"/> Oxygen <input type="checkbox"/> scavengers <input type="checkbox"/> pH conditioners <input type="checkbox"/> Bioremedial agents, including microbes <input type="checkbox"/> Chlorine or chemicals containing chlorine <input type="checkbox"/> Other; if so, specify:</p>
<p>2. Provide the following information for each chemical/additive, using attachments, if necessary:</p> <p>a. Product name, chemical formula, and manufacturer of the chemical/additive; b. Purpose or use of the chemical/additive or remedial agent; c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive; d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive; e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).</p>
<p>3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No</p>

G. Endangered Species Act eligibility determination

<p>1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:</p> <p><input checked="" type="checkbox"/> FWS Criterion A: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the “action area”.</p> <p><input type="checkbox"/> FWS Criterion B: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are “not likely to adversely affect” listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No; if no, is consultation underway? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> FWS Criterion C: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have “no effect” on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) <input type="checkbox"/> the operator <input type="checkbox"/> EPA <input type="checkbox"/> Other; if so, specify:</p>
--

NMFS Criterion: A determination made by EPA is affirmed by the operator that the discharges and related activities will have “no effect” or are “not likely to adversely affect” any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): Yes No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): Yes No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): Yes No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

- Criterion A:** No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.
- Criterion B:** Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.
- Criterion C:** Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): Yes No

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): Yes No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): Yes No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): Yes No

J. Certification requirement

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 gathered and evaluated 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A BMPP Statement has been implemented in accordance with good engineering practices following
BMPP certification statement: Part 2.5 of the RGP and shall be implemented upon initiation of discharge.

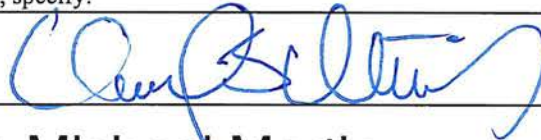
Notification provided to the appropriate State, including a copy of this NOI, if required. Check one: Yes No

Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested. Check one: Yes No

Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested. Check one: Yes No NA
Submission of this documentation to and approval
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission. Check one: Yes No NA
from City of Cambridge DPW in tandem with this NOI

Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): RGP DGP CGP MSGP Individual NPDES permit Check one: Yes No NA
 Other; if so, specify:

Signature:



Date:

1/15/21

Print Name and Title: Michael Martin



PERMIT TO DEWATER

Location: Temporary
Owner: Permanent
Contractor:

The property owner, agrees to hold harmless and indemnify the City of Cambridge for any liability on the part of the City directly or indirectly arising out of the dewatering operation.

The issuance of this permit is based in part in the submission packet of the applicant with documentation as follows:

In addition, the application has been reviewed by the City under third party agreement as documented in the following reports:

All activities conducted in conjunction with the issuance of this permit must be in accordance with the provisions of the aforementioned reports. Any deviations in conditions must be reported to and approved by the Commissioner of Public Works.

This permit is in addition to any other street permit issued by the Department in connection with any street excavation or obstruction; and all conditions as specified in the Discharge Permit for Dewatering.

For the entire period of time the groundwater is being discharged to a storm drain, the property owner shall provide copies of each Discharge Monitoring Report Form submitted to the EPA, pursuant to the owner's discharge permit.

If in the future the EPA requires the City of Cambridge to bring existing stormwater drainage into compliance with EPA quality standards, as a condition to the continuation of discharge of that stormwater (also including groundwater) into an EPA regulated system into which the (property owner) drains, the owner will agree to maintain its water discharge with such EPA water quality standards.

The property owner and contractor shall at all times meet the conditions specified in the requisite legal agreement/affidavits.

All groundwater pumped from the work shall be disposed of without damage to pavements, other surfaces or property.

Where material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the

Contractor during the progress of work as directed by the Public Works Department.

Any flooding or damage of property and possessions caused by siltation of existing gutters, pipes or structures shall be the responsibility of the Contractor.

Provisions shall be made to insure that no material, water or solid, will freeze on any pavement or in any location which will cause inconvenience or hazard to the general public.

Upon completion of the work, existing gutters, drains, pipes and structures shall be (bucket) cleaned and material disposed of satisfactorily prior to release by the Public Works Department.

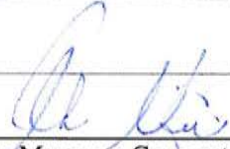
Any permit issued by the City of Cambridge shall be revoked upon transfer of any ownership interest unless and until subsequent owner(s) or parties of interest agree to the foregoing terms.

This permit shall remain in effect for one year and shall be renewable thereafter at the agreement of the parties.

The following special conditions as set forth below are part of the permit.

N/A

City Manager

* 

Property Manager: Corporate Entity
President, General Partner or Trustee
Trustee with Instrument of Authority

Date

Date


City Solicitor

NEI GENERAL CONTRACTING INC.
Contractor

Date

Date 1/15/21

Commissioner of Public

Contractor  - MICHAEL MARTIN

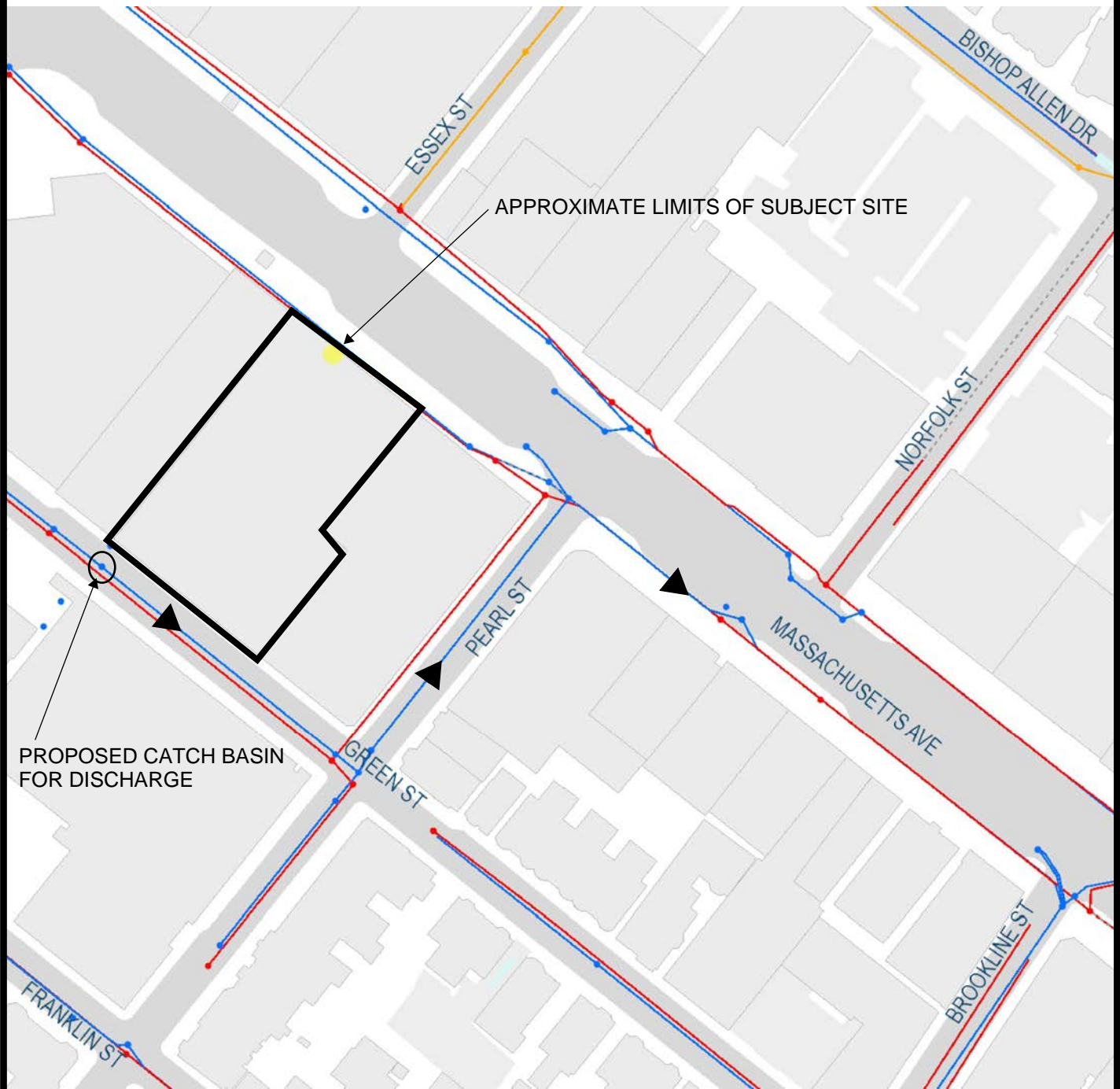
Date

Date 1/15/21

CC: Engineering
Supervisor of Sewer Maintenance and Engineering
Superintendent of Streets
Commissioner of Inspectional Services



FIGURE 3A



PROPOSED CATCH BASIN FOR DISCHARGE

APPROXIMATE LIMITS OF SUBJECT SITE



FILE NAME: \\McPhail-Hs2\McPhail\Acad\UOB5\G691\IRGFG691-FO3A.dwg

REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE DRAWING PRINTED FROM THE CITY OF CAMBRIDGE GIS WEBSITE PRINTED ON OCTOBER 15, 2020



Geotechnical and Geoenvironmental Engineers
 2269 Massachusetts Avenue
 Cambridge, MA 02140
 617/868-1420
 617/868-1423 (Fax)
 www.mcphailgeo.com

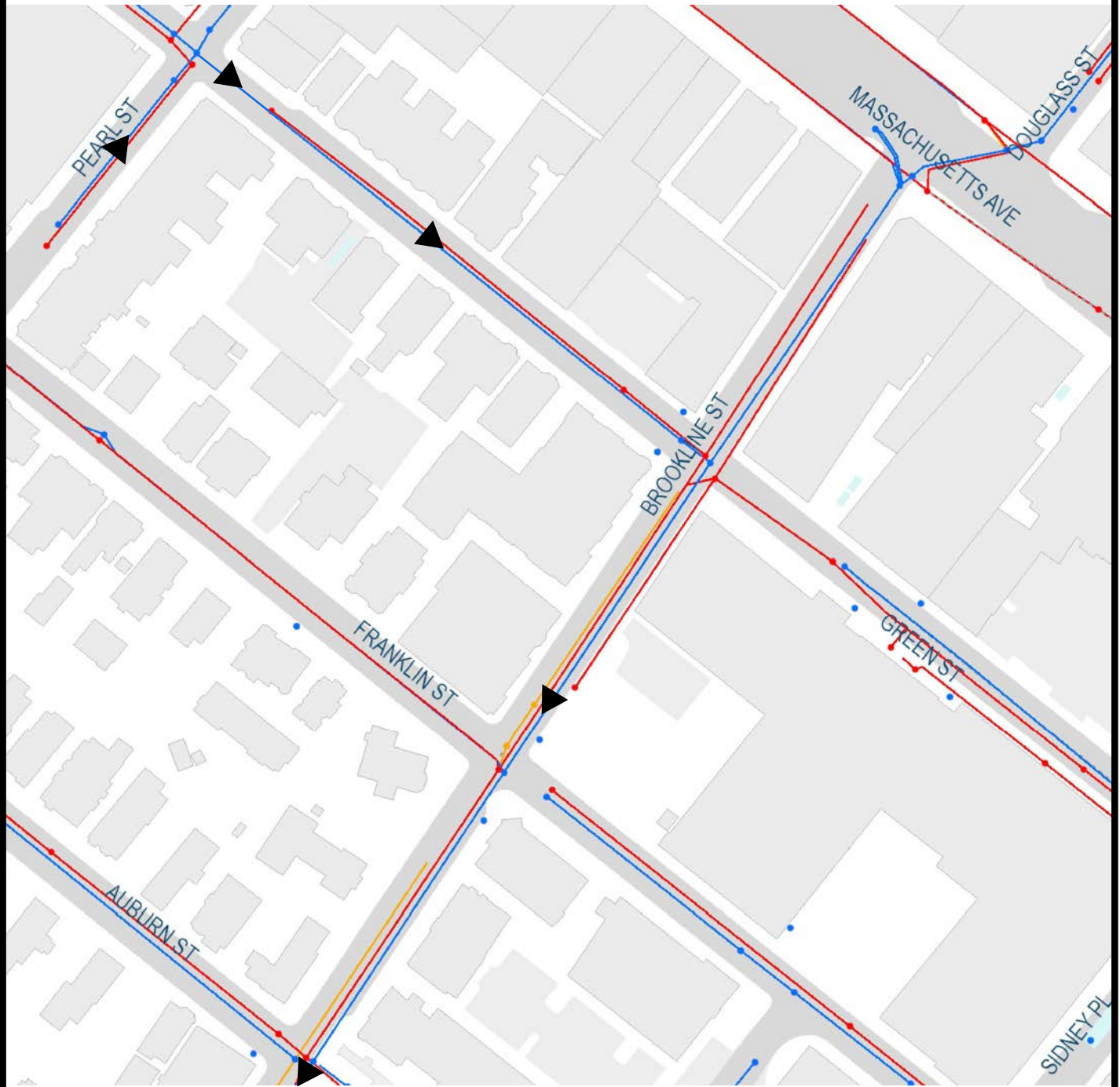
600 MASSACHUSETTS AVENUE
 CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH PLAN

FOR
 CIFRINO MASS AVE REALTY LLC
 BY
 McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2020	Dwn: F.G.P.	Chkd: D.A.T.	Scale: 1" = 100'
Project No: 6691			

FIGURE 3B



FILE NAME: \\McPhail-Hs2\McPhail\Acad\UOB5\G691\IRGPG691-FO3B.dwg

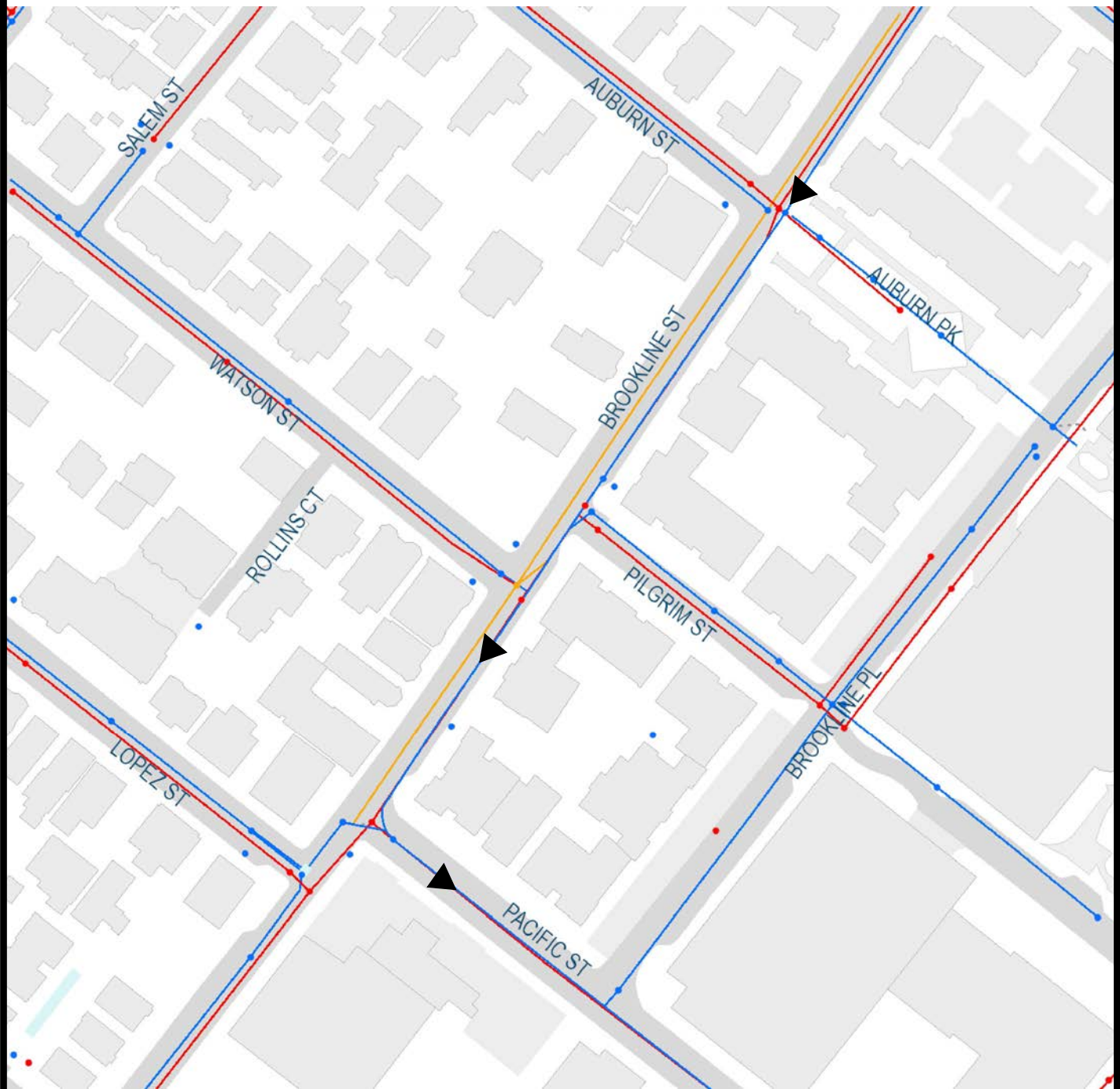
REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE DRAWING PRINTED FROM THE CITY OF CAMBRIDGE GIS WEBSITE PRINTED ON OCTOBER 15, 2020



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600 MASSACHUSETTS AVENUE			
CAMBRIDGE		MASSACHUSETTS	
STORM DRAIN DISCHARGE FLOW PATH PLAN			
FOR			
CIFRINO MASS AVE REALTY LLC			
BY			
McPHAIL ASSOCIATES, LLC			
Date:	OCTOBER 2020	Dwn:	F.G.P.
		Chkd:	D.A.T.
Project No:		6691	
		Scale: 1" = 100'	

FIGURE 3C



FILE NAME: \\McPhail-Hs2\McPhail\Acad\UOB5\6691\RGF\6691 - F03C.dwg

REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE DRAWING PRINTED FROM THE CITY OF CAMBRIDGE GIS WEBSITE PRINTED ON OCTOBER 15, 2020



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600 MASSACHUSETTS AVENUE
 CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH PLAN

FOR
 CIFRINO MASS AVE REALTY LLC
 BY
 McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2020	Dwn: F.G.P.	Chkd: D.A.T.	Scale: 1" = 100'
Project No: 6691			

FIGURE 3D



FILE NAME: \\McPhail-Hs2\McPhail\Acad\UOB5\6691\RGF\6691_F03D.dwg

REFERENCE: THIS PLAN WAS PREPARED FROM A 1/39-SCALE DRAWING PRINTED FROM THE CITY OF CAMBRIDGE GIS WEBSITE PRINTED ON OCTOBER 15, 2020



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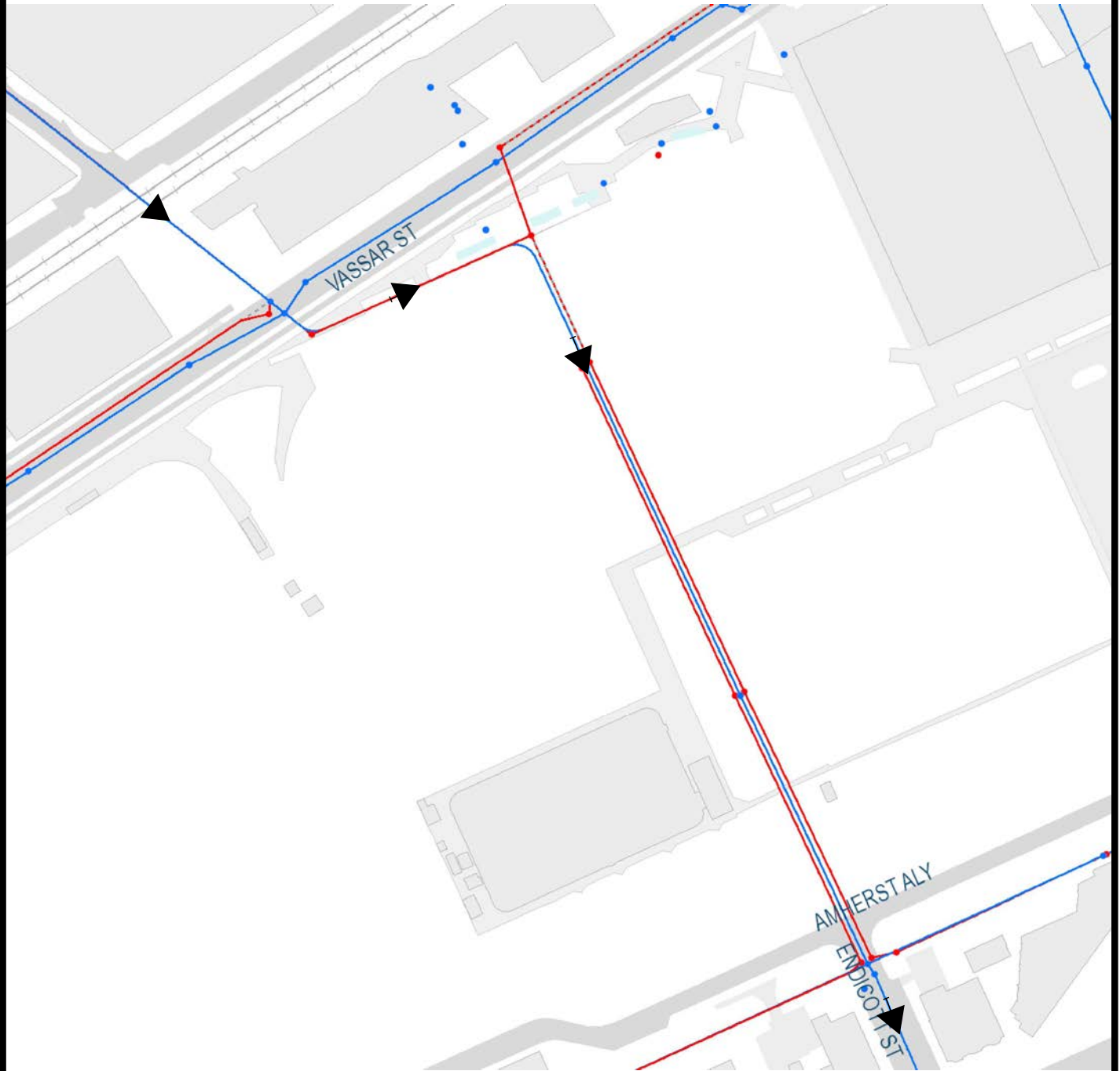
600 MASSACHUSETTS AVENUE
 CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH PLAN

FOR
 CIFRINO MASS AVE REALTY LLC
 BY
 McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2020	Dwn: F.G.P.	Chkd: D.A.T.	Scale: 1" = 140'
Project No: 6691			

FIGURE 3E



FILE NAME: \\McPhail-Hs2\McPhail\Acad\UOB5\6691\IRGPF\6691-FO3E.dwg

REFERENCE: THIS PLAN WAS PREPARED FROM A 1/39-SCALE DRAWING PRINTED FROM THE CITY OF CAMBRIDGE GIS WEBSITE PRINTED ON OCTOBER 15, 2020



Geotechnical and Geoenvironmental Engineers
 2269 Massachusetts Avenue
 Cambridge, MA 02140
 617/868-1420
 617/868-1423 (Fax)
 www.mcphailgeo.com

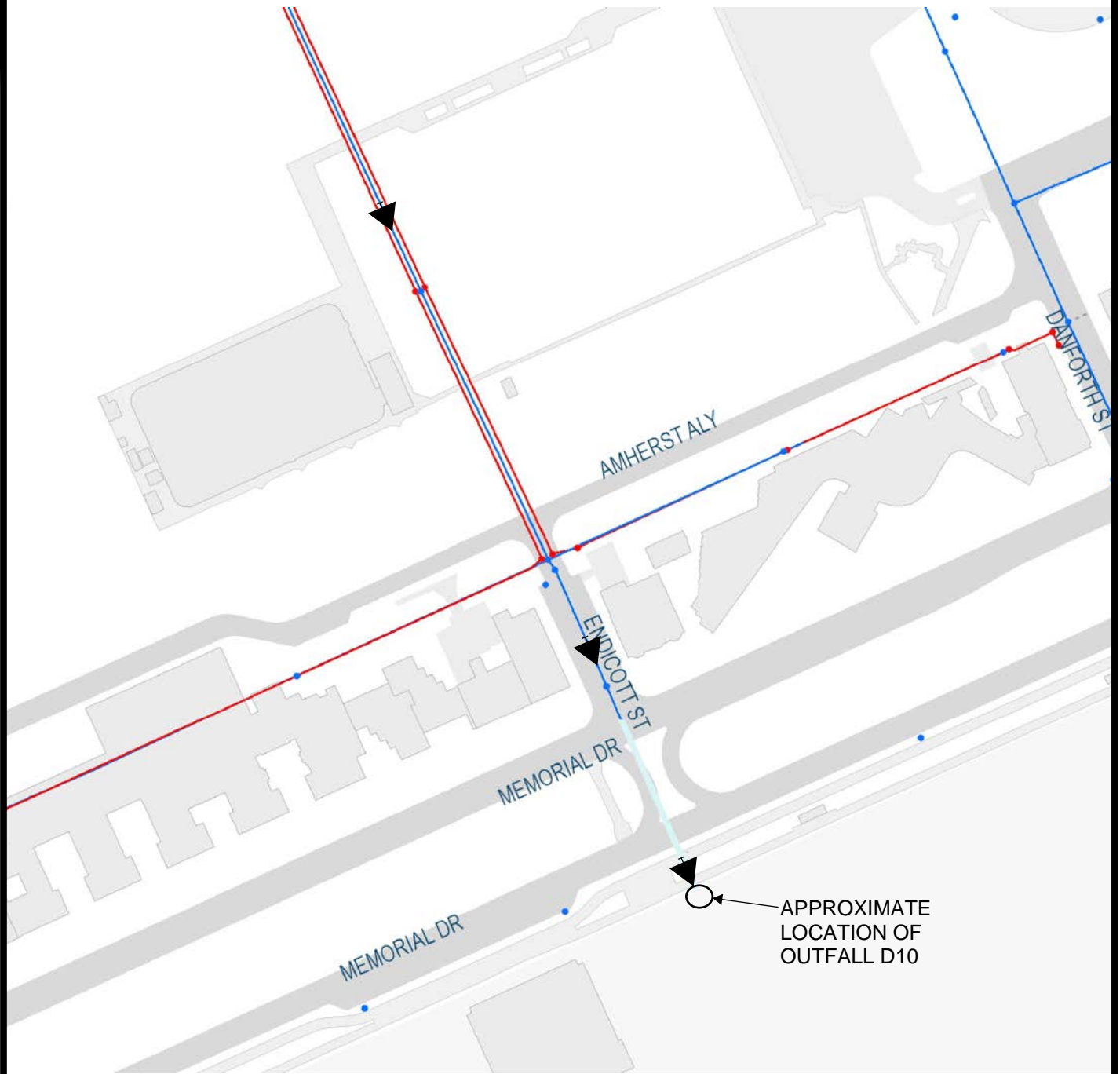
600 MASSACHUSETTS AVENUE
 CAMBRIDGE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH PLAN

FOR
 CIFRINO MASS AVE REALTY LLC
 BY
 McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2020	Dwn: F.G.P.	Chkd: D.A.T.	Scale: 1" = 140'
Project No: 6691			

FIGURE 3F



FILE NAME: \\McPhail-Hs2\McPhail\Acad\UOB5\6691\IRGPF\6691_F03F.dwg

REFERENCE: THIS PLAN WAS PREPARED FROM A 1/39-SCALE DRAWING PRINTED FROM THE CITY OF CAMBRIDGE GIS WEBSITE PRINTED ON OCTOBER 15, 2020



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Project No: 6691			

From: [Vakalopoulos, Catherine \(DEP\)](#)
To: [Kate Hanrahan](#)
Subject: Re: 600 Mass Avenue, Cambridge - RGP Dilution Factor
Date: Thursday, December 10, 2020 11:59:50 AM

Hi Kate,

The 7Q10 of 24.7 cfs (15.97 MGD) and the dilution factor calculation of 111.9 using a design flow of 100 gpm (0.144 MGD) for the proposed discharge from 600 Mass Ave. in Cambridge to the Charles River are correct.

Here is water quality information to assist you with filling out the NOI (some of which you already have):

Waterbody and ID: Charles River (MA72-38) within Charles River Watershed

Classification: B

Outstanding Resource Water?: no

State's most recent Integrated List is located

here: <https://www.epa.gov/sites/production/files/2020-01/documents/2016-ma-303d-list-report.pdf>, search for "MA72-38" to see the causes of impairments.

TMDLs: there are two approved TMDL (pathogens and phosphorus) for this segment.

As you may know, if this is not a *current* MCP site, then in addition to submitting the NOI to EPA, you need to apply with MassDEP and submit a \$500 fee (unless fee exempt, e.g., municipality) using the ePLACE. The instructions are located here: <https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent>. Technical assistant information is available on the front page of the ePLACE application webpage.

Please let me know if you have any questions.

Cathy

Cathy Vakalopoulos, Acting NPDES Chief
Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026
[Please consider the environment before printing this e-mail](#)

From: Kate Hanrahan
Sent: Thursday, December 3, 2020 3:13 PM
To: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us>
Subject: 600 Mass Avenue, Cambridge - RGP Dilution Factor

Hi Cathy,

I am currently preparing a NOI to discharge under the RGP for the proposed 600 Mass Ave project located at 600 Mass Avenue in Newton. The Contractor would like to discharge treated water off-site into a storm drain that discharges in to the Charles River (MA72-38). Before we submit our NOI to the EPA, I wanted to confirm

the dilution factor we planned to use.

Here is what I calculated (the Streamstats sheet for the Charles River is attached):

7Q10 for Charles River: 24.7 cfs = 15.97 MGD

Design flow: 100 gpm = 0.144 MGD

$DF = (15.97 + 0.144)/0.144 = 111.9$

Can you please confirm if this DF is acceptable?

Thank you,

Kate

Kate Hanrahan

McPhail Associates, LLC

2269 Massachusetts Avenue

Cambridge, MA 02140

Tel: 617-868-1420 ext. 362

Direct: 617-349-7362

Cell: 978-273-6529

www.mcphailgeo.com



APPENDIX C:
NOI SUPPORTING INFORMATION

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:

600 MASS AVE
600 MASS AVE CAMBRIDGE, MA

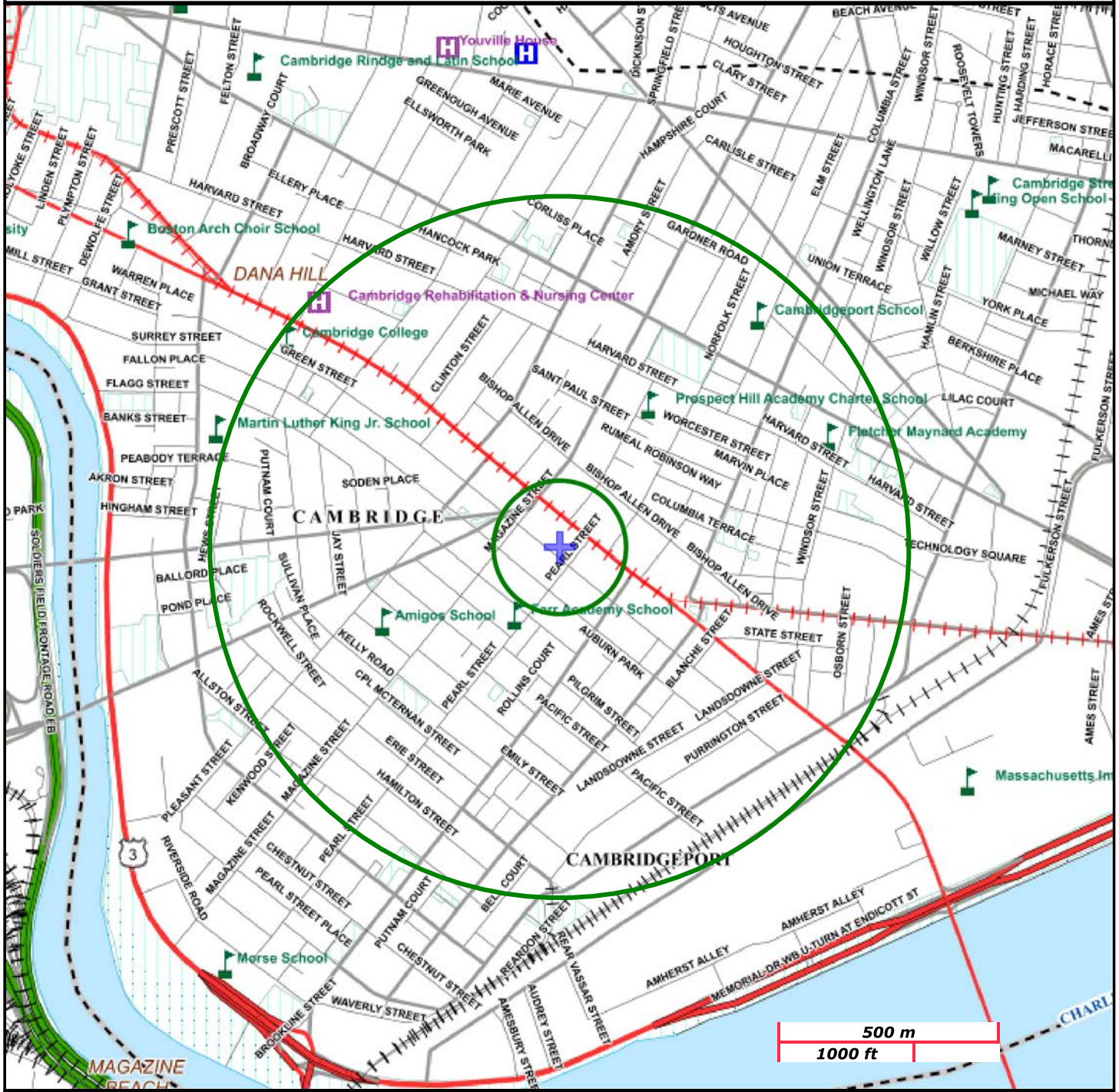
NAD83 UTM Meters:
4692395mN , 326793mE (Zone: 19)
December 2, 2020

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<https://www.mass.gov/orgs/massgis-bureau-of-geographic-information>



MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail	PWS Protection Areas: Zone II, IWPA, Zone A		
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Hydrography: Open Water, PWS Reservoir, Tidal Flat		
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam	Wetlands: Freshwater, Saltwater, Cranberry Bog		
Aquifers: Medium Yield, High Yield, EPA Sole Source	FEMA 100yr Floodplain; Protected Open Space; ACEC		
Non Potential Drinking Water Source Area: Medium, High (Yield)	Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential		
	Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.		

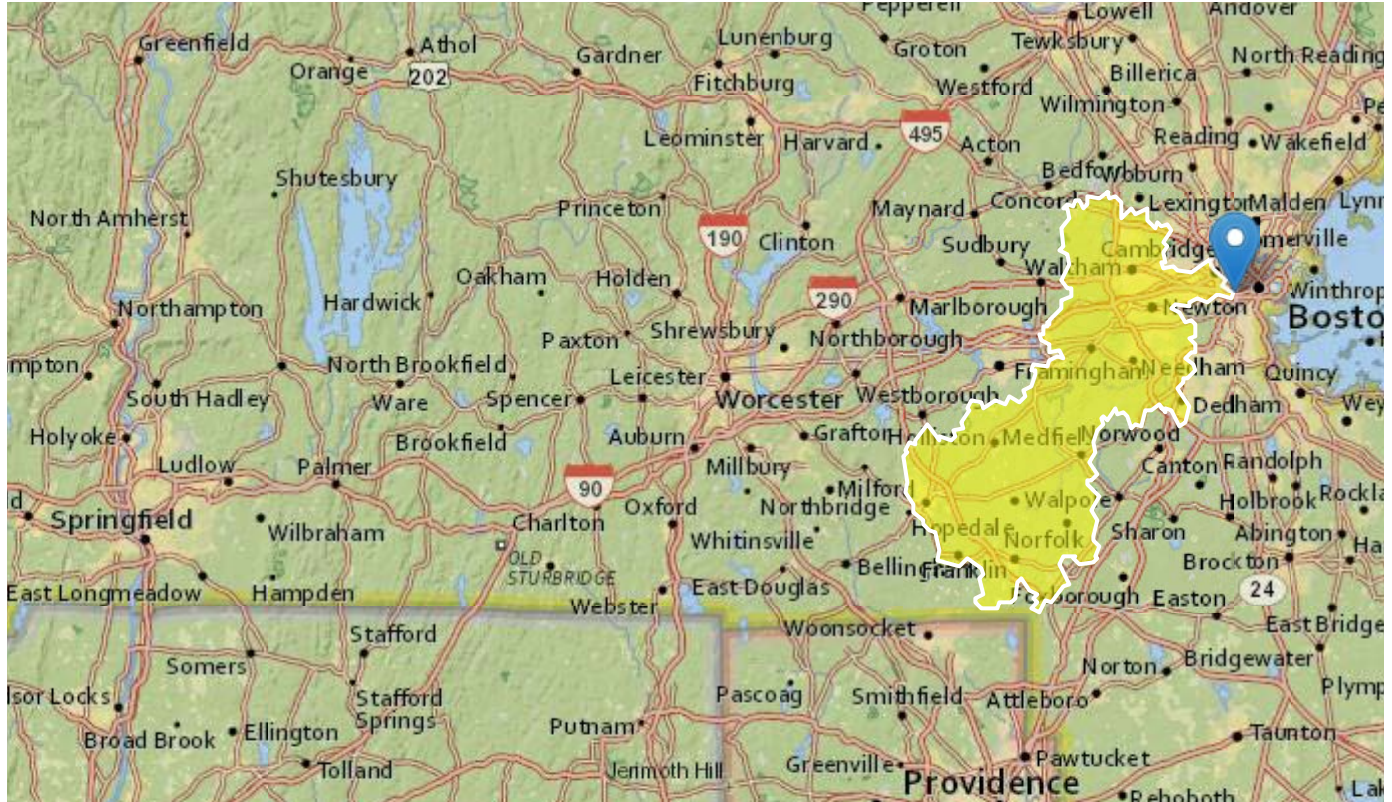
StreamStats Report

Region ID: MA

Workspace ID: MA20201203200530518000

Clicked Point (Latitude, Longitude): 42.35331, -71.09633

Time: 2020-12-03 15:04:04 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	283	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.326	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Low-Flow Statistics Parameters^[Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	283	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.326	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.23	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers^[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report^[Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	49.6	ft ³ /s
7 Day 10 Year Low Flow	24.7	ft ³ /s

Low-Flow Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.4.0

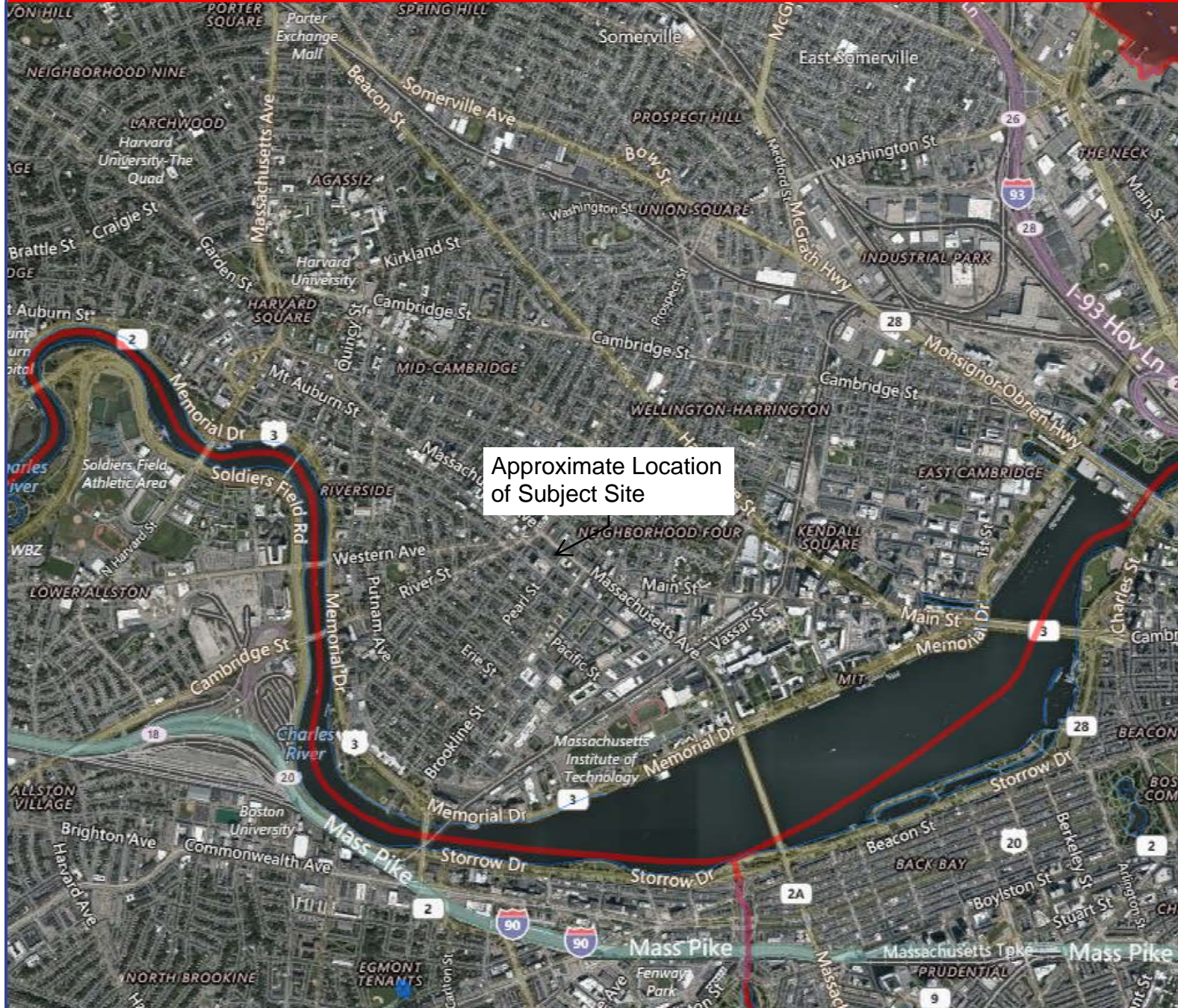


MassDEP Online Map Viewer

2014 Integrated List of Waters Map

Helpful Links:

- [The Clean Water Act](#)
- [MassDEP Total Maximum Daily Loads](#)



Approximate Location of Subject Site

Massachusetts Cultural Resource Information System




MACRIS

[MHC Home](#) | [MACRIS Home](#)

For more information about this page and how to use it, [click here](#).

Inventory No: CAM.632
Historic Name: Manhattan Market - Purity Supreme Super Market
Common Name:
Address: 596-610 Massachusetts Ave

City/Town: Cambridge
Village/Neighborhood: Cambridgeport; Cambridgeport, South
Local No: 106-124;Q
Year Constructed: 1899
Architect(s): Hasty, John A.; Joll, Henry Dustin
Architectural Style(s): Not researched
Use(s): Market or Grocery Store
Significance: Architecture; Commerce

Area(s):  [CAM.G: Cambridge Multiple Resource Area](#)
 [CAM.Q: Central Square Historic District](#)
 [CAM.BC: Central Square Historic District](#)

Designation(s): Nat'l Register District (03/02/1990); Nat'l Register MRA (03/02/1990); Nat'l Register District (07/11/2012)
Building Material(s):

**Digital Photo
Not Yet
Available**

There is no form for this resource. Information can be found on the [CAM.Q](#) form and/or the appropriate area forms listed below.

[New Search](#)

[Previous](#)

[MHC Home](#) | [MACRIS Home](#)



CAMBRIDGE HISTORICAL COMMISSION

831 Massachusetts Avenue, 2nd Fl., Cambridge, Massachusetts 02139

Telephone: 617 349 4683 TTY: 617 349 6112

E-mail: histcomm@cambridgema.gov URL: <http://www.cambridgema.gov/Historic>

Bruce A. Irving, *Chair*, Charles M. Sullivan, *Executive Director*

William Barry, Robert G. Crocker, Chandra Harrington, William B. King, Jo M. Solet, Susannah

Barton Tobin, *Members*

Joseph V. Ferrara, Kyle Sheffield, *Alternates*

January 31, 2019

To: Members of the Historical Commission

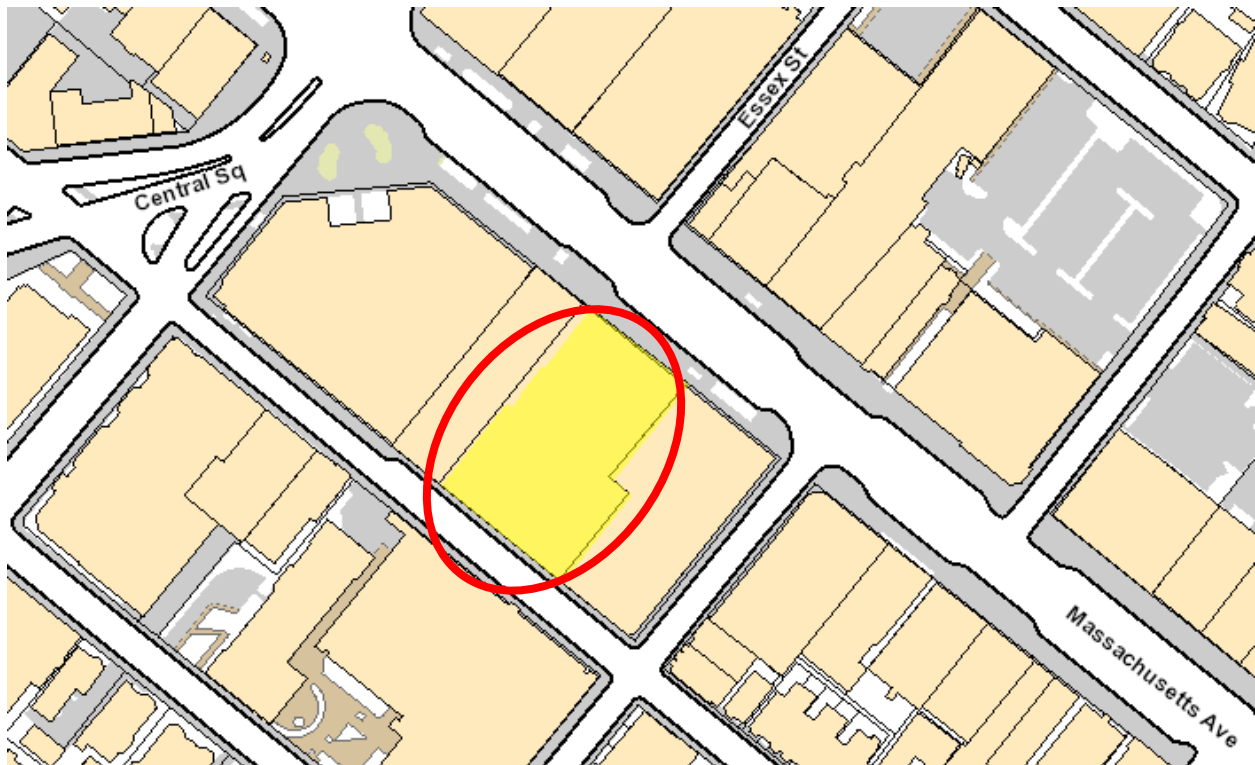
From: Charles Sullivan

Re: D-1513: 596-600 Massachusetts Avenue

An application to demolish a one-story commercial building at 596-600 Massachusetts Avenue was received on January 15, 2019. The applicant, Cifrino Mass Ave Realty LLC, was notified of an initial determination of significance and a public hearing was scheduled for February 7.

Site Description and Current Conditions

The building at 596-600 Massachusetts Avenue is located on the south side of the avenue west of the intersection with Pearl Street. The lot (map 106, parcel 124), which contains 21,262 square feet, contains three contiguous buildings, of which 596-600 occupies approximately 10,000 square feet. The zoning is Business B, modified by the Central Square Overlay District. The assessed value of the entire property is \$6,751,900, of which \$2.353 million represents the buildings.



Cambridge GIS, 2017

The three buildings on the property were built at different times. They consist of

- 596-600 Mass. Ave.: one-story retail store, constructed in 1902, new façade 1938
- 602-614 Mass. Ave.: one-story retail store, constructed in 1899, new façade 1939
- 269 Green Street: four story brick storage and bakery, built in 1897 and expanded in 1903

All three buildings have been unified at ground level for many years.



Cambridge GIS/CONNECTExplorer, 2014

The replacement project will consist of a six-story mixed-use building with stores on the ground floor on both Massachusetts Avenue and Green Street. The four-story bakery building will be restored and adaptively reused for offices; a new stair and elevator tower will join the two.

History

The buildings in question – one to be demolished, one to be restored, and one to remain in its current use and configuration – are historically associated with the Manhattan Market, a major retailer in early 20th century Cambridge.

The Manhattan Market was developed by Arthur H. Smith (1861-1943), a native of England who learned the retail trade in New York City. Mr. Smith was proprietor of the Pleasant Street Market in Cambridgeport when in 1891 he purchased a 6,500 square foot lot east of the Prospect House Hotel in Central Square, along with a right-of-way between Massachusetts Avenue and Green Street and a small frame building dating to the late 18th century. Smith announced plans to erect a two-story brick building designed by George Fogerty that would have a market on the first floor and rooms for clerks on the second.

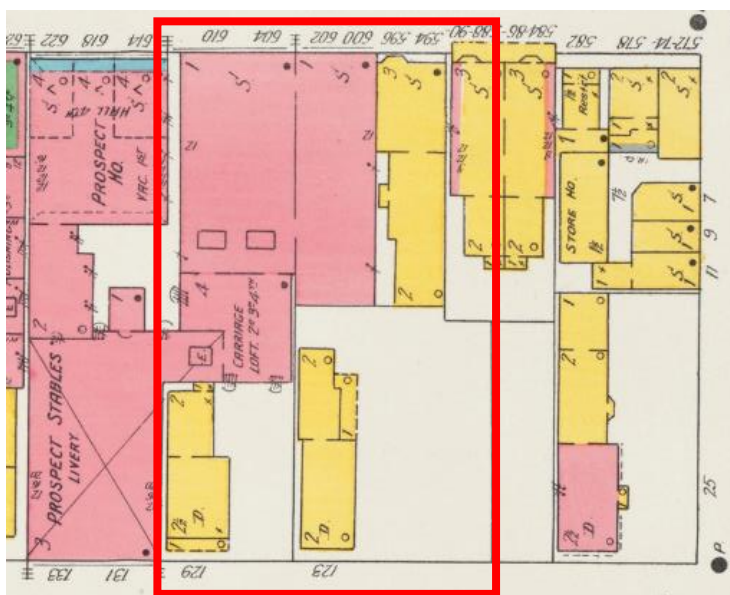
The enterprise would be named the Manhattan Market after “the great Manhattan Market on 125th Street [in] Harlem” *Cambridge Chronicle*, Jan. 31, 1891).¹



The first Manhattan Market 1895 Cambridge Directory

Probably due to the Panic of 1893 Smith did not actually open the Manhattan Market until 1895, when it occupied a one-story building at 602-614 Massachusetts Avenue next to the Prospect House with about 4,100 feet of selling space; the front was described as having been designed “in the latest New York style with four doors between two display windows” (*Chronicle*, August 10, 1895). In 1897 Smith began construction of a four-story brick building behind his store on Green Street next to the Prospect House stables; the structure would be an addition to both in that the first floor would provide storage for the market while the upper floors would be available to the stable for storage of carriages and tack (but not horses). With this improvement the market extended 135’ back toward Green Street and delivery vehicles were diverted away from the avenue frontage.

In 1899 Smith announced plans to build a second story and connect his building over the right-of-way to the Prospect House, but this did not occur. Instead, in 1901 he took over a two-year-old building at 596-600 Massachusetts Avenue designed by Cambridge architect H.D. Joll for the Pratt Brothers, dealers in fruit. Smith demolished the partition between them, and Pratt thereafter managed the fruit department of the Manhattan Market. A year later in 1902 Smith announced plans to build an addition behind the former fruit store, enlarging the store to 20,000 square feet and giving his premises 120’ of frontage on Green Street. This area was to be used for shipping and receiving and a bakery. A year after that the four-story brick structure was extended back to Green Street.



1900 Sanborn Atlas

Smith incorporated the business as the Manhattan Market Co. in 1900 and opened several other stores in the Boston area. The Cambridge store operated as a cooperative, with separate departments selling meat and produce, fruit, vegetables, canned and bottled goods, baked goods, confectioneries, kitchen furnishings, and music and musical instruments (complete with a piano where customers could try out the sheet music). A lunch counter at the back was open all day. According the long-time resident Suzanne Green (b. 1912) it was not a supermarket in the modern sense:

¹ The original Manhattan Market opened in 1872 in a 200’ by 900’ structure that occupied an entire city block between 34th and 35th streets and 11th and 12th avenues in Manhattan; it was planned to contain 1,000 to 1,200 stalls for retail and wholesale dealers in meat and produce. The building opened in 1880 and was destroyed by fire three months later. The reference to a market on 125th Street could not be substantiated, but Smith’s father operated a market somewhere in New York.

Each section had a separate counter ... with a salesman behind it. Some were along the walls and some in islands on the floor. The salesman ... was told, when your turn came, what you wanted, he assembled the items, wrote the prices on a brown bag, added them up, bagged the items. [Then] you paid, and off you went to the next counter

In 1909 Smith retained the firm of Newhall & Blevins to design a unified front with eight doors leading to a vestibule. The firm was then engaged in remodeling the Prospect House with a new terra-cotta façade, and both buildings appeared to share a common cornice. Whatever the improvement, however, Smith lost the vast sign that overwhelmed the old façade but included the memorable tag line, “An ideal pure food department store.”.



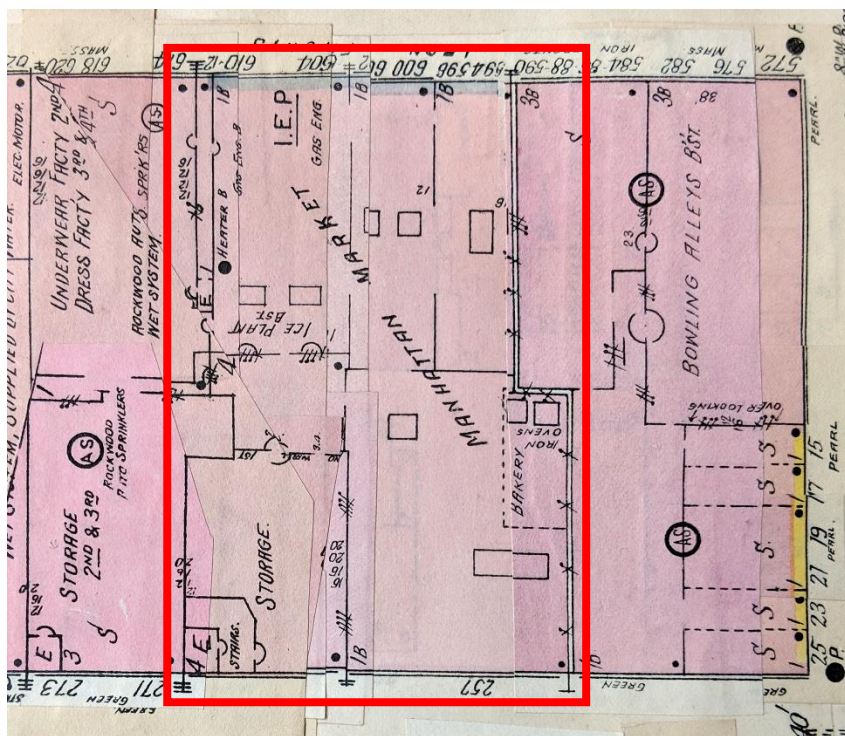
Manhattan Market, 1909

BERy Collection, Historic New England



Manhattan Market, 1910, with new façade by Newhall & Blevins BERy Collection, CHC

The Manhattan Market Co. under Arthur Smith continued much as before, until in 1928 he organized a new chain of “at least 100 five and ten cent grocery stores in Boston and vicinity within the next year” (Chronicle, May 25, 1928). These were apparently branded Serv Ur-Self Stores; seventeen were opened



1900 Sanborn, updated to 1929

Foods, Inc.

The Manhattan Market operated in the combined buildings until 1938, when the former Pratt Brothers store at 596-600 Massachusetts Avenue was leased to the Waldorf Restaurant chain and walled off from the market. At the same time, the Manhattan announced a renovation of its store.

Description

The separate facades at 596-600 and 602-614 Massachusetts Avenue were designed in 1938 and 1939, respectively, for the Waldorf Cafeteria chain and the Manhattan Market. While the facades resemble some of those designed by Cambridge architect William L. Galvin in Brattle Square, the one at 596-602 was designed by John M. Gray and the one at 602-612 by Sumner Schein. Both facades consist of cast stone panels that incorporate decorative designs that were hidden by a later storefront associated with the Purity Supreme Market. Both facades were exposed and restored in 2001; the uniform sign band below the parapet and the aluminum storefronts were installed at that time.



596-600 Massachusetts Avenue (left), 602-614 Massachusetts Avenue (right) Google Street view

within a year, including one directly across the street in Central Square. Smith retired from active management of the Manhattan Market and formed United Markets, Inc. in 1929. He and his son Wesley remained took over the Big Bear Market in Medford in 1935.

United Markets, Inc. operated stores in Dorchester, Quincy, and downtown Boston. The Manhattan Market continued to operate under its original name until 1949, when United was taken over by Elm Farm Foods, which had 40 markets in three New England states. The Elm Farm store became a Supreme Market in 1967 and was re-branded as a Purity Supreme Market in 1968 when the Supreme chain merged with Purity

The façade of 596-602 Massachusetts Avenue incorporates a band of alternating red stripes and green panels, colors that were associated with the Waldorf chain of cafeterias that proliferated around Boston in the 1920s and '30s. Waldorf and its competitor, Hayes Bickfords, operated dozens of cafeterias in this period.² The Chronicle described the new Waldorf in Central Square in glowing terms:

This new restaurant was decorated by the Battisti Studios of New York, and may be termed “gorgeous” in every respect. The walls, in brilliant reds and yellows, the long mural painting opposite the serving counter, and the novel lighting effects lend an effect that is at the same time startling, yet pleasing. It is a new note in restaurant decoration for Cambridge.

The seating capacity of this new Waldorf is 210 guests. The dining room is large and airy, with plenty of elbow room anywhere in the restaurant. ... The tables are formica topped, in keeping with the entire color scheme. The chairs are of aluminum with red leather backs. On the walls are round amber-colored mirrors. At the rear of the store is a series of lighting effects upon mirrors which adds to the beauty of the restaurant. (Dec. 29, 1938)



Architect John M. Gray practiced in Boston from 1923 to 1957, primarily designing public buildings and schools for the archdiocese. His only Cambridge projects were a Hayes-Bickfords restaurant in Kendall Square (1926) and the Magazine Beach bathhouse and swimming pool (1950), but he designed several firehouses and schools in Boston. Edoardo G. Battisti was a theatrical designer who designed movie theaters in the Art Deco style; examples are located in Brooklyn, N.Y. and Norwalk, Ohio.

Jurisdiction

The buildings at 596-614 Massachusetts Avenue are contributing structures in the Central Square National Register District. Cambridge’s Central Square Overlay District contains special zoning provisions

² In 1941 Waldorf had three locations in Cambridge and Hayes Bickfords had four.

for contributing structures that call upon the Planning Board to meet certain standards for issuance of permits. Among these are provisions that encourage the preservation of contributing buildings:

20.305 *Standards for Issuance of Special Permits.* In addition to the general standards for the issuance of a special permit found in Section 10.40 of the Zoning Ordinance, the special permit granting authority shall in addition make the following findings:

1. The proposed development is consistent with the goals and objectives of the Central Square Action Plan:

- encourage responsible and orderly development;
- strengthen the retail base to more completely serve the needs of the neighborhoods;
- preserve the Square's cultural diversity;
- create active people oriented spaces;
- improve the physical, and visual environment;
- provide retail establishments that serve people of diverse economic and social groups who live in the surrounding neighborhoods;
- encourage the development of new mixed income housing; and
- promote compatible retail adjacent to residential uses.

2. The building and site designs are consistent with "Urban Design Plan for Central Square" as outlined in the "Central Square Action Plan" and the "Central Square Development Guidelines";

3. The building and site designs adequately screen the parking provided and are sensitive to the contributing buildings in the vicinity;

4. *No National Register or contributing building is demolished or so altered as to terminate or preclude its designation as a National Register or contributing building; and*

5. *No National Register or contributing building has been demolished or altered so as to terminate or preclude its designation within the five (5) years preceding the application.*

However, the protection for contributing buildings will be waived if the Commission finds the building not preferably preserved:

20.303.3 *National Register and Contributing Buildings.* ...a building shall no longer be considered a contributing building ... if, upon application for a demolition permit, the Cambridge Historical Commission shall determine the building not to be a preferably preserved significant building as defined in the City of Cambridge Demolition Ordinance.

If the project is allowed to proceed design review will be undertaken by the Planning Board. Community Development Department staff will bear primary responsibility for design review, and CHC staff will participate in the discussion.

Recommendation

The former Manhattan Market and Waldorf Restaurant represents a significant period in the history of Central Square as Cambridge's downtown. The Art Deco design of the façade reflects aspirations toward modernity at the end of the Great Depression, and along with the adjoining Manhattan Market is the only example of this style in the National Register district.

I recommend that the structure be found significant for the reasons stated above, and that the Commission entertain testimony about the proposed replacement project before making a further determination.

Cc: Ranjit Singanayagam, ISD
Suzannah Bigolin, CDD
James Rafferty, Esq.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>

In Reply Refer To:

October 14, 2020

Consultation Code: 05E1NE00-2021-SLI-0127

Event Code: 05E1NE00-2021-E-00368

Project Name: 600 Massachusetts Ave

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2021-SLI-0127

Event Code: 05E1NE00-2021-E-00368

Project Name: 600 Massachusetts Ave

Project Type: DEVELOPMENT

Project Description: Re-development of <1 acre

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.35619697606724N71.08458198744185W>



Counties: Middlesex, MA | Suffolk, MA

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

**Category 5 waters listed alphabetically by major watershed
The 303(d) List – "Waters requiring a TMDL"**

Water Body	Segment ID	Description	Size	Units	Impairment	EPA TMDL No.
Charles River	MA72-36	From Watertown Dam (NATID: MA00456), Watertown to the Boston University Bridge, Boston/Cambridge (formerly part of segment MA72-08).	6.10	Miles	(Fish Passage Barrier*)	
					(Flow Regime Modification*)	
					(Non-Native Aquatic Plants*)	
					Chlorophyll-a	33826
					DDT in Fish Tissue	
					Dissolved Oxygen	
					Escherichia Coli (E. Coli)	32371
					Fish Bioassessments	
					Harmful Algal Blooms	33826
					Nutrient/Eutrophication Biological Indicators	33826
					Oil and Grease	
					PCBs In Fish Tissue	
					pH, High	
					Phosphorus, Total	33826
Charles River	MA72-38	From Boston University Bridge, Boston/Cambridge to mouth at the New Charles River Dam (NATID: MA01092), Boston (formerly part of segment MA72-08).	3.10	Miles	(Flow Regime Modification*)	
					Cause Unknown (Sediment Screening Value (Exceedence))	
					Chlorophyll-a	33826
					Combined Biota/Habitat Bioassessments	
					DDT in Fish Tissue	
					Dissolved Oxygen	
					Dissolved Oxygen Supersaturation	33826
					Escherichia Coli (E. Coli)	32371
					Harmful Algal Blooms	33826
					Nutrient/Eutrophication Biological Indicators	33826
					Odor	33826
					Oil and Grease	
					PCBs In Fish Tissue	
					Phosphorus, Total	33826
Chicken Brook	MA72-34	Source, outlet Waseeka Sanctuary Pond, Holliston to mouth at confluence with the Charles River, Medway.	7.40	Miles	Escherichia Coli (E. Coli)	
Crystal Lake	MA72030	Newton.	27.00	Acres	Harmful Algal Blooms	





APPENDIX D:

LABORATORY ANALYTICAL DATA –GROUNDWATER



ANALYTICAL REPORT

Lab Number:	L2019722
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	600 MASSACHUSETTS AVENUE
Project Number:	6691.9.01
Report Date:	09/30/20

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2019722-01	OW B-2	WATER	CAMBRIDGE, MA	05/13/20 11:00	05/13/20
L2019722-02	TOP 201,202,204 COMP	SOIL	CAMBRIDGE, MA	05/13/20 11:00	05/13/20
L2019722-03	TOP 201,202,204 COMP	SOIL	CAMBRIDGE, MA	05/13/20 11:00	05/13/20
L2019722-04	TP-204	SOIL	CAMBRIDGE, MA	05/13/20 11:00	05/13/20
L2019722-05	TP-201	SOIL	CAMBRIDGE, MA	05/13/20 11:00	05/13/20

Project Name: 600 MASSACHUSETTS AVENUE

Lab Number: L2019722

Project Number: 6691.9.01

Report Date: 09/30/20

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?	YES
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).	YES
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: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

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 NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. 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. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. 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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) 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 Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

Case Narrative (continued)

Report Revision

September 30, 2020: At the client's request, the Total Metals analyte list has been amended on L2019722-01.

May 27, 2020: At the client's request, the Total Metals analyte list has been amended on L2019722-03.

MCP Related Narratives

Sample Receipt

L2019722-04 and -05: The samples submitted for Volatile Organics were received without raw soil for the Total Solids analysis. The Total Solids results from the corresponding composite samples were utilized in the dry weight calculation of the Volatile Organics data.

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

The initial calibration, associated with L2019722-04 and -05, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0753) and 4-methyl-2-pentanone (0.0725), as well as the average response factor for 2-butanone and 4-methyl-2-pentanone. In addition, the initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (155%).

The continuing calibration standard, associated with L2019722-04 and -05, 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.

EPH

In reference to question H:

L2019722-01: The surrogate recoveries were outside the acceptance criteria for chloro-octadecane (30%); however, re-extraction achieved similar results: chloro-octadecane (25%). The results of both extractions are reported; however, all associated compounds are considered to have a potential bias.

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

Case Narrative (continued)

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Total Metals

In reference to question I:

L2019722-01 and -02: The samples were analyzed for a subset of MCP analytes per client request.

Non-MCP Related Narratives

Volatile Organics by Method 624

L2019722-01 was analyzed on a dilution. The MWRA detection limits were achieved.

The WG1371527-5 MS recovery, performed on L2019722-01, is below the acceptance criteria for Bromomethane (0%) due to the concentration of this compound falling below the reported detection limit.

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:

Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative

Date: 09/30/20

QC OUTLIER SUMMARY REPORT

Project Name: 600 MASSACHUSETTS AVENUE

Lab Number: L2019722

Project Number: 6691.9.01

Report Date: 09/30/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1370877-3	1,1,2,2-Tetrachloroethane	LCS	68	70-130	04-05	potential low bias
8260C	Batch QC	WG1370877-3	Chloroethane	LCS	57	70-130	04-05	potential low bias
8260C	Batch QC	WG1370877-4	1,1,2,2-Tetrachloroethane	LCSD	68	70-130	04-05	potential low bias
8260C	Batch QC	WG1370877-4	Vinyl chloride	LCSD	69	70-130	04-05	potential low bias
8260C	Batch QC	WG1370877-4	Chloroethane	LCSD	57	70-130	04-05	potential low bias
Volatile Organics by GC/MS - Westborough Lab								
624.1	Batch QC (L2019722-01)	WG1371527-5	Bromomethane	MS	0	1-242	01	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270D	Batch QC	WG1370433-2	Aniline	LCS	33	40-140	02-03	potential low bias
8270D	Batch QC	WG1370433-3	Aniline	LCSD	38	40-140	02-03	potential low bias
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-19-2.1	OW B-2	L2019722-01	Chloro-Octadecane	Surrogate	30	40-140	-	potential low bias
EPH-19-2.1	OW B-2	L2019722-01 RE	Chloro-Octadecane	Surrogate	25	40-140	-	potential low bias
EPH-19-2.1	Batch QC	WG1371343-3	Naphthalene	LCSD	26	25	01	non-directional bias
EPH-19-2.1	Batch QC	WG1371343-3	Acenaphthylene	LCSD	26	25	01	non-directional bias
EPH-19-2.1	Batch QC	WG1371343-3	Acenaphthene	LCSD	26	25	01	non-directional bias
EPH-19-2.1	Batch QC	WG1371343-3	Fluorene	LCSD	26	25	01	non-directional bias
EPH-19-2.1	Laboratory Method BI	WG1371770-1	Chloro-Octadecane	Surrogate	15	40-140	-	potential low bias
EPH-19-2.1	Batch QC	WG1371770-2	Chloro-Octadecane	Surrogate	19	40-140	-	potential low bias
EPH-19-2.1	Batch QC	WG1371770-3	Chloro-Octadecane	Surrogate	32	40-140	-	potential low bias

ORGANICS

VOLATILES

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2019722-01 D
 Client ID: OW B-2
 Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
 Date Received: 05/13/20
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 128,624.1
 Analytical Date: 05/14/20 23:38
 Analyst: GT

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

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2019722-01 D
 Client ID: OW B-2
 Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
 Date Received: 05/13/20
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	10	--	10
Trichloroethene	ND		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	50	--	10
1,3-Dichlorobenzene	ND		ug/l	50	--	10
1,4-Dichlorobenzene	ND		ug/l	50	--	10
p/m-Xylene	ND		ug/l	20	--	10
o-xylene	ND		ug/l	10	--	10
Xylenes, Total	ND		ug/l	10	--	10
Styrene	ND		ug/l	10	--	10
Acetone	ND		ug/l	100	--	10
Carbon disulfide	ND		ug/l	50	--	10
2-Butanone	ND		ug/l	100	--	10
Vinyl acetate	ND		ug/l	100	--	10
4-Methyl-2-pentanone	ND		ug/l	100	--	10
2-Hexanone	ND		ug/l	100	--	10
Acrolein	ND		ug/l	80	--	10
Acrylonitrile	ND		ug/l	100	--	10
Dibromomethane	ND		ug/l	10	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	100		60-140
Fluorobenzene	101		60-140
4-Bromofluorobenzene	101		60-140

SEMIVOLATILES

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2019722-01
 Client ID: OW B-2
 Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
 Date Received: 05/13/20
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 129,625.1
 Analytical Date: 05/15/20 10:01
 Analyst: SZ

Extraction Method: EPA 625.1
 Extraction Date: 05/14/20 03:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/l	2.00	--	1
Benzidine ¹	ND		ug/l	20.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.00	--	1
Hexachlorobenzene	ND		ug/l	2.00	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.00	--	1
2-Chloronaphthalene	ND		ug/l	2.00	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.00	--	1
2,4-Dinitrotoluene	ND		ug/l	5.00	--	1
2,6-Dinitrotoluene	ND		ug/l	5.00	--	1
Azobenzene ¹	ND		ug/l	2.00	--	1
Fluoranthene	ND		ug/l	2.00	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.00	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.00	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.00	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.00	--	1
Hexachlorobutadiene	ND		ug/l	2.00	--	1
Hexachlorocyclopentadiene ¹	ND		ug/l	10.0	--	1
Hexachloroethane	ND		ug/l	2.00	--	1
Isophorone	ND		ug/l	5.00	--	1
Naphthalene	ND		ug/l	2.00	--	1
Nitrobenzene	ND		ug/l	2.00	--	1
NDPA/DPA ¹	ND		ug/l	2.00	--	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.00	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.20	--	1
Butyl benzyl phthalate	ND		ug/l	5.00	--	1
Di-n-butylphthalate	ND		ug/l	5.00	--	1
Di-n-octylphthalate	ND		ug/l	5.00	--	1
Diethyl phthalate	ND		ug/l	5.00	--	1

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2019722-01
Client ID: OW B-2
Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
Date Received: 05/13/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Dimethyl phthalate	ND		ug/l	5.00	--	1
Benzo(a)anthracene	ND		ug/l	2.00	--	1
Benzo(a)pyrene	ND		ug/l	2.00	--	1
Benzo(b)fluoranthene	ND		ug/l	2.00	--	1
Benzo(k)fluoranthene	ND		ug/l	2.00	--	1
Chrysene	ND		ug/l	2.00	--	1
Acenaphthylene	ND		ug/l	2.00	--	1
Anthracene	ND		ug/l	2.00	--	1
Benzo(ghi)perylene	ND		ug/l	2.00	--	1
Fluorene	ND		ug/l	2.00	--	1
Phenanthrene	ND		ug/l	2.00	--	1
Dibenzo(a,h)anthracene	ND		ug/l	2.00	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.00	--	1
Pyrene	ND		ug/l	2.00	--	1
4-Chloroaniline ¹	ND		ug/l	5.00	--	1
Dibenzofuran ¹	ND		ug/l	2.00	--	1
2-Methylnaphthalene ¹	ND		ug/l	2.00	--	1
n-Nitrosodimethylamine ¹	ND		ug/l	2.00	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.00	--	1
p-Chloro-m-cresol ¹	ND		ug/l	2.00	--	1
2-Chlorophenol	ND		ug/l	2.00	--	1
2,4-Dichlorophenol	ND		ug/l	5.00	--	1
2,4-Dimethylphenol	ND		ug/l	5.00	--	1
2-Nitrophenol	ND		ug/l	5.00	--	1
4-Nitrophenol	ND		ug/l	10.0	--	1
2,4-Dinitrophenol	ND		ug/l	20.0	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10.0	--	1
Pentachlorophenol	ND		ug/l	5.00	--	1
Phenol	ND		ug/l	5.00	--	1
2-Methylphenol ¹	ND		ug/l	5.00	--	1
3-Methylphenol/4-Methylphenol ¹	ND		ug/l	5.00	--	1
2,4,5-Trichlorophenol ¹	ND		ug/l	5.00	--	1
Benzoic Acid ¹	ND		ug/l	50.0	--	1
Benzyl Alcohol ¹	ND		ug/l	2.00	--	1

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2019722-01
 Client ID: OW B-2
 Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
 Date Received: 05/13/20
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		25-87
Phenol-d6	36		16-65
Nitrobenzene-d5	76		42-122
2-Fluorobiphenyl	74		46-121
2,4,6-Tribromophenol	87		45-128
4-Terphenyl-d14	82		47-138

PETROLEUM HYDROCARBONS

Project Name: 600 MASSACHUSETTS AVENUE**Lab Number:** L2019722**Project Number:** 6691.9.01**Report Date:** 09/30/20**SAMPLE RESULTS**

Lab ID: L2019722-01
 Client ID: OW B-2
 Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
 Date Received: 05/13/20
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water
 Analytical Method: 135,EPH-19-2.1
 Analytical Date: 05/17/20 20:55
 Analyst: LL

Extraction Method: EPA 3510C
 Extraction Date: 05/16/20 03:24
 Cleanup Method1: EPH-04-1
 Cleanup Date1: 05/16/20

Quality Control Information

Condition of sample received: Satisfactory
 Aqueous Preservative: Laboratory Provided Preserved Container
 Sample Temperature upon receipt: Received on Ice
 Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	119		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	30	Q	40-140
o-Terphenyl	41		40-140
2-Fluorobiphenyl	52		40-140
2-Bromonaphthalene	55		40-140

Project Name: 600 MASSACHUSETTS AVENUE**Lab Number:** L2019722**Project Number:** 6691.9.01**Report Date:** 09/30/20**SAMPLE RESULTS**

Lab ID: L2019722-01 RE

Date Collected: 05/13/20 11:00

Client ID: OW B-2

Date Received: 05/13/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 3510C

Analytical Method: 135,EPH-19-2.1

Extraction Date: 05/18/20 10:28

Analytical Date: 05/19/20 04:25

Cleanup Method1: EPH-04-1

Analyst: LL

Cleanup Date1: 05/19/20

Quality Control Information

Condition of sample received:

Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method:

Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Extractable Petroleum Hydrocarbons - Westborough Lab

C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	542		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	25	Q	40-140
o-Terphenyl	51		40-140
2-Fluorobiphenyl	59		40-140
2-Bromonaphthalene	62		40-140

PCBS

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2019722-01
 Client ID: OW B-2
 Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
 Date Received: 05/13/20
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 127,608.3
 Analytical Date: 05/17/20 12:01
 Analyst: AWS

Extraction Method: EPA 608.3
 Extraction Date: 05/15/20 15:43
 Cleanup Method: EPA 3665A
 Cleanup Date: 05/16/20
 Cleanup Method: EPA 3660B
 Cleanup Date: 05/16/20

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	72		37-123	B
Decachlorobiphenyl	56		38-114	B
2,4,5,6-Tetrachloro-m-xylene	72		37-123	A
Decachlorobiphenyl	55		38-114	A

PESTICIDES

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2019722-01
 Client ID: OW B-2
 Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
 Date Received: 05/13/20
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 127,608.3
 Analytical Date: 05/17/20 16:15
 Analyst: SL

Extraction Method: EPA 608.3
 Extraction Date: 05/16/20 15:29
 Cleanup Method: EPA 3620B
 Cleanup Date: 05/17/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	--	1	A
Lindane	ND		ug/l	0.020	--	1	A
Alpha-BHC	ND		ug/l	0.020	--	1	A
Beta-BHC	ND		ug/l	0.020	--	1	A
Heptachlor	ND		ug/l	0.020	--	1	A
Aldrin	ND		ug/l	0.020	--	1	A
Heptachlor epoxide	ND		ug/l	0.020	--	1	A
Endrin	ND		ug/l	0.040	--	1	A
Endrin aldehyde	ND		ug/l	0.040	--	1	A
Endrin ketone ¹	ND		ug/l	0.040	--	1	A
Dieldrin	ND		ug/l	0.040	--	1	A
4,4'-DDE	ND		ug/l	0.040	--	1	A
4,4'-DDD	ND		ug/l	0.040	--	1	A
4,4'-DDT	ND		ug/l	0.040	--	1	A
Endosulfan I	ND		ug/l	0.020	--	1	A
Endosulfan II	ND		ug/l	0.040	--	1	A
Endosulfan sulfate	ND		ug/l	0.040	--	1	A
Methoxychlor ¹	ND		ug/l	0.100	--	1	A
Toxaphene	ND		ug/l	0.400	--	1	A
Chlordane	ND		ug/l	0.200	--	1	A
cis-Chlordane ¹	ND		ug/l	0.020	--	1	A
trans-Chlordane ¹	ND		ug/l	0.020	--	1	A

Project Name: 600 MASSACHUSETTS AVENUE**Lab Number:** L2019722**Project Number:** 6691.9.01**Report Date:** 09/30/20**SAMPLE RESULTS**

Lab ID: L2019722-01

Date Collected: 05/13/20 11:00

Client ID: OW B-2

Date Received: 05/13/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		47-124	A
Decachlorobiphenyl	119		32-167	A
2,4,5,6-Tetrachloro-m-xylene	85		47-124	B
Decachlorobiphenyl	131		32-167	B

METALS

Project Name: 600 MASSACHUSETTS AVENUE**Lab Number:** L2019722**Project Number:** 6691.9.01**Report Date:** 09/30/20**SAMPLE RESULTS**

Lab ID: L2019722-01

Date Collected: 05/13/20 11:00

Client ID: OW B-2

Date Received: 05/13/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.050	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Arsenic, Total	0.040		mg/l	0.005	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Cadmium, Total	ND		mg/l	0.005	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Chromium, Total	ND		mg/l	0.010	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Copper, Total	ND		mg/l	0.010	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Iron, Total	3.73		mg/l	0.050	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Lead, Total	ND		mg/l	0.010	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Mercury, Total	ND		mg/l	0.00020	--	1	05/18/20 13:17	05/19/20 10:03	EPA 245.1	3,245.1	GD
Nickel, Total	ND		mg/l	0.025	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Selenium, Total	ND		mg/l	0.010	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Silver, Total	ND		mg/l	0.007	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC
Zinc, Total	ND		mg/l	0.050	--	1	05/18/20 08:47	05/19/20 06:50	EPA 3005A	19,200.7	LC



INORGANICS & MISCELLANEOUS

Project Name: 600 MASSACHUSETTS AVENUE
Project Number: 6691.9.01

Lab Number: L2019722
Report Date: 09/30/20

SAMPLE RESULTS


Lab ID: L2019722-01
Client ID: OW B-2
Sample Location: CAMBRIDGE, MA

Date Collected: 05/13/20 11:00
Date Received: 05/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	69.		mg/l	5.0	NA	1	-	05/14/20 09:30	121,2540D	EM
pH (H)	7.0		SU	-	NA	1	-	05/13/20 20:30	121,4500H+-B	AS
Oil & Grease, Hem-Grav	ND		mg/l	4.0	--	1	05/15/20 09:24	05/15/20 09:35	74,1664A	DR



CHAIN OF CUSTODY		PAGE <u>1</u> OF <u>1</u>		Date Rec'd in Lab: <u>5/13/20</u>		ALPHA Job #: <u>L2019722</u>	
 <p>8 Walkup Drive Westboro, MA 01581 Tel: 508-898-8220</p> <p>320 Forbes Blvd Mansfield, MA 02048 Tel: 508-822-9300</p>		Project Information		Report Information - Data Deliverables		Billing Information	
		Project Name: <u>600 Massachusetts Avenue</u>		<input checked="" type="checkbox"/> ADEX <input type="checkbox"/> EMAIL		<input checked="" type="checkbox"/> Same as Client info PO #:	
Client Information		Project Location: <u>Cambridge, MA</u>		Regulatory Requirements & Project Information Requirements			
Client: <u>McPhail Associates, LLC</u>		Project #: <u>6691.9. 1312 01</u>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MA MCP Analytical Methods <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No CT RCP Analytical Methods <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Matrix Spike Required on this SDG? (Required for MCP Inorganics) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No GW1 Standards (Info Required for Metals & EPH with Targets) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NPDES RGP <input type="checkbox"/> Other State /Fed Program _____ Criteria _____			
Address: <u>2269 Massachusetts Avenue</u>		Project Manager: <u>ZMH</u>		TOTAL METALS: <input type="checkbox"/> RCRAB <input type="checkbox"/> PP13 <input type="checkbox"/> MCP 14 DISSOLVED METALS: <input type="checkbox"/> RCRAB <input type="checkbox"/> PP13 <input type="checkbox"/> MCP 14 METALS: Total Sb, Be, Ni, Ti, V, Zn <input type="checkbox"/> PCBs <input type="checkbox"/> Pesticides RGP Section A Inorganics <u>MURA De-watering Permit</u>			
Cambridge, MA 02140		ALPHA Quote #:					
Phone: (617) 868-1420		Turn-Around Time		Soil Assessment Package IV (less VOC) VOC: <input checked="" type="checkbox"/> 8260 Total Solids SVOC: <input type="checkbox"/> PAH EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only			
Email: <u>zholman</u> @McPhailgeo.com		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved!) Date Due:					
Additional Project Information:		SAMPLE INFO Filtration <input type="checkbox"/> Field <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do Sample Comments					
<input checked="" type="checkbox"/> Run TCLP (if triggered)							
Sample "Sample ID" Nomenclature: B-100, S-1							
ALPHA Lab ID (Lab Use Only)	Sample ID	Sample		Collection		Sampler Initials	TOTAL BOTTLES
		Depth	Material	Date	Time		
<u>19722-01</u>	<u>OW B-2</u>	<u>5'-10'</u>	<u>GW</u>	<u>5/13/20</u>	<u>11:00am</u>	<u>ZMH</u>	<u>16</u>
<u>-02</u>	<u>TP 201, 202, 204 Comp</u>	<u>0-3.5'</u>	<u>F</u>	<u>5/13/20</u>	<u>11:00</u>	<u>ZMH</u>	<u>3</u>
<u>-03</u>	<u>TP 201, 202, 204 Comp</u>	<u>2.5'-7'</u>	<u>N</u>	<u>5/13/20</u>	<u>11:00</u>	<u>ZMH</u>	<u>3</u>
<u>-04</u>	<u>TP-204</u>	<u>3"-3.5'</u>	<u>F</u>	<u>5/13/20</u>	<u>11:00</u>	<u>ZMH</u>	<u>3</u>
<u>-05</u>	<u>TP-201</u>	<u>5'-5.5'</u>	<u>N</u>	<u>5/13/20</u>	<u>11:00</u>	<u>ZMH</u>	<u>3</u>
Container Type A=Amber glass B=Bacteria cup C=Cube D=BOD bottle E=Encore G=Glass O=Other P=Plastic V=Vial Preservative A=None B=HCl C=HNO ₃ D=H ₂ SO ₄ E=NaOH F=MeOH G=NaHSO ₄ H=Na ₂ S ₂ O ₃ I=Ascorbic Acid J=NH ₄ Cl K=Zn Acetate O=Other Sample Material F=Fill S=Sand O=Organics C=Clay N=Natural T=Tile GM=Glaciomarine GW=Groundwater		RGP Section A Inorganics: Ammonia, Chloride, TRC, TSS, CrVI, CrIII, Total Cyanide, Total RGP Metals		Container Type: <u>A/P A</u> Preservative: <u>A F</u>		0 0 Mixed container Mixed Preservative	
Relinquished By: <u>ZMH</u>		Date/Time: <u>5/13/20 6:00 pm</u>		Received By: <u>McPhail Associates secure sample storage for laboratory pick-up</u>		Date/Time: <u>5/13/20 1:00 pm</u>	
McPhail Associates secure sample storage for laboratory pick-up		Date/Time: <u>5/13/20 1640</u>		Received By: <u>[Signature]</u>		Date/Time: <u>5/13/20 1312</u>	
All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.		DOC ID: 25188 Rev 0 (11/28/2017)					



ANALYTICAL REPORT

Lab Number:	L2053769
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	600 MASS AVE
Project Number:	6691.9.03
Report Date:	12/10/20

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 600 MASS AVE
Project Number: 6691.9.03

Lab Number: L2053769
Report Date: 12/10/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2053769-01	B-2 (OW)	WATER	CAMBRIDGE, MA	12/03/20 14:00	12/03/20

Project Name: 600 MASS AVE
Project Number: 6691.9.03

Lab Number: L2053769
Report Date: 12/10/20

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 NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. 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. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. 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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) 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 Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

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: *Melissa Sturgis* Melissa Sturgis

Title: Technical Director/Representative

Date: 12/10/20

METALS

Project Name: 600 MASS AVE**Lab Number:** L2053769**Project Number:** 6691.9.03**Report Date:** 12/10/20**SAMPLE RESULTS**

Lab ID: L2053769-01

Date Collected: 12/03/20 14:00

Client ID: B-2 (OW)

Date Received: 12/03/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.00381		mg/l	0.00100	--	1	12/10/20 10:28	12/10/20 15:43	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	699		mg/l	0.660	NA	1	12/10/20 10:28	12/10/20 15:58	EPA 3005A	19,200.7	GD
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		12/10/20 15:43	NA	107,-	



Project Name: 600 MASS AVE
Project Number: 6691.9.03

Lab Number: L2053769
Report Date: 12/10/20

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1442483-1									
Chromium, Total	ND	mg/l	0.00100	--	1	12/10/20 10:28	12/10/20 13:49	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1442485-1									
Hardness	ND	mg/l	0.660	NA	1	12/10/20 10:28	12/10/20 14:43	19,200.7	GD

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 600 MASS AVE

Project Number: 6691.9.03

Lab Number: L2053769

Report Date: 12/10/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1442483-2								
Chromium, Total	94		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1442485-2								
Hardness	99		-		85-115	-		

Matrix Spike Analysis Batch Quality Control

Project Name: 600 MASS AVE

Lab Number: L2053769

Project Number: 6691.9.03

Report Date: 12/10/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1442483-3 QC Sample: L2052973-01 Client ID: MS Sample												
Chromium, Total	ND	0.2	0.2076	104	-	-	-	-	70-130	-	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1442483-5 QC Sample: L2052973-02 Client ID: MS Sample												
Chromium, Total	ND	0.2	0.2266	113	-	-	-	-	70-130	-	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1442485-3 QC Sample: L2052973-01 Client ID: MS Sample												
Hardness	310	66.2	372	94	-	-	-	-	75-125	-	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1442485-7 QC Sample: L2052973-02 Client ID: MS Sample												
Hardness	318	66.2	377	89	-	-	-	-	75-125	-	-	20

Lab Duplicate Analysis *Batch Quality Control*

Project Name: 600 MASS AVE

Project Number: 6691.9.03

Lab Number: L2053769

Report Date: 12/10/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1442483-4 QC Sample: L2052973-01 Client ID: DUP Sample						
Chromium, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1442483-6 QC Sample: L2052973-02 Client ID: DUP Sample						
Chromium, Total	ND	ND	mg/l	NC		20

INORGANICS & MISCELLANEOUS

Project Name: 600 MASS AVE

Lab Number: L2053769

Project Number: 6691.9.03

Report Date: 12/10/20

SAMPLE RESULTS

Lab ID: L2053769-01

Date Collected: 12/03/20 14:00

Client ID: B-2 (OW)

Date Received: 12/03/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	12/08/20 14:55	12/08/20 17:01	121,4500CN-CE	CR
Chlorine, Total Residual	0.07		mg/l	0.02	--	1	-	12/04/20 01:41	121,4500CL-D	AW
Nitrogen, Ammonia	0.230		mg/l	0.150	--	2	12/09/20 04:46	12/10/20 13:50	121,4500NH3-BH	JO
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/04/20 09:16	12/04/20 10:00	1,7196A	KP
Anions by Ion Chromatography - Westborough Lab										
Chloride	1180		mg/l	12.5	--	25	-	12/07/20 22:52	44,300.0	SH



Project Name: 600 MASS AVE

Lab Number: L2053769

Project Number: 6691.9.03

Report Date: 12/10/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1440978-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/04/20 01:41	121,4500CL-D	AW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1441135-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/04/20 09:16	12/04/20 09:57	1,7196A	KP
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1442122-1										
Chloride	ND		mg/l	0.500	--	1	-	12/07/20 16:51	44,300.0	SH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1442394-1										
Cyanide, Total	ND		mg/l	0.005	--	1	12/08/20 14:55	12/08/20 16:55	121,4500CN-CE	CR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1442546-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	12/09/20 04:46	12/10/20 13:45	121,4500NH3-BH	JO

Lab Control Sample Analysis

Batch Quality Control

Project Name: 600 MASS AVE

Project Number: 6691.9.03

Lab Number: L2053769

Report Date: 12/10/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1440978-2								
Chlorine, Total Residual	104		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1441135-2								
Chromium, Hexavalent	106		-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1442122-2								
Chloride	103		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1442394-2								
Cyanide, Total	99		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1442546-2								
Nitrogen, Ammonia	92		-		80-120	-		20

Matrix Spike Analysis Batch Quality Control

Project Name: 600 MASS AVE

Lab Number: L2053769

Project Number: 6691.9.03

Report Date: 12/10/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1440978-4 QC Sample: L2053643-02 Client ID: MS Sample												
Chlorine, Total Residual	ND	0.25	0.24	96		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1441135-4 QC Sample: L2053769-01 Client ID: B-2 (OW)												
Chromium, Hexavalent	ND	0.1	0.105	105		-	-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1442122-3 QC Sample: L2054242-01 Client ID: MS Sample												
Chloride	137	40	168	78	Q	-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1442394-4 QC Sample: L2053231-01 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.198	99		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1442546-4 QC Sample: L2054061-08 Client ID: MS Sample												
Nitrogen, Ammonia	0.315	4	4.00	92		-	-		80-120	-		20

Lab Duplicate Analysis Batch Quality Control

Project Name: 600 MASS AVE
Project Number: 6691.9.03

Lab Number: L2053769
Report Date: 12/10/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1440978-3 QC Sample: L2053643-01 Client ID: DUP Sample						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1441135-3 QC Sample: L2053769-01 Client ID: B-2 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1442122-4 QC Sample: L2054242-01 Client ID: DUP Sample						
Chloride	137	140	mg/l	2		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1442394-3 QC Sample: L2053231-01 Client ID: DUP Sample						
Cyanide, Total	ND	0.005	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1442546-3 QC Sample: L2054061-08 Client ID: DUP Sample						
Nitrogen, Ammonia	0.315	0.327	mg/l	4		20



Project Name: 600 MASS AVE**Lab Number:** L2053769**Project Number:** 6691.9.03**Report Date:** 12/10/20**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2053769-01A	Plastic 250ml unpreserved	A	7	7	3.2	Y	Absent		CL-300(28)
L2053769-01B	Plastic 250ml H2SO4 preserved	A	<2	<2	3.2	Y	Absent		NH3-4500(28)
L2053769-01C	Plastic 250ml NaOH preserved	A	>12	>12	3.2	Y	Absent		TCN-4500(14)
L2053769-01D	Plastic 500ml unpreserved	A	7	7	3.2	Y	Absent		TRC-4500(1)
L2053769-01E	Plastic 500ml unpreserved	A	7	7	3.2	Y	Absent		HEXCR-7196(1)
L2053769-01F	Plastic 500ml HNO3 preserved	A	<2	<2	3.2	Y	Absent		HARDU(180),CR-2008T(180)

Project Name: 600 MASS AVE
Project Number: 6691.9.03

Lab Number: L2053769
Report Date: 12/10/20

GLOSSARY

Acronyms

DL	- 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 limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
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.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
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.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: 600 MASS AVE
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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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- 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. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- 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.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- 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.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report



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Data Qualifiers

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.

Project Name: 600 MASS AVE
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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 107 Alpha Analytical - In-house calculation method.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

EPA TO-12 Non-methane organics

EPA 3C Fixed gases

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: 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

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg. **EPA 522.**

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

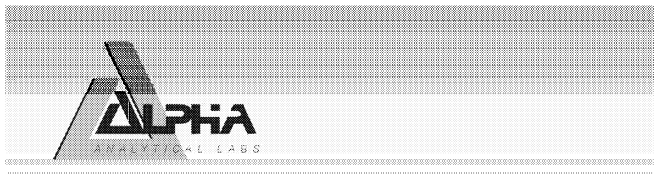
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



APPENDIX E:

LABORATORY ANALYTICAL DATA – SURFACE WATER



McPhail Job No. 6691.9.03

Invoice Number: 591859
Invoice Date: 09-OCT-20
Report Due: 08-OCT-20
Account Number: MCPHAIL
Receive Date: 02-OCT-20

Alpha Job #: L2042092
Quote #:
Payment Terms: Net 30
P.O. Number:

Invoice To:
Ms. Christine Winship
McPhail Associates
2269 Massachusetts Avenue
Cambridge, MA 02140

Report To:
Mr. Ambrose Donovan
McPhail Associates
2269 Massachusetts Avenue
Cambridge, MA 02140

Project Number: 6691
Site: 600 MASS AVE

Alpha Contact: Melissa Gulli
Project Manager: Derek Trussell

Table with 5 columns: Matrix, Description, Unit Price, Quantity, Total Price. Rows include Total Hardness, Ammonia Nitrogen, Total NPDES Metals, pH-Hydrogen ion concentration, and Total Cyanide.

Total Amount Due: \$ 327.00

Payments should be made via ACH(electronic) transfer directly to Alpha's bank account on or before due date. If you are not enrolled in our electronic payments program please contact us at ar@alphalab.com. If you do not have access to pay Alpha via ACH or wire transfer you may remit payment to the address below. Please include Alpha's invoice number/s on your remittance.



APPENDIX F:
BEST MANAGEMENT PRACTICE PLAN



BEST MANAGEMENT PRACTICES PLAN

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering that will occur during development of the 600 Massachusetts Avenue project 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

During construction of the proposed building foundation, dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavation directly into a settling tank. Dewatering effluent treatment will consist of a settling tank, bag filters to remove suspended soil particulates, and, if required, ion resin media vessels prior to off-site discharge. The effluent will then flow through the necessary treatment systems and discharge through hoses or piping connected into the storm water drains located beneath Green Street and Massachusetts Avenue. Based upon a review of the Boston Water and Sewer Commission stormwater drainage plan, the above referenced stormwater drain system ultimately discharges into the Charles River at outfall D10.

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. During the first week of discharge, the operator must sample the untreated influent and treated effluent two times: one (1) sample of untreated influent and one (1) sample of treated effluent be collected on the first day of discharge, and one (1) sample of untreated influent and one (1) sample of treated effluent must be collected on one additional non-consecutive day within the first week of discharge. Samples must be analyzed in accordance with 40 CFR §136 unless otherwise specified by the RGP, with a maximum 5-day turnaround time and results must be reviewed no more than 48 hours from receipt of the results of each sampling event. After the first week, samples may be analyzed with up to a ten (10)-day turnaround time and results must be reviewed no more than 72 hours from receipt of the results. If the treatment system is operating as designed and achieving the effluent limitations outlined in the RGP, on-going sampling shall be conducted weekly for three (3) additional weeks beginning no earlier than 24 hours following initial sampling, and monthly as described below. Any adjustments/reductions in monitoring frequency must be approved by EPA in writing.

In accordance with Part 4.1 of the RGP, the operator must perform routine monthly monitoring for both influent and effluent beginning no more than 30 days following the completion of the sampling requirements for new discharges or discharges that have been interrupted. The routine monthly monitoring is to be conducted through the end of the scheduled discharge. The routine monthly monitoring must continue for five (5)



consecutive months prior to submission of any request for modification of monitoring frequency.

Dewatering activity for the Site is classified as Category III-G: Sites with Known Contamination. Monitoring shall include analysis of influent and effluent samples for the presence of: pH and inorganics as listed in the RGP including: ammonia, chloride, total residual chlorine, total suspended solids, antimony, arsenic, cadmium, chromium III, chromium VI, copper, lead, mercury, nickel, selenium, silver, zinc and cyanide.

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.

System Maintenance

A number of methods will be used to minimize the potential for violations during the term of this permit discharge. Scheduled regular maintenance and periodic cleaning of the treatment system will be conducted to verify proper operation and shall be conducted in accordance with Section 1.11 of the project earthwork specifications. Regular maintenance will include checking the condition of the treatment system equipment such as the settling tanks, bag filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential matters and unscheduled maintenance requirements.

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

Miscellaneous Items

Site security for the treatment system will be addressed within the overall site security plan.

Management of Treatment System Materials

Dewatering effluent will be pumped directly into 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. Bag and ion filters will be replaced/disposed of as necessary.