



"Grove, Matthew"
<MGrove@Brwnald.com>
10/10/2005 03:31 PM

To GeneralPermits NPDES/R1/USEPA/US@EPA
cc
bcc
Subject Notice of Intent for Remediation General Permit

Dear Sir or Madam,

On behalf of Navy Yard Four Associates, LP, Brown and Caldwell is submitting the attached Notice of Intent (NOI) for coverage under the new Remediation General Permit for Parcel 4 - Charlestown Navy Yard, First Avenue, Charlestown, MA (RTN 3-22380). The site has previously been granted a NPDES permit exclusion, MA-05I-058, for the discharge covered by this NOI.

Sincerely,
Matthew J. Grove, Ph.D.

<<Final NOI.pdf>>

Matthew J. Grove, Ph.D., P.G.
Associate Geologist
Brown and Caldwell
1 Corporate Drive
Andover, MA 01810
Ph: 978-794-0336
Fax: 978-794-0534
mgrove@brwnald.com



Final NOI.pdf

1 Corporate Drive
Andover, Massachusetts 01810

Tel: (978) 794-0336
Fax: (978) 794-0534

BROWN AND
CALDWELL

October 10, 2005

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

36-129038.001

Subject: Notice of Intent For Coverage Under the Remediation General Permit
Parcel 4 – Charlestown Navy Yard, First Avenue, Charlestown, MA
RTN 3-22380

To Whom It May Concern:

On behalf of Navy Yard Four Associates, LP, Brown and Caldwell is submitting the attached Notice of Intent (NOI) for coverage under the new Remediation General Permit for the above referenced site (Figure 1). The site has previously been granted a NPDES permit exclusion, MA-05I-058, for the discharge covered by this NOI. A Phase I Initial Site Investigation has been completed and the site has been classified as Tier II under the Massachusetts Contingency Plan. Construction dewatering is being conducted as part of a Construction Release Abatement Measure (RAM) Plan for the site dated November 7, 2004.

Dewatering activities are required for the excavation of contaminated soil at the site during construction of a proposed condominium building. Dewatering began on August 24, 2005 and is expected to continue until July 31, 2006. The maximum flow rate of the system is estimated at 30 gallons per minute. To date, groundwater has been recharged to the subsurface at the site in accordance with 310 CMR 40.0045(6). The NPDES permit exclusion was obtained, and this Remediation General Permit is being submitted, as a contingency should groundwater at the site be encountered that would not allow discharge to the subsurface in accordance with 310 CMR 40.0045(6).

Site Background

Parcel 4 is part of the former Charlestown Navy Yard, which was established in 1800 and was in operation until 1974. Parcel 4 was acquired by the Boston Redevelopment Authority (BRA) in 1978 as part of the city of Boston's ongoing waterfront revitalization process.

File reviews have not identified any specific incident or release occurrence of oil and/or hazardous material at the disposal site. Specific oil and hazardous material use and storage history consisted of:

- 90,000-gallon gasoline storage tank located at the site from at least 1920 to between 1937 and 1946;
- Pump house for gasoline storage in operation from 1914 to 1940; and
- Pump house for fuel oil storage from 1914 until 1934.

The majority of Parcel 4 has been covered with approximately five feet of graded fill material consisting primarily of dirt, although some bricks, concrete, coal, asphalt pavement, metal rods, wood, granite blocks and other assorted scrap materials are visible at the surface.

Soil and Groundwater Quality

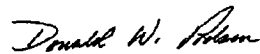
Soil and groundwater at the site have been characterized as part of the Phase I Initial Site Investigation and more recent sampling. The results of this sampling have identified volatile organic compounds (VOCs), petroleum hydrocarbons, metals and polychlorinated biphenyls (PCBs) in soil at concentrations that exceed applicable Reportable Concentrations for the site (RCS-1).

As part of the Phase I Initial Site Investigation, groundwater was sampled from eight monitoring wells at the site (see attached Figure 4 from Phase I Report) in August and November 2002. Some or all of the samples were analyzed for metals, tetra ethyl lead, extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), VOCs, and semi-volatile organic compounds (SVOCs). In accordance with 310 CMR 40.0362(2)(b), the applicable Reporting Category for groundwater at the Site is RCGW-2, as the site is not located within a Current or Potential Drinking Water Source Area. As indicated on Table 1, none of the applicable Reportable Concentrations (RCGW-2) were exceeded.

In January 2005, groundwater samples were collected from all eight monitoring wells at the site and were analyzed for VOCs, SVOCs, EPH, VPH, MCP metals, and PCBs. One well was resampled in February 2005. As indicated on Table 2, no "Reportable Conditions" under the Massachusetts Contingency Plan were identified in groundwater.

Very truly yours,

BROWN AND CALDWELL



Donald W. Podsen, LSP
Project Manager

Enclosures (1)

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

1. General site information. Please provide the following information about the site:

a) Name of facility/site: Charlestown Navy Yard - Parcel 4		Facility/site address:	
Location of facility/site: longitude: <u>-71.058</u> latitude: <u>42.376</u>	Facility SIC code(s):	Street: 246-260 First Avenue	
b) Name of facility/site owner: Navy Yard Four Associates L.P.		Town: Charlestown	
Email address of owner: jtorg@tcresidential.com	State: MA	Zip: 02129	County: Suffolk
Telephone no. of facility/site owner: (781) 455-0999			
Fax no. of facility/site owner: (781) 455-0996		Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐	
Address of owner (if different from site):		3. Private ☒ 4. other, if so, describe:	
Street: 160 Gould Street			
Town: Needham	State: MA	Zip: 02494	County: Norfolk
c) Legal name of operator: Turner Construction Company		Operator telephone no: (617) 247-5524	
		Operator fax no.: (617) 247-5436	Operator email: tduros@tcco.com
Operator contact name and title: Ted Duros, Project Manager			
Address of operator (if different from owner):		Street: 2 Seaport Lane	
Town: Boston	State: MA	Zip: 02210	County: Suffolk
d) Check "yes" or "no" for the following:			
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ☒ No ☐ , if "yes," number: MA-05I-058			
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes ☐ No ☒ , if "yes," date and tracking #:			
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Yes ☒ No ☐			
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes ☒ No ☐			

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes X No

If "yes," please list:

1. site identification # assigned by the state of NH or MA: RTN 3-22380

2. permit or license # assigned:

3. state agency contact information: name, location, and telephone number:

MADEP, Boston, MA, (617) 654-6500

f) Is the site/facility covered by any other EPA permit, including:

1. multi-sector storm water general permit? Y N X, if Y, number:

2. phase I or II construction storm water general permit? Y X N , if Y, number: MAR10000

3. individual NPDES permit? Y N X, if Y, number:

4. any other water quality related permit? Y N X, if Y, number:

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

Construction dewatering required for excavation of contaminated soil at the site during construction of a proposed condominium building.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft³/s)? Max. flow 0.067
Average flow 0.044 Is maximum flow a design value? Y N
For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.

3) Latitude and longitude of each discharge within 100 feet: pt.1: long. -71.9506 lat. 42.3771; pt.2: long. lat. ; pt.3: long. lat. ; pt.4: long. lat. ; pt.5: long. lat. ; pt.6: long. lat. ; pt.7: long. lat. ; pt.8: long. lat. ; etc.

4) If hydrostatic testing, total volume of the discharge (gals):

5) Is the discharge intermittent or seasonal ?
Is discharge ongoing Yes No X ?

c) Expected dates of discharge (mm/dd/yy): start 10/10/05 end 07/31/06

d) Please attach a line drawing or flow schematic showing water flow through the facility including:

1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).

Figure 2 shows that under a NPDES permit, groundwater from recovery wells would flow through a fractionation tank, followed by bag filters and granular activated carbon units. Effluent would be piped via gravity flow to an on-site manhole tied into an existing outfall to Boston Inner Harbor (Figure 2).

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for all of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites X	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants X	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/L)	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*
2. Total Residual Chlorine	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*
3. Total Petroleum Hydrocarbons		X	18	grab and low-flow	MADEP EPH/VPH	318	1239	0.20	72.88	0.01
4. Cyanide	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*
5. Benzene	X		9	low-flow	8260B	2	0	0	0	0
6. Toluene	X		9	low-flow	8260B	2	0	0	0	0
7. Ethylbenzene	X		9	low-flow	8260B	2	0	0	0	0
8. (m,p,o) Xylenes	X		9	low-flow	8260B	2	0	0	0	0
9. Total BTEX ⁴	X		9	low-flow	8260B	2	0	0	0	0

NA* = Not Analyzed. Samples collected pursuant to the MCP (310 CMR 40.0000). Analytical parameters determined by site history. Samples were analyzed for Total Metals (Sb, As, Ba

⁴BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes. Be, Cd, Cr, Pb, Hg, Ni, Se, Ag, Tl, V and Zn), VOCs by Method 8260, SVOCs by 8270, PCBs by 8082, and EPH/VPH by MADEP Methods.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide ⁵ (1,2- Dibromo-methane)	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*
11. Methyl-tert-Butyl Ether (MtBE)	X		9	low-flow	8260B	5	0	0	0	0
12. tert-Butyl Alcohol (TBA)	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*
13. tert-Amyl Methyl Ether (TAME)	X		9	low-flow	8260B	0.5	0	0	0	0
14. Naphthalene	X		9	low-flow	8270C	2	0	0	0	0
15. Carbon Tetrachloride	X		9	low-flow	8260B	2	0	0	0	0
16. 1,4 Dichlorobenzene	X		9	low-flow	8260B	2	0	0	0	0
17. 1,2 Dichlorobenzene	X		9	low-flow	8260B	2	0	0	0	0
18. 1,3 Dichlorobenzene	X		9	low-flow	8260B	2	0	0	0	0
19. 1,1 Dichloroethane	X		9	low-flow	8260B	1	0	0	0	0
20. 1,2 Dichloroethane	X		9	low-flow	8260B	2	0	0	0	0
21. 1,1 Dichloroethylene	X		9	low-flow	8260B	2	0	0	0	0
22. cis-1,2 Dichloroethylene	X		9	low-flow	8260B	2	0	0	0	0
23. Dichloromethane (Methylene Chloride)	X		9	low-flow	8260B	2	0	0	0	0
24. Tetrachloroethylene	X		9	low-flow	8260B	2	0	0	0	0

*NA = Not Analyzed. See previous note.

⁵EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/L)	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane	X		9	low-flow	8260B	2	0	0	0	0
26. 1,1,2 Trichloroethane	X		9	low-flow	8260B	2	0	0	0	0
27. Trichloroethylene	X		9	low-flow	8260B	2	0	0	0	0
28. Vinyl Chloride	X		9	low-flow	8260B	2	0	0	0	0
29. Acetone	X		9	low-flow	8260B	50	0	0	0	0
30. 1,4 Dioxane	X		9	low-flow	8260B	50	0	0	0	0
31. Total Phenols	X		9	low-flow	8260B	1	0	0	0	0
32. Pentachlorophenol	X		9	low-flow	8260B	5	0	0	0	0
33. Total Phthalates ⁶ (Phthalate esthers)		X	14	grab and low-flow	8270C	5	11	0.0018	0.78	0.0001
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]		X	14	grab and low-flow	8270C	5	11	0.0018	0.78	0.0001
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		X	14	grab and low-flow	8270C	10	0	0	0	0
a. Benzo(a) Anthracene		X	14	grab and low-flow	8270C	5	0	0	0	0
b. Benzo(a) Pyrene		X	14	grab and low-flow	8270C	10	0	0	0	0
c. Benzo(b) Fluoranthene		X	14	grab and low-flow	8270C	10	0	0	0	0
d. Benzo(k) Fluoranthene		X	14	grab and low-flow	8270C	10	0	0	0	0
e. Chrysene		X	14	grab and low-flow	8270C	10	0	0	0	0

⁶The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/L)	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene	X		14	grab and low-flow	8270C	10	0	0	0	0
g. Indeno(1,2,3-cd) Pyrene	X		14	grab and low-flow	8270C	10	0	0	0	0
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		X	14	grab and low-flow	8270C	10	11.3	0.0018	0.81	0.0001
h. Acenaphthene		X	14	grab and low-flow	8270C	1	1.4	0.0002	0.10	0.00002
i. Acenaphthylene	X		14	grab and low-flow	8270C	10	0	0	0	0
j. Anthracene		X	14	grab and low-flow	8270C	10	0	0	0	0
k. Benzo(ghi) Perylene	X		14	grab and low-flow	8270C	5	0	0	0	0
l. Fluoranthene		X	14	grab and low-flow	8270C	1	1.9	0.0003	0.14	0.00002
m. Fluorene		X	14	grab and low-flow	8270C	10	0	0	0	0
n. Naphthalene-		X	14	grab and low-flow	8270C	2	0	0	0	0
o. Phenanthrene		X	14	grab and low-flow	8270C	5	0	0	0	0
p. Pyrene		X	14	grab and low-flow	8270C	10	0	0	0	0
37. Total Polychlorinated Biphenyls (PCBs)	X		12	low-flow	8082	0.5	0	0	0	0
38. Antimony	X		9	low-flow	200.7/6010B	50	0	0	0	0
39. Arsenic	X		9	low-flow	200.7/6010B	5	0	0	0	0
40. Cadmium	X		9	low-flow	200.7/6010B	5	0	0	0	0
41. Chromium III	X		9	low-flow	200.7/6010B	10	0	0	0	0
42. Chromium VI	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*

NA* = Not Analyzed. See previous note.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*
44. Lead		X	18	low-flow	200.7/6010B	40	0	0	0	0
45. Mercury	X		9	low-flow	7470A	0.2	0	0	0	0
46. Nickel	X		9	low-flow	200.7/6010B	10	0	0	0	0
47. Selenium	X		9	low-flow	200.7/6010B	50	0	0	0	0
48. Silver	X		9	low-flow	200.7/6010B	10	0	0	0	0
49. Zinc		X	9	low-flow	200.7/6010B	10	840	0.14	93.33	0.0153
50. Iron	X		NA*	NA*	NA*	NA*	NA*	NA*	NA*	NA*
Other (describe): 2-Methylnaphthalene		X	14	grab and low-flow	8270C	8	0	0	0	0
Barium		X	9	grab and low-flow	200.7/6010B	10	210	0.034	23.33	0.0038

c) For discharges where metals are believed present, please fill out the following: 6010B

Step 1: Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y <u>X</u> N	If yes, which metals? Lead, Zinc
Step 2: For any metals which have reasonable potential to exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: <u>Lead, Zinc</u> DF: <u>>100(+)</u>	Look up the limit calculated at the corresponding dilution factor in Appendix IV . Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y <u> </u> N <u>X</u> If "Yes," list which metals:

NA* = Not Analyzed. See previous note.

+ = Dilution factor assumed to be greater than 100 due to discharge into Boston Inner Harbor where tidal flux is estimated to be 124,000 cfs (Kelly, 1997).

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:						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper	Oil/water separator	Equalization tanks	Bag filter ☒	GAC filter ☒
	Chlorination	Dechlorination	Other (please describe): <u>See Below</u>			
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 <u>20</u> Maximum flow rate of treatment system <u>30</u> Design flow rate of treatment system _____						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

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

a) Identify the discharge pathway:	Direct _____	Within facility _____	Storm drain ☒	River/brook _____	Wetlands _____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: <u>Effluent will be piped via gravity flow to an onsite manhole tied to an existing outfall to Boston Inner Harbor</u>						
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: <u>See Figures 1 and 3</u> 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.						
d) Provide the state water quality classification of the receiving water <u>SB</u>						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water <u>124,000</u> cfs (Kelly, 1997) 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? Yes ☒ No _____ If yes, for which pollutant(s)? <u>Priority organics/ pathogens</u> Is there a TMDL? Yes ☒ No _____ If yes, for which pollutant(s)? <u>Priority organics/ pathogens</u>						

Under a NPDES permit, groundwater from recovery wells would flow through a fractionation tank, followed by bag filters and granular activated carbon units. Effluent would be piped via gravity flow to an on-site manhole tied into an existing outfall to Boston Inner Harbor

See Figures 2 and 3.

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ☐ No ☒ Has any consultation with the federal services been completed? No ☒ or is consultation underway? Yes ☐ No ☒ What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one): a "no jeopardy" opinion? ☐ or written concurrence ☐ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?
b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge? Yes ☒ No ☐ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ☐ No ☒

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.

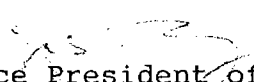
Facility/Site Name: Charlestown Navy Yard - Parcel 4
Operator signature: 
Title: Vice President of General Partner
Date: 10/7/05

Table 1
Summary of Constituents Detected in Groundwater
July - November 2002
Charlestown Navy Yard, Parcel 4

Boring/Well Number	MW-1	MW-2	Duplicate of MW-2	MW-3	MW-4	MW-5	MW-6	Duplicate of MW-6	MW-7	Reportable Concentrations for Groundwater Category RCGW-2
Date Collected	8/16/2002	8/16/2002	7/16/2002	8/16/2002	8/16/2002	11/18/2002	11/18/2002	11/18/2002	11/18/2002	
Sample ID	CNY-GW-MW1	CNY-GW-MW2	CNY-GW-MW7	CNY-GW-MW3	CNY-GW-MW4	CNY-GW-MW5	CNY-GW-MW6	CNY-GW-DUP	CNY-GW-MW7	
Summary of Metals Detected in mg/L										
Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	30
Lead (Dissolved)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.03
Summary of Organic Lead Detected in ppm										
Tetra Ethyl Lead	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	No RC*
Summary of Extractable Petroleum Hydrocarbon (EPH) Fractions/Target Compound										
C9-C18 Aliphatics (unadjusted)	<100	<100	<100	490	<100	<100	<100	<100	<100	1,000
C19-C36 Aliphatics (unadjusted)	<100	<100	<100	286	<100	<100	<100	<100	<100	20,000
C11-C22 Aromatics (unadjusted)	<100	<100	<100	448	<100	<100	<100	<100	<100	30,000
C11-C22 Aromatics (adjusted)	NA	NA	NA	NA	NA	NA	NA	NA	NA	30,000
Acenaphthene	<0.40	<0.40	<0.40	1.4	<0.40	NA	NA	NA	NA	5,000
Fluoranthene	<0.40	<0.40	<0.40	1.9	<0.40	NA	NA	NA	NA	200
Naphthalene	<0.40	<0.40	<0.40	1.6	<0.40	NA	NA	NA	NA	6,000
Benzo (a) anthracene	<0.40	<0.40	<0.40	0.62	<0.40	NA	NA	NA	NA	3,000
Benzo (a) pyrene	<0.20	<0.20	<0.20	0.44	<0.20	NA	NA	NA	NA	3,000
Benzo (b) fluoranthene	<0.40	<0.40	<0.40	0.46	<0.40	NA	NA	NA	NA	3,000
Benzo (k) fluoranthene	<0.40	<0.40	<0.40	0.49	<0.40	NA	NA	NA	NA	3,000
Chrysene	<0.40	<0.40	<0.40	0.65	<0.40	NA	NA	NA	NA	3,000
Anthracene	<0.40	<0.40	<0.40	0.60	<0.40	NA	NA	NA	NA	600
Fluorene	<0.40	<0.40	<0.40	1.2	<0.40	NA	NA	NA	NA	3,000
Phenanthrene	<0.40	<0.40	<0.40	3.2	<0.40	NA	NA	NA	NA	10,000
Pyrene	<0.40	<0.40	<0.40	1.4	<0.40	NA	NA	NA	NA	3,000
2-Methylnaphthalene	<0.40	<0.40	<0.40	1.4	<0.40	NA	NA	NA	NA	3,000
Summary of Volatile Petroleum Hydrocarbon (VPH) Fractions Detected in ug/L										
C5-C8 Aliphatics (adjusted)	<40	<40	<40	<40	<40	<40.0	<40.0	<40.0	<40.0	1,000
C9-C12 Aliphatics (unadjusted)	<40	<40	<40	1670	<40	72.9	<40.0	<40.0	<40.0	No RC*
C9-C10 Aromatics (unadjusted)	<40	<40	<40	779	<40	<40.0	<40.0	<40.0	<40.0	4,000
C9-C12 Aliphatics (adjusted)	<40	<40	<40	888	<40	NA	NA	NA	NA	1,000
Summary of Volatile Organic Compounds (VOCs) Detected in ug/L										
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	No RC*
Summary of Semivolatile Organic Compounds (SVOCs) Fractions Detected in ug/L										
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	30
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,000
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,000
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,000

NA = Not Analyzed

Shaded values indicate exceedance of Reportable Concentrations.

* No Reportable Concentration

Table 2
Summary of Constituents Detected in Groundwater
January - February 2005
Charlestown Navy Yard, Parcel 4

Boring/Well Number	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	DUP 011305	MW-1	MW-1 Filtered	DUP-01	Reportable Concentrations for Groundwater Category RCGW-2
Date Collected	13-Jan-05	13-Jan-05	13-Jan-05	13-Jan-05	13-Jan-05	13-Jan-05	13-Jan-05	13-Jan-05	13-Jan-05	11-Feb-05	11-Feb-05	11-Feb-05	
Summary of Metals Detected in mg/L													
Barium, Total	0.07	0.01	0.21	NT	NT	0.03	0.03	0.02	0.03	NT	NT	NT	30
Lead, Total	ND (<0.01)	ND (<0.01)	ND (<0.01)	NT	NT	ND (<0.01)	ND (<0.01)	0.021	ND (<0.01)	NT	NT	NT	0.03
Zinc, Total	ND (<0.05)	ND (<0.05)	ND (<0.05)	NT	NT	ND (<0.05)	ND (<0.05)	0.84	ND (<0.05)	NT	NT	NT	0.9
Summary of Dissolved Metals Detected in mg/L													
Barium, Dissolved	NT	NT	NT	0.05	0.07	NT	NT	NT	NT	NT	NT	NT	30
Zinc, Dissolved	NT	NT	NT	0.07	0.09	NT	NT	NT	NT	NT	NT	NT	0.9
Summary of Volatile Organic Compounds (VOCs) Detected in mg/L*													
	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	0.0006
Summary of Semivolatile Organic Compounds (SVOCs) Fractions Detected in mg/L													
Bis(2-Ethylhexyl)phthalate	ND (<0.01)	ND (<0.01)	0.011	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	NT	NT	NT	0.03
Summary of Polychlorinated Biphenyls (PCBs) Detected in mg/L													
Aroclor 1242/1016	0.000409	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	ND (<0.00025)	0.0003
Summary of Volatile Petroleum Hydrocarbon (VPH) Fractions Detected in mg/L													
	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	NT	NT	NT	
Summary of Extractable Petroleum Hydrocarbon (EPH) Fractions Detected in mg/L													
	ND (<0.100)	ND (<0.103)	ND (<0.100)	ND (<0.100)	ND (<0.106)	ND (<0.102)	ND (<0.100)	ND (<0.100)	ND (<0.100)	NT	NT	NT	
Notes:													
Bold values indicates an exceedance of Reportable Concentrations													
NT = Not Tested													
ND () = Not Detected at the indicated () detection limit.													
* = Detection limits vary for individual compounds.													
The metals samples for MW-4 and MW-5 were filtered prior to analysis to avoid potential interference from suspended sediment due to turbidity >10 NTU as measured in the field.													
Due to the detection of low levels of PCBs in groundwater at monitoring well MW-1 in January 2005 the well was resampled on February 11, 2005. No PCBs were detected in the filtered sample, the unfiltered sample or the unfiltered duplicate.													
Based on these results and the fact that PCBs were not detected in other wells or in well MW-1 in a previous sampling round, Brown and Caldwell concludes that the one-time detection of PCBs was an invalid result likely caused by laboratory error.													

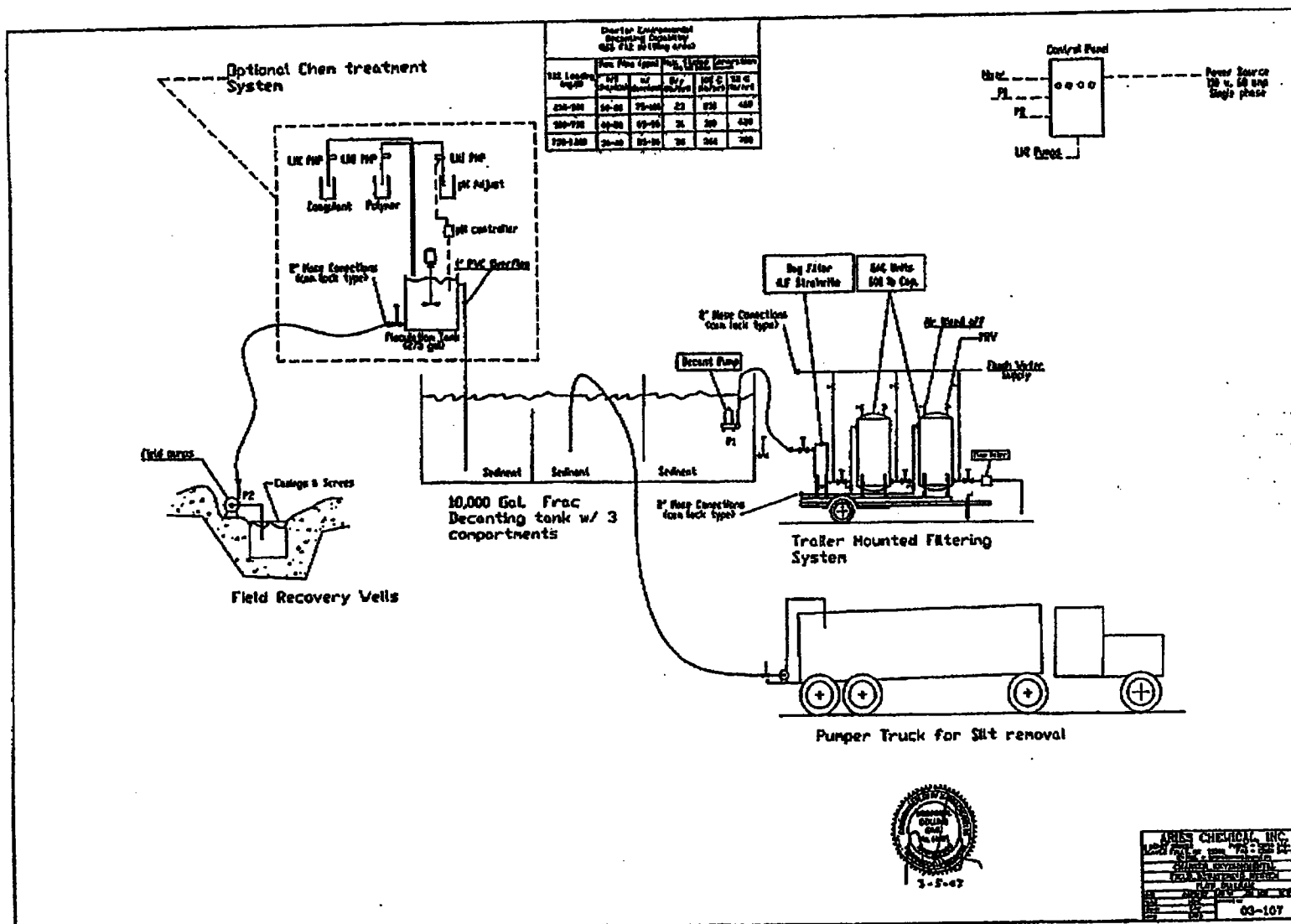
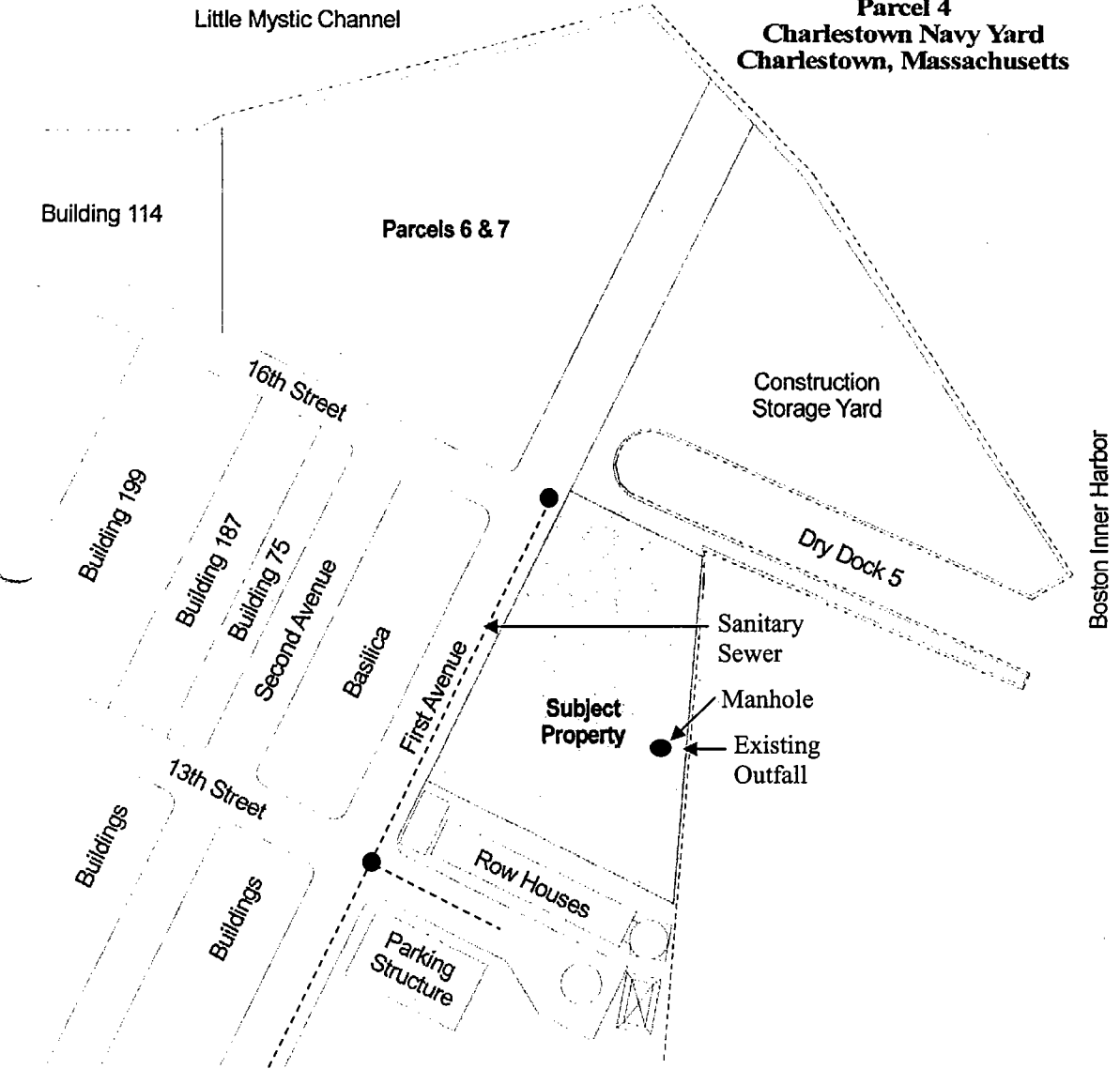


Figure 2

Figure 3 Subject Property and Neighboring Site Plot Plan

**Subject Property
Parcel 4
Charlestown Navy Yard
Charlestown, Massachusetts**



Legend

Approximate boundary of the Boston Inner Harbor



Not Drawn To Scale



Waterstone Environmental, Inc.
2936 East Coronado Street
Anaheim, California 92806

Drawn By: MN

Version: 2.0

Approved By: JVD

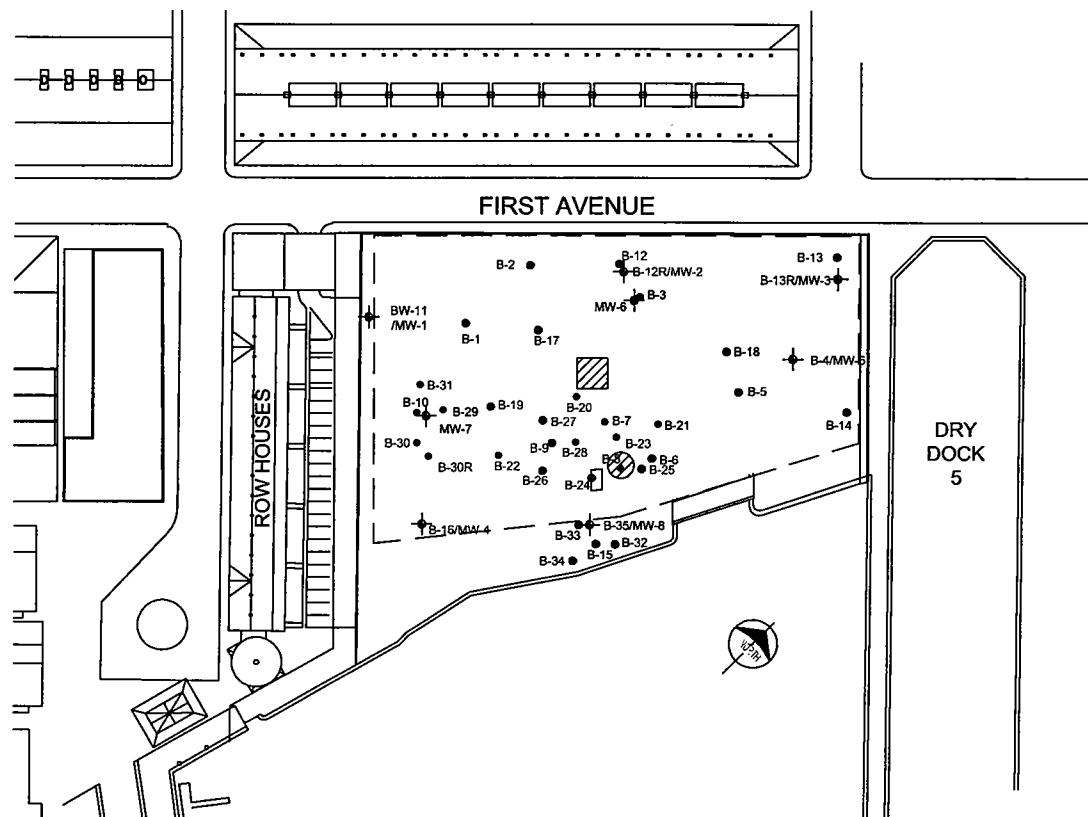
Date: 8/2/02

Legend

- B-1 Soil Boring and identifier
- ✦ MW-7 Monitoring Well and identifier
- Approximate edge of above grade fill
- Property Boundary
- ◉ Former 90,000 gallon gasoline storage tank
- ▨ Former pump house for fuel oil 1914-1934
- Former pump house for gasoline 1914-1940

Locations of gasoline storage tank and pump houses are approximate from 1937 Sanborn map.

0 100 200
SCALE IN FEET



**BROWN AND
CALDWELL**

Suite 208, 13 Branch Street
Methuen, Massachusetts 01844
Tel. (978) 794-0336 • Fax. (978) 794-0534

PROJECT: 24488	FILE: figure4
SCALE: 1"=100'	DATE: 7/8/03
DRAWN: SH	CHECKED: DP

FIGURE 4

Disposal Site Map
PARCEL 4
CHARLESTON NAVY YARD
BOSTON, MASSACHUSETTS