



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**Region 1**

**5 Post Office Square, Suite 100  
BOSTON, MA 02109-3912**

**CERTIFIED MAIL RETURN RECEIPT REQUESTED**

**JUN 01 2012**

Dennis Sullivan  
Vice President  
National Water Main Cleaning Company  
25 Marshall St.  
Canton, MA 02021

Re: Authorization to discharge under the Remediation General Permit (RGP) –  
MAG910000. Brookline Overflow Conduit site located on Storrow Drive, Boston, MA  
02215, Suffolk County; Authorization # MAG910538

Dear Mr. Sullivan:

Based on the review of a Notice of Intent (NOI) submitted on behalf of National Water Main Cleaning Company by the firm Lightship Engineering, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Owner and Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes parameters you must treat before effluent is discharged. This authorization does not support or allow by-passes of untreated influent into the Charles River. Unauthorized discharges of this nature would violate Section 301 (a) of the Clean Water Act and render the discharger subject to the civil and/or criminal enforcement provisions of Section 309 of the Act.

Please note also, the enclosed checklist includes parameters that you have marked "Believed Present." Also, note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. For each parameter the dilution factor 19.57 for this

site is within a dilution range greater than ten to fifty ( $>10 - 50$ ), established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for antimony of 60 ug/L, arsenic of 10ug/L, cadmium of 2 ug/L, hexavalent chromium of 114 ug/L, copper of 52 ug/L, lead of 13ug/L, mercury of 2.3 ug/L, nickel of 290 ug/L, silver of 12 ug/L, zinc of 666 ug/L and iron of 5,000 ug/L, are required to achieve permit compliance at your site.

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

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on August 31, 2012. If for any reason the discharge terminates sooner you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,



Thelma Murphy, Manager  
Storm Water and Construction  
Permits Section

Enclosure

cc: Kathleen Keohane, MassDEP  
Paul Canavan, BWSC  
Kate Bowditch, CRWA  
Scott Kraihanzel, Lightship Engineering

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

|                                            |                                                                                                                      |                  |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------|
| <b>NPDES Authorization Number:</b>         |                                                                                                                      | <b>MAG910538</b> |
| Authorization Issued:                      | May, 2012                                                                                                            |                  |
| Facility/Site Name:                        | Brookline Overflow Conduit                                                                                           |                  |
| Facility/Site Address:                     | Storrow Drive, Boston, MA 02215                                                                                      |                  |
|                                            | Email address of owner: <a href="mailto:anandan.navanandan@mwra.state.ma.us">anandan.navanandan@mwra.state.ma.us</a> |                  |
| Legal Name of Operator:                    | National Water Main Cleaning Company                                                                                 |                  |
| Operator contact name, title, and Address: | Dennis Sullivan, Vice President, 25 Marshall St., Canton, MA 02021                                                   |                  |
|                                            | Email:                                                                                                               |                  |
| Estimated date of Completion:              | August 31, 2012                                                                                                      |                  |
| Category and Sub-Category:                 | Category III- Contaminated Construction Dewatering. Sub-category A. Urban Fill Sites                                 |                  |
| RGP Termination Date:                      | September 10, 2015                                                                                                   |                  |
| Receiving Water:                           | Charles River                                                                                                        |                  |
|                                            |                                                                                                                      |                  |

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

|   | <b><u>Parameter</u></b>                                                   | <b><u>Effluent Limit/Method#/ML</u></b><br>(All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ✓ | 1. Total Suspended Solids (TSS)                                           | 30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/ML5ug/L                                                                                         |
|   | 2. Total Residual Chlorine (TRC) <sup>1</sup>                             | Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L                                                                                                        |
|   | 3. Total Petroleum Hydrocarbons (TPH)                                     | 5.0 mg/L/ Me# 1664A/ML 5.0mg/L                                                                                                                                             |
| ✓ | 4. Cyanide (CN) <sup>2, 3</sup>                                           | Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L                                                                                                       |
|   | 5. Benzene (B)                                                            | 5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L                                                                                                          |
|   | 6. Toluene (T)                                                            | (limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L                                                                                                                           |
|   | 7. Ethylbenzene (E)                                                       | (limited as ug/L total BTEX) Me#8260C/ ML 2ug/L                                                                                                                            |
|   | 8. (m,p,o) Xylenes (X)                                                    | (limited as ug/L total BTEX) Me#8260C/ ML 2ug/L                                                                                                                            |
|   | 9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) <sup>4</sup> | 100 ug/L/ Me#8260C/ ML 2ug/L                                                                                                                                               |

|   | <b><u>Parameter</u></b>                                       | <b><u>Effluent Limit/Method#/ML</u></b><br>(All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)             | 0.05 ug/l/ Me#8260C/ ML 10ug/L                                                                                                                                             |
|   | 11. Methyl-tert-Butyl Ether (MtBE)                            | 70.0 ug/l/Me#8260C/ML 10ug/L                                                                                                                                               |
|   | 12.tert-Butyl Alcohol (TBA) (TertiaryButanol)                 | Monitor Only(ug/L)/Me#8260C/ML 10ug/L                                                                                                                                      |
|   | 13. tert-Amyl Methyl Ether (TAME)                             | Monitor Only(ug/L)/Me#8260C/ML 10ug/L                                                                                                                                      |
|   | 14. Naphthalene <sup>5</sup>                                  | 20 ug/L /Me#8260C/ML 2ug/L                                                                                                                                                 |
|   | 15. Carbon Tetrachloride                                      | 4.4 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 16. 1,2 Dichlorobenzene (o-DCB)                               | 600 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 17. 1,3 Dichlorobenzene (m-DCB)                               | 320 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 18. 1,4 Dichlorobenzene (p-DCB)                               | 5.0 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 18a. Total dichlorobenzene                                    | 763 ug/L - NH only /Me#8260C/ ML 5ug/L                                                                                                                                     |
|   | 19. 1,1 Dichloroethane (DCA)                                  | 70 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 20. 1,2 Dichloroethane (DCA)                                  | 5.0 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 21. 1,1 Dichloroethene (DCE)                                  | 3.2 ug/L/Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 22. cis-1,2 Dichloroethene (DCE)                              | 70 ug/L/Me#8260C/ ML 5ug/L                                                                                                                                                 |
|   | 23. Methylene Chloride                                        | 4.6 ug/L/Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 24. Tetrachloroethene (PCE)                                   | 5.0 ug/L/Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 25. 1,1,1 Trichloro-ethane (TCA)                              | 200 ug/L/Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 26. 1,1,2 Trichloro-ethane (TCA)                              | 5.0 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 27. Trichloroethene (TCE)                                     | 5.0 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 28. Vinyl Chloride (Chloroethene)                             | 2.0 ug/L /Me#8260C/ ML 5ug/L                                                                                                                                               |
| ✓ | 29. Acetone                                                   | Monitor Only(ug/L)/Me#8260C/ML 50ug/L                                                                                                                                      |
|   | 30. 1,4 Dioxane                                               | Monitor Only /Me#1624C/ML 50ug/L                                                                                                                                           |
|   | 31. Total Phenols                                             | 300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L                                                                                                                    |
|   | 32. Pentachlorophenol (PCP)                                   | 1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L                                                                                                                          |
| ✓ | 33. Total Phthalates (Phthalate esters) <sup>6</sup>          | 3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L                                                                                                          |
| ✓ | 34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] | 6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L                                                                                                             |
| ✓ | 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)      | 10.0 ug/L                                                                                                                                                                  |
| ✓ | a. Benzo(a) Anthracene <sup>7</sup>                           | 0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L                                                                                                          |

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

|   | <b><u>Metal parameter</u></b> | <b><u>Total Recoverable Metal Limit @ H <sup>10</sup> = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l)</u></b><br><small>11/12</small> |                         | <b><u>Minimum level=ML</u></b> |
|---|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|
|   |                               | <b><u>Freshwater</u></b>                                                                                                                     | <b><u>Saltwater</u></b> |                                |
| ✓ | 39. Antimony                  | 5.6/ML 10                                                                                                                                    |                         |                                |
| ✓ | 40. Arsenic **                | 10/ML 20                                                                                                                                     | 36/ML 20                |                                |

|   | <b>Metal parameter</b>             | <b>Total Recoverable<br/>Metal Limit @ H<sup>10</sup> = 50<br/>mg/l CaCO<sub>3</sub> for<br/>discharges in<br/>Massachusetts (ug/l)<br/><sub>11/12</sub></b> |                  | <b>Minimum<br/>level=ML</b> |  |
|---|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|--|
|   |                                    | <b>Freshwater</b>                                                                                                                                            | <b>Saltwater</b> |                             |  |
| ✓ | 41. Cadmium **                     | 2/ML10                                                                                                                                                       | 8.9/ML 10        |                             |  |
| ✓ | 42. Chromium III (trivalent)<br>** | 489/ML15                                                                                                                                                     | 100/ML 15        |                             |  |
|   | 43. Chromium VI (hexavalent)<br>** | 114/ML10                                                                                                                                                     | 50.3/ML<br>10    |                             |  |
| ✓ | 44. Copper **                      | 52/ML15                                                                                                                                                      | 3.7/ML 15        |                             |  |
| ✓ | 45. Lead **                        | 13/ML20                                                                                                                                                      | 8.5/ML 20        |                             |  |
| ✓ | 46. Mercury **                     | 2.3/ML0.2                                                                                                                                                    | 1.1/ML<br>0.2    |                             |  |
| ✓ | 47. Nickel **                      | 290/ML20                                                                                                                                                     | 8.2/ML 20        |                             |  |
|   | 48. Selenium **                    | 50/ML20                                                                                                                                                      | 71/ML 20         |                             |  |
| ✓ | 49. Silver                         | 12/ML10                                                                                                                                                      | 2.2/ML 10        |                             |  |
| ✓ | 50. Zinc **                        | 666/ML15                                                                                                                                                     | 85.6/ML<br>15    |                             |  |
| ✓ | 51. Iron                           | 5,000/ML 20                                                                                                                                                  |                  |                             |  |

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

Footnotes:

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

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

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

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

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

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

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

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

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

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

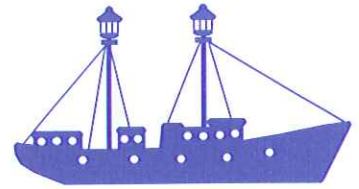
<sup>10</sup> Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

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

<sup>12</sup> Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

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

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



May 14, 2012

Victor Alvarez  
EPA New England  
1 Congress Street, Suite 1100  
Boston, Massachusetts 02114

**RE: National Pollutant Discharge Elimination System Dewatering General Permit  
Brookline Overflow Conduit  
Storrow Drive  
Boston, Massachusetts  
Lightship Eng. Project No. 889**

Dear Mr. Alvarez:

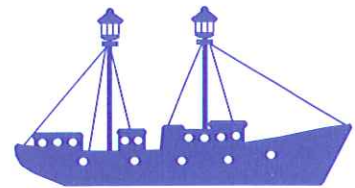
On behalf of National Water Main Cleaning Company ("NWMCC"), Lightship Engineering, LLC ("Lightship Engineering") is submitting the attached Notice of Intent ("NOI") for coverage under the National Pollutant Discharge Elimination System ("NPDES") Remediation General Permit ("RGP") during stormwater sediment removal within the Brookline Overflow Conduit located in Boston, Massachusetts (the "Site"). The proposed construction project will require dewatering and sediment removal of an overflow conduit. The sediment removal activities will be conducted in an area approximately one acre.

NWMCC and Lightship Engineering have been advised by the MWRA that its stormwater conduit is an authorized discharge under Permit Number MA0103284.

This is a complicated project because of the urban location in which NWMCC has been retained to work and the complications created by the ultimate discharge location in the Charles River. This permit application is for the discharge of treated water that will come in contact with NWMCC's work area either by infiltration or light rainfall during the period of the project. NWMCC estimate that the project will last from June 4 to August 31, 2012.

During that time, NWMCC will establish a treatment facility that will treat up to 600 gallons per minute of flow entering the conduit during our project. The permit application describes the treatment system and seeks permission for the discharge from the treatment system of the treated water.

Of course, NWMCC cannot control the number, frequency or severity of the rainfall events that might occur during the project. NWMCC has made special provisions to handle water up to 20 million gallons per day in the event that there is a more significant storm. In order to prevent that water from coming in contact with our work area within the conduit, NWMCC will be constructing internal piping within the larger stormwater conduit sufficient to handle up to 20 million gallons of water per day. In the event that the flow in the conduit



EPA New England  
May 14, 2012  
Page 2 of 4

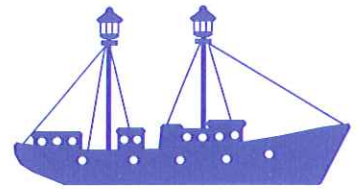
exceeds the capacity of our treatment system as permitted by this application, NWMCC will divert water into the internal piping where it will pass through the conduit into the Charles River without contacting our work area. NWMCC can build internal piping sufficient to handle 20 million gallons of water per day.

Obviously, however, NWMCC cannot build an internal pipe large enough to handle an unlimited storm size. In the event of a storm causing flow at a rate of over 20 million gallons per day, NWMCC will have to evacuate our personnel from the conduit and the excess water will pass through the conduit and come in contact with our work area. NWMCC and Lightship Engineering have been advised by the MWRA that it is not possible to seal the Brookline conduit to prevent stormwater from entering the conduit in the event of a storm of this magnitude. With that much rainfall, sealing the conduit would result in flooding of nearby urban structures and mass transit systems. Thus, in the event of a severe rainfall event, NWMCC will need to allow the water to pass through the conduit through our work area in contact with disturbed materials and then into the Charles River. According to the MWRA, Permit Number MA0103284 authorizes these discharges in excess of 20 million gallons per day.

Ultimately, this project will improve the quality of the water flowing through Brookline Stormwater Conduit by removing sediment otherwise in contact with that flow. At the completion of the project, the flow should be cleaner and have less sediment than exists currently. NWMCC and Lightship Engineering wanted to let you know about the particular features of this project, however, because it is possible that there will be an interim increase in sediment discharge to the Charles River in the event of a severe rainfall event over 20 million gallons of water per day because of the physical and safety limitations imposed by the project.

Please find the following attached information in connection with the RGP for the Site:

- Notice of Intent Submittal Form;
- Transmittal Form for Permit Application and Payment – X251175
- Attachment A – Figures
  - Figure 1 – Site Locus Map
  - Figure 2 – Description of Treatment System
- Attachment B – Areas of Critical Environmental Concern MassGIS;
- Attachment C – Dilution Factor Calculation



EPA New England  
May 14, 2012  
Page 3 of 4

- Attachment D – Stream Stats Ungaged Site Report
- Attachment E – MSDS Sheets
  - Potassium Hydroxide
  - Floc Blocks
- Attachment F – Laboratory Report

A pump will be used to transfer stormdrain water from the stormwater overflow conduit area before the cap at the location indicated on Figure 1, Attachment A, through two filter boxes. The stormdrain water will then be transferred via a second pump to three 20,000-gallon fractionation tanks. The stormdrain water will then be transferred via a third pump through sand media, bag filters (if necessary) and granular activated carbon media prior to discharge to the stormwater overflow conduit after the cap. The stormwater treatment system will be designed to treat and discharge stormwater at a maximum flow rate of 600 gallons per minute (“gpm”) and an average flow rate of 600 gpm.

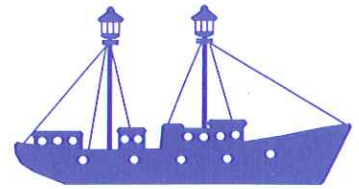
The treated stormwater will be discharged to the stormwater overflow conduit after the cap, on-Site, as indicated on Figure 1, Attachment A. The stormwater overflow conduit ultimately discharges to the Charles River. A schematic of the treatment system is provided as Figure 2, Attachment A.

The treated water will be sampled consistent with the RGP requirements from in-line influent and effluent sample ports. The samples will be submitted to a Commonwealth of Massachusetts certified analytical laboratory on a 48-hour turnaround time. The treatment system is expected to be operated for a period of approximately three months.

Your assistance in processing this NOI is greatly appreciated. If you have any questions, please call Scott Kraihanzel at (508) 830-3344, extension 220.

Very truly yours,  
Lightship Engineering, LLC

Scott Kraihanzel  
Project Manager



EPA New England  
May 14, 2012  
Page 4 of 4

Attachments

cc: Department of Environmental Protection, Division of Watershed Management  
Mr. Dennis Sullivan, National Water Main Cleaning Company

**NOTICE OF INTENT SUBMITTAL FORM**

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

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

|                                                                     |                       |                                                                                              |         |
|---------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------|---------|
| a) Name of facility/site: Brookline Overflow Conduit                |                       | Facility/site mailing address:                                                               |         |
| Location of facility/site:                                          | Facility SIC code(s): | Street:                                                                                      |         |
| Longitude: 71 06'22.82                                              | 4959                  | NA                                                                                           |         |
| Latitude: 42 21'05.03                                               |                       |                                                                                              |         |
| b) Name of facility/site owner:                                     |                       | Town:                                                                                        | County: |
| Email address of facility/site owner:                               |                       | State:                                                                                       | Zip:    |
| anandan.navanandan@mwra.state.ma.us                                 |                       | Massachusetts                                                                                |         |
| Telephone no. of facility/site owner:                               |                       | Owner is (check one): 1. Federal <input type="radio"/> 2. State/Tribal <input type="radio"/> |         |
| 617-570-5425                                                        |                       | 3. Private <input type="radio"/> 4. Other <input type="radio"/> if so, describe:             |         |
| Fax no. of facility/site owner:                                     |                       | Massachusetts Water Resource Authority ("MWRA")                                              |         |
| 617-371-1606                                                        |                       |                                                                                              |         |
| Address of owner (if different from site):                          |                       |                                                                                              |         |
| Street: 2 Griffin Way                                               |                       |                                                                                              |         |
| Town:                                                               | State:                | Zip:                                                                                         | County: |
| Chelsea                                                             | MA                    | 02150                                                                                        | Suffolk |
| c) Legal name of operator:                                          |                       | Operator telephone no:                                                                       |         |
| National Water Main Cleaning Co.                                    |                       |                                                                                              |         |
| Operator fax no.:                                                   |                       | Operator email:                                                                              |         |
| 781-828-0862                                                        |                       | james.fleming@nwmcc.com                                                                      |         |
| Operator contact name and title: James W. Fleming, Project Engineer |                       |                                                                                              |         |
| Address of operator (if different from owner):                      |                       | Street:                                                                                      |         |
|                                                                     |                       | 875 Summer Avenue                                                                            |         |
| Town:                                                               | State:                | Zip:                                                                                         | County: |
| Newark                                                              | NJ                    | 07104-3684                                                                                   | Essex   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>d) Check Y for "yes" or N for "no" for the following:</p> <p>1. Has a prior NPDES permit exclusion been granted for the discharge? Y <input type="radio"/> N <input checked="" type="radio"/>, if Y, number: <input style="width: 100px;" type="text"/></p> <p>2. Has a prior NPDES application (Form 1 &amp; 2C) ever been filed for the discharge? Y <input type="radio"/> N <input checked="" type="radio"/>, if Y, date and tracking #: <input style="width: 100px;" type="text"/></p> <p>3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y <input checked="" type="radio"/> N <input type="radio"/></p> <p>4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y <input type="radio"/> N <input checked="" type="radio"/></p>                                                                                          | <p>e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y <input type="radio"/> N <input checked="" type="radio"/></p> <p>If Y, please list:</p> <p>1. site identification # assigned by the state of NH or MA: <input style="width: 100px;" type="text"/></p> <p>2. permit or license # assigned: <input style="width: 100px;" type="text"/></p> <p>3. state agency contact information: name, location, and telephone number: <input style="width: 100px;" type="text"/></p>                                                                                                               |
| <p>f) Is the site/facility covered by any other EPA permit, including:</p> <p>1. Multi-Sector General Permit? Y <input type="radio"/> N <input checked="" type="radio"/>, if Y, number: <input style="width: 100px;" type="text"/></p> <p>2. Final Dewatering General Permit? Y <input type="radio"/> N <input checked="" type="radio"/>, if Y, number: <input style="width: 100px;" type="text"/></p> <p>3. EPA Construction General Permit? Y <input type="radio"/> N <input checked="" type="radio"/>, if Y, number: <input style="width: 100px;" type="text"/></p> <p>4. Individual NPDES permit? Y <input checked="" type="radio"/> N <input type="radio"/>, if Y, number: <input style="width: 100px;" type="text"/> MA0103284</p> <p>5. any other water quality related individual or general permit? Y <input type="radio"/> N <input checked="" type="radio"/>, if Y, number: <input style="width: 100px;" type="text"/></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y <input type="radio"/> N <input checked="" type="radio"/></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>Activity Category</b></p> <p>I - Petroleum Related Site Remediation</p> <p>II - Non Petroleum Site Remediation</p> <p>III - Contaminated Construction Dewatering</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>Activity Sub-Category</b></p> <p>A. Gasoline Only Sites <input type="checkbox"/></p> <p>B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) <input type="checkbox"/></p> <p>C. Petroleum Sites with Additional Contamination <input type="checkbox"/></p> <p>A. Volatile Organic Compound (VOC) Only Sites <input type="checkbox"/></p> <p>B. VOC Sites with Additional Contamination <input type="checkbox"/></p> <p>C. Primarily Heavy Metal Sites <input type="checkbox"/></p> <p>A. General Urban Fill Sites <input checked="" type="checkbox"/></p> <p>B. Known Contaminated Sites <input type="checkbox"/></p> |

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

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

|                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a) Describe the discharge activities for which the owner/applicant is seeking coverage:                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                             |
| Discharge of water generated in the process of storm drain conduit cleaning. Up to 600 gallons per minute of flow will be generated during sediment removal activities.                                                                                            |                                                                                                                                                                                                                                                                                                                                                             |
| b) Provide the following information about each discharge:                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                             |
| 1) Number of discharge points: <u>1</u>                                                                                                                                                                                                                            | 2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft <sup>3</sup> /s)?<br>Max. flow <u>1.33</u> Is maximum flow a <b>design value</b> ? Y <input checked="" type="radio"/> N <input type="radio"/><br>Average flow (include units) <u>1.33</u> Is average flow a design value or estimate? <u>Estimate</u> |
| 3) Latitude and longitude of each discharge within 100 feet:                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                             |
| pt. 1: lat <u>42°21'05.55</u> long <u>71°06'22.22</u>                                                                                                                                                                                                              | pt. 2: lat <u>          </u> long <u>          </u>                                                                                                                                                                                                                                                                                                         |
| pt. 3: lat <u>          </u> long <u>          </u>                                                                                                                                                                                                                | pt. 4: lat <u>          </u> long <u>          </u>                                                                                                                                                                                                                                                                                                         |
| pt. 5: lat <u>          </u> long <u>          </u>                                                                                                                                                                                                                | pt. 6: lat <u>          </u> long <u>          </u>                                                                                                                                                                                                                                                                                                         |
| pt. 7: lat <u>          </u> long <u>          </u>                                                                                                                                                                                                                | pt. 8: lat <u>          </u> long <u>          </u> etc.                                                                                                                                                                                                                                                                                                    |
| 4) If hydrostatic testing, total volume of the discharge (gals): <u>          </u>                                                                                                                                                                                 | 5) Is the discharge intermittent <input type="radio"/> or seasonal <input type="radio"/> ?<br>Is discharge ongoing? Y <input checked="" type="radio"/> N <input type="radio"/>                                                                                                                                                                              |
| c) Expected dates of discharge (mm/dd/yy): start <u>Jun 4, 2012</u> end <u>Aug 31, 2012</u>                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                             |
| d) Please attach a line drawing or flow schematic showing water flow through the facility including:<br>1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s) <u>          </u> |                                                                                                                                                                                                                                                                                                                                                             |

### 3. Contaminant information.

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

| Parameter *                                                   | CAS Number                              | Believed Absent                     | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|---------------------------------------------------------------|-----------------------------------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                                                               |                                         |                                     |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 1. Total Suspended Solids (TSS)                               |                                         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 30,2540D                          | 50000 ug/l                        | 390000               |           | 390000               |           |
| 2. Total Residual Chlorine (TRC)                              |                                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 30,4500CL-D                       | 100 ug/l                          | ND                   |           | ND                   |           |
| 3. Total Petroleum Hydrocarbons (TPH)                         |                                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 74,1664A                          | 4000 ug/l                         | ND                   |           | ND                   |           |
| 4. Cyanide (CN)                                               | 57125                                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 30,4500CN-CE                      | 5 ug/l                            | 20                   |           | 20                   |           |
| 5. Benzene (B)                                                | 71432                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 5 ug/l                            | ND                   |           | ND                   |           |
| 6. Toluene (T)                                                | 108883                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 75 ug/l                           | ND                   |           | ND                   |           |
| 7. Ethylbenzene (E)                                           | 100414                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 5 ug/l                            | ND                   |           | ND                   |           |
| 8. (m,p,o) Xylenes (X)                                        | 108883;<br>106423;<br>95476;<br>1330207 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 1 ug/l                            | ND                   |           | ND                   |           |
| 9. Total BTEX <sup>2</sup>                                    | n/a                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 100 ug/l                          | ND                   |           | ND                   |           |
| 10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) <sup>3</sup> | 106934                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 5 ug/l                            | ND                   |           | ND                   |           |
| 11. Methyl-tert-Butyl Ether (MTBE)                            | 1634044                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 1 ug/l                            | ND                   |           | ND                   |           |
| 12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)               | 75650                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 10 ug/l                           | ND                   |           | ND                   |           |

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

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

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

| <u>Parameter *</u>                | <u>CAS Number</u> | <u>Believed Absent</u>              | <u>Believed Present</u>  | <u># of Samples</u> | <u>Sample Type (e.g., grab)</u> | <u>Analytical Method Used (method #)</u> | <u>Minimum Level (ML) of Test Method</u> | <u>Maximum daily value</u>  |                  | <u>Average daily value</u>  |                  |
|-----------------------------------|-------------------|-------------------------------------|--------------------------|---------------------|---------------------------------|------------------------------------------|------------------------------------------|-----------------------------|------------------|-----------------------------|------------------|
|                                   |                   |                                     |                          |                     |                                 |                                          |                                          | <u>concentration (ug/l)</u> | <u>mass (kg)</u> | <u>concentration (ug/l)</u> | <u>mass (kg)</u> |
| 13. tert-Amyl Methyl Ether (TAME) | 9940508           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | 2 ug/l                                   | ND                          |                  | ND                          |                  |
| 14. Naphthalene                   | 91203             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | 2.5 ug/l                                 | ND                          |                  | ND                          |                  |
| 15. Carbon Tetrachloride          | 56235             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .5 ug/l                                  | ND                          |                  | ND                          |                  |
| 16. 1,2 Dichlorobenzene (o-DCB)   | 95501             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | 2.5 ug/l                                 | ND                          |                  | ND                          |                  |
| 17. 1,3 Dichlorobenzene (m-DCB)   | 541731            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | 2.5 ug/l                                 | ND                          |                  | ND                          |                  |
| 18. 1,4 Dichlorobenzene (p-DCB)   | 106467            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | 2.5 ug/l                                 | ND                          |                  | ND                          |                  |
| 18a. Total dichlorobenzene        |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | 1 ug/l                                   | ND                          |                  | ND                          |                  |
| 19. 1,1 Dichloroethane (DCA)      | 75343             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .75 ug/l                                 | ND                          |                  | ND                          |                  |
| 20. 1,2 Dichloroethane (DCA)      | 107062            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .5 ug/l                                  | ND                          |                  | ND                          |                  |
| 21. 1,1 Dichloroethene (DCE)      | 75354             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .5 ug/l                                  | ND                          |                  | ND                          |                  |
| 22. cis-1,2 Dichloroethene (DCE)  | 156592            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .5 ug/l                                  | ND                          |                  | ND                          |                  |
| 23. Methylene Chloride            | 75092             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | 3 ug/l                                   | ND                          |                  | ND                          |                  |
| 24. Tetrachloroethene (PCE)       | 127184            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .5 ug/l                                  | ND                          |                  | ND                          |                  |
| 25. 1,1,1 Trichloro-ethane (TCA)  | 71556             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .5 ug/l                                  | ND                          |                  | ND                          |                  |
| 26. 1,1,2 Trichloro-ethane (TCA)  | 79005             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                     | Grab                            | 1,8620B                                  | .75 ug/l                                 | ND                          |                  | ND                          |                  |
| 27. Trichloroethene (TCE)         | 79016             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                   | Grab                            | 1,8620B                                  | .5 ug/l                                  | ND                          |                  | ND                          |                  |

| Parameter *                                                  | CAS Number | Believed Absent                     | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|--------------------------------------------------------------|------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                                                              |            |                                     |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 28. Vinyl Chloride (Chloroethene)                            | 75014      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 1 ug/l                            | ND                   |           | ND                   |           |
| 29. Acetone                                                  | 67641      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8260B                           | 5 ug/l                            | 16                   |           | 16                   |           |
| 30. 1,4 Dioxane                                              | 123911     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8260B                           | 3 ug/l                            | ND                   |           | ND                   |           |
| 31. Total Phenols                                            | 108952     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8270C-SIM                       | 5 ug/l                            | ND                   |           | ND                   |           |
| 32. Pentachlorophenol (PCP)                                  | 87865      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8270C-SIM                       | .8 ug/l                           | ND                   |           | ND                   |           |
| 33. Total Phthalates (Phthalate esters) <sup>4</sup>         |            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 3 ug/l                            | 30                   |           | 30                   |           |
| 34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate] | 117817     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 30 ug/l                           | 30                   |           | 30                   |           |
| 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)     |            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 1 ug/l                            | 14.74                |           | 14.74                |           |
| a. Benzo(a) Anthracene                                       | 56553      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 2.1                  |           | 2.1                  |           |
| b. Benzo(a) Pyrene                                           | 50328      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 2                    |           | 2                    |           |
| c. Benzo(b)Fluoranthene                                      | 205992     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 2.7                  |           | 2.7                  |           |
| d. Benzo(k)Fluoranthene                                      | 207089     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 2                    |           | 2                    |           |
| e. Chrysene                                                  | 21801      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 3.6                  |           | 3.6                  |           |
| f. Dibenzo(a,h)anthracene                                    | 53703      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 54                   |           | 54                   |           |
| g. Indeno(1,2,3-cd) Pyrene                                   | 193395     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 1.8                  |           | 1.8                  |           |
| 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)    |            | <input type="checkbox"/>            | <input type="checkbox"/>            | 1            | Grab                     | 1,8270M                           | 1 ug/l                            |                      |           |                      |           |

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

| Parameter *                                | CAS Number                                                  | Believed Absent                     | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|--------------------------------------------|-------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                                            |                                                             |                                     |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| h. Acenaphthene                            | 83329                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 1                    |           | 1                    |           |
| i. Acenaphthylene                          | 208968                                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | ND                   |           | ND                   |           |
| j. Anthracene                              | 120127                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 66                   |           | 66                   |           |
| k. Benzo(ghi) Perylene                     | 191242                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 2                    |           | 2                    |           |
| l. Fluoranthene                            | 206440                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 8.9                  |           | 8.9                  |           |
| m. Fluorene                                | 86737                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 1                    |           | 1                    |           |
| n. Naphthalene                             | 91203                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 57                   |           | 57                   |           |
| o. Phenanthrene                            | 85018                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 4.4                  |           | 4.4                  |           |
| p. Pyrene                                  | 129000                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,8270C-SIM                       | 2 ug/l                            | 7.4                  |           | 7.4                  |           |
| 37. Total Polychlorinated Biphenyls (PCBs) | 85687;<br>84742;<br>117840;<br>84662;<br>131113;<br>117817. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 5,608                             | 25 ug/l                           | ND                   |           | ND                   |           |
| 38. Chloride                               | 16887006                                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 44,300.0                          | 5 ug/l                            | 190000               |           | 190000               |           |
| 39. Antimony                               | 7440360                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 1 ug/l                            | 2.3                  |           | 2.3                  |           |
| 40. Arsenic                                | 7440382                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 5 ug/l                            | 6.8                  |           | 6.8                  |           |
| 41. Cadmium                                | 7440439                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 2 ug/l                            | 9                    |           | 9                    |           |
| 42. Chromium III (trivalent)               | 16065831                                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 10 ug/l                           |                      |           |                      |           |
| 43. Chromium VI (hexavalent)               | 18540299                                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 30,3500CR-D                       | 10 ug/l                           | ND                   |           | ND                   |           |
| 44. Copper                                 | 7440508                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 1 ug/l                            | 199.4                |           | 199.4                |           |
| 45. Lead                                   | 7439921                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 1 ug/l                            | 169.1                |           | 169.1                |           |
| 46. Mercury                                | 7439976                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 3,245.1                           | 2 ug/l                            | 9                    |           | 9                    |           |
| 47. Nickel                                 | 7440020                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 5 ug/l                            | 11.8                 |           | 11.8                 |           |
| 48. Selenium                               | 7782492                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | Grab                     | 1,6020                            | 5 ug/l                            | ND                   |           | ND                   |           |
| 49. Silver                                 | 7440224                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 3 ug/l                            | 2.4                  |           | 2.4                  |           |
| 50. Zinc                                   | 7440666                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 1,6020                            | 10 ug/l                           | 454.1                |           | 454.1                |           |
| 51. Iron                                   | 7439896                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | Grab                     | 19,200.7                          | 50 ug/l                           | 8100                 |           | 8100                 |           |
| Other (describe):                          |                                                             | <input type="checkbox"/>            | <input type="checkbox"/>            |              |                          |                                   |                                   |                      |           |                      |           |

| Parameter * | CAS Number | Believed Absent          | Believed Present         | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|-------------|------------|--------------------------|--------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|             |            | <input type="checkbox"/> | <input type="checkbox"/> |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
|             |            | <input type="checkbox"/> | <input type="checkbox"/> |              |                          |                                   |                                   |                      |           |                      |           |

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |            |               |            |             |            |               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------|---------------|------------|-------------|------------|---------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y <input checked="" type="radio"/> N <input type="radio"/></p> <p><i>Step 2:</i> For any metals which exceed the <b>Appendix III</b> limits, calculate the <b>dilution factor (DF)</b> using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the <b>dilution factor</b> for applicable metals?</p> <table border="1"> <tr> <td>Metal: Cadmium</td> <td>DF: 19.571</td> </tr> <tr> <td>Metal: Copper</td> <td>DF: 19.571</td> </tr> <tr> <td>Metal: Lead</td> <td>DF: 19.571</td> </tr> <tr> <td>Metal: Silver</td> <td>DF: 19.571</td> </tr> </table> <p>Etc.</p> | Metal: Cadmium | DF: 19.571 | Metal: Copper | DF: 19.571 | Metal: Lead | DF: 19.571 | Metal: Silver | DF: 19.571 | <p>If yes, which metals?<br/>Cadmium, Copper, Lead, Silver, Zinc, Iron</p> <p>Look up the limit calculated at the corresponding dilution factor in <b>Appendix IV</b>. Do any of the metals in the <b>influent</b> have the potential to exceed the corresponding <b>effluent</b> limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?<br/>Y <input checked="" type="radio"/> N <input type="radio"/> If Y, list which metals:<br/>Copper, Lead, Iron</p> |
| Metal: Cadmium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DF: 19.571     |            |               |            |             |            |               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Metal: Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DF: 19.571     |            |               |            |             |            |               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Metal: Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DF: 19.571     |            |               |            |             |            |               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Metal: Silver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DF: 19.571     |            |               |            |             |            |               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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

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

Solids will be decanted in two 20,000 gallon filter boxes, the decanted water will then be further separated through three 20,000 gallon frac tanks(floculation blocks and KOH for PH adjustment may be added if necessary), water will then pass through sand media, filter bags and then to Granular Activated Carbon ("GAC") prior to final discharge to the storm drain.

|                                                                    |                                       |                                          |                                                                              |                                                        |                                                |                                                |
|--------------------------------------------------------------------|---------------------------------------|------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------|------------------------------------------------|
| b) Identify each applicable treatment unit (check all that apply): | Frac. tank <input type="checkbox"/>   | Air stripper <input type="checkbox"/>    | Oil/water separator <input type="checkbox"/>                                 | Equalization tanks <input checked="" type="checkbox"/> | Bag filter <input checked="" type="checkbox"/> | GAC filter <input checked="" type="checkbox"/> |
|                                                                    | Chlorination <input type="checkbox"/> | De-chlorination <input type="checkbox"/> | Other (please describe):<br>Sand Filter, Floculent Blocks, pH Adjustment KOH |                                                        |                                                |                                                |

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

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

N/A

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

|                                    |                                                               |                                                  |                                      |                                   |                                        |
|------------------------------------|---------------------------------------------------------------|--------------------------------------------------|--------------------------------------|-----------------------------------|----------------------------------------|
| a) Identify the discharge pathway: | Direct to receiving water <input checked="" type="checkbox"/> | Within facility (sewer) <input type="checkbox"/> | Storm drain <input type="checkbox"/> | Wetlands <input type="checkbox"/> | Other (describe): <input type="text"/> |
|------------------------------------|---------------------------------------------------------------|--------------------------------------------------|--------------------------------------|-----------------------------------|----------------------------------------|

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:  
 From treatment system through 4" hose to the Charles River.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:  
 1. For multiple discharges, number the discharges sequentially.  
 2. For indirect discharges, indicate the location of the discharge to the indirect conveyance and the discharge to surface water  
 The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water:

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water  cfs  
 Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ☒ N ☐ If yes, for which pollutant(s)?

Is there a final TMDL? Y ☒ N ☐ If yes, for which pollutant(s)?

**6. ESA and NHPA Eligibility.**

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

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

**7. Supplemental information.**

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

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

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

|                       |                                                                                    |
|-----------------------|------------------------------------------------------------------------------------|
| Facility/Site Name:   | Brookline Overflow Conduit                                                         |
| Operator signature:   |  |
| Printed Name & Title: | Dennis Sullivan, Vice President                                                    |
| Date:                 | 5/14/12                                                                            |

**TRANSMITTAL FORM FOR PERMIT APPLICATION AND PAYMENT – X251175**



Enter your transmittal number

X251175

Transmittal Number

Your unique Transmittal Number can be accessed online: <http://mass.gov/dep/service/online/trasmfrm.shtml>

**Massachusetts Department of Environmental Protection**

**Transmittal Form for Permit Application and Payment**

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: DEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. Copy 2 must accompany your fee payment. Copy 3 should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP  
P.O. Box 4062  
Boston, MA  
02211

\* Note:  
For BWSC Permits,  
enter the LSP.

**A. Permit Information**

|                                                                |                               |
|----------------------------------------------------------------|-------------------------------|
| 1. Permit Code: 7 or 8 character code from permit instructions | NPDES Remedial General Permit |
| Stormwater Conduit Sediment Removal                            | 2. Name of Permit Category    |
| 3. Type of Project or Activity                                 |                               |

**B. Applicant Information – Firm or Individual**

|                                                                                         |                             |                               |                |
|-----------------------------------------------------------------------------------------|-----------------------------|-------------------------------|----------------|
| National Water Main Cleaning Co.                                                        |                             |                               |                |
| 1. Name of Firm - Or, if party needing this approval is an Individual enter name below: |                             |                               |                |
| Fleming                                                                                 | James                       |                               |                |
| 2. Last Name of Individual                                                              | 3. First Name of Individual | 4. MI                         |                |
| 25 Marshall Street                                                                      |                             |                               |                |
| 5. Street Address                                                                       |                             |                               |                |
| Canton                                                                                  | MA                          | 02021                         | 781-828-0863   |
| 6. City/Town                                                                            | 7. State                    | 8. Zip Code                   | 9. Telephone # |
| James Fleming                                                                           |                             | James.Fleming@NWMCC.com       | 10. Ext. #     |
| 11. Contact Person                                                                      |                             | 12. e-mail address (optional) |                |

**C. Facility, Site or Individual Requiring Approval**

|                                         |          |                                   |                                |
|-----------------------------------------|----------|-----------------------------------|--------------------------------|
| Brookline Stormwater Conduit            |          |                                   |                                |
| 1. Name of Facility, Site Or Individual |          |                                   |                                |
| Storrow Drive                           |          |                                   |                                |
| 2. Street Address                       |          |                                   |                                |
| Boston                                  | MA       | 02215                             |                                |
| 3. City/Town                            | 4. State | 5. Zip Code                       | 6. Telephone #                 |
|                                         |          |                                   | 7. Ext. #                      |
| 8. DEP Facility Number (if Known)       |          | 9. Federal I.D. Number (if Known) | 10. BWSC Tracking # (if Known) |

**D. Application Prepared by (if different from Section B)\***

|                               |                                   |             |                |
|-------------------------------|-----------------------------------|-------------|----------------|
| Lightship Engineering         |                                   |             |                |
| 1. Name of Firm Or Individual |                                   |             |                |
| 39 Industrial Park Road       |                                   |             |                |
| 2. Address                    |                                   |             |                |
| Plymouth                      | MA                                | 02360       | 508-830-3344   |
| 3. City/Town                  | 4. State                          | 5. Zip Code | 6. Telephone # |
| Scott Kraihanzel              |                                   | N/A         | 7. Ext. #      |
| 8. Contact Person             | 9. LSP Number (BWSC Permits only) |             |                |

**E. Permit - Project Coordination**

1. Is this project subject to MEPA review? ☒ yes ☐ no  
If yes, enter the project's EOEA file number - assigned when an Environmental Notification Form is submitted to the MEPA unit: To be inserted upon submittal  
EOEA File Number

**F. Amount Due**

**Special Provisions:**

- ☐ Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).  
*There are no fee exemptions for BWSC permits, regardless of applicant status.*
- ☐ Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).
- ☐ Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).
- ☐ Homeowner (according to 310 CMR 4.02).

DEP Use Only

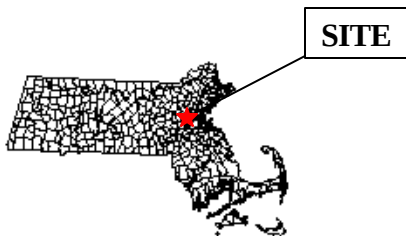
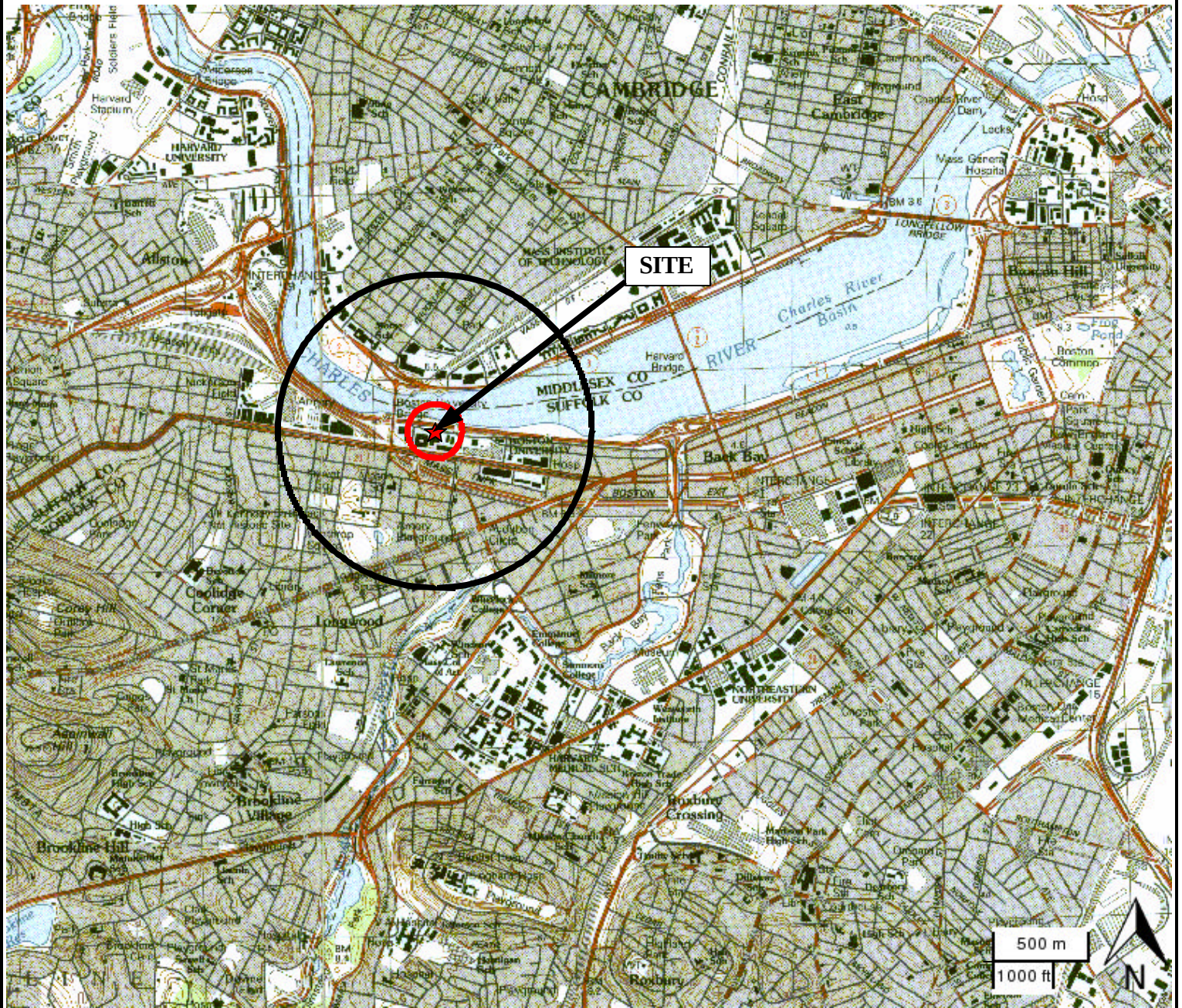
Permit No:

Rec'd Date:

Reviewer:

|              |               |      |
|--------------|---------------|------|
| 775.00       |               |      |
| Check Number | Dollar Amount | Date |

## **ATTACHMENT A - FIGURES**



UTM COORDINATES  
(NAD83):  
4,690,963 m North  
326,506 m East

SCALE: 1 inch ~ 2,440 feet

#### PREPARED FOR

National Water Main Cleaning  
Company  
25 Marshall Street  
Canton, Massachusetts 02021

#### PROJECT

MWR010 CSO Outfall Cleaning  
Ashby Street  
Brookline, Massachusetts

#### Figure 1-1 Site Locus Map

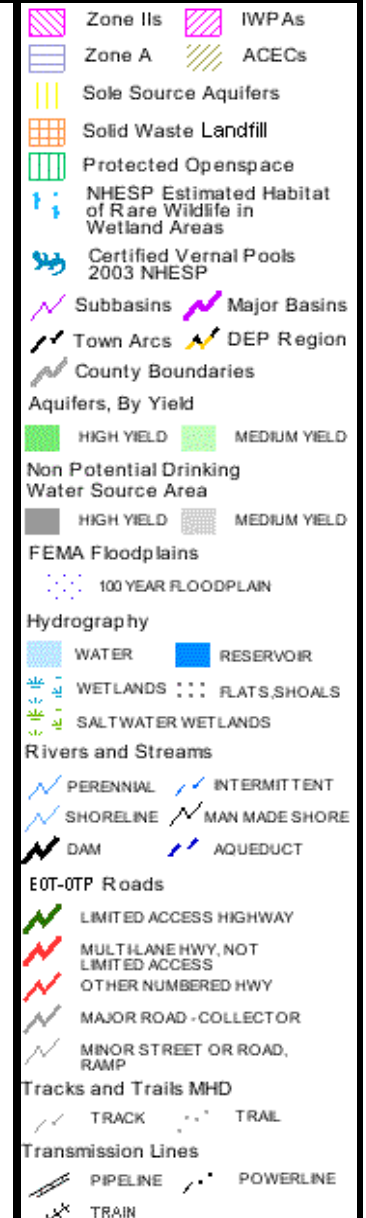
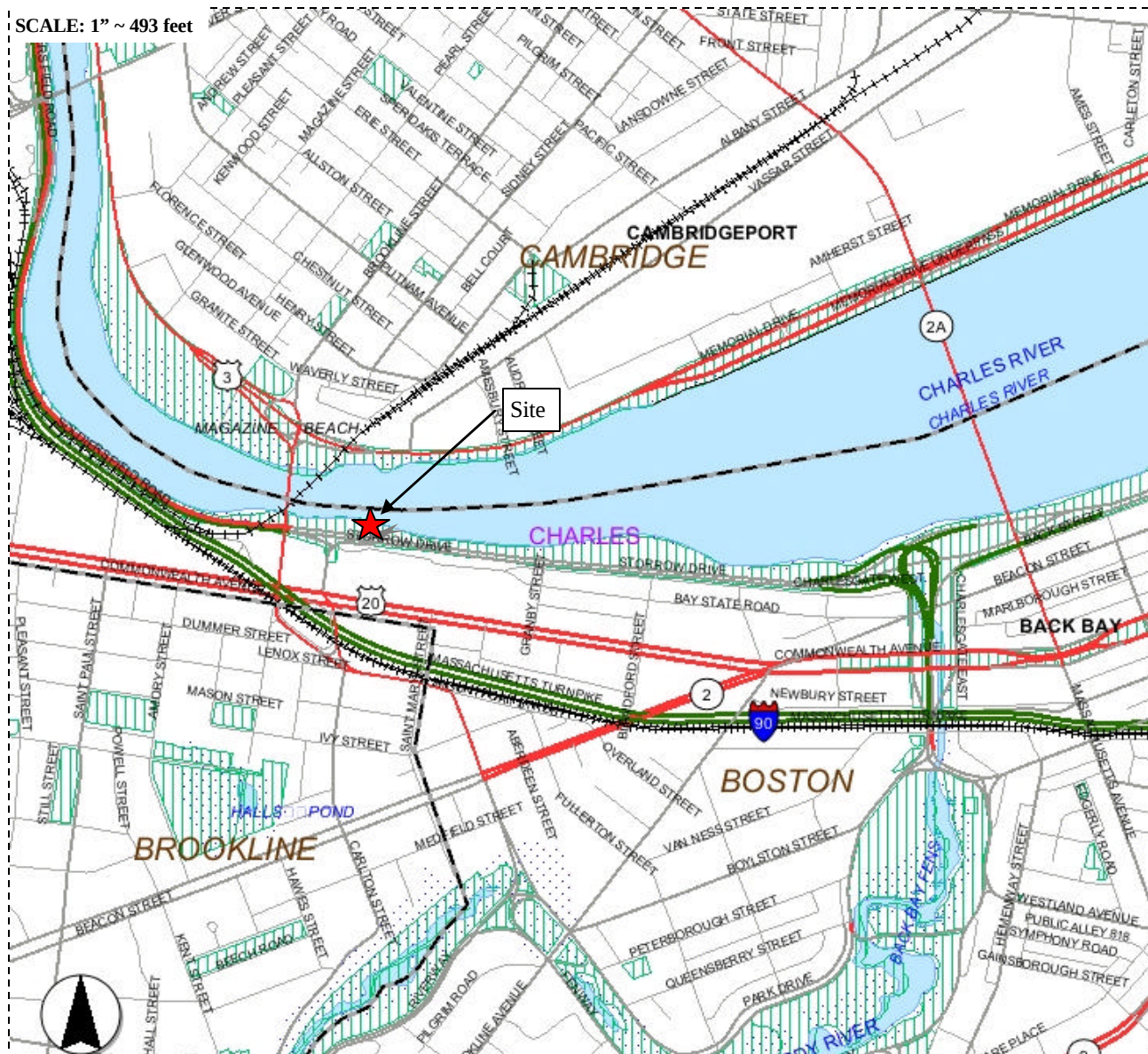
**LIGHTSHIP**  
**ENGINEERING**  
ENVIRONMENTAL & LAND-USE  
CONSULTANTS





**ATTACHMENT B – AREAS OF CRITICAL ENVIRONMENTAL CONCERN MASSGIS**

SCALE: 1" ~ 493 feet



## PREPARED FOR

National Water Main Cleaning Co.  
25 Marshall Street  
Canton , MA

## PROJECT

Brookline Conduit Cleaning  
Storrow Drive  
Boston MA.

## MassGIS Map

**LIGHTSHIP  
ENGINEERING**

ENVIRONMENTAL & LAND-USE CONSULTANTS

39 Industrial Park Road ? Unit C ? Plymouth, Massachusetts 02360 ? (508) 830-3344 ? Fax: (508) 830-3360



Source: MassGIS Online Viewer

## **ATTACHMENT C – DILUTION FACTOR CALCULATION**

## **Dilution Factor Calculations for Brookline Overflow Conduit NPDES Dewatering General Permit**

Equation used to calculate the dilution factor at the outfall

$$\text{Dilution Factor} = (Q_d + Q_s) / Q_d$$

where:

$Q_d$  = Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)

$Q_s$  = Receiving water 7Q10 flow (cfs) where 7Q10 is the minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

### Brookline Overflow Conduit Dilution Calculations

The United States Geological Survey program StreamStats was used to obtain 7Q10 data using a process known as regionalization was used to develop equations that can be used to estimate streamflow statistics for ungaged sites. Regionalization involves use of regression analysis to relate streamflow statistics computed for a group of selected streamgaging stations (usually within a State) and basin characteristics measured for the stations. Basin characteristics measured for ungaged sites can be entered into the resulting equations to obtain estimates of the streamflow statistics. StreamStats estimated a 7Q10 flow rate of 24.7 cfs.

$$Q_d = 1.33 \text{ cfs}$$

$$Q_s = 24.7 \text{ cfs}$$

$$\text{Dilution Factor} = (Q_d + Q_s) / Q_d = (1.33 \text{ cfs} + 24.7 \text{ cfs}) / 1.33 \text{ cfs} = 19.571$$

**ATATCHMENT D – STREAM STATS UNGAGED SITE REPORT**



## Massachusetts StreamStats

### Streamstats Ungaged Site Report

Date: Wed Apr 11 2012 12:58:58 Mountain Daylight Time

Site Location: Massachusetts

NAD27 Latitude: 42.3525 (42 21 09)

NAD27 Longitude: -71.1095 (-71 06 34)

NAD83 Latitude: 42.3526 (42 21 09)

NAD83 Longitude: -71.1090 (-71 06 32)

Drainage Area: 283 mi<sup>2</sup>

| Low Flows Basin Characteristics                           |                           |                                 |      |
|-----------------------------------------------------------|---------------------------|---------------------------------|------|
| 100% Statewide Low Flow (283 mi <sup>2</sup> )            |                           |                                 |      |
| Parameter                                                 | Value                     | Regression Equation Valid Range |      |
|                                                           |                           | Min                             | Max  |
| Drainage Area (square miles)                              | 283 (above max value 149) | 1.61                            | 149  |
| Mean Basin Slope from 250K DEM (percent)                  | 2.33                      | 0.32                            | 24.6 |
| Stratified Drift per Stream Length (square mile per mile) | 0.23                      | 0                               | 1.29 |
| Massachusetts Region (dimensionless)                      | 0                         | 0                               | 1    |

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

| Probability of Perennial Flow Basin Characteristics    |                            |                                 |      |
|--------------------------------------------------------|----------------------------|---------------------------------|------|
| 100% Perennial Flow Probability (283 mi <sup>2</sup> ) |                            |                                 |      |
| Parameter                                              | Value                      | Regression Equation Valid Range |      |
|                                                        |                            | Min                             | Max  |
| Drainage Area (square miles)                           | 283 (above max value 1.99) | 0.01                            | 1.99 |
| Percent Underlain By Sand And Gravel (percent)         | 47.81                      | 0                               | 100  |
| Percent Forest (percent)                               | 42.07                      | 0                               | 100  |
| Massachusetts Region (dimensionless)                   | 0                          | 0                               | 1    |

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

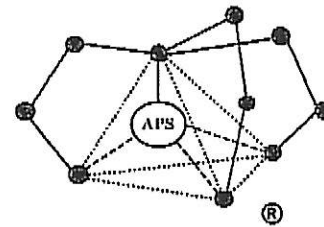
| Low Flows Streamflow Statistics |                           |                            |                            |                                |         |
|---------------------------------|---------------------------|----------------------------|----------------------------|--------------------------------|---------|
| Statistic                       | Flow (ft <sup>3</sup> /s) | Prediction Error (percent) | Equivalent years of record | 90-Percent Prediction Interval |         |
|                                 |                           |                            |                            | Minimum                        | Maximum |
| D50                             | 303                       |                            |                            |                                |         |
| D60                             | 250                       |                            |                            |                                |         |
| D70                             | 172                       |                            |                            |                                |         |
| D75                             | 140                       |                            |                            |                                |         |
| D80                             | 110                       |                            |                            |                                |         |
| D85                             | 88                        |                            |                            |                                |         |
| D90                             | 68.6                      |                            |                            |                                |         |
| D95                             | 46.3                      |                            |                            |                                |         |
| D98                             | 30.9                      |                            |                            |                                |         |
| D99                             | 25.7                      |                            |                            |                                |         |
| M7D2Y                           | 49.6                      |                            |                            |                                |         |
| AUGD50                          | 94.3                      |                            |                            |                                |         |
| M7D10Y                          | 24.7                      |                            |                            |                                |         |

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi<sup>2</sup>, as errors beyond for basins beyond these bounds are unknown.

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

## **ATTACHMENT E – MSDS SHEETS**

# Applied Polymer Systems, Inc.



## Material Safety Data Sheet

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

Product Name: APS 706b Floe Log<sup>®</sup>  
 Supplied: 519 Industrial Drive  
 Woodstock, GA 30189  
 Tel. 678-494-5998  
 Fax. 678-494-5298  
[www.sillsap.com](http://www.sillsap.com)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

### 3. HAZARD IDENTIFICATION

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

### 4. FIRST AID MEASURES

Inhalation: None  
 Skin contact: Contact with wet skin can cause dryness and chapping. Wash with water and soap.  
 Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.  
 Ingestion: Consult a physician

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.  
 Special fire-fighting precautions: Floe Logs that become wet render surfaces extremely slippery.  
 Protective equipment for firefighters: No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.  
 Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal.  
After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.  
 Storage: Keep in a cool, dry place.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Engineering controls: Use dry handling areas only.

#### Personal protection equipment

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

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

Form: Granular semi-solid gel  
 Color: White to Brown  
 Odor: None  
 pH: 3-10  
 Melting point: N/A  
 Flash point: N/A  
 Vapor density: N/A

### **10. STABILITY AND REACTIVITY**

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

### **11. TOXICOLOGICAL / ECOLOGICAL INFORMATION**

#### Acute toxicity

LC 50 / *Daphnia magna* / 48h / >420mg/L  
 LC 50 / *Oncorhynchus mykiss* / 96h / 637 ppm

#### Chronic toxicity

|                                                           |                                                           |
|-----------------------------------------------------------|-----------------------------------------------------------|
| IC 25 (Survival) / <i>P. promelas</i> / 7 day / >1680 ppm | IC 25 (Survival) / <i>C. dubia</i> / 7 day / 257.3 ppm    |
| NOEC (Survival) / <i>P. promelas</i> / 7 day / 1680 ppm   | NOEC (Survival) / <i>C. dubia</i> / 7 day / 210 ppm       |
| IC 25 (Growth) / <i>P. promelas</i> / 7 day / >1680 ppm   | IC 25 (Reproduction) / <i>C. dubia</i> / 7 day / 91.6 ppm |
| NOEC (Survival) / <i>P. promelas</i> / 7 day / 1680 ppm   | NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 105 ppm   |

Bioaccumulation: The product is not expected to bioaccumulate.

Persistence / degradability: Not readily biodegradable: ( 85% after 180 days ).

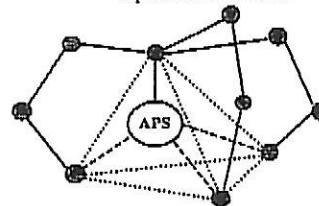
### **12. TRANSPORT AND REGULATORY INFORMATION**

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

#### NFPA and HMIS ratings:

|              |   |               |   |             |   |
|--------------|---|---------------|---|-------------|---|
| NFPA Health: | 1 | Flammability: | 0 | Reactivity: | 1 |
| HMIS Health: | 1 | Flammability: | 0 | Reactivity: | 1 |

Updated 10/23/06



# Applied Polymer Systems, Inc.

## Material Safety Data Sheet

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

Product Name: APS 703d #3 Floe Lug<sup>®</sup>  
Supplied: Applied Polymer Systems, Inc.  
519 Industrial Drive  
Woodstock, GA 30189  
Tel. 678-494-5998  
Fax. 678-494-5298  
[www.siltstop.com](http://www.siltstop.com)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

### 3. HAZARD IDENTIFICATION

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

### 4. FIRST AID MEASURES

Inhalation: None  
Skin contact: Contact with wet skin could cause dryness and chapping. Wash with water and soap. Use of gloves recommended.  
Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.  
Ingestion: Consult a physician

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.  
Special fire-fighting precautions: Floe Logs that become wet render surfaces extremely slippery.  
Protective equipment for firefighters: No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.  
Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal.  
After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.  
Storage: Keep in a cool, dry place.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

1

Engineering controls: Use dry handling areas only.

**Personal protection equipment**

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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form: Granular semi-solid gel  
 Color: White to Brown  
 Odor: None  
 pH: 3-10  
 Melting point: N/A  
 Flash point: N/A  
 Vapor density: N/A

**10. STABILITY AND REACTIVITY**

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

**11. TOXICOLOGICAL / ECOLOGICAL INFORMATION**

Acute toxicity (EPA-821-R-02-012)

LC 50 (Survival) / *Ceriodaphnia dubia* / 48h / 673 ppm  
 NOAEC (Survival) / *Ceriodaphnia dubia* / 48h / 420 ppm  
 LC 50 / *Oncorhynchus mykiss* / 96h / 2928 ppm

Chronic toxicity (EPA-821-R-02-013)

|                                                          |                                                           |
|----------------------------------------------------------|-----------------------------------------------------------|
| IC 25 (Survival) / <i>P. promelas</i> / 7 day / 77.8 ppm | IC 25 (Survival) / <i>C. dubia</i> / 7 day / 78.7 ppm     |
| NOEC (Survival) / <i>P. promelas</i> / 7 day / 52.5 ppm  | NOEC (Survival) / <i>C. dubia</i> / 7 day / 52.7 ppm      |
| IC 25 (Growth) / <i>P. promelas</i> / 7 day / 50.1 ppm   | IC 25 (Reproduction) / <i>C. dubia</i> / 7 day / 66.8 ppm |
| NOEC (Growth) / <i>P. promelas</i> / 7 day / 52.5 ppm    | NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 52.5 ppm  |

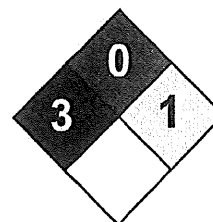
Bioaccumulation: The product is not expected to bioaccumulate.  
 Persistence / degradability: Not readily biodegradable: (~85% after 180 days).

**13. TRANSPORT AND REGULATORY INFORMATION**

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

**NFPA and HMIS ratings:**

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



|                     |   |
|---------------------|---|
| Health              | 3 |
| Fire                | 0 |
| Reactivity          | 2 |
| Personal Protection | J |

## Material Safety Data Sheet

### Potassium hydroxide MSDS

#### Section 1: Chemical Product and Company Identification

**Product Name:** Potassium hydroxide

**Catalog Codes:** SLP4096, SLP3085, SLP4900, SLP2071

**CAS#:** 1310-58-3

**RTECS:** TT2100000

**TSCA:** TSCA 8(b) inventory: Potassium hydroxide

**CI#:** Not available.

**Synonym:**

**Chemical Name:** Potassium Hydroxide

**Chemical Formula:** KOH

#### Contact Information:

**Sciencelab.com, Inc.**

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

**CHEMTREC (24HR Emergency Telephone), call:**  
1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

#### Section 2: Composition and Information on Ingredients

##### Composition:

| Name                | CAS #     | % by Weight |
|---------------------|-----------|-------------|
| Potassium hydroxide | 1310-58-3 | 100         |

**Toxicological Data on Ingredients:** Potassium hydroxide: ORAL (LD50): Acute: 273 mg/kg [Rat].

#### Section 3: Hazards Identification

##### Potential Acute Health Effects:

Very hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant, corrosive), of ingestion, of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin Inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

##### Potential Chronic Health Effects:

**CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance may be toxic to upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

## Section 4: First Aid Measures

### Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

### Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

### Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

### Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** metals, acids

### Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:** Not applicable.

### Special Remarks on Fire Hazards:

Violent reaction or ignition under appropriate conditions with acids, alcohols, p-bis(1,3-dibromoethyl) benzene, cyclopentadiene, germanium, hyponitrous acid, maleic anhydride, nitroalkanes, 2-nitrophenol, potassium peroxodisulfate, sugars, 2,2,3,3-tetrafluoropropanol, thorium dicarbide. Molten ortho -nitrophenol reacts violently with potassium hydroxide. When potassium hydroxide and tetrachloroethane are heated, a spontaneously flammable gas, chloroacetylene, is formed. When phosphorus is boiled in a solution of potassium hydroxide, phosphine gas is evolved which is spontaneously flammable. 1,2-Dichloroethylene and Potassium hydroxide reaction produces chloroacetylene which is spontaneously flammable in air. Potassium Persulfate and a little Potassium hydroxide and water will ignite. When wet, attacks metals such as aluminum, tin, lead, and zinc, producing flammable hydrogen gas.

### Special Remarks on Explosion Hazards:

Potentially explosive reaction with bromoform + crown ethers, chlorine dioxide, nitrobenzene, nitromethane, nitrogen trichloride, peroxidized tetrahydrofuran, 2,4,6-trinitrotoluene. Reaction with ammonium hexachloroplatiate(2-) + heat forms heat sensitive explosive product. Potassium hydroxide will cause explosive decomposition of maleic anhydride. Detonation will occur when potassium hydroxide is mixed with n-methyl-nitroso urea and methylene chloride. Nitrogen trichloride explodes on contact with potassium hydroxide.

## Section 6: Accidental Release Measures

### Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

### Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

### Precautions:

Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as organic materials, metals, acids, moisture.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

## Section 8: Exposure Controls/Personal Protection

### Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

### Exposure Limits:

CEIL: 2 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] CEIL: 2 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Solid pellets.)

**Odor:** Odorless.

**Taste:** Not available.

**Molecular Weight:** 56.11 g/mole

**Color:** White.

**pH (1% soln/water):** 13 [Basic.]

**Boiling Point:** Decomposition temperature: 1384°C (2523.2°F)

**Melting Point:** 380°C (716°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 2.044 (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:**

Easily soluble in cold water, hot water. Insoluble in diethyl ether.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, dust generation, exposure to moist air or water.

**Incompatibility with various substances:**

Highly reactive with acids. Reactive with organic materials, metals, moisture.

**Corrosivity:**

Extremely corrosive in presence of aluminum, brass, and zinc. Slightly corrosive in presence of copper, of stainless steel(304). Non-corrosive in presence of stainless steel(316).

**Special Remarks on Reactivity:**

Hygroscopic (absorbs moisture from air). When dissolved in water or alcohol or when the solution is treated with acid, much heat is generated. Reacts violently with acids, halogens, halogenated hydrocarbons, maleic anhydride, organic anhydrides, isocyanates, alkylene oxides, epichlorhydrin, aldehydes, alcohols, glycols, phenols, cresols, caprolactum solution. Also incompatible with nitro compounds (nitrobenzene, nitromethane, nitrogen trichloride), organic materials, acid anhydrides, acid chlorides, magnesium, peroxidized tetrahydrofuran, chlorine dioxide, maleic dicarbide, sugars. When wet attacks metals such as aluminum, tin, lead, and zinc.

**Special Remarks on Corrosivity:**

When wet, attacks metals such as aluminum, tin, lead, and zinc, producing flammable hydrogen gas. Severe corrosive effect on brass and bronze.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 273 mg/kg [Rat].

**Chronic Effects on Humans:**

**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. May cause damage to the following organs: upper respiratory tract, skin, eyes.

**Other Toxic Effects on Humans:**

Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant), of eye contact (corrosive), of ingestion, .

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May affect genetic material based on animal data.

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: Causes severe skin irritation and burns. Eyes: Causes severe eye irritation and burns. May cause irreversible eye injury. Inhalation: Causes severe irritation and burns of the respiratory tract and mucous membranes. Irritation may lead to chemical pneumonitis Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes severe irritation and burns of the gastrointestinal (digestive) tract with abdominal pain, vomiting and possible death. May cause perforation of the digestive tract. Chronic Potential Health Effects: Chronic contact with dilute solutions of potassium hydroxide can cause dermatitis. Inhalation can produce chronic productive cough, and shortness of breath.

## Section 12: Ecological Information

**Ecotoxicity:** Ecotoxicity In water (LC50): 80 mg/l 24 hours [Mosquito Fish].

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** Class 8: Corrosive material

**Identification:** : Potassium hydroxide, solid UNNA: 1813 PG: II

**Special Provisions for Transport:** Not available.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

New York release reporting list: Potassium hydroxide Pennsylvania RTK: Potassium hydroxide Florida: Potassium hydroxide Minnesota: Potassium hydroxide Massachusetts RTK: Potassium hydroxide New Jersey: Potassium hydroxide California Director's List of Hazardous Substances: Potassium hydroxide TSCA 8(b) inventory: Potassium hydroxide CERCLA: Hazardous substances.: Potassium hydroxide: 1000 lbs. (453.6 kg)

**Other Regulations:**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:****WHMIS (Canada):**

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS E: Corrosive solid.

**DSCL (EEC):****HMIS (U.S.A.):**

Health Hazard: 3

Fire Hazard: 0

Reactivity: 2

Personal Protection: j

**National Fire Protection Association (U.S.A.):**

Health: 3

Flammability: 0

Reactivity: 1

Specific hazard:

**Protective Equipment:**

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/10/2005 08:23 PM

**Last Updated:** 11/01/2010 12:00 PM

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.*

**ATTACHMENT F – LABORATORY REPORT**



## ANALYTICAL REPORT

|                 |                                                                                  |
|-----------------|----------------------------------------------------------------------------------|
| Lab Number:     | L1205192                                                                         |
| Client:         | Lightship Engineering<br>39 Industrial Park Road<br>Unit C<br>Plymouth, MA 02360 |
| ATTN:           | Scott Kraihanzel                                                                 |
| Phone:          | (508) 830-3344                                                                   |
| Project Name:   | NATIONAL WATER MAIN                                                              |
| Project Number: | Not Specified                                                                    |
| Report Date:    | 04/05/12                                                                         |

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

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

---

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



**Project Name:** NATIONAL WATER MAIN  
**Project Number:** Not Specified

**Lab Number:** L1205192  
**Report Date:** 04/05/12

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> |
|----------------------------|------------------|----------------------------|---------------------------------|
| L1205192-01                | LE-PCS           | BOSTON                     | 03/28/12 09:00                  |
| L1205192-02                | TRIP BLANK       | BOSTON                     | 03/28/12 00:00                  |

**Project Name:** NATIONAL WATER MAIN  
**Project Number:** Not Specified

**Lab Number:** L1205192  
**Report Date:** 04/05/12

### Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

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

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

---

### Sample Receipt

A Trip Blank was received in the laboratory but not listed on the Chain of Custody. At the client's request, the Trip Blank was not analyzed.

**Project Name:** NATIONAL WATER MAIN  
**Project Number:** Not Specified

**Lab Number:** L1205192  
**Report Date:** 04/05/12

**Case Narrative (continued)**

Semivolatile Organics

L1205192-01 has elevated detection limits due to the dilution required by the sample matrix.

Chlorine, Total Residual

L1205192-01 has an elevated detection limit due to the dilution required by the sample matrix.

Phenolics, Total

L1205192-01 has an elevated detection limit due to the dilution required by the sample matrix.

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:  Elizabeth Simmons

Title: Technical Director/Representative

Date: 04/05/12

# ORGANICS

# **VOLATILES**

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

**Lab ID:** L1205192-01  
**Client ID:** LE-PCS  
**Sample Location:** BOSTON  
**Matrix:** Water  
**Analytical Method:** 1,8260B  
**Analytical Date:** 03/29/12 20:09  
**Analyst:** PD

**Date Collected:** 03/28/12 09:00  
**Date Received:** 03/28/12  
**Field Prep:** Not Specified

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Methylene chloride                           | ND     |           | ug/l  | 3.0  | --  | 1               |
| 1,1-Dichloroethane                           | ND     |           | ug/l  | 0.75 | --  | 1               |
| Chloroform                                   | ND     |           | ug/l  | 0.75 | --  | 1               |
| Carbon tetrachloride                         | ND     |           | ug/l  | 0.50 | --  | 1               |
| 1,2-Dichloropropane                          | ND     |           | ug/l  | 1.8  | --  | 1               |
| Dibromochloromethane                         | ND     |           | ug/l  | 0.50 | --  | 1               |
| 1,1,2-Trichloroethane                        | ND     |           | ug/l  | 0.75 | --  | 1               |
| Tetrachloroethene                            | ND     |           | ug/l  | 0.50 | --  | 1               |
| Chlorobenzene                                | ND     |           | ug/l  | 0.50 | --  | 1               |
| Trichlorofluoromethane                       | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,2-Dichloroethane                           | ND     |           | ug/l  | 0.50 | --  | 1               |
| 1,1,1-Trichloroethane                        | ND     |           | ug/l  | 0.50 | --  | 1               |
| Bromodichloromethane                         | ND     |           | ug/l  | 0.50 | --  | 1               |
| trans-1,3-Dichloropropene                    | ND     |           | ug/l  | 0.50 | --  | 1               |
| cis-1,3-Dichloropropene                      | ND     |           | ug/l  | 0.50 | --  | 1               |
| 1,1-Dichloropropene                          | ND     |           | ug/l  | 2.5  | --  | 1               |
| Bromoform                                    | ND     |           | ug/l  | 2.0  | --  | 1               |
| 1,1,2,2-Tetrachloroethane                    | ND     |           | ug/l  | 0.50 | --  | 1               |
| Benzene                                      | ND     |           | ug/l  | 0.50 | --  | 1               |
| Toluene                                      | ND     |           | ug/l  | 0.75 | --  | 1               |
| Ethylbenzene                                 | ND     |           | ug/l  | 0.50 | --  | 1               |
| Chloromethane                                | ND     |           | ug/l  | 2.5  | --  | 1               |
| Bromomethane                                 | ND     |           | ug/l  | 1.0  | --  | 1               |
| Vinyl chloride                               | ND     |           | ug/l  | 1.0  | --  | 1               |
| Chloroethane                                 | ND     |           | ug/l  | 1.0  | --  | 1               |
| 1,1-Dichloroethene                           | ND     |           | ug/l  | 0.50 | --  | 1               |
| trans-1,2-Dichloroethene                     | ND     |           | ug/l  | 0.75 | --  | 1               |
| Trichloroethene                              | ND     |           | ug/l  | 0.50 | --  | 1               |
| 1,2-Dichlorobenzene                          | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,3-Dichlorobenzene                          | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,4-Dichlorobenzene                          | ND     |           | ug/l  | 2.5  | --  | 1               |

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

Lab ID: L1205192-01

Date Collected: 03/28/12 09:00

Client ID: LE-PCS

Date Received: 03/28/12

Sample Location: BOSTON

Field Prep: Not Specified

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Methyl tert butyl ether                      | ND     |           | ug/l  | 1.0  | --  | 1               |
| p/m-Xylene                                   | ND     |           | ug/l  | 1.0  | --  | 1               |
| o-Xylene                                     | ND     |           | ug/l  | 1.0  | --  | 1               |
| cis-1,2-Dichloroethene                       | ND     |           | ug/l  | 0.50 | --  | 1               |
| Dibromomethane                               | ND     |           | ug/l  | 5.0  | --  | 1               |
| 1,4-Dichlorobutane                           | ND     |           | ug/l  | 5.0  | --  | 1               |
| 1,2,3-Trichloropropane                       | ND     |           | ug/l  | 5.0  | --  | 1               |
| Styrene                                      | ND     |           | ug/l  | 1.0  | --  | 1               |
| Dichlorodifluoromethane                      | ND     |           | ug/l  | 5.0  | --  | 1               |
| Acetone                                      | 16     |           | ug/l  | 5.0  | --  | 1               |
| Carbon disulfide                             | ND     |           | ug/l  | 5.0  | --  | 1               |
| 2-Butanone                                   | ND     |           | ug/l  | 5.0  | --  | 1               |
| Vinyl acetate                                | ND     |           | ug/l  | 5.0  | --  | 1               |
| 4-Methyl-2-pentanone                         | ND     |           | ug/l  | 5.0  | --  | 1               |
| 2-Hexanone                                   | ND     |           | ug/l  | 5.0  | --  | 1               |
| Ethyl methacrylate                           | ND     |           | ug/l  | 5.0  | --  | 1               |
| Acrylonitrile                                | ND     |           | ug/l  | 5.0  | --  | 1               |
| Bromochloromethane                           | ND     |           | ug/l  | 2.5  | --  | 1               |
| Tetrahydrofuran                              | ND     |           | ug/l  | 5.0  | --  | 1               |
| 2,2-Dichloropropane                          | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,3-Dichloropropane                          | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,1,1,2-Tetrachloroethane                    | ND     |           | ug/l  | 0.50 | --  | 1               |
| Bromobenzene                                 | ND     |           | ug/l  | 2.5  | --  | 1               |
| n-Butylbenzene                               | ND     |           | ug/l  | 0.50 | --  | 1               |
| sec-Butylbenzene                             | ND     |           | ug/l  | 0.50 | --  | 1               |
| tert-Butylbenzene                            | ND     |           | ug/l  | 2.5  | --  | 1               |
| o-Chlorotoluene                              | ND     |           | ug/l  | 2.5  | --  | 1               |
| p-Chlorotoluene                              | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,2-Dibromo-3-chloropropane                  | ND     |           | ug/l  | 2.5  | --  | 1               |
| Hexachlorobutadiene                          | ND     |           | ug/l  | 0.50 | --  | 1               |
| Isopropylbenzene                             | ND     |           | ug/l  | 0.50 | --  | 1               |
| p-Isopropyltoluene                           | ND     |           | ug/l  | 0.50 | --  | 1               |
| Naphthalene                                  | ND     |           | ug/l  | 2.5  | --  | 1               |
| n-Propylbenzene                              | ND     |           | ug/l  | 0.50 | --  | 1               |
| 1,2,3-Trichlorobenzene                       | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,2,4-Trichlorobenzene                       | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,3,5-Trimethylbenzene                       | ND     |           | ug/l  | 2.5  | --  | 1               |
| 1,2,4-Trimethylbenzene                       | ND     |           | ug/l  | 2.5  | --  | 1               |
| trans-1,4-Dichloro-2-butene                  | ND     |           | ug/l  | 2.5  | --  | 1               |

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

Lab ID: L1205192-01

Date Collected: 03/28/12 09:00

Client ID: LE-PCS

Date Received: 03/28/12

Sample Location: BOSTON

Field Prep: Not Specified

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

## Volatile Organics by GC/MS - Westborough Lab

|                            |    |  |      |     |    |   |
|----------------------------|----|--|------|-----|----|---|
| Ethyl ether                | ND |  | ug/l | 2.5 | -- | 1 |
| Tert-Butyl Alcohol         | ND |  | ug/l | 10  | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND |  | ug/l | 2.0 | -- | 1 |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 120        |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 105        |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

Lab ID: L1205192-01

Date Collected: 03/28/12 09:00

Client ID: LE-PCS

Date Received: 03/28/12

Sample Location: BOSTON

Field Prep: Not Specified

Matrix: Water

Analytical Method: 1,8260B(M)

Analytical Date: 03/29/12 20:09

Analyst: PD

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

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

Lab ID: L1205192-01

Date Collected: 03/28/12 09:00

Client ID: LE-PCS

Date Received: 03/28/12

Sample Location: BOSTON

Field Prep: Not Specified

Matrix: Water

Analytical Method: 14,504.1

Extraction Date: 04/03/12 10:30

Analytical Date: 04/03/12 13:34

Analyst: SH

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

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260B(M)  
Analytical Date: 03/29/12 11:35  
Analyst: PD

| Parameter                                                                            | Result | Qualifier | Units | RL  | MDL |
|--------------------------------------------------------------------------------------|--------|-----------|-------|-----|-----|
| Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG525895-3 |        |           |       |     |     |
| 1,4-Dioxane                                                                          | ND     |           | ug/l  | 3.0 | --  |

Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B  
 Analytical Date: 03/29/12 11:35  
 Analyst: PD

| Parameter                                                                        | Result | Qualifier | Units | RL   | MDL |
|----------------------------------------------------------------------------------|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG525896-3 |        |           |       |      |     |
| Methylene chloride                                                               | ND     |           | ug/l  | 3.0  | --  |
| 1,1-Dichloroethane                                                               | ND     |           | ug/l  | 0.75 | --  |
| Chloroform                                                                       | ND     |           | ug/l  | 0.75 | --  |
| Carbon tetrachloride                                                             | ND     |           | ug/l  | 0.50 | --  |
| 1,2-Dichloropropane                                                              | ND     |           | ug/l  | 1.8  | --  |
| Dibromochloromethane                                                             | ND     |           | ug/l  | 0.50 | --  |
| 1,1,2-Trichloroethane                                                            | ND     |           | ug/l  | 0.75 | --  |
| Tetrachloroethene                                                                | ND     |           | ug/l  | 0.50 | --  |
| Chlorobenzene                                                                    | ND     |           | ug/l  | 0.50 | --  |
| Trichlorofluoromethane                                                           | ND     |           | ug/l  | 2.5  | --  |
| 1,2-Dichloroethane                                                               | ND     |           | ug/l  | 0.50 | --  |
| 1,1,1-Trichloroethane                                                            | ND     |           | ug/l  | 0.50 | --  |
| Bromodichloromethane                                                             | ND     |           | ug/l  | 0.50 | --  |
| trans-1,3-Dichloropropene                                                        | ND     |           | ug/l  | 0.50 | --  |
| cis-1,3-Dichloropropene                                                          | ND     |           | ug/l  | 0.50 | --  |
| 1,1-Dichloropropene                                                              | ND     |           | ug/l  | 2.5  | --  |
| Bromoform                                                                        | ND     |           | ug/l  | 2.0  | --  |
| 1,1,2,2-Tetrachloroethane                                                        | ND     |           | ug/l  | 0.50 | --  |
| Benzene                                                                          | ND     |           | ug/l  | 0.50 | --  |
| Toluene                                                                          | ND     |           | ug/l  | 0.75 | --  |
| Ethylbenzene                                                                     | ND     |           | ug/l  | 0.50 | --  |
| Chloromethane                                                                    | ND     |           | ug/l  | 2.5  | --  |
| Bromomethane                                                                     | ND     |           | ug/l  | 1.0  | --  |
| Vinyl chloride                                                                   | ND     |           | ug/l  | 1.0  | --  |
| Chloroethane                                                                     | ND     |           | ug/l  | 1.0  | --  |
| 1,1-Dichloroethene                                                               | ND     |           | ug/l  | 0.50 | --  |
| trans-1,2-Dichloroethene                                                         | ND     |           | ug/l  | 0.75 | --  |
| Trichloroethene                                                                  | ND     |           | ug/l  | 0.50 | --  |
| 1,2-Dichlorobenzene                                                              | ND     |           | ug/l  | 2.5  | --  |
| 1,3-Dichlorobenzene                                                              | ND     |           | ug/l  | 2.5  | --  |
| 1,4-Dichlorobenzene                                                              | ND     |           | ug/l  | 2.5  | --  |

Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B  
 Analytical Date: 03/29/12 11:35  
 Analyst: PD

| Parameter                                                                        | Result | Qualifier | Units | RL   | MDL |
|----------------------------------------------------------------------------------|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG525896-3 |        |           |       |      |     |
| Methyl tert butyl ether                                                          | ND     |           | ug/l  | 1.0  | --  |
| p/m-Xylene                                                                       | ND     |           | ug/l  | 1.0  | --  |
| o-Xylene                                                                         | ND     |           | ug/l  | 1.0  | --  |
| cis-1,2-Dichloroethene                                                           | ND     |           | ug/l  | 0.50 | --  |
| Dibromomethane                                                                   | ND     |           | ug/l  | 5.0  | --  |
| 1,4-Dichlorobutane                                                               | ND     |           | ug/l  | 5.0  | --  |
| 1,2,3-Trichloropropane                                                           | ND     |           | ug/l  | 5.0  | --  |
| Styrene                                                                          | ND     |           | ug/l  | 1.0  | --  |
| Dichlorodifluoromethane                                                          | ND     |           | ug/l  | 5.0  | --  |
| Acetone                                                                          | ND     |           | ug/l  | 5.0  | --  |
| Carbon disulfide                                                                 | ND     |           | ug/l  | 5.0  | --  |
| 2-Butanone                                                                       | ND     |           | ug/l  | 5.0  | --  |
| Vinyl acetate                                                                    | ND     |           | ug/l  | 5.0  | --  |
| 4-Methyl-2-pentanone                                                             | ND     |           | ug/l  | 5.0  | --  |
| 2-Hexanone                                                                       | ND     |           | ug/l  | 5.0  | --  |
| Ethyl methacrylate                                                               | ND     |           | ug/l  | 5.0  | --  |
| Acrylonitrile                                                                    | ND     |           | ug/l  | 5.0  | --  |
| Bromochloromethane                                                               | ND     |           | ug/l  | 2.5  | --  |
| Tetrahydrofuran                                                                  | ND     |           | ug/l  | 5.0  | --  |
| 2,2-Dichloropropane                                                              | ND     |           | ug/l  | 2.5  | --  |
| 1,2-Dibromoethane                                                                | ND     |           | ug/l  | 2.0  | --  |
| 1,3-Dichloropropane                                                              | ND     |           | ug/l  | 2.5  | --  |
| 1,1,1,2-Tetrachloroethane                                                        | ND     |           | ug/l  | 0.50 | --  |
| Bromobenzene                                                                     | ND     |           | ug/l  | 2.5  | --  |
| n-Butylbenzene                                                                   | ND     |           | ug/l  | 0.50 | --  |
| sec-Butylbenzene                                                                 | ND     |           | ug/l  | 0.50 | --  |
| tert-Butylbenzene                                                                | ND     |           | ug/l  | 2.5  | --  |
| o-Chlorotoluene                                                                  | ND     |           | ug/l  | 2.5  | --  |
| p-Chlorotoluene                                                                  | ND     |           | ug/l  | 2.5  | --  |
| 1,2-Dibromo-3-chloropropane                                                      | ND     |           | ug/l  | 2.5  | --  |
| Hexachlorobutadiene                                                              | ND     |           | ug/l  | 0.50 | --  |

Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B  
 Analytical Date: 03/29/12 11:35  
 Analyst: PD

| Parameter                                                                        | Result | Qualifier | Units | RL   | MDL |
|----------------------------------------------------------------------------------|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG525896-3 |        |           |       |      |     |
| Isopropylbenzene                                                                 | ND     |           | ug/l  | 0.50 | --  |
| p-Isopropyltoluene                                                               | ND     |           | ug/l  | 0.50 | --  |
| Naphthalene                                                                      | ND     |           | ug/l  | 2.5  | --  |
| n-Propylbenzene                                                                  | ND     |           | ug/l  | 0.50 | --  |
| 1,2,3-Trichlorobenzene                                                           | ND     |           | ug/l  | 2.5  | --  |
| 1,2,4-Trichlorobenzene                                                           | ND     |           | ug/l  | 2.5  | --  |
| 1,3,5-Trimethylbenzene                                                           | ND     |           | ug/l  | 2.5  | --  |
| 1,2,4-Trimethylbenzene                                                           | ND     |           | ug/l  | 2.5  | --  |
| trans-1,4-Dichloro-2-butene                                                      | ND     |           | ug/l  | 2.5  | --  |
| Ethyl ether                                                                      | ND     |           | ug/l  | 2.5  | --  |
| Tert-Butyl Alcohol                                                               | ND     |           | ug/l  | 10   | --  |
| Tertiary-Amyl Methyl Ether                                                       | ND     |           | ug/l  | 2.0  | --  |

| Surrogate             | %Recovery | Qualifier | Acceptance<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 126       |           | 70-130                 |
| Toluene-d8            | 99        |           | 70-130                 |
| 4-Bromofluorobenzene  | 103       |           | 70-130                 |
| Dibromofluoromethane  | 101       |           | 70-130                 |

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 14,504.1

Analytical Date: 04/03/12 12:48

Analyst: SH

Extraction Date: 04/03/12 10:30

| Parameter                                                              | Result | Qualifier | Units | RL    | MDL |
|------------------------------------------------------------------------|--------|-----------|-------|-------|-----|
| Pesticides by GC - Westborough Lab for sample(s): 01 Batch: WG526725-1 |        |           |       |       |     |
| 1,2-Dibromoethane                                                      | ND     |           | ug/l  | 0.010 | --  |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG525895-1 WG525895-2 |                  |      |                   |      |                     |     |      |            |
| 1,4-Dioxane                                                                                            | 94               |      | 86                |      | 70-130              | 9   |      | 25         |

|                                                                                                    |     |  |     |  |        |   |  |    |
|----------------------------------------------------------------------------------------------------|-----|--|-----|--|--------|---|--|----|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG525896-1 WG525896-2 |     |  |     |  |        |   |  |    |
| Methylene chloride                                                                                 | 98  |  | 105 |  | 70-130 | 7 |  | 20 |
| 1,1-Dichloroethane                                                                                 | 104 |  | 109 |  | 70-130 | 5 |  | 20 |
| Chloroform                                                                                         | 108 |  | 117 |  | 70-130 | 8 |  | 20 |
| Carbon tetrachloride                                                                               | 87  |  | 86  |  | 63-132 | 1 |  | 20 |
| 1,2-Dichloropropane                                                                                | 104 |  | 112 |  | 70-130 | 7 |  | 20 |
| Dibromochloromethane                                                                               | 97  |  | 97  |  | 63-130 | 0 |  | 20 |
| 1,1,2-Trichloroethane                                                                              | 110 |  | 113 |  | 70-130 | 3 |  | 20 |
| Tetrachloroethene                                                                                  | 96  |  | 99  |  | 70-130 | 3 |  | 20 |
| Chlorobenzene                                                                                      | 96  |  | 97  |  | 75-130 | 1 |  | 25 |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG525896-1 WG525896-2 |                  |      |                   |      |                     |     |      |            |
| Trichlorofluoromethane                                                                             | 133              |      | 142               |      | 62-150              | 7   |      | 20         |
| 1,2-Dichloroethane                                                                                 | 124              |      | 127               |      | 70-130              | 2   |      | 20         |
| 1,1,1-Trichloroethane                                                                              | 92               |      | 95                |      | 67-130              | 3   |      | 20         |
| Bromodichloromethane                                                                               | 110              |      | 115               |      | 67-130              | 4   |      | 20         |
| trans-1,3-Dichloropropene                                                                          | 87               |      | 85                |      | 70-130              | 2   |      | 20         |
| cis-1,3-Dichloropropene                                                                            | 87               |      | 90                |      | 70-130              | 3   |      | 20         |
| 1,1-Dichloropropene                                                                                | 101              |      | 108               |      | 70-130              | 7   |      | 20         |
| Bromoform                                                                                          | 104              |      | 99                |      | 54-136              | 5   |      | 20         |
| 1,1,2,2-Tetrachloroethane                                                                          | 118              |      | 121               |      | 67-130              | 3   |      | 20         |
| Benzene                                                                                            | 101              |      | 107               |      | 70-130              | 6   |      | 25         |
| Toluene                                                                                            | 94               |      | 97                |      | 70-130              | 3   |      | 25         |
| Ethylbenzene                                                                                       | 103              |      | 104               |      | 70-130              | 1   |      | 20         |
| Chloromethane                                                                                      | 49               | Q    | 46                | Q    | 64-130              | 6   |      | 20         |
| Bromomethane                                                                                       | 125              |      | 134               |      | 39-139              | 7   |      | 20         |
| Vinyl chloride                                                                                     | 112              |      | 119               |      | 55-140              | 6   |      | 20         |
| Chloroethane                                                                                       | 107              |      | 113               |      | 55-138              | 5   |      | 20         |
| 1,1-Dichloroethene                                                                                 | 93               |      | 100               |      | 61-145              | 7   |      | 25         |
| trans-1,2-Dichloroethene                                                                           | 96               |      | 103               |      | 70-130              | 7   |      | 20         |
| Trichloroethene                                                                                    | 103              |      | 106               |      | 70-130              | 3   |      | 25         |
| 1,2-Dichlorobenzene                                                                                | 108              |      | 107               |      | 70-130              | 1   |      | 20         |
| 1,3-Dichlorobenzene                                                                                | 106              |      | 107               |      | 70-130              | 1   |      | 20         |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG525896-1 WG525896-2 |                  |      |                   |      |                     |     |      |            |
| 1,4-Dichlorobenzene                                                                                | 106              |      | 106               |      | 70-130              | 0   |      | 20         |
| Methyl tert butyl ether                                                                            | 87               |      | 90                |      | 63-130              | 3   |      | 20         |
| p/m-Xylene                                                                                         | 100              |      | 102               |      | 70-130              | 2   |      | 20         |
| o-Xylene                                                                                           | 100              |      | 102               |      | 70-130              | 2   |      | 20         |
| cis-1,2-Dichloroethene                                                                             | 96               |      | 107               |      | 70-130              | 11  |      | 20         |
| Dibromomethane                                                                                     | 117              |      | 123               |      | 70-130              | 5   |      | 20         |
| 1,4-Dichlorobutane                                                                                 | 113              |      | 112               |      | 70-130              | 1   |      | 20         |
| 1,2,3-Trichloropropane                                                                             | 120              |      | 121               |      | 64-130              | 1   |      | 20         |
| Styrene                                                                                            | 98               |      | 100               |      | 70-130              | 2   |      | 20         |
| Dichlorodifluoromethane                                                                            | 75               |      | 77                |      | 36-147              | 3   |      | 20         |
| Acetone                                                                                            | 123              |      | 122               |      | 58-148              | 1   |      | 20         |
| Carbon disulfide                                                                                   | 77               |      | 83                |      | 51-130              | 8   |      | 20         |
| 2-Butanone                                                                                         | 132              |      | 137               |      | 63-138              | 4   |      | 20         |
| Vinyl acetate                                                                                      | 92               |      | 93                |      | 70-130              | 1   |      | 20         |
| 4-Methyl-2-pentanone                                                                               | 110              |      | 112               |      | 59-130              | 2   |      | 20         |
| 2-Hexanone                                                                                         | 130              |      | 126               |      | 57-130              | 3   |      | 20         |
| Ethyl methacrylate                                                                                 | 94               |      | 91                |      | 70-130              | 3   |      | 20         |
| Acrylonitrile                                                                                      | 111              |      | 116               |      | 70-130              | 4   |      | 20         |
| Bromochloromethane                                                                                 | 102              |      | 107               |      | 70-130              | 5   |      | 20         |
| Tetrahydrofuran                                                                                    | 117              |      | 123               |      | 58-130              | 5   |      | 20         |
| 2,2-Dichloropropane                                                                                | 64               |      | 62                | Q    | 63-133              | 3   |      | 20         |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG525896-1 WG525896-2 |                  |      |                   |      |                     |     |      |            |
| 1,2-Dibromoethane                                                                                  | 106              |      | 106               |      | 70-130              | 0   |      | 20         |
| 1,3-Dichloropropane                                                                                | 108              |      | 114               |      | 70-130              | 5   |      | 20         |
| 1,1,1,2-Tetrachloroethane                                                                          | 101              |      | 100               |      | 64-130              | 1   |      | 20         |
| Bromobenzene                                                                                       | 107              |      | 108               |      | 70-130              | 1   |      | 20         |
| n-Butylbenzene                                                                                     | 118              |      | 120               |      | 53-136              | 2   |      | 20         |
| sec-Butylbenzene                                                                                   | 103              |      | 104               |      | 70-130              | 1   |      | 20         |
| tert-Butylbenzene                                                                                  | 104              |      | 106               |      | 70-130              | 2   |      | 20         |
| o-Chlorotoluene                                                                                    | 114              |      | 116               |      | 70-130              | 2   |      | 20         |
| p-Chlorotoluene                                                                                    | 113              |      | 114               |      | 70-130              | 1   |      | 20         |
| 1,2-Dibromo-3-chloropropane                                                                        | 113              |      | 107               |      | 41-144              | 5   |      | 20         |
| Hexachlorobutadiene                                                                                | 92               |      | 94                |      | 63-130              | 2   |      | 20         |
| Isopropylbenzene                                                                                   | 99               |      | 101               |      | 70-130              | 2   |      | 20         |
| p-Isopropyltoluene                                                                                 | 111              |      | 112               |      | 70-130              | 1   |      | 20         |
| Naphthalene                                                                                        | 108              |      | 109               |      | 70-130              | 1   |      | 20         |
| n-Propylbenzene                                                                                    | 111              |      | 113               |      | 69-130              | 2   |      | 20         |
| 1,2,3-Trichlorobenzene                                                                             | 106              |      | 105               |      | 70-130              | 1   |      | 20         |
| 1,2,4-Trichlorobenzene                                                                             | 107              |      | 108               |      | 70-130              | 1   |      | 20         |
| 1,3,5-Trimethylbenzene                                                                             | 109              |      | 111               |      | 64-130              | 2   |      | 20         |
| 1,2,4-Trimethylbenzene                                                                             | 109              |      | 111               |      | 70-130              | 2   |      | 20         |
| trans-1,4-Dichloro-2-butene                                                                        | 95               |      | 93                |      | 70-130              | 2   |      | 20         |
| Ethyl ether                                                                                        | 104              |      | 110               |      | 59-134              | 6   |      | 20         |

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG525896-1 WG525896-2 |                  |      |                   |      |                     |     |      |            |
| tert-Butyl Alcohol                                                                                 | 94               |      | 78                |      | 70-130              | 19  |      | 20         |
| Tertiary-Amyl Methyl Ether                                                                         | 86               |      | 86                |      | 66-130              | 0   |      | 20         |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 125              |      | 128               |      | 70-130                 |
| Toluene-d8            | 100              |      | 99                |      | 70-130                 |
| 4-Bromofluorobenzene  | 104              |      | 105               |      | 70-130                 |
| Dibromofluoromethane  | 105              |      | 109               |      | 70-130                 |

Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG526725-2

|                   |     |  |   |  |        |   |  |    |
|-------------------|-----|--|---|--|--------|---|--|----|
| 1,2-Dibromoethane | 107 |  | - |  | 70-130 | - |  | 20 |
|-------------------|-----|--|---|--|--------|---|--|----|

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                                                             | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Pesticides by GC - Westborough Lab Associated sample(s): 01    QC Batch ID: WG526725-3    QC Sample: L1205192-01    Client ID: LE-PCS |               |          |          |              |      |           |               |      |                 |     |      |            |
| 1,2-Dibromoethane                                                                                                                     | ND            | 0.26     | 0.290    | 112          |      | -         | -             |      | 70-130          | -   |      | 20         |

# SEMIVOLATILES

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

**Lab ID:** L1205192-01  
**Client ID:** LE-PCS  
**Sample Location:** BOSTON  
**Matrix:** Water  
**Analytical Method:** 1,8270C-SIM  
**Analytical Date:** 03/31/12 18:36  
**Analyst:** JC

**Date Collected:** 03/28/12 09:00  
**Date Received:** 03/28/12  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3510C  
**Extraction Date:** 03/30/12 17:52

| Parameter                                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|------------------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab |        |           |       |      |     |                 |
| Acenaphthene                                         | 1.0    |           | ug/l  | 0.20 | --  | 1               |
| 2-Chloronaphthalene                                  | ND     |           | ug/l  | 0.20 | --  | 1               |
| Fluoranthene                                         | 8.9    |           | ug/l  | 0.20 | --  | 1               |
| Hexachlorobutadiene                                  | ND     |           | ug/l  | 0.50 | --  | 1               |
| Naphthalene                                          | 0.57   |           | ug/l  | 0.20 | --  | 1               |
| Benzo(a)anthracene                                   | 2.1    |           | ug/l  | 0.20 | --  | 1               |
| Benzo(a)pyrene                                       | 2.0    |           | ug/l  | 0.20 | --  | 1               |
| Benzo(b)fluoranthene                                 | 2.7    |           | ug/l  | 0.20 | --  | 1               |
| Benzo(k)fluoranthene                                 | 2.0    |           | ug/l  | 0.20 | --  | 1               |
| Chrysene                                             | 3.6    |           | ug/l  | 0.20 | --  | 1               |
| Acenaphthylene                                       | ND     |           | ug/l  | 0.20 | --  | 1               |
| Anthracene                                           | 0.66   |           | ug/l  | 0.20 | --  | 1               |
| Benzo(ghi)perylene                                   | 2.0    |           | ug/l  | 0.20 | --  | 1               |
| Fluorene                                             | 1.0    |           | ug/l  | 0.20 | --  | 1               |
| Phenanthrene                                         | 4.4    |           | ug/l  | 0.20 | --  | 1               |
| Dibenzo(a,h)anthracene                               | 0.54   |           | ug/l  | 0.20 | --  | 1               |
| Indeno(1,2,3-cd)Pyrene                               | 1.8    |           | ug/l  | 0.20 | --  | 1               |
| Pyrene                                               | 7.4    |           | ug/l  | 0.20 | --  | 1               |
| 1-Methylnaphthalene                                  | 0.72   |           | ug/l  | 0.20 | --  | 1               |
| 2-Methylnaphthalene                                  | 0.27   |           | ug/l  | 0.20 | --  | 1               |
| Pentachlorophenol                                    | ND     |           | ug/l  | 0.80 | --  | 1               |
| Hexachlorobenzene                                    | ND     |           | ug/l  | 0.80 | --  | 1               |
| Hexachloroethane                                     | ND     |           | ug/l  | 0.80 | --  | 1               |

| Surrogate            | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol       | 58         |           | 21-120              |
| Phenol-d6            | 43         |           | 10-120              |
| Nitrobenzene-d5      | 109        |           | 23-120              |
| 2-Fluorobiphenyl     | 87         |           | 15-120              |
| 2,4,6-Tribromophenol | 97         |           | 10-120              |
| 4-Terphenyl-d14      | 106        |           | 41-149              |



**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

Lab ID: L1205192-01 D  
 Client ID: LE-PCS  
 Sample Location: BOSTON  
 Matrix: Water  
 Analytical Method: 1,8270C  
 Analytical Date: 04/04/12 06:02  
 Analyst: JB

Date Collected: 03/28/12 09:00  
 Date Received: 03/28/12  
 Field Prep: Not Specified  
 Extraction Method: EPA 3510C  
 Extraction Date: 03/30/12 17:52

| Parameter                                        | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|--------------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Semivolatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzidine                                        | ND     |           | ug/l  | 200 | --  | 10              |
| 1,2,4-Trichlorobenzene                           | ND     |           | ug/l  | 50  | --  | 10              |
| Bis(2-chloroethyl)ether                          | ND     |           | ug/l  | 20  | --  | 10              |
| 1,2-Dichlorobenzene                              | ND     |           | ug/l  | 20  | --  | 10              |
| 1,3-Dichlorobenzene                              | ND     |           | ug/l  | 20  | --  | 10              |
| 1,4-Dichlorobenzene                              | ND     |           | ug/l  | 20  | --  | 10              |
| 3,3'-Dichlorobenzidine                           | ND     |           | ug/l  | 50  | --  | 10              |
| 2,4-Dinitrotoluene                               | ND     |           | ug/l  | 50  | --  | 10              |
| 2,6-Dinitrotoluene                               | ND     |           | ug/l  | 50  | --  | 10              |
| Azobenzene                                       | ND     |           | ug/l  | 20  | --  | 10              |
| 4-Chlorophenyl phenyl ether                      | ND     |           | ug/l  | 20  | --  | 10              |
| 4-Bromophenyl phenyl ether                       | ND     |           | ug/l  | 20  | --  | 10              |
| Bis(2-chloroisopropyl)ether                      | ND     |           | ug/l  | 20  | --  | 10              |
| Bis(2-chloroethoxy)methane                       | ND     |           | ug/l  | 50  | --  | 10              |
| Hexachlorocyclopentadiene                        | ND     |           | ug/l  | 200 | --  | 10              |
| Isophorone                                       | ND     |           | ug/l  | 50  | --  | 10              |
| Nitrobenzene                                     | ND     |           | ug/l  | 20  | --  | 10              |
| NitrosoDiPhenylAmine(NDPA)/DPA                   | ND     |           | ug/l  | 20  | --  | 10              |
| Bis(2-Ethylhexyl)phthalate                       | 30     |           | ug/l  | 30  | --  | 10              |
| Butyl benzyl phthalate                           | ND     |           | ug/l  | 50  | --  | 10              |
| Di-n-butylphthalate                              | ND     |           | ug/l  | 50  | --  | 10              |
| Di-n-octylphthalate                              | ND     |           | ug/l  | 50  | --  | 10              |
| Diethyl phthalate                                | ND     |           | ug/l  | 50  | --  | 10              |
| Dimethyl phthalate                               | ND     |           | ug/l  | 50  | --  | 10              |
| Aniline                                          | ND     |           | ug/l  | 20  | --  | 10              |
| 4-Chloroaniline                                  | ND     |           | ug/l  | 50  | --  | 10              |
| 2-Nitroaniline                                   | ND     |           | ug/l  | 50  | --  | 10              |
| 3-Nitroaniline                                   | ND     |           | ug/l  | 50  | --  | 10              |
| 4-Nitroaniline                                   | ND     |           | ug/l  | 50  | --  | 10              |
| Dibenzofuran                                     | ND     |           | ug/l  | 20  | --  | 10              |
| n-Nitrosodimethylamine                           | ND     |           | ug/l  | 20  | --  | 10              |

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

Lab ID: L1205192-01 D

Date Collected: 03/28/12 09:00

Client ID: LE-PCS

Date Received: 03/28/12

Sample Location: BOSTON

Field Prep: Not Specified

| Parameter                                        | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|--------------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Semivolatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| 2,4,6-Trichlorophenol                            | ND     |           | ug/l  | 50  | --  | 10              |
| P-Chloro-M-Cresol                                | ND     |           | ug/l  | 20  | --  | 10              |
| 2-Chlorophenol                                   | ND     |           | ug/l  | 20  | --  | 10              |
| 2,4-Dichlorophenol                               | ND     |           | ug/l  | 50  | --  | 10              |
| 2,4-Dimethylphenol                               | ND     |           | ug/l  | 50  | --  | 10              |
| 2-Nitrophenol                                    | ND     |           | ug/l  | 100 | --  | 10              |
| 4-Nitrophenol                                    | ND     |           | ug/l  | 100 | --  | 10              |
| 2,4-Dinitrophenol                                | ND     |           | ug/l  | 200 | --  | 10              |
| 4,6-Dinitro-o-cresol                             | ND     |           | ug/l  | 100 | --  | 10              |
| Phenol                                           | ND     |           | ug/l  | 50  | --  | 10              |
| 2-Methylphenol                                   | ND     |           | ug/l  | 50  | --  | 10              |
| 3-Methylphenol/4-Methylphenol                    | ND     |           | ug/l  | 50  | --  | 10              |
| 2,4,5-Trichlorophenol                            | ND     |           | ug/l  | 50  | --  | 10              |
| Benzoic Acid                                     | ND     |           | ug/l  | 500 | --  | 10              |
| Benzyl Alcohol                                   | ND     |           | ug/l  | 20  | --  | 10              |
| Carbazole                                        | ND     |           | ug/l  | 20  | --  | 10              |
| Pyridine                                         | ND     |           | ug/l  | 50  | --  | 10              |

| Surrogate            | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol       | 52         |           | 21-120              |
| Phenol-d6            | 38         |           | 10-120              |
| Nitrobenzene-d5      | 72         |           | 23-120              |
| 2-Fluorobiphenyl     | 83         |           | 15-120              |
| 2,4,6-Tribromophenol | 101        |           | 10-120              |
| 4-Terphenyl-d14      | 107        |           | 41-149              |

Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270C  
 Analytical Date: 04/02/12 09:53  
 Analyst: JB

Extraction Method: EPA 3510C  
 Extraction Date: 03/30/12 17:52

| Parameter                                                                            | Result | Qualifier | Units | RL  | MDL |
|--------------------------------------------------------------------------------------|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG526248-1 |        |           |       |     |     |
| Benzidine                                                                            | ND     |           | ug/l  | 20  | --  |
| 1,2,4-Trichlorobenzene                                                               | ND     |           | ug/l  | 5.0 | --  |
| Bis(2-chloroethyl)ether                                                              | ND     |           | ug/l  | 2.0 | --  |
| 1,2-Dichlorobenzene                                                                  | ND     |           | ug/l  | 2.0 | --  |
| 1,3-Dichlorobenzene                                                                  | ND     |           | ug/l  | 2.0 | --  |
| 1,4-Dichlorobenzene                                                                  | ND     |           | ug/l  | 2.0 | --  |
| 3,3'-Dichlorobenzidine                                                               | ND     |           | ug/l  | 5.0 | --  |
| 2,4-Dinitrotoluene                                                                   | ND     |           | ug/l  | 5.0 | --  |
| 2,6-Dinitrotoluene                                                                   | ND     |           | ug/l  | 5.0 | --  |
| Azobenzene                                                                           | ND     |           | ug/l  | 2.0 | --  |
| 4-Chlorophenyl phenyl ether                                                          | ND     |           | ug/l  | 2.0 | --  |
| 4-Bromophenyl phenyl ether                                                           | ND     |           | ug/l  | 2.0 | --  |
| Bis(2-chloroisopropyl)ether                                                          | ND     |           | ug/l  | 2.0 | --  |
| Bis(2-chloroethoxy)methane                                                           | ND     |           | ug/l  | 5.0 | --  |
| Hexachlorocyclopentadiene                                                            | ND     |           | ug/l  | 20  | --  |
| Isophorone                                                                           | ND     |           | ug/l  | 5.0 | --  |
| Nitrobenzene                                                                         | ND     |           | ug/l  | 2.0 | --  |
| NitrosoDiPhenylAmine(NDPA)/DPA                                                       | ND     |           | ug/l  | 2.0 | --  |
| Bis(2-Ethylhexyl)phthalate                                                           | ND     |           | ug/l  | 3.0 | --  |
| Butyl benzyl phthalate                                                               | ND     |           | ug/l  | 5.0 | --  |
| Di-n-butylphthalate                                                                  | ND     |           | ug/l  | 5.0 | --  |
| Di-n-octylphthalate                                                                  | ND     |           | ug/l  | 5.0 | --  |
| Diethyl phthalate                                                                    | ND     |           | ug/l  | 5.0 | --  |
| Dimethyl phthalate                                                                   | ND     |           | ug/l  | 5.0 | --  |
| Aniline                                                                              | ND     |           | ug/l  | 2.0 | --  |
| 4-Chloroaniline                                                                      | ND     |           | ug/l  | 5.0 | --  |
| 2-Nitroaniline                                                                       | ND     |           | ug/l  | 5.0 | --  |
| 3-Nitroaniline                                                                       | ND     |           | ug/l  | 5.0 | --  |
| 4-Nitroaniline                                                                       | ND     |           | ug/l  | 5.0 | --  |
| Dibenzofuran                                                                         | ND     |           | ug/l  | 2.0 | --  |
| n-Nitrosodimethylamine                                                               | ND     |           | ug/l  | 2.0 | --  |

Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270C  
 Analytical Date: 04/02/12 09:53  
 Analyst: JB

Extraction Method: EPA 3510C  
 Extraction Date: 03/30/12 17:52

| Parameter                                                                            | Result | Qualifier | Units | RL  | MDL |
|--------------------------------------------------------------------------------------|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG526248-1 |        |           |       |     |     |
| 2,4,6-Trichlorophenol                                                                | ND     |           | ug/l  | 5.0 | --  |
| P-Chloro-M-Cresol                                                                    | ND     |           | ug/l  | 2.0 | --  |
| 2-Chlorophenol                                                                       | ND     |           | ug/l  | 2.0 | --  |
| 2,4-Dichlorophenol                                                                   | ND     |           | ug/l  | 5.0 | --  |
| 2,4-Dimethylphenol                                                                   | ND     |           | ug/l  | 5.0 | --  |
| 2-Nitrophenol                                                                        | ND     |           | ug/l  | 10  | --  |
| 4-Nitrophenol                                                                        | ND     |           | ug/l  | 10  | --  |
| 2,4-Dinitrophenol                                                                    | ND     |           | ug/l  | 20  | --  |
| 4,6-Dinitro-o-cresol                                                                 | ND     |           | ug/l  | 10  | --  |
| Phenol                                                                               | ND     |           | ug/l  | 5.0 | --  |
| 2-Methylphenol                                                                       | ND     |           | ug/l  | 5.0 | --  |
| 3-Methylphenol/4-Methylphenol                                                        | ND     |           | ug/l  | 5.0 | --  |
| 2,4,5-Trichlorophenol                                                                | ND     |           | ug/l  | 5.0 | --  |
| Benzoic Acid                                                                         | ND     |           | ug/l  | 50  | --  |
| Benzyl Alcohol                                                                       | ND     |           | ug/l  | 2.0 | --  |
| Carbazole                                                                            | ND     |           | ug/l  | 2.0 | --  |
| Pyridine                                                                             | ND     |           | ug/l  | 5.0 | --  |

| Surrogate            | %Recovery | Qualifier | Acceptance<br>Criteria |
|----------------------|-----------|-----------|------------------------|
| 2-Fluorophenol       | 54        |           | 21-120                 |
| Phenol-d6            | 36        |           | 10-120                 |
| Nitrobenzene-d5      | 63        |           | 23-120                 |
| 2-Fluorobiphenyl     | 65        |           | 15-120                 |
| 2,4,6-Tribromophenol | 94        |           | 10-120                 |
| 4-Terphenyl-d14      | 113       |           | 41-149                 |

Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270C-SIM  
 Analytical Date: 03/31/12 11:07  
 Analyst: JC

Extraction Method: EPA 3510C  
 Extraction Date: 03/30/12 17:52

| Parameter                                                                                | Result | Qualifier | Units | RL   | MDL |
|------------------------------------------------------------------------------------------|--------|-----------|-------|------|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG526249-1 |        |           |       |      |     |
| Acenaphthene                                                                             | ND     |           | ug/l  | 0.20 | --  |
| 2-Chloronaphthalene                                                                      | ND     |           | ug/l  | 0.20 | --  |
| Fluoranthene                                                                             | ND     |           | ug/l  | 0.20 | --  |
| Hexachlorobutadiene                                                                      | ND     |           | ug/l  | 0.50 | --  |
| Naphthalene                                                                              | ND     |           | ug/l  | 0.20 | --  |
| Benzo(a)anthracene                                                                       | ND     |           | ug/l  | 0.20 | --  |
| Benzo(a)pyrene                                                                           | ND     |           | ug/l  | 0.20 | --  |
| Benzo(b)fluoranthene                                                                     | ND     |           | ug/l  | 0.20 | --  |
| Benzo(k)fluoranthene                                                                     | ND     |           | ug/l  | 0.20 | --  |
| Chrysene                                                                                 | ND     |           | ug/l  | 0.20 | --  |
| Acenaphthylene                                                                           | ND     |           | ug/l  | 0.20 | --  |
| Anthracene                                                                               | ND     |           | ug/l  | 0.20 | --  |
| Benzo(ghi)perylene                                                                       | ND     |           | ug/l  | 0.20 | --  |
| Fluorene                                                                                 | ND     |           | ug/l  | 0.20 | --  |
| Phenanthrene                                                                             | ND     |           | ug/l  | 0.20 | --  |
| Dibenzo(a,h)anthracene                                                                   | ND     |           | ug/l  | 0.20 | --  |
| Indeno(1,2,3-cd)Pyrene                                                                   | ND     |           | ug/l  | 0.20 | --  |
| Pyrene                                                                                   | ND     |           | ug/l  | 0.20 | --  |
| 1-Methylnaphthalene                                                                      | ND     |           | ug/l  | 0.20 | --  |
| 2-Methylnaphthalene                                                                      | ND     |           | ug/l  | 0.20 | --  |
| Pentachlorophenol                                                                        | ND     |           | ug/l  | 0.80 | --  |
| Hexachlorobenzene                                                                        | ND     |           | ug/l  | 0.80 | --  |
| Hexachloroethane                                                                         | ND     |           | ug/l  | 0.80 | --  |

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12

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

Analytical Method: 1,8270C-SIM  
 Analytical Date: 03/31/12 11:07  
 Analyst: JC

Extraction Method: EPA 3510C  
 Extraction Date: 03/30/12 17:52

| Parameter                                                                                | Result | Qualifier | Units | RL | MDL |
|------------------------------------------------------------------------------------------|--------|-----------|-------|----|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG526249-1 |        |           |       |    |     |

| Surrogate            | %Recovery | Qualifier | Acceptance<br>Criteria |
|----------------------|-----------|-----------|------------------------|
| 2-Fluorophenol       | 50        |           | 21-120                 |
| Phenol-d6            | 34        |           | 10-120                 |
| Nitrobenzene-d5      | 91        |           | 23-120                 |
| 2-Fluorobiphenyl     | 67        |           | 15-120                 |
| 2,4,6-Tribromophenol | 84        |           | 10-120                 |
| 4-Terphenyl-d14      | 107       |           | 41-149                 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG526248-2 WG526248-3 |                  |      |                   |      |                     |     |      |            |
| Benzidine                                                                                              | 10               |      | 17                |      |                     | 52  | Q    | 30         |
| 1,2,4-Trichlorobenzene                                                                                 | 60               |      | 51                |      | 39-98               | 16  |      | 30         |
| Bis(2-chloroethyl)ether                                                                                | 75               |      | 66                |      | 40-140              | 13  |      | 30         |
| 1,2-Dichlorobenzene                                                                                    | 65               |      | 55                |      | 40-140              | 17  |      | 30         |
| 1,3-Dichlorobenzene                                                                                    | 62               |      | 54                |      | 40-140              | 14  |      | 30         |
| 1,4-Dichlorobenzene                                                                                    | 63               |      | 55                |      | 36-97               | 14  |      | 30         |
| 3,3'-Dichlorobenzidine                                                                                 | 94               |      | 81                |      | 40-140              | 14  |      | 30         |
| 2,4-Dinitrotoluene                                                                                     | 104              | Q    | 98                | Q    | 24-96               | 6   |      | 30         |
| 2,6-Dinitrotoluene                                                                                     | 93               |      | 93                |      | 40-140              | 0   |      | 30         |
| Azobenzene                                                                                             | 96               |      | 92                |      | 40-140              | 4   |      | 30         |
| 4-Chlorophenyl phenyl ether                                                                            | 88               |      | 80                |      | 40-140              | 10  |      | 30         |
| 4-Bromophenyl phenyl ether                                                                             | 93               |      | 88                |      | 40-140              | 6   |      | 30         |
| Bis(2-chloroisopropyl)ether                                                                            | 68               |      | 61                |      | 40-140              | 11  |      | 30         |
| Bis(2-chloroethoxy)methane                                                                             | 75               |      | 69                |      | 40-140              | 8   |      | 30         |
| Hexachlorocyclopentadiene                                                                              | 44               |      | 41                |      | 40-140              | 7   |      | 30         |
| Isophorone                                                                                             | 76               |      | 68                |      | 40-140              | 11  |      | 30         |
| Nitrobenzene                                                                                           | 74               |      | 62                |      | 40-140              | 18  |      | 30         |
| NitrosoDiPhenylAmine(NDPA)/DPA                                                                         | 86               |      | 82                |      | 40-140              | 5   |      | 30         |
| Bis(2-Ethylhexyl)phthalate                                                                             | 109              |      | 106               |      | 40-140              | 3   |      | 30         |
| Butyl benzyl phthalate                                                                                 | 108              |      | 104               |      | 40-140              | 4   |      | 30         |
| Di-n-butylphthalate                                                                                    | 104              |      | 100               |      | 40-140              | 4   |      | 30         |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG526248-2 WG526248-3 |                  |      |                   |      |                     |     |      |            |
| Di-n-octylphthalate                                                                                    | 106              |      | 100               |      | 40-140              | 6   |      | 30         |
| Diethyl phthalate                                                                                      | 95               |      | 91                |      | 40-140              | 4   |      | 30         |
| Dimethyl phthalate                                                                                     | 94               |      | 88                |      | 40-140              | 7   |      | 30         |
| Aniline                                                                                                | 33               | Q    | 32                | Q    | 40-140              | 3   |      | 30         |
| 4-Chloroaniline                                                                                        | 63               |      | 52                |      | 40-140              | 19  |      | 30         |
| 2-Nitroaniline                                                                                         | 101              |      | 96                |      | 52-143              | 5   |      | 30         |
| 3-Nitroaniline                                                                                         | 93               |      | 85                |      | 25-145              | 9   |      | 30         |
| 4-Nitroaniline                                                                                         | 113              |      | 110               |      | 51-143              | 3   |      | 30         |
| Dibenzofuran                                                                                           | 87               |      | 78                |      | 40-140              | 11  |      | 30         |
| n-Nitrosodimethylamine                                                                                 | 53               |      | 44                |      |                     | 19  |      | 30         |
| 2,4,6-Trichlorophenol                                                                                  | 94               |      | 85                |      | 30-130              | 10  |      | 30         |
| P-Chloro-M-Cresol                                                                                      | 94               |      | 90                |      | 23-97               | 4   |      | 30         |
| 2-Chlorophenol                                                                                         | 81               |      | 73                |      | 27-123              | 10  |      | 30         |
| 2,4-Dichlorophenol                                                                                     | 88               |      | 78                |      | 30-130              | 12  |      | 30         |
| 2,4-Dimethylphenol                                                                                     | 71               |      | 66                |      | 30-130              | 7   |      | 30         |
| 2-Nitrophenol                                                                                          | 80               |      | 72                |      | 30-130              | 11  |      | 30         |
| 4-Nitrophenol                                                                                          | 55               |      | 51                |      | 10-80               | 8   |      | 30         |
| 2,4-Dinitrophenol                                                                                      | 83               |      | 81                |      | 20-130              | 2   |      | 30         |
| 4,6-Dinitro-o-cresol                                                                                   | 90               |      | 85                |      | 20-164              | 6   |      | 30         |
| Phenol                                                                                                 | 42               |      | 38                |      | 12-110              | 10  |      | 30         |
| 2-Methylphenol                                                                                         | 76               |      | 66                |      | 30-130              | 14  |      | 30         |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG526248-2 WG526248-3 |                  |      |                   |      |                     |     |      |            |
| 3-Methylphenol/4-Methylphenol                                                                          | 74               |      | 66                |      | 30-130              | 11  |      | 30         |
| 2,4,5-Trichlorophenol                                                                                  | 97               |      | 96                |      | 30-130              | 1   |      | 30         |
| Benzoic Acid                                                                                           | 35               |      | 28                |      |                     | 22  |      | 30         |
| Benzyl Alcohol                                                                                         | 60               |      | 55                |      |                     | 9   |      | 30         |
| Carbazole                                                                                              | 100              |      | 95                |      | 55-144              | 5   |      | 30         |
| Pyridine                                                                                               | 18               |      | 24                |      | 10-66               | 29  |      | 30         |

| Surrogate            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|----------------------|------------------|------|-------------------|------|------------------------|
| 2-Fluorophenol       | 60               |      | 53                |      | 21-120                 |
| Phenol-d6            | 43               |      | 37                |      | 10-120                 |
| Nitrobenzene-d5      | 73               |      | 65                |      | 23-120                 |
| 2-Fluorobiphenyl     | 80               |      | 70                |      | 15-120                 |
| 2,4,6-Tribromophenol | 110              |      | 108               |      | 10-120                 |
| 4-Terphenyl-d14      | 110              |      | 108               |      | 41-149                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                                  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG526249-2 WG526249-3 |                  |      |                   |      |                     |     |      |            |
| Acenaphthene                                                                                               | 65               |      | 65                |      | 37-111              | 0   |      | 40         |
| 2-Chloronaphthalene                                                                                        | 64               |      | 67                |      | 40-140              | 5   |      | 40         |
| Fluoranthene                                                                                               | 86               |      | 88                |      | 40-140              | 2   |      | 40         |
| Hexachlorobutadiene                                                                                        | 62               |      | 66                |      | 40-140              | 6   |      | 40         |
| Naphthalene                                                                                                | 59               |      | 62                |      | 40-140              | 5   |      | 40         |
| Benzo(a)anthracene                                                                                         | 76               |      | 77                |      | 40-140              | 1   |      | 40         |
| Benzo(a)pyrene                                                                                             | 67               |      | 70                |      | 40-140              | 4   |      | 40         |
| Benzo(b)fluoranthene                                                                                       | 67               |      | 70                |      | 40-140              | 4   |      | 40         |
| Benzo(k)fluoranthene                                                                                       | 76               |      | 77                |      | 40-140              | 1   |      | 40         |
| Chrysene                                                                                                   | 74               |      | 75                |      | 40-140              | 1   |      | 40         |
| Acenaphthylene                                                                                             | 74               |      | 75                |      | 40-140              | 1   |      | 40         |
| Anthracene                                                                                                 | 74               |      | 74                |      | 40-140              | 0   |      | 40         |
| Benzo(ghi)perylene                                                                                         | 64               |      | 66                |      | 40-140              | 3   |      | 40         |
| Fluorene                                                                                                   | 74               |      | 74                |      | 40-140              | 0   |      | 40         |
| Phenanthrene                                                                                               | 71               |      | 71                |      | 40-140              | 0   |      | 40         |
| Dibenzo(a,h)anthracene                                                                                     | 66               |      | 67                |      | 40-140              | 2   |      | 40         |
| Indeno(1,2,3-cd)Pyrene                                                                                     | 66               |      | 68                |      | 40-140              | 3   |      | 40         |
| Pyrene                                                                                                     | 86               |      | 87                |      | 26-127              | 1   |      | 40         |
| 1-Methylnaphthalene                                                                                        | 62               |      | 66                |      | 40-140              | 6   |      | 40         |
| 2-Methylnaphthalene                                                                                        | 62               |      | 66                |      | 40-140              | 6   |      | 40         |
| Pentachlorophenol                                                                                          | 82               |      | 86                |      | 9-103               | 5   |      | 40         |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Lab Number:** L1205192

**Project Number:** Not Specified

**Report Date:** 04/05/12

| Parameter                                                                                                  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG526249-2 WG526249-3 |                  |      |                   |      |                     |     |      |            |
| Hexachlorobenzene                                                                                          | 68               |      | 70                |      | 40-140              | 3   |      | 40         |
| Hexachloroethane                                                                                           | 64               |      | 68                |      | 40-140              | 6   |      | 40         |

| Surrogate            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|----------------------|------------------|------|-------------------|------|------------------------|
| 2-Fluorophenol       | 47               |      | 50                |      | 21-120                 |
| Phenol-d6            | 35               |      | 37                |      | 10-120                 |
| Nitrobenzene-d5      | 85               |      | 90                |      | 23-120                 |
| 2-Fluorobiphenyl     | 66               |      | 69                |      | 15-120                 |
| 2,4,6-Tribromophenol | 79               |      | 80                |      | 10-120                 |
| 4-Terphenyl-d14      | 84               |      | 85                |      | 41-149                 |

# PCBS

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS**

**Lab ID:** L1205192-01  
**Client ID:** LE-PCS  
**Sample Location:** BOSTON  
**Matrix:** Water  
**Analytical Method:** 5,608  
**Analytical Date:** 04/02/12 07:18  
**Analyst:** SS

**Date Collected:** 03/28/12 09:00  
**Date Received:** 03/28/12  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 608  
**Extraction Date:** 03/30/12 08:53  
**Cleanup Method1:** EPA 3665A  
**Cleanup Date1:** 03/31/12  
**Cleanup Method2:** EPA 3660B  
**Cleanup Date2:** 03/31/12

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

| Surrogate                    | % Recovery | Qualifier | Acceptance Criteria |
|------------------------------|------------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 46         |           | 30-150              |
| Decachlorobiphenyl           | 42         |           | 30-150              |

**Project Name:** NATIONAL WATER MAIN  
**Project Number:** Not Specified

**Lab Number:** L1205192  
**Report Date:** 04/05/12

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

**Analytical Method:** 5,608  
**Analytical Date:** 04/02/12 06:25  
**Analyst:** SS

**Extraction Method:** EPA 608  
**Extraction Date:** 03/30/12 08:53  
**Cleanup Method1:** EPA 3665A  
**Cleanup Date1:** 03/31/12  
**Cleanup Method2:** EPA 3660B  
**Cleanup Date2:** 03/31/12

| Parameter                                                                             | Result | Qualifier | Units | RL    | MDL |
|---------------------------------------------------------------------------------------|--------|-----------|-------|-------|-----|
| Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG526111-1 |        |           |       |       |     |
| Aroclor 1016                                                                          | ND     |           | ug/l  | 0.250 | --  |
| Aroclor 1221                                                                          | ND     |           | ug/l  | 0.250 | --  |
| Aroclor 1232                                                                          | ND     |           | ug/l  | 0.250 | --  |
| Aroclor 1242                                                                          | ND     |           | ug/l  | 0.250 | --  |
| Aroclor 1248                                                                          | ND     |           | ug/l  | 0.250 | --  |
| Aroclor 1254                                                                          | ND     |           | ug/l  | 0.250 | --  |
| Aroclor 1260                                                                          | ND     |           | ug/l  | 0.250 | --  |

| Surrogate                    | %Recovery | Qualifier | Acceptance Criteria |
|------------------------------|-----------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 52        |           | 30-150              |
| Decachlorobiphenyl           | 54        |           | 30-150              |

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                                                                   | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526111-3 QC Sample: L1205192-01 Client ID: LE-PCS |               |          |          |              |      |           |               |      |                 |     |      |            |
| Aroclor 1016                                                                                                                                | ND            | 2.44     | 1.42     | 58           |      | -         | -             |      | 40-140          | -   |      | 50         |
| Aroclor 1260                                                                                                                                | ND            | 2.44     | 1.16     | 48           |      | -         | -             |      | 40-140          | -   |      | 50         |

| Surrogate                    | MS % Recovery | Qualifier | MSD % Recovery | Qualifier | Acceptance Criteria |
|------------------------------|---------------|-----------|----------------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 51            |           |                |           | 30-150              |
| Decachlorobiphenyl           | 53            |           |                |           | 30-150              |

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12

| Parameter                                                                                    | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG526111-2 |                  |      |                   |      |                     |     |      |            |
| Aroclor 1016                                                                                 | 55               |      | -                 |      | 40-140              | -   |      | 50         |
| Aroclor 1260                                                                                 | 55               |      | -                 |      | 40-140              | -   |      | 50         |

| Surrogate                    | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|------------------------------|------------------|------|-------------------|------|------------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 55               |      |                   |      | 30-150                 |
| Decachlorobiphenyl           | 63               |      |                   |      | 30-150                 |

# Lab Duplicate Analysis

## Batch Quality Control

Project Name: NATIONAL WATER MAIN

Project Number: Not Specified

Lab Number: L1205192

Report Date: 04/05/12

| Parameter                                                                                                                                   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526111-4 QC Sample: L1205192-01 Client ID: LE-PCS |               |                  |       |     |      |            |
| Aroclor 1016                                                                                                                                | ND            | ND               | ug/l  | NC  |      | 50         |
| Aroclor 1221                                                                                                                                | ND            | ND               | ug/l  | NC  |      | 50         |
| Aroclor 1232                                                                                                                                | ND            | ND               | ug/l  | NC  |      | 50         |
| Aroclor 1242                                                                                                                                | ND            | ND               | ug/l  | NC  |      | 50         |
| Aroclor 1248                                                                                                                                | ND            | ND               | ug/l  | NC  |      | 50         |
| Aroclor 1254                                                                                                                                | ND            | 0.789            | ug/l  | NC  |      | 50         |
| Aroclor 1260                                                                                                                                | ND            | 0.771            | ug/l  | NC  |      | 50         |

| Surrogate                    | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|------------------------------|-----------|-----------|-----------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 46        |           | 49        |           | 30-150              |
| Decachlorobiphenyl           | 42        |           | 52        |           | 30-150              |

## METALS

Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

## SAMPLE RESULTS

Lab ID: L1205192-01

Date Collected: 03/28/12 09:00

Client ID: LE-PCS

Date Received: 03/28/12

Sample Location: BOSTON

Field Prep: Not Specified

Matrix: Water

| Parameter                      | Result | Qualifier | Units | RL     | MDL | Dilution Factor | Date Prepared  | Date Analyzed  | Prep Method | Analytical Method | Analyst |
|--------------------------------|--------|-----------|-------|--------|-----|-----------------|----------------|----------------|-------------|-------------------|---------|
| Total Metals - Westborough Lab |        |           |       |        |     |                 |                |                |             |                   |         |
| Antimony, Total                | 0.0023 |           | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Arsenic, Total                 | 0.0068 |           | mg/l  | 0.0005 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Cadmium, Total                 | 0.0009 |           | mg/l  | 0.0002 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Chromium, Total                | 0.0196 |           | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Copper, Total                  | 0.1994 |           | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Iron, Total                    | 8.1    |           | mg/l  | 0.05   | --  | 1               | 04/02/12 12:15 | 04/03/12 09:02 | EPA 3005A   | 19,200.7          | AI      |
| Lead, Total                    | 0.1691 |           | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Mercury, Total                 | 0.0009 |           | mg/l  | 0.0002 | --  | 1               | 03/29/12 15:00 | 03/30/12 09:37 | EPA 245.1   | 3,245.1           | KL      |
| Nickel, Total                  | 0.0118 |           | mg/l  | 0.0005 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Selenium, Total                | ND     |           | mg/l  | 0.005  | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Silver, Total                  | 0.0024 |           | mg/l  | 0.0003 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |
| Zinc, Total                    | 0.4541 |           | mg/l  | 0.0100 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:32 | EPA 3005A   | 1,6020            | BM      |



Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

## Method Blank Analysis Batch Quality Control

| Parameter                                                          | Result Qualifier | Units | RL     | MDL | Dilution Factor | Date Prepared  | Date Analyzed  | Analytical Method | Analyst |
|--------------------------------------------------------------------|------------------|-------|--------|-----|-----------------|----------------|----------------|-------------------|---------|
| Total Metals - Westborough Lab for sample(s): 01 Batch: WG525830-1 |                  |       |        |     |                 |                |                |                   |         |
| Mercury, Total                                                     | ND               | mg/l  | 0.0002 | --  | 1               | 03/29/12 15:00 | 03/30/12 09:31 | 3,245.1           | KL      |

### Prep Information

Digestion Method: EPA 245.1

| Parameter                                                          | Result Qualifier | Units | RL     | MDL | Dilution Factor | Date Prepared  | Date Analyzed  | Analytical Method | Analyst |
|--------------------------------------------------------------------|------------------|-------|--------|-----|-----------------|----------------|----------------|-------------------|---------|
| Total Metals - Westborough Lab for sample(s): 01 Batch: WG526502-1 |                  |       |        |     |                 |                |                |                   |         |
| Antimony, Total                                                    | ND               | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Arsenic, Total                                                     | ND               | mg/l  | 0.0005 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Cadmium, Total                                                     | ND               | mg/l  | 0.0002 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Chromium, Total                                                    | ND               | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Copper, Total                                                      | ND               | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Lead, Total                                                        | ND               | mg/l  | 0.0010 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Nickel, Total                                                      | ND               | mg/l  | 0.0005 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Selenium, Total                                                    | ND               | mg/l  | 0.005  | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Silver, Total                                                      | ND               | mg/l  | 0.0003 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |
| Zinc, Total                                                        | ND               | mg/l  | 0.0050 | --  | 1               | 04/02/12 12:15 | 04/03/12 15:02 | 1,6020            | BM      |

### Prep Information

Digestion Method: EPA 3005A

| Parameter                                                          | Result Qualifier | Units | RL   | MDL | Dilution Factor | Date Prepared  | Date Analyzed  | Analytical Method | Analyst |
|--------------------------------------------------------------------|------------------|-------|------|-----|-----------------|----------------|----------------|-------------------|---------|
| Total Metals - Westborough Lab for sample(s): 01 Batch: WG526505-1 |                  |       |      |     |                 |                |                |                   |         |
| Iron, Total                                                        | ND               | mg/l  | 0.05 | --  | 1               | 04/02/12 12:15 | 04/03/12 08:26 | 19,200.7          | AI      |

### Prep Information

Digestion Method: EPA 3005A



## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                 | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|---------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG525830-2 |                  |      |                   |      |                     |     |      |            |
| Mercury, Total                                                            | 102              |      | -                 |      | 85-115              | -   |      |            |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG526502-2 |                  |      |                   |      |                     |     |      |            |
| Antimony, Total                                                           | 92               |      | -                 |      | 80-120              | -   |      |            |
| Arsenic, Total                                                            | 104              |      | -                 |      | 80-120              | -   |      |            |
| Cadmium, Total                                                            | 112              |      | -                 |      | 80-120              | -   |      |            |
| Chromium, Total                                                           | 101              |      | -                 |      | 80-120              | -   |      |            |
| Copper, Total                                                             | 101              |      | -                 |      | 80-120              | -   |      |            |
| Lead, Total                                                               | 102              |      | -                 |      | 80-120              | -   |      |            |
| Nickel, Total                                                             | 103              |      | -                 |      | 80-120              | -   |      |            |
| Selenium, Total                                                           | 112              |      | -                 |      | 80-120              | -   |      |            |
| Silver, Total                                                             | 99               |      | -                 |      | 80-120              | -   |      |            |
| Zinc, Total                                                               | 107              |      | -                 |      | 80-120              | -   |      |            |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG526505-2 |                  |      |                   |      |                     |     |      |            |
| Iron, Total                                                               | 100              |      | -                 |      | 85-115              | -   |      |            |

# **Matrix Spike Analysis** **Batch Quality Control**

**Project Name:** NATIONAL WATER MAIN

**Lab Number:** L1205192

**Project Number:** Not Specified

**Report Date:** 04/05/12

| Parameter                                                                                                                   | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|-----------------------------------------------------------------------------------------------------------------------------|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG525830-4 QC Sample: L1205260-01 Client ID: MS Sample |               |          |          |              |      |           |               |      |                 |     |      |            |
| Mercury, Total                                                                                                              | ND            | 0.001    | 0.0012   | 123          |      | -         | -             |      | 70-130          | -   |      | 20         |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526502-4 QC Sample: L1205218-02 Client ID: MS Sample |               |          |          |              |      |           |               |      |                 |     |      |            |
| Antimony, Total                                                                                                             | 0.0026        | 0.5      | 0.4959   | 99           |      | -         | -             |      | 80-120          | -   |      | 20         |
| Arsenic, Total                                                                                                              | 0.0147        | 0.12     | 0.1406   | 105          |      | -         | -             |      | 80-120          | -   |      | 20         |
| Cadmium, Total                                                                                                              | ND            | 0.051    | 0.0540   | 106          |      | -         | -             |      | 80-120          | -   |      | 20         |
| Chromium, Total                                                                                                             | ND            | 0.2      | 0.1953   | 98           |      | -         | -             |      | 80-120          | -   |      | 20         |
| Copper, Total                                                                                                               | 0.0140        | 0.25     | 0.2573   | 97           |      | -         | -             |      | 80-120          | -   |      | 20         |
| Lead, Total                                                                                                                 | 0.0058        | 0.51     | 0.5165   | 100          |      | -         | -             |      | 80-120          | -   |      | 20         |
| Nickel, Total                                                                                                               | 0.0007        | 0.5      | 0.4927   | 98           |      | -         | -             |      | 80-120          | -   |      | 20         |
| Selenium, Total                                                                                                             | ND            | 0.12     | 0.121    | 101          |      | -         | -             |      | 80-120          | -   |      | 20         |
| Silver, Total                                                                                                               | ND            | 0.05     | 0.0482   | 96           |      | -         | -             |      | 80-120          | -   |      | 20         |
| Zinc, Total                                                                                                                 | 0.0302        | 0.5      | 0.5442   | 103          |      | -         | -             |      | 80-120          | -   |      | 20         |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526505-4 QC Sample: L1205218-02 Client ID: MS Sample |               |          |          |              |      |           |               |      |                 |     |      |            |
| Iron, Total                                                                                                                 | 0.52          | 1        | 1.5      | 98           |      | -         | -             |      | 75-125          | -   |      | 20         |

# **Lab Duplicate Analysis** Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                                                    | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG525830-3 QC Sample: L1205260-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| Mercury, Total                                                                                                               | ND            | ND               | mg/l  | NC  |      | 20         |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526502-3 QC Sample: L1205218-02 Client ID: DUP Sample |               |                  |       |     |      |            |
| Arsenic, Total                                                                                                               | 0.0147        | 0.0147           | mg/l  | 0   |      | 20         |
| Copper, Total                                                                                                                | 0.0140        | 0.0137           | mg/l  | 2   |      | 20         |
| Nickel, Total                                                                                                                | 0.0007        | 0.0007           | mg/l  | 8   |      | 20         |
| Zinc, Total                                                                                                                  | 0.0302        | 0.0301           | mg/l  | 0   |      | 20         |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526505-3 QC Sample: L1205218-02 Client ID: DUP Sample |               |                  |       |     |      |            |
| Iron, Total                                                                                                                  | 0.52          | 0.55             | mg/l  | 6   |      | 20         |

# **INORGANICS & MISCELLANEOUS**

**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**SAMPLE RESULTS****Lab ID:** L1205192-01**Date Collected:** 03/28/12 09:00**Client ID:** LE-PCS**Date Received:** 03/28/12**Sample Location:** BOSTON**Field Prep:** Not Specified**Matrix:** Water

| Parameter                                             | Result | Qualifier | Units | RL    | MDL | Dilution Factor | Date Prepared  | Date Analyzed  | Analytical Method | Analyst |
|-------------------------------------------------------|--------|-----------|-------|-------|-----|-----------------|----------------|----------------|-------------------|---------|
| <b>General Chemistry - Westborough Lab</b>            |        |           |       |       |     |                 |                |                |                   |         |
| Solids, Total Suspended                               | 390    |           | mg/l  | 50    | NA  | 10              | -              | 03/30/12 14:45 | 30,2540D          | DW      |
| Cyanide, Total                                        | 0.020  |           | mg/l  | 0.005 | --  | 1               | 03/30/12 21:30 | 04/02/12 17:09 | 30,4500CN-CE      | JO      |
| Chlorine, Total Residual                              | ND     |           | mg/l  | 0.10  | --  | 5               | -              | 03/28/12 19:36 | 30,4500CL-D       | ML      |
| TPH                                                   | ND     |           | mg/l  | 4.00  | --  | 1               | 03/31/12 16:15 | 04/03/12 17:30 | 74,1664A          | JO      |
| Phenolics, Total                                      | ND     |           | mg/l  | 0.30  | --  | 10              | 04/04/12 18:20 | 04/05/12 01:51 | 4,420.1           | TP      |
| Chromium, Hexavalent                                  | ND     |           | mg/l  | 0.010 | --  | 1               | 03/28/12 23:30 | 03/28/12 23:46 | 30,3500CR-D       | DE      |
| <b>Anions by Ion Chromatography - Westborough Lab</b> |        |           |       |       |     |                 |                |                |                   |         |
| Chloride                                              | 190    |           | mg/l  | 5.0   | --  | 10              | -              | 03/31/12 01:09 | 44,300.0          | AU      |



Project Name: NATIONAL WATER MAIN

Lab Number: L1205192

Project Number: Not Specified

Report Date: 04/05/12

### Method Blank Analysis Batch Quality Control

| Parameter                                                                          | Result | Qualifier | Units | RL    | MDL | Dilution<br>Factor | Date<br>Prepared | Date<br>Analyzed | Analytical<br>Method | Analyst |
|------------------------------------------------------------------------------------|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG525735-2            |        |           |       |       |     |                    |                  |                  |                      |         |
| Chlorine, Total Residual                                                           | ND     |           | mg/l  | 0.02  | --  | 1                  | -                | 03/28/12 19:36   | 30,4500CL-D          | ML      |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG525754-1            |        |           |       |       |     |                    |                  |                  |                      |         |
| Chromium, Hexavalent                                                               | ND     |           | mg/l  | 0.010 | --  | 1                  | 03/28/12 23:30   | 03/28/12 23:46   | 30,3500CR-D          | DE      |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG526109-1            |        |           |       |       |     |                    |                  |                  |                      |         |
| Solids, Total Suspended                                                            | ND     |           | mg/l  | 5.0   | NA  | 1                  | -                | 03/30/12 14:45   | 30,2540D             | DW      |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG526270-1            |        |           |       |       |     |                    |                  |                  |                      |         |
| Cyanide, Total                                                                     | ND     |           | mg/l  | 0.005 | --  | 1                  | 03/30/12 21:30   | 04/02/12 16:59   | 30,4500CN-CE         | JO      |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG526352-2            |        |           |       |       |     |                    |                  |                  |                      |         |
| TPH                                                                                | ND     |           | mg/l  | 4.00  | --  | 1                  | 03/31/12 16:15   | 04/03/12 17:30   | 74,1664A             | JO      |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG526603-1 |        |           |       |       |     |                    |                  |                  |                      |         |
| Chloride                                                                           | ND     |           | mg/l  | 0.50  | --  | 1                  | -                | 03/30/12 18:15   | 44,300.0             | AU      |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG527163-1            |        |           |       |       |     |                    |                  |                  |                      |         |
| Phenolics, Total                                                                   | ND     |           | mg/l  | 0.03  | --  | 1                  | 04/04/12 18:20   | 04/05/12 01:50   | 4,420.1              | TP      |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                 | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|-------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG525735-1            |                  |      |                   |      |                     |     |      |            |
| Chlorine, Total Residual                                                                  | 97               |      | -                 |      | 90-110              | -   |      |            |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG525754-2            |                  |      |                   |      |                     |     |      |            |
| Chromium, Hexavalent                                                                      | 106              |      | -                 |      | 85-115              | -   |      | 20         |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG526270-2            |                  |      |                   |      |                     |     |      |            |
| Cyanide, Total                                                                            | 106              |      | -                 |      | 90-110              | -   |      |            |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG526352-1            |                  |      |                   |      |                     |     |      |            |
| TPH                                                                                       | 85               |      | -                 |      | 64-132              | -   |      | 34         |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG526603-2 |                  |      |                   |      |                     |     |      |            |
| Chloride                                                                                  | 92               |      | -                 |      | 90-110              | -   |      |            |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG527163-2            |                  |      |                   |      |                     |     |      |            |
| Phenolics, Total                                                                          | 101              |      | -                 |      | 82-111              | -   |      | 12         |

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                                                                   | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG525754-4 QC Sample: L1205192-01 Client ID: LE-PCS               |               |          |          |              |      |           |               |      |                 |     |      |            |
| Chromium, Hexavalent                                                                                                                        | ND            | 0.1      | 0.092    | 92           |      | -         | -             |      | 85-115          | -   |      | 20         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526270-4 QC Sample: L1205192-01 Client ID: LE-PCS               |               |          |          |              |      |           |               |      |                 |     |      |            |
| Cyanide, Total                                                                                                                              | 0.020         | 0.2      | 0.228    | 104          |      | -         | -             |      | 90-110          | -   |      | 30         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526352-3 QC Sample: L1205399-02 Client ID: MS Sample            |               |          |          |              |      |           |               |      |                 |     |      |            |
| TPH                                                                                                                                         | ND            | 22.5     | 17.9     | 79           |      | -         | -             |      | 64-132          | -   |      | 34         |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526603-3 QC Sample: L1205470-05 Client ID: MS Sample |               |          |          |              |      |           |               |      |                 |     |      |            |
| Chloride                                                                                                                                    | 9.3           | 4        | 11       | 49           |      | -         | -             |      | 40-151          | -   |      | 18         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG527163-3 QC Sample: L1205352-02 Client ID: MS Sample            |               |          |          |              |      |           |               |      |                 |     |      |            |
| Phenolics, Total                                                                                                                            | ND            | 0.8      | 0.81     | 101          |      | -         | -             |      | 77-124          | -   |      | 12         |

# **Lab Duplicate Analysis** Batch Quality Control

**Project Name:** NATIONAL WATER MAIN

**Project Number:** Not Specified

**Lab Number:** L1205192

**Report Date:** 04/05/12

| Parameter                                                                                                                                    | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG525735-3 QC Sample: L1205218-02 Client ID: DUP Sample            |               |                  |       |     |      |            |
| Chlorine, Total Residual                                                                                                                     | ND            | ND               | mg/l  | NC  |      | 20         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG525754-3 QC Sample: L1205192-01 Client ID: LE-PCS                |               |                  |       |     |      |            |
| Chromium, Hexavalent                                                                                                                         | ND            | ND               | mg/l  | NC  |      | 20         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526109-2 QC Sample: L1205192-01 Client ID: LE-PCS                |               |                  |       |     |      |            |
| Solids, Total Suspended                                                                                                                      | 390           | 440              | mg/l  | 12  |      | 20         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526270-3 QC Sample: L1205192-01 Client ID: LE-PCS                |               |                  |       |     |      |            |
| Cyanide, Total                                                                                                                               | 0.020         | 0.019            | mg/l  | 7   |      | 30         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526352-4 QC Sample: L1205399-01 Client ID: DUP Sample            |               |                  |       |     |      |            |
| TPH                                                                                                                                          | ND            | ND               | mg/l  | NC  |      | 34         |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG526603-4 QC Sample: L1205470-05 Client ID: DUP Sample |               |                  |       |     |      |            |
| Chloride                                                                                                                                     | 9.3           | 8.5              | mg/l  | 9   |      | 18         |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG527163-4 QC Sample: L1205352-02 Client ID: DUP Sample            |               |                  |       |     |      |            |
| Phenolics, Total                                                                                                                             | ND            | ND               | mg/l  | NC  |      | 12         |

**Project Name:** NATIONAL WATER MAIN**Project Number:** Not Specified**Lab Number:** L1205192**Report Date:** 04/05/12**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA**Cooler Information Custody Seal****Cooler**

A Absent

**Container Information**

| Container ID | Container Type               | Cooler | pH  | Temp<br>deg C | Pres | Seal   | Analysis(*)                                                                                                                                                     |
|--------------|------------------------------|--------|-----|---------------|------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| L1205192-01A | Vial HCl preserved           | A      | N/A | 2.1           | Y    | Absent | 8260-SIM(14),8260(14)                                                                                                                                           |
| L1205192-01B | Vial HCl preserved           | A      | N/A | 2.1           | Y    | Absent | 8260-SIM(14),8260(14)                                                                                                                                           |
| L1205192-01C | Vial Na2S2O3 preserved       | A      | N/A | 2.1           | Y    | Absent | 504(14)                                                                                                                                                         |
| L1205192-01D | Vial Na2S2O3 preserved       | A      | N/A | 2.1           | Y    | Absent | 504(14)                                                                                                                                                         |
| L1205192-01E | Amber 1000ml unpreserved     | A      | 7   | 2.1           | Y    | Absent | 8270TCL(7),8270TCL-SIM(7)                                                                                                                                       |
| L1205192-01F | Amber 1000ml unpreserved     | A      | 7   | 2.1           | Y    | Absent | 8270TCL(7),8270TCL-SIM(7)                                                                                                                                       |
| L1205192-01G | Amber 1000ml Na2S2O3         | A      | 7   | 2.1           | Y    | Absent | PCB-608(7)                                                                                                                                                      |
| L1205192-01H | Amber 1000ml Na2S2O3         | A      | 7   | 2.1           | Y    | Absent | PCB-608(7)                                                                                                                                                      |
| L1205192-01I | Amber 1000ml HCl preserved   | A      | N/A | 2.1           | Y    | Absent | TPH-1664(28)                                                                                                                                                    |
| L1205192-01J | Amber 1000ml Na2S2O3         | A      | 7   | 2.1           | Y    | Absent | PCB-608(7)                                                                                                                                                      |
| L1205192-01K | Amber 1000ml H2SO4 preserved | A      | <2  | 2.1           | Y    | Absent | TPHENOL-420(28)                                                                                                                                                 |
| L1205192-01L | Plastic 1000ml unpreserved   | A      | 7   | 2.1           | Y    | Absent | TSS-2540(7)                                                                                                                                                     |
| L1205192-01M | Plastic 500ml unpreserved    | A      | 7   | 2.1           | Y    | Absent | CL-300(28),TRC-4500(1)                                                                                                                                          |
| L1205192-01N | Plastic 500ml unpreserved    | A      | 7   | 2.1           | Y    | Absent | HEXCR-3500(1)                                                                                                                                                   |
| L1205192-01O | Plastic 250ml NaOH preserved | A      | >12 | 2.1           | Y    | Absent | TCN-4500(14)                                                                                                                                                    |
| L1205192-01P | Plastic 250ml HNO3 preserved | A      | <2  | 2.1           | Y    | Absent | SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180) |
| L1205192-01X | Amber 1000ml unpreserved     | A      | 7   | 2.1           | Y    | Absent | 8270TCL(7),8270TCL-SIM(7)                                                                                                                                       |
| L1205192-01Y | Amber 1000ml unpreserved     | A      | 7   | 2.1           | Y    | Absent | 8270TCL(7),8270TCL-SIM(7)                                                                                                                                       |
| L1205192-02A | Vial HCl preserved           | A      | N/A | 2.1           | Y    | Absent | HOLD(14)                                                                                                                                                        |
| L1205192-02B | Vial Na2S2O3 preserved       | A      | N/A | 2.1           | Y    | Absent | HOLD(14)                                                                                                                                                        |

\*Values in parentheses indicate holding time in days

**Project Name:** NATIONAL WATER MAIN  
**Project Number:** Not Specified

**Lab Number:** L1205192  
**Report Date:** 04/05/12

## GLOSSARY

### Acronyms

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

### Footnotes

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

### Terms

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

### Data Qualifiers

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

**Report Format:** Data Usability Report



**Project Name:** NATIONAL WATER MAIN**Lab Number:** L1205192**Project Number:** Not Specified**Report Date:** 04/05/12**Data Qualifiers**

- 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.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** NATIONAL WATER MAIN  
**Project Number:** Not Specified

**Lab Number:** L1205192  
**Report Date:** 04/05/12

## REFERENCES

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

## LIMITATION OF LIABILITIES

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

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



## Certificate/Approval Program Summary

Last revised January 30, 2012 - Westboro Facility

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

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

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

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

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

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

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

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

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

*Drinking Water* (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Page 58 of 61  
Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

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

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

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

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

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

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

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

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

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

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

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

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

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. **NELAP Accredited.**  
*Drinking Water* (Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P, BE. Organic Parameters: EPA 3510C, 3005A, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 802A, 8151A, 8260B, 8270C, 8270D, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH<sub>3</sub>-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

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

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

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

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

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

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

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. **NELAP Accredited.**

*Non-Potable Water* (Inorganic Parameters: EPA 3005A, 3015, 1312, 6010B, 6010C, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.

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

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

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

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**

**EPA 8260B**: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A**: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C**: Methyl naphthalene, Dimethyl naphthalene, Total Methyl naphthalenes, Total Dimethyl naphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625**: 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO<sub>2</sub> in a soil matrix, NO<sub>3</sub> in a soil matrix, SO<sub>4</sub> in a soil matrix.



# CHAIN OF CUSTODY

PAGE 1 OF 1

35  
8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-898-9220

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300

## Client Information

Client: Lightship Engineering

Address: 39 Industrial PK Rd

City: Plymouth, MA 02360

Phone: 508 830 3344

Email: 508 830 3360

## Additional Project Information:

### Project Information

Project Name: National Water Main

Project Location: Rosdon

Project #:

Project Manager: Scott Krahenzel

ALPHA Quote #:

### Turn-Around Time

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

Date Due: 3/14/12

Date Rec'd in Lab: 3/22/12

ALPHA Job #: L120562

### Report Information - Data Deliverables

☒ ADEX ☐ EMAIL

### Billing Information

☐ Same as Client info ☐ PO #:

### Regulatory Requirements & Project Information Requirements

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

Criteria

### ANALYSIS

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

EDB 504  
Total RGP Metals  
TSS, CI, TRC  
HexCo, PCBs 608  
8260, TCN, 8270  
TPH-1664, Total Phenol

### SAMPLE INFO

- Filtration ☐  
Field ☐  
Lab to do ☐  
Preservation ☐  
Lab to do ☐

Sample Comments

TOTAL # BOTTLES

ALPHA Lab ID  
(Lab Use Only)

Sample ID

Collection  
Date Time

Sample  
Matrix

Sampler  
Initials

| ALPHA Lab ID | Sample ID | Collection Date Time | Sample Matrix | Sampler Initials |
|--------------|-----------|----------------------|---------------|------------------|
| 0592         | 1         | 3/22/12 9:00         | W             | SEIC             |
| 0592         | 2         |                      |               |                  |
| 0592         | 3         |                      |               |                  |
| 0592         | 4         |                      |               |                  |
| 0592         | 5         |                      |               |                  |
| 0592         | 6         |                      |               |                  |
| 0592         | 7         |                      |               |                  |
| 0592         | 8         |                      |               |                  |
| 0592         | 9         |                      |               |                  |
| 0592         | 10        |                      |               |                  |
| 0592         | 11        |                      |               |                  |
| 0592         | 12        |                      |               |                  |
| 0592         | 13        |                      |               |                  |
| 0592         | 14        |                      |               |                  |
| 0592         | 15        |                      |               |                  |
| 0592         | 16        |                      |               |                  |
| 0592         | 17        |                      |               |                  |
| 0592         | 18        |                      |               |                  |
| 0592         | 19        |                      |               |                  |
| 0592         | 20        |                      |               |                  |
| 0592         | 21        |                      |               |                  |
| 0592         | 22        |                      |               |                  |

LE-PCS

3/22/12 9:00

W

SEIC

### Container Type

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

### Preservative

- A= None  
B= HCl  
C= HNO<sub>3</sub>  
D= H<sub>2</sub>SO<sub>4</sub>  
E= NaOH  
F= NaHSO<sub>4</sub>  
H= Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
I= Ascorbic Acid  
J= NH<sub>4</sub>Cl  
K= Zn Acetate  
O= Other

Relinquished By:

Date/Time

Container Type

Preservative

Received By:

Date/Time

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

FORM NO. 01-01 (rev. 12/01/2012)