HALEY & ALDRICH, INC.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

08 January 2018
File No. 130771-002

DLJ Real Estate Capital Partners
c/o BetaWest Ltd.
1050 17th Street, Suite 350
Denver, Colorado 80265

Attention: John Fenton

Subject: Site Assessment Report
Boynton Yards (Parcels B-2, B-3 and Lot 5)
Somerville, Massachusetts

Ladies and Gentlemen:

This letter transmits the results of recent subsurface explorations and analytical testing conducted to characterize site conditions relative to environmental soil and groundwater quality within the limits of the proposed Boynton Yards development (the "Site") located in Somerville, Massachusetts, as shown on Figure 1. The purpose of the information collected and summarized herein is to provide environmental information in support of permitting, management of contaminated soil and groundwater during planned construction and assessment of regulatory obligations under the Massachusetts Contingency Plan (MCP).

BOYNTON YARDS DEVELOPMENT

The Site is located in Boynton Yards and is bound by Windsor Street, Windsor Place, Earle Street, Harding Street and South Street. The 3.44 acres are currently home to surface parking, a construction equipment storage lot, and two one- and two-story concrete block commercial buildings. DLJ Real Estate Capital Partners (DLJ) intends to develop the Site into a dynamic, mixed-use, transit oriented project. The Site is shown on Figure 2.

Upon full build out, DLJ's development could provide up to 950,000 gross square feet (gsf) of commercial and residential space. The project's initial phase will consist of two commercial buildings. Building 1, to be located on Lot 5, will consist of a ten-story office and retail building with a basement. Building 2, to be located on Parcel B-3, will consist of an eight story lab building with supporting retail and four levels of underground parking. Design for structures on Parcel B-2 is under development.

CURRENT SITE CONDITIONS

The parcels are located in a commercial area of Somerville. Conditions at each parcel are described below:

- ***Parcel B-2*** is an approximately 2-acre parcel located on the western portion of the Site. It is currently occupied by active parking lots and two commercial buildings, with a City of Somerville utility easement traversing the northern portion of the parking lot. The parcel is predominately paved, with landscaped areas at the perimeters, and ground surface elevations ranging from approximately elevation (El.) 8 to El. 10 (NAVD 88).

- ***Parcel B-3*** is an approximately 1-acre unimproved parcel currently used as a storage yard for Lanco Scaffolding Company. The property is unpaved, with ground surface elevations ranging from approximately El. 9 to El. 12.

- ***Lot 5*** is an approximately ½ acre parcel occupied by an active parking lot. The lot is predominately paved, with landscaped slopes on the eastern and western edges, sloping from the parking lot elevation of approximately El. 12 down to street level (El 9).

SITE HISTORY

According to a ASTM Phase I Environmental Site Assessment Report prepared by Green Environmental dated June 2015 (attached as Appendix D), the Site was historically occupied by marshlands associated with Millers River, which were filled in the late 1800s. From the late 1800s to the 1980s, the Site and surrounding area was used primarily for industrial purposes and railyards.

Parcel B-2 was occupied by slaughterhouses and meatpacking facilities from its initial development until approximately 1997, when the buildings were demolished. In 1997, the two current buildings were constructed, and have since been used for commercial purposes.

Parcel B-3 was filled with material from Prospect Hill in 1872, and was occupied by residential buildings until 1933. From 1933 to 1980, a sausage factory operated on the parcel. In 1980, the factory was demolished but the foundation left in place. From 1980 until the late 1900s, the parcel was subject to illegal dumping. In 1992, the former building foundation was removed and efforts to control illegal dumping were enacted. The parcel remained vacant until the early 2000s, and has since been used for storage.

Lot 5 was developed in approximately 1920 as part of a ladder manufacturing company, which occupied the property until approximately 1960. The property was then occupied by an automotive repair and spray painting facility through the 1960s and early 1970s, and then operated as a spray painting and sandblasting facility from 1978 to 1992. In 1992, the City of Somerville acquired the property through eminent domain. In 1992/ 1993 the property was vacated, and the buildings associated with the sandblasting operations were demolished. Site grades were raised in 1994, when material excavated from within South Street during utility improvements was permanently placed on Lot 5. In 2001, the property was redeveloped as a parking lot.

MCP REGULATORY BACKGROUND

There are three Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Numbers (RTNs) currently associated with the Site, as described below. Available 21E reports , from which this section was developed, are included in the Green Environmental ASTM Phase I Assessment Report, provided in Appendix D. A summary of environmental conditions at Lot 5, prepared by Green Environmental and dated 13 May 2015, is also included in Appendix D.

RTN 3-10897 (Lot 5)
Subsurface investigations were initially performed at Lot 5 in 1992 following seizure by the City of Somerville and the cessation of sandblasting at the property. At the time of initial investigations, piles of "black beauty", a sandblasting media, were reportedly located on the ground surface at thicknesses up to 2 feet. Elevated lead concentrations were detected in surface and subsurface samples, and all samples analyzed contained toxicity characteristic leaching procedure (TCLP) lead at concentrations greater than 5 mg/L, indicating that soil was considered characteristically hazardous. Additional investigations were performed in 1993. Elevated lead concentrations were again detected, with the highest concentration (up to 21,000 mg/kg) in samples from a boring at the center of the property. Two of the eighteen samples analyzed, collocated with the highest total lead results, exhibited TCLP lead results greater than 5 mg/L. In the fall of 1993, the Site buildings were demolished, and sandblasting media located on the ground surface was removed. In 1994, the Site was reported to MassDEP and Release Tracking Number (RTN) 3-10897 was assigned. Also in 1994, as a Utility Related Abatement Measure (URAM), excavation associated with street and utility relocation was performed along the southern edge of the property, and soil excavated from the southern portion of the site and adjacent South street was relocated to the central portion of the Site, raising much of the Site grade by approximately three feet. The soil placed as part of URAM activities was sampled and shown to contain elevated concentrations of lead, but not to be characteristically hazardous. A Phase II Comprehensive Site Assessment was completed in July 1996, and in 2001 a paved parking lot was constructed on the property, an Activity and Use Limitation (AUL) was recorded, and the Site was closed with a Class A-3 Response Action Outcome (RAO).

The AUL remains in place on Lot 5 and prohibits residential use, use as a school, nursery, daycare or recreation area, prohibits the cultivation of crops for human consumption, prohibits the relocation of soil beneath the pavement without an LSP Opinion, and requires the maintenance of pavement.

RTN 3-00026 (Parcel B-3)
RTN 3-00026 is associated with the historic Boynton Yards area, and includes Parcel B-3, as well as the former MBTA yard to the north. During an initial Site assessment in 1985, petroleum contamination (xylenes, naphthalene and polycyclic aromatic hydrocarbons (PAHs)) was identified in groundwater and further investigation was recommended. RTN 3-00026 was assigned to the Site in July 1986. In 1988, a Phase I assessment was conducted. The Phase I noted evidence of illegal dumping, including 55-gallon drums and above ground storage tanks, throughout the Boynton Yards area. During Phase I activities, three monitoring wells were installed within the limits of present-day B-3, and one soil sample was collected. Petroleum contamination was not encountered in groundwater, and it was concluded that the impacts detected in 1985 had either degraded or migrated off-site. Lead at 348 mg/kg was detected in one sample and was attributed to general urban soil conditions.

A Baseline Public Health Assessment was submitted for the Site in February 1990. A Phase II Waiver Statement was submitted to MassDEP in April 1990. Remedial actions in 1992-1994 included the removal of illegally dumped debris, removal and disposal of two, 5500-gallon fuel oil USTs and excavation of impacted soil surrounding the USTs. The RTN was closed with a Waiver Completion Statement dated 29 July 1994.

RTN 3-0001971 (Parcel B-2)

RTN 3-1971 was assigned in 1990 following the removal of two 5,000-gallon #6 fuel oil USTs and one, 5,000-gallon #2 fuel oil UST associated with Research Foods, a slaughterhouse/meet packaging facility. Elevated total petroleum hydrocarbon concentrations were detected in soil and approximately 40 cubic yards of soil was excavated. In 1991, further investigations were performed, an additional two #6 fuel oil USTs were discovered, and total petroleum hydrocarbons were identified in soil and groundwater. In 1992, the additional USTs were removed, and 900 tons of petroleum impacted soil was excavated and disposed. Confirmatory sampling indicated that petroleum concentrations had been reduced to background. In June 1995, a Class A-1 Response Action Outcome was submitted for the Site.

SITE CHARACTERIZATION

Soil Quality Assessment

In August – September 2017, a soil precharacterization program consisting of 12 geoprobes, 4 test pits and 10 test boring explorations was conducted to obtain subsurface information for geotechnical design, and to collect soil samples for analytical testing to characterize soil anticipated to be excavated and transported off-site as part of proposed Site redevelopment. Four groundwater observation wells, screened at the groundwater table, were installed in competed boreholes. Exploration locations are shown on Figure 2.

Samples were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for one or more of the following analyses:

- Volatile Organic Compounds (VOCs)
- Semivolatile Organic Compounds (SVOCs)
- Total Petroleum Hydrocarbons (TPH)
- Extractable Petroleum Hydrocarbons (EPH) carbon ranges
- Volatile Petroleum Hydrocarbons (VPH) carbon ranges
- MCP 14 metals
- Total Polychlorinated Biphenyls (PCBs)
- Toxicity Characteristic Leaching Procedure (TCLP) lead, when applicable
- Specific Conductance
- Waste Characteristics (total solids, corrosivity, ignitability, and reactivity)

Lot 5 - At Lot 5, soil samples contained concentrations of lead and PAHs, and at one location, VOCs, at concentrations exceeding RCS-1. Concentrations of PAHs and VOCs were highest in the upper three feet of fill (soil emplaced during URAM activities). Concentrations of lead were highest in soil between approximately 3 and 8 feet below grade (historic fill in place prior to URAM activities). TCLP lead at a concentration of greater than 5 mg/kg was detected in one sample (F3_3.5-8). Analytes at concentrations exceeding RCS-1 were generally not detected in the cohesive fill. Natural soil was not analyzed.

Parcel B-3 -At Parcel B-3, PAHs, TPH, lead, antimony, and PCBs were detected at concentrations exceeding RCS-1 thresholds in the fill. EPH and VPH analysis was performed at two locations where elevated TPH was detected; no VPH or EPH fractions were detected at concentration exceeding RCS-1 thresholds. The upper five feet of fill was generally the most impacted, with all but one sample in that strata containing one or more analyte at concentrations exceeding RCS-1. The majority of fill samples collected from five feet below grade or deeper contained concentrations of analytes below RCS-1 thresholds. No analytes were detected at concentrations exceeding RCS-1 in the natural samples analyzed.

Parcel B-2 -At Parcel B-2, lead and PAHs were detected in the fill at one location (HA17-1). Analyte concentration above RCS-1 thresholds were not detected in the fill in the other borings or in the natural samples analyzed.

Refer to the attached Table I for a summary of the chemical test results on soil samples.

Exploration reports from each exploration and observation well installation logs are provided in Appendix A. The Haley & Aldrich Soil Classification Definition for Off-Site Disposal describing soil precharacterization group types is provided in Appendix B. Analytical laboratory data reports for recent soil samples collected are provided in Appendix C

Groundwater Quality Assessment

Following installation of monitoring wells in August – September 2017, each monitoring well was developed and sampled for VOCs, EPH and dissolved MCP 14 metals and iron. Refer to Table II for a summary of chemical test results from groundwater samples collected from the recently installed observation wells. The recent groundwater analysis indicated concentrations of dissolved lead in monitoring well E6 at concentrations above applicable MCP RCGW-2 reportable concentrations.

SUBSURFACE CONDITIONS

The subsurface conditions at the Site consist of approximately 3 to 16 feet of fill overlying naturally deposited marine clay approximately 16 to 42.5 feet thick. A thin layer of organic material and/or estuarine deposits were encountered below the fill layer in some, but not all locations, and glacial deposits were encountered below the marine clay in some, but not all locations. Refer to the table below for additional detail on each stratum.

Stratum	Top of Stratum Elevation (NAV88)	Stratum Thickness
Fill	G.S. (Approx. El. 12.5 to El 8)	3 to 16 ft
Cohesive Fill	El. 7 to El. 0.2	0 to 7.5 ft
Organic Deposits	El. 3.5 to El. -3.3	0 to 7.5 ft
Estuarine Deposits	El. 6.5 to El. –5.6	0 to 4.5 ft
Marine Deposits	El. 4.5 to El. -7.6	16 to 42.5 ft
Glacial Deposits	El. -21.4 to El. -38.1	4.5 to 20.5 ft
Bedrock	El. -25 to El. -51.6	N/A

Two fill units were encountered during the exploration program, and were generally characterized as predominately granular urban Fill overlying a Cohesive Fill. The thickness of the overall Fill stratum ranges from 6 to 14 feet.

- **Fill:** Light gray to brown to black poorly graded sand with varying amounts of silt and gravel, with traces of wood, asphalt, glass, metal, concrete, cinders, brick, clinkers, mortar, porcelain and plastic.

- **Cohesive Fill:** Light brown to olive silty/clayey sand with varying amounts of gravel, traces of brick particles, cinders, shells and fragments of lean clay. Cohesive fill was generally wet below 10 feet.

At Lot 5, Fill over Cohesive Fill was identified in each exploration location. On Parcel B-3, Fill was encountered at each location; Cohesive Fill was encountered beneath the Fill in some, but not all, explorations.

MCP REGULATORY CONSIDERATIONS

Lot 5

Soil quality data results indicated the presence of lead, PAHs, and VOCs at concentrations exceeding the applicable Reportable Concentration (RC); RCS-1. The concentration of lead in soil is consistent with levels reported in association with RTN 3-10897; however, the presence of PAHs and VOCs represent a new 120-Day Reportable Condition under the Massachusetts Contingency Plan. Based on discussions with you DLJ plans to submit a Release Notification Form (RNF) to MassDEP by 17 January 2018 which will begin the MCP regulatory process.

Contaminated soil will need to be managed under a Release Abatement Measure (RAM) Plan. The RAM Plan will include off-site removal of contaminated soil and on-site treatment of TCLP lead failed soil. RAM activities will be conducted primarily in conjunction with basement and foundation construction and Site improvements. In addition to excavation required for construction, remedial excavation of contaminated soil between the basement excavation and edge of the property will be required to remove residual contamination and achieve a Permanent Solution with No Conditions. RAM activities will also include controls to monitor and prevent fugitive dust and address construction worker exposures.

It is anticipated that RAM activities will reduce the exposures at the Site to the level that will not require the maintenance of engineering controls to prevent exposure to underlying soil thus allowing termination of the existing AUL currently in place on the property. Following construction, we anticipate a Permanent Solution with No Conditions can be achieved for both RTNs.

Parcel B-3

Soil quality data indicates that PAHs, PCBs, TPH, lead and antimony detected in soil and lead detected in groundwater represent a new 120-day Reportable Condition under the MCP. Based on discussions with you, DLJ plans to submit a RNF to MassDEP by 17 January 2018 which will begin the MCP regulatory process.

Contaminated soil and groundwater will need to be managed under a RAM Plan. The RAM Plan will include off-site removal of contaminated soil. RAM activities will be conducted primarily in conjunction with basement and foundation construction and Site improvements. RAM activities will also include controls to monitor and prevent fugitive dust and address construction worker exposures.

Excavation and dewatering as required for construction is anticipated to result in the removal of most contaminated soil from the property and will likely result in the remediation of impacted groundwater. Pending additional sampling on the southern portion of the property and development of civil and landscape design plans, limited excavation of fill not otherwise required for construction may be recommended. Following construction, we anticipate that a Permanent Solution with No Conditions will be achieved for the Site.

Parcel B-2

The concentrations of PAHs and lead detected in HA17-1 were below those established as background for soil containing coal or wood ash pursuant to MassDEP Technical Update "Background levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil," and coal was noted in the exploration. Contamination attributable to coal, coal ash or wood ash is exempt from reporting under the MCP, accordingly, no reporting is required at this time.

The MCP outlines a phased process for clean-ups at Sites regulated under the MCP. One year following notification, Sites that have not achieved regulatory closure must submit a Tier Classification and MCP Phase I Site Investigation Report. No new soil sampling or testing is required to meet this regulatory filing requirement; however, additional testing will be required to characterize soils for off-site removal assuming that construction will begin less than one year from notification. No new regulatory submittals will be required until 3 years from Tier Classification; however, it is anticipated that regulatory closure will be achieved before the next regulatory submittal deadline following Tier Classification.

CONSTRUCTION-RELATED CONSIDERATIONS FOR SOIL MANAGEMENT

Soils have been classified based on the type and level of contamination and comparison of these data to acceptance criteria at landfills and other receiving facilities. The categories of soil encountered, and disposal options are shown on Figures 3 through 5 for Parcel B-2 and Figures 6 through 8 for Lot 5. For the purposes of this report, nearby soil quality data and historic information was used to develop assumptions for soil classification of cells without data. The contractors bidding the earthwork must review the available data and determine the appropriate receiving facilities for each Group classification of soil.

- Fill – The upper, predominately granular Fill at the Site typically contains concentrations of contaminants above the applicable Reportable Concentrations (RCS-1). Soil with concentrations of contaminant greater than RCS-1 but meeting criteria for reuse at Massachusetts unlined or lined landfills as outlined in MassDEP Policy #COMM-97-001 can be transported to in-state landfills. Fill soil that contains concentrations of contaminants at above those acceptable for reuse at an in-state landfills will require management at in-state or out-of-state recycling or asphalt batch facilities, or disposal at an out of state landfill.

- Cohesive Fill – Cohesive Fill at the Site typically contains concentrations of contaminants below Reportable Concentrations. It is recommended that soil be managed in accordance with the applicable provisions of the MCP and MassDEP policies listed below regarding reuse of soil at other locations:
    - MassDEP Policy WSC#-13-500, “Similar Soils Provision Guidance”, dated September 4, 2014; and
    - MassDEP Policy #COMM-15-01 “Interim Policy on the Reuse of Soils for Large Reclamation Projects” dated August 28, 2015.

- TCLP Soils – Soil that exceed the RCRA criteria for toxicity are classified as a characteristic hazardous waste. These soils may be treated in-place and upon confirmatory testing can be classified as a non-hazardous waste. Treated soils will need to be transported to a regional out-of-state non-hazardous RCRA Subtitle D landfill. While in-situ treatment is not required, it is a cost-effective alternative to transporting and disposing of the soil as hazardous waste at an out-of-region RCRA Subtitle C landfill facility.

- Natural Soils – A majority of the soil removed from basement excavations at Parcel B-3 and Lot 5 will consist of naturally deposited soil with no detectable concentrations of contaminants and background levels of metals below the Reportable Concentrations. It is recommended that soil be managed in accordance with the applicable provisions of the MCP and MassDEP policies listed below regarding reuse of soil at other locations:
    - MassDEP Policy WSC#-13-500, “Similar Soils Provision Guidance”, dated September 4, 2014; and
    - MassDEP Policy #COMM-15-01 “Interim Policy on the Reuse of Soils for Large Reclamation Projects” dated August 28, 2015.

CONSTRUCTION-RELATED CONSIDERATIONS FOR GROUNDWATER MANAGEMENT

Dewatering is anticipated to be required during construction on both Parcel B-3 and Lot 5. Sewers in the vicinity of the Site ultimately discharge to the MWRA system; therefore, an MWRA discharge permit will be required in support of dewatering. We anticipate that a single MWRA permit can be obtained for both parcels. Prior to preparation of the MWRA permit, groundwater sampling and analysis must be performed for parameters specified by MWRA.

Monitoring wells installed during our initial subsurface exploration program were screened across the groundwater table, where petroleum hydrocarbons are most likely to be detected.

DATA LIMITATIONS AND RECOMMENDED SUPPLEMENTAL TESTING

Soil Quality Data Gaps

Parcel B-3 - Due to limitations to Site access at Parcel B-3, precharacterization data was not obtained from the southwest portion of the parcel. A supplemental sampling program will be planned for after Lanco Scaffolding Company vacates the property or provides access to the areas requiring characterization. Additional samples will also be required to characterize natural soil not characterized during the initial program due to changes in project design, to delineate conditions encountered, and to meet disposal facility frequency requirements.

Lot 5 - Similarly, no natural samples were collected at Lot 5 based on our understanding of the project scope at the time of investigation. Based on new design plans for a one-level below grade basement, additional samples will need to be collected from natural material at Lot 5 to characterize the material, and to meet frequency and delineation requirements for disposal facilities.

Parcel B-2 - Additional explorations will be required prior to development of Parcel B-2. Based on Site history and the soil conditions encountered on parcels B-3 and Lot 5, we anticipate that conditions requiring reporting to MassDEP will be encountered during future explorations.

Groundwater Quality Data Gaps

Parcel B-3 - Due to the depth of the basement currently planned for Parcel B-3, we recommend the installation of a deep monitoring well to evaluate groundwater quality at depth. Data collected from the deep monitoring well would provide information about the quality of water likely to be encountered during dewatering and that will likely be present in the underdrain system of the future building. A deep well will allow for an evaluation for chlorinated solvents, which are denser than water and would likely be located at depth.

Installation of additional shallow monitoring wells in the vicinity of well E-6 where lead in groundwater was encountered is recommended to evaluate the nature and extent of the impact in support of future Site closure.

CLOSURE

Please contact us if you have any questions or require additional information.

Sincerely yours,
HALEY & ALDRICH, INC.

Grace Howard, EIT
Environmental Engineer

Beck J. Straley
Project Manager

Keith E. Johnson, P.E., LSP
Vice President

Attachments:

Table I	Summary of Soil Quality Data
Table II	Summary of Groundwater Quality Data
Figure 1	Project Locus
Figure 2	Site and Subsurface Exploration Location Plan
Figure 3	Parcel B-3 Soil Precharacterization Plan – Upper Fill
Figure 4	Parcel B-3 Soil Precharacterization Plan – Lower Fill
Figure 5	Parcel B-3 Soil Precharacterization Plan – Natural Deposits
Figure 6	Lot 5 Soil Precharacterization Plan – URAM Fill
Figure 7	Lot 5 Soil Precharacterization Plan – Upper Fill
Figure 8	Lot 5 Soil Precharacterization Plan – Cohesive Fill
Appendix A	Exploration Reports
Appendix B	Haley & Aldrich Soil Precharacterization Group Classification System
Appendix C	Analytical Laboratory Reports
Appendix D	Previous Reports

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-2												Parcel B-3						
Precharacterization Grid		Parcel B-2												A4						A5
Location Name		HA17-1	HA17-1	HA17-1	HA17-1	HA17-2	HA17-2	HA17-2	HA17-2	HA17-3 (OW)	HA17-3 (OW)	HA17-3 (OW)	HA17-3 (OW)	A4	A4	A4	A4	A4	A4	A5-TP
Sample Name		HA17-1_0-5	HA17-1_5-10	HA17-1_10-15	HA17-1_15-20	HA17-2_0-5	HA17-2_5-12	HA17-2_12-15	HA17-2_15-20	HA17-3_0-5	HA17-3_5-14	HA17-3_14-16	HA17-3_24-26	A4_0-5	A4_5-9	A4_10-15	A4_20-24	A4_29-31	A4_39-41	TP-A5_0-5
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/28/2017	08/28/2017	08/28/2017	08/28/2017	08/25/2017	08/25/2017	08/25/2017	08/25/2017	08/29/2017	08/29/2017	08/29/2017	08/29/2017	08/18/2017	08/18/2017	08/18/2017	08/18/2017	08/18/2017	08/18/2017	08/14/2017
Lab Sample ID		L1730156-01 L1730482-01	L1730156-02 L1730482-02	L1730156-03	L1730156-04	L1730101-01	L1730101-02	L1730101-03	L1730101-04	L1730396-01	L1730396-02	L1730396-03	L1730396-04	L1729166-01 L1729547-01	L1729166-02	L1729166-03	L1729166-04	L1729166-05	L1729166-06	L1728308-01 L1728602-01
Sample Depth (bgs)		0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)	15 - 20 (ft)	0 - 5 (ft)	5 - 12 (ft)	12 - 15 (ft)	15 - 20 (ft)	0 - 5 (ft)	5 - 14 (ft)	14 - 16 (ft)	24 - 26 (ft)	0 - 5 (ft)	5 - 9 (ft)	10 - 15 (ft)	20 - 24 (ft)	29 - 31 (ft)	39 - 41 (ft)	0 - 5 (ft)
Soil Description		FILL	FILL	SAND	CLAY	FILL	FILL	ORGANICS	CLAY	FILL	FILL	CLAY	CLAY	FILL	FILL	CLAY	CLAY	CLAY	CLAY	FILL
Soil Disposal Classification		II-1	II-1	I-2	I-2	I-3	I-3	I-3	I-2	I-3	I-3	I-2	I-2	II-1	I-3	I-2	I-2	I-2	I-2	II-3
Volatile Organic Compounds (mg/kg)																				
1,2,4-Trimethylbenzene	1000	ND (0.2)	ND (0.0031)	ND (0.0026)	ND (0.0029)	ND (0.0029)	ND (0.0026)	ND (0.0034)	ND (0.0032)	ND (0.0028)	ND (0.0025)	ND (0.0031)	ND (0.0037)	ND (0.0045)	ND (0.0024)	ND (0.0036)	ND (0.0031)	ND (0.0034)	ND (0.0042)	ND (0.0027)
1,3,5-Trimethylbenzene	10	ND (0.2)	ND (0.0031)	ND (0.0026)	ND (0.0029)	ND (0.0029)	ND (0.0026)	ND (0.0034)	ND (0.0032)	ND (0.0028)	ND (0.0025)	ND (0.0031)	ND (0.0037)	ND (0.0045)	ND (0.0024)	ND (0.0036)	ND (0.0031)	ND (0.0034)	ND (0.0042)	ND (0.0027)
2-Butanone (Methyl Ethyl Ketone)	4	ND (0.51)	ND (0.0078)	ND (0.0066)	ND (0.0073)	ND (0.0073)	ND (0.0066)	ND (0.0086)	ND (0.008)	ND (0.007)	ND (0.0062)	ND (0.0078)	ND (0.0093)	ND (0.011)	ND (0.0061)	ND (0.009)	ND (0.0077)	ND (0.0086)	ND (0.01)	ND (0.0067)
Acetone	6	ND (1.8)	0.033	ND (0.024)	ND (0.026)	ND (0.026)	ND (0.024)	ND (0.031)	ND (0.029)	0.035	ND (0.022)	ND (0.028)	ND (0.034)	ND (0.04)	ND (0.022)	ND (0.032)	ND (0.028)	ND (0.031)	ND (0.037)	ND (0.024)
Benzene	2	ND (0.051)	ND (0.00078)	ND (0.00066)	ND (0.00073)	ND (0.00073)	ND (0.00066)	ND (0.00086)	ND (0.0008)	0.00088	ND (0.00062)	ND (0.00078)	ND (0.00093)	ND (0.0011)	ND (0.00061)	ND (0.0009)	ND (0.00077)	ND (0.00086)	ND (0.001)	ND (0.00067)
Ethylbenzene	40	ND (0.051)	ND (0.00078)	ND (0.00066)	ND (0.00073)	ND (0.00073)	ND (0.00066)	ND (0.00086)	ND (0.0008)	ND (0.0007)	ND (0.00062)	ND (0.00078)	ND (0.00093)	ND (0.0011)	ND (0.00061)	ND (0.0009)	ND (0.00077)	ND (0.00086)	ND (0.001)	ND (0.00067)
Isopropylbenzene (Cumene)	1000	ND (0.051)	ND (0.00078)	ND (0.00066)	ND (0.00073)	ND (0.00073)	ND (0.00066)	ND (0.00086)	ND (0.0008)	ND (0.0007)	ND (0.00062)	ND (0.00078)	ND (0.00093)	ND (0.0011)	ND (0.00061)	ND (0.0009)	ND (0.00077)	ND (0.00086)	ND (0.001)	ND (0.00067)
Naphthalene	4	1.3	ND (0.0031)	ND (0.0026)	ND (0.0029)	ND (0.0029)	ND (0.0026)	ND (0.0034)	ND (0.0032)	0.0051	ND (0.0025)	ND (0.0031)	ND (0.0037)	ND (0.0045)	ND (0.0024)	ND (0.0036)	ND (0.0031)	ND (0.0034)	ND (0.0042)	ND (0.0027)
n-Butylbenzene	NA	ND (0.051)	ND (0.00078)	ND (0.00066)	ND (0.00073)	ND (0.00073)	ND (0.00066)	ND (0.00086)	ND (0.0008)	ND (0.0007)	ND (0.00062)	ND (0.00078)	ND (0.00093)	ND (0.0011)	ND (0.00061)	ND (0.0009)	ND (0.00077)	ND (0.00086)	ND (0.001)	ND (0.00067)
n-Propylbenzene	100	ND (0.051)	ND (0.00078)	ND (0.00066)	ND (0.00073)	ND (0.00073)	ND (0.00066)	ND (0.00086)	ND (0.0008)	ND (0.0007)	ND (0.00062)	ND (0.00078)	ND (0.00093)	ND (0.0011)	ND (0.00061)	ND (0.0009)	ND (0.00077)	ND (0.00086)	ND (0.001)	ND (0.00067)
Toluene	30	ND (0.077)	ND (0.0012)	ND (0.00099)	ND (0.0011)	ND (0.0011)	ND (0.00098)	ND (0.0013)	ND (0.0012)	ND (0.001)	ND (0.00093)	ND (0.0012)	ND (0.0014)	ND (0.0017)	ND (0.00091)	ND (0.0014)	ND (0.0012)	ND (0.0013)	ND (0.0016)	ND (0.001)
Trichlorofluoromethane (CFC-11)	1000	ND (0.2)	ND (0.0031)	ND (0.0026)	ND (0.0029)	ND (0.0029)	ND (0.0026)	ND (0.0034)	ND (0.0032)	ND (0.0028)	ND (0.0025)	ND (0.0031)	ND (0.0037)	ND (0.0045)	ND (0.0024)	ND (0.0036)	ND (0.0031)	ND (0.0034)	ND (0.0042)	ND (0.0027)
Xylene (total)	100	ND (0.1)	ND (0.0016)	ND (0.0013)	ND (0.0015)	ND (0.0015)	ND (0.0013)	ND (0.0017)	ND (0.0016)	0.0076	ND (0.0012)	ND (0.0016)	ND (0.0019)	ND (0.0022)	ND (0.0012)	ND (0.0018)	ND (0.0015)	ND (0.0017)	ND (0.0021)	ND (0.0013)
SUM of Volatile Organic Compounds	NA	1.3	0.033	ND	ND	ND	ND	ND	ND	0.04858	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (mg/kg)																				
2-Methylnaphthalene	0.7	0.27	0.41	ND (0.23)	ND (0.24)	ND (0.22)	ND (0.23)	ND (0.27)	ND (0.26)	ND (0.44)	ND (0.22)	ND (0.26)	ND (0.27)	ND (0.53)	ND (0.23)	ND (0.26)	ND (0.26)	ND (0.28)	ND (0.26)	**1.2**
Acenaphthene	4	1.2	0.61	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.18)	ND (0.18)	ND (0.29)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.35)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.18)	**4.9**
Acenaphthylene	1	0.28	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.18)	ND (0.18)	ND (0.29)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.35)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.18)	0.51
Anthracene	1000	2.4	1	ND (0.12)	ND (0.12)	0.36	ND (0.11)	ND (0.13)	ND (0.13)	0.42	ND (0.11)	ND (0.13)	ND (0.13)	0.88	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	7.9
Benzo(a)anthracene	7	5.9	1.6	0.13	ND (0.12)	1.2	ND (0.11)	ND (0.13)	ND (0.13)	1.7	ND (0.11)	ND (0.13)	ND (0.13)	2.3	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**16**
Benzo(a)pyrene	2	**4.5**	1.1	ND (0.15)	ND (0.16)	1.2	ND (0.15)	ND (0.18)	ND (0.18)	1.4	ND (0.15)	ND (0.17)	ND (0.18)	**2.5**	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.18)	**14**
Benzo(b)fluoranthene	7	6.5	1.4	0.14	ND (0.12)	1.8	0.12	ND (0.13)	ND (0.13)	1.7	ND (0.11)	ND (0.13)	ND (0.13)	3.2	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**18**
Benzo(g,h,i)perylene	1000	2.8	0.57	ND (0.15)	ND (0.16)	0.76	ND (0.15)	ND (0.18)	ND (0.18)	0.8	ND (0.15)	ND (0.17)	ND (0.18)	1.4	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.18)	7
Benzo(k)fluoranthene	70	2	0.48	ND (0.12)	ND (0.12)	0.54	ND (0.11)	ND (0.13)	ND (0.13)	0.57	ND (0.11)	ND (0.13)	ND (0.13)	0.98	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	5.6
bis(2-Ethylhexyl)phthalate	90	0.27	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.22)	ND (0.22)	12	ND (0.18)	ND (0.21)	ND (0.22)	ND (0.44)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.18)
Chrysene	70	5.9	1.5	0.13	ND (0.12)	1.3	ND (0.11)	ND (0.13)	ND (0.13)	1.6	ND (0.11)	ND (0.13)	ND (0.13)	2.1	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	15
Dibenz(a,h)anthracene	0.7	**0.74**	0.16	ND (0.12)	ND (0.12)	0.18	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.22)	ND (0.11)	ND (0.13)	ND (0.13)	0.36	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**2.5**
Dibenzofuran	100	0.7	0.56	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.37)	ND (0.18)	ND (0.21)	ND (0.22)	ND (0.44)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	3.1
Fluoranthene	1000	15	4.2	0.32	ND (0.12)	3.3	0.29	ND (0.13)	ND (0.13)	3	ND (0.11)	ND (0.13)	ND (0.13)	4.3	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	35
Fluorene	1000	1.1	0.7	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.37)	ND (0.18)	ND (0.21)	ND (0.22)	ND (0.44)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	5.4
Indeno(1,2,3-cd)pyrene	7	3.3	0.66	ND (0.15)	ND (0.16)	0.85	ND (0.15)	ND (0.18)	ND (0.18)	0.84	ND (0.15)	ND (0.17)	ND (0.18)	1.6	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.18)	**8.1**
Naphthalene	4	0.47	0.94	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.37)	ND (0.18)	ND (0.21)	ND (0.22)	ND (0.44)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	2.1
Phenanthrene	10	**11**	4.8	0.32	ND (0.12)	1.9	0.19	ND (0.13)	ND (0.13)	1.7	ND (0.11)	ND (0.13)	ND (0.13)	3	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**30**
Pyrene	1000	13	3.5	0.28	ND (0.12)	2.6	0.21	ND (0.13)	ND (0.13)	3.5	ND (0.11)	ND (0.13)	ND (0.13)	3.6	ND (0.11)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	29
SUM of Semi-Volatile Organic Compounds	NA	77.33	24.19	1.32	ND	15.99	0.81	ND	ND	29.23	ND	ND	ND	26.22	ND	ND	ND	ND	ND	205.31
Total Petroleum Hydrocarbons (mg/kg)																				
Petroleum hydrocarbons	1000	688	83.3	ND (38)	ND (38.7)	473	ND (37.6)	49.1	ND (43.7)	433	ND (34.9)	ND (41.7)	ND (43.8)	480	42.3	ND (41.7)	ND (43.1)	ND (44.8)	ND (42.9)	836
EPH (mg/kg)																				
MADEP C11-C22 Aromatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C11-C22 Aromatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C19-C36 Aliphatic Hydrocarbons	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C18 Aliphatic Hydrocarbons	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Compounds (mg/kg)																				
Antimony	20	ND (2.16)	ND (2.4)	ND (2.33)	ND (2.36)	ND (2.26)	ND (2.26)	ND (2.63)	ND (2.56)	ND (2.16)	ND (2.16)	ND (2.52)	ND (2.62)	5.32	ND (2.3)	ND (2.63)	ND (2.71)	ND (2.7)	ND (2.56)	ND (2.14)
Arsenic	20	6.88	5.22	2.82	12.2	5.28	5.13	7.97	5.26	3.8	2.09	9.08	11.4	17.7	3.27	7.76	13.2	16	8.02	5.47
Barium	1000	60.8	150	29.9	56	35.9	26	34.2	67.5	35.8	24.7	94.5	72.2	163	27.3	85.2	103	106	80.1	51
Beryllium	90	0.264	ND (0.24)	0.251	0.26	0.23	0.249	0.374	0.431	ND (0.216)	ND (0.216)	0.606	0.494	0.615	0.239	0.774	0.911	0.998	0.764	0.232
Cadmium	70	1.2	0.786	0.81	1.03	0.665	0.493	0.816	1.02	0.613	0.584	1.33	1.11	3.26	0.575	0.953	0.841	0.852	0.707	0.88
Chromium	100	21.6	13.9	15.9	30.9	16.2	15.7	24.5	33.4	16	12.4	43.7	36.8	22	13.7	46.2	48.8	47.9	38.1	14.3
Lead	200	158	**429**	11.7	8.36	51.3	12.8	9.97	8.25	82.2	7.62	9.42	8.96	**349**	15.9	9.55	11	11.2	9.48	114
Mercury	20	0.403	2.03	ND (0.075)	ND (0.077)	0.267	0.217	ND (0.087)	ND (0.084)	0.104	ND (0.07)	ND (0.081)	ND (0.086)	0.336	ND (0.073)	ND (0.083)	ND (0.086)	ND (0.091)	ND (0.085)	0.153
Nickel	600	14	10.3	10.7	21.4	14.4	10.1	16	22.9	10.3	9.19	28.6	24.6	23	11.2	32.7	34.3	33.1	26.7	14.8
Selenium	400	ND (2.16)	ND (2.4)	ND (2.33)	ND (2.36)	ND (2.26)	ND (2.26)	ND (2.63)	ND (2.56)	ND (2.16)	ND (2.16)	ND (2.52)	ND (2.62)	ND (2.56)	ND (2.3)	ND (2.63)	ND (2.71)	ND (2.7)	ND (2.56)	ND (2.14)
Silver	100	ND (0.433)	ND (0.48)	ND (0.465)	ND (0.472)	ND (0.452)	ND (0.452)	ND (0.526)	ND (0.513)	ND (0.432)	ND (0.432)	ND (0.505)	ND (0.525)	ND (0.512)	ND (0.46)	ND (0.526)	ND (0.542)	ND (0.539)	ND (0.513)	ND (0.429)
Thallium	8	ND (2.16)	ND (2.4)	ND (2.33)	ND (2.36)	ND (2.26)	ND (2.26)	ND (2.63)	ND (2.56)	ND (2.16)	ND (2.16)	ND (2.52)	ND (2.62)	ND (2.56)	ND (2.3)	ND (2.63)	ND (2.71)	ND (2.7)	ND (2.56)	ND (2.14)
Vanadium	400	25.2	18.2	24.2	38.1	18.7	19.8	31.6	44.9	17	19	57.4	48.4	42	23.4	60.5	59.1	60.9	48.5	28.6
Zinc	1000	123	124	37.2	50.7	72.7	26.5	38.3	59.5	50.8	32.4	68.5	63.3	266	65	75.2	81.5	82.9	67.4	111
TCLP Inorganic Compounds (mg/L)																				
Lead	NA	0.957	ND (0.5)	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	-	-	ND (0.5)

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-2												Parcel B-3						
Precharacterization Grid		Parcel B-2												A4						A5
Location Name		HA17-1	HA17-1	HA17-1	HA17-1	HA17-2	HA17-2	HA17-2	HA17-2	HA17-3 (OW)	HA17-3 (OW)	HA17-3 (OW)	HA17-3 (OW)	A4	A4	A4	A4	A4	A4	A5-TP
Sample Name		HA17-1_0-5	HA17-1_5-10	HA17-1_10-15	HA17-1_15-20	HA17-2_0-5	HA17-2_5-12	HA17-2_12-15	HA17-2_15-20	HA17-3_0-5	HA17-3_5-14	HA17-3_14-16	HA17-3_24-26	A4_0-5	A4_5-9	A4_10-15	A4_20-24	A4_29-31	A4_39-41	TP-A5_0-5
Sample Date	MCP Reportable Concentrations	08/28/2017	08/28/2017	08/28/2017	08/28/2017	08/25/2017	08/25/2017	08/25/2017	08/25/2017	08/29/2017	08/29/2017	08/29/2017	08/29/2017	08/18/2017	08/18/2017	08/18/2017	08/18/2017	08/18/2017	08/18/2017	08/14/2017
Lab Sample ID	RCS-1 2014	L1730156-01 L1730482-01	L1730156-02 L1730482-02	L1730156-03	L1730156-04	L1730101-01	L1730101-02	L1730101-03	L1730101-04	L1730396-01	L1730396-02	L1730396-03	L1730396-04	L1729166-01 L1729547-01	L1729166-02	L1729166-03	L1729166-04	L1729166-05	L1729166-06	L1728308-01 L1728602-01
Sample Depth (bgs)		0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)	15 - 20 (ft)	0 - 5 (ft)	5 - 12 (ft)	12 - 15 (ft)	15 - 20 (ft)	0 - 5 (ft)	5 - 14 (ft)	14 - 16 (ft)	24 - 26 (ft)	0 - 5 (ft)	5 - 9 (ft)	10 - 15 (ft)	20 - 24 (ft)	29 - 31 (ft)	39 - 41 (ft)	0 - 5 (ft)
Soil Description		FILL	FILL	SAND	CLAY	FILL	FILL	ORGANICS	CLAY	FILL	FILL	CLAY	CLAY	FILL	FILL	CLAY	CLAY	CLAY	CLAY	FILL
Soil Disposal Classification		II-1	II-1	I-2	I-2	I-3	I-3	I-3	I-2	I-3	I-3	I-2	I-2	II-1	I-3	I-2	I-2	I-2	I-2	II-3
PCBs (mg/kg)																				
Aroclor-1242 (PCB-1242)	1	ND (0.0374)	ND (0.0403)	ND (0.0393)	ND (0.0388)	ND (0.0375)	ND (0.0374)	ND (0.0448)	ND (0.0439)	ND (0.0374)	ND (0.036)	ND (0.0422)	ND (0.0432)	ND (0.0444)	ND (0.0373)	ND (0.0413)	ND (0.0439)	ND (0.0446)	ND (0.0434)	0.0436
Aroclor-1248 (PCB-1248)	1	0.171	ND (0.0403)	ND (0.0393)	ND (0.0388)	ND (0.0375)	ND (0.0374)	ND (0.0448)	ND (0.0439)	ND (0.0374)	ND (0.036)	ND (0.0422)	ND (0.0432)	ND (0.0444)	ND (0.0373)	ND (0.0413)	ND (0.0439)	ND (0.0446)	ND (0.0434)	ND (0.036)
Aroclor-1254 (PCB-1254)	1	0.0626	ND (0.0403)	ND (0.0393)	ND (0.0388)	ND (0.0375)	ND (0.0374)	ND (0.0448)	ND (0.0439)	ND (0.0374)	ND (0.036)	ND (0.0422)	ND (0.0432)	ND (0.0444)	ND (0.0373)	ND (0.0413)	ND (0.0439)	ND (0.0446)	ND (0.0434)	0.0569
Aroclor-1260 (PCB-1260)	1	0.0393	ND (0.0403)	ND (0.0393)	ND (0.0388)	ND (0.0375)	ND (0.0374)	ND (0.0448)	ND (0.0439)	ND (0.0374)	ND (0.036)	ND (0.0422)	ND (0.0432)	ND (0.0444)	ND (0.0373)	ND (0.0413)	ND (0.0439)	ND (0.0446)	ND (0.0434)	0.0435
SUM of PCBs	1	0.2729	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.144
Other																				
Total Solids (%)	NA	86.8	80.2	84	81	86.6	86.6	72.3	74.9	88	89.7	77.7	74.4	74.2	86.3	75.8	73.2	71.2	74	89.3
Reactive Cyanide (mg/kg)	NA	ND (125)	ND (125)	ND (125)	ND (125)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)
Reactive Sulfide (mg/kg)	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	8.6	8	8.6	8.2	8.1	7.5	7.7	8.2	9.5	8.3	8.5	8.2	7.7	7.6	8.1	7.3	8.2	8.8	7.9
Conductivity (umhos/cm)	NA	360	230	140	410	99	79	150	100	150	28	150	410	64	65	140	330	300	120	80
VPH (mg/kg)																				
MADEP C5-C8 Aliphatic Hydrocarbons, Adjusted	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C5-C8 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C10 Aromatic Hydrocarbons	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory detection limit
NI: Not Ignitable
- VOC, SVOC and PCB analytes detected in at least one sample are reported herein. For a complete list of analytes see the laboratory data sheets.
- Bold values indicate an exceedance of the **RCS-1** criteria or RCRA limits for **TCLP**.

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-3																			
Precharacterization Grid		A5		A6				B4		B5			B6		C4		C5				
Location Name		A5-TP	A5-TP	A6 (OW)	A6 (OW)	A6 (OW)	A6 (OW)	B4	B4	B5-TP	B5-TP	B5-TP	B6	B6	C4	C4	C5	C5	C5	C5
Sample Name		TP-A5_5-6.5	TP-A5_6.5-8.5	A6_0-5	A6_5-9	A6_10-15	A6_15-20	B4_0-5	B4_5-7	TP-B5_0-4.5	TP-B5_4.5-7.0	TP-B5_7-9	B6_0-5	B6_5-10	C4_0-5	C4_5-12	C5_0-6	C5_6-10	C5_10-15	C5_15-19
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/14/2017	08/14/2017	08/14/2017	08/14/2017	08/15/2017	08/15/2017	08/09/2017	08/09/2017	08/14/2017	08/14/2017	08/14/2017	08/09/2017 L1727786-01	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017
Lab Sample ID		L1728308-02	L1728308-03	L1728305-01	L1728305-02	L1728393-01	L1728393-02	L1728249-02	L1727786-04	L1728308-04 L1728602-02	L1728308-05	L1728308-06	L1728249-01 L1728906-01	L1727786-02	L1727786-09 L1728249-04	L1727786-10	L1727786-05 L1728249-03	L1727786-06	L1727786-07	L1727786-08
Sample Depth (bgs)		5 - 6.5 (ft)	6.5 - 8.5 (ft)	0 - 5 (ft)	5 - 9 (ft)	10 - 15 (ft)	15 - 20 (ft)	0 - 5 (ft)	5 - 7 (ft)	0 - 4.5 (ft)	4.5 - 7 (ft)	7 - 9 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 12 (ft)	0 - 6 (ft)	6 - 10 (ft)	10 - 15 (ft)	15 - 19 (ft)
Soil Description		FILL	ORGANICS	FILL	FILL	ORGANICS	CLAY	FILL	FILL	FILL	FILL	ORGANICS	FILL	FILL	FILL	FILL	FILL	CLAY	CLAY	CLAY
Soil Disposal Classification		I-3	I-2	II-1	I-3	I-2	I-2	II-1	I-3	II-1	I-3	I-2	II-3	I-3	II-1	I-3	II-1	I-2	I-2	I-2
Volatile Organic Compounds (mg/kg)																				
1,2,4-Trimethylbenzene	1000	ND (0.0026)	ND (0.0069)	ND (0.0028)	ND (0.0025)	ND (0.0053)	ND (0.004)	ND (0.0037)	ND (0.0032)	ND (0.0028)	ND (0.0023)	ND (0.0033)	ND (0.0083)	ND (0.0043)	ND (0.0045)	ND (0.0029)	ND (0.0043)	ND (0.0034)	ND (0.0024)	ND (0.0027)
1,3,5-Trimethylbenzene	10	ND (0.0026)	ND (0.0069)	ND (0.0028)	ND (0.0025)	ND (0.0053)	ND (0.004)	ND (0.0037)	ND (0.0032)	ND (0.0028)	ND (0.0023)	ND (0.0033)	ND (0.0083)	ND (0.0043)	ND (0.0045)	ND (0.0029)	ND (0.0043)	ND (0.0034)	ND (0.0024)	ND (0.0027)
2-Butanone (Methyl Ethyl Ketone)	4	ND (0.0066)	ND (0.017)	ND (0.007)	ND (0.0064)	ND (0.013)	ND (0.0099)	ND (0.0092)	ND (0.0081)	ND (0.0071)	ND (0.0058)	ND (0.0083)	0.022	ND (0.011)	ND (0.011)	0.008	ND (0.011)	ND (0.0086)	ND (0.0059)	ND (0.0069)
Acetone	6	0.027	0.086	ND (0.025)	ND (0.023)	ND (0.048)	ND (0.036)	ND (0.033)	ND (0.029)	0.052	ND (0.021)	0.033	0.12	ND (0.039)	ND (0.04)	0.045	ND (0.038)	ND (0.031)	ND (0.021)	ND (0.025)
Benzene	2	ND (0.00066)	ND (0.0017)	ND (0.0007)	ND (0.00064)	ND (0.0013)	ND (0.00099)	ND (0.00092)	ND (0.00081)	ND (0.00071)	ND (0.00058)	ND (0.00083)	ND (0.0021)	ND (0.0011)	ND (0.0011)	ND (0.00072)	ND (0.0011)	ND (0.00086)	ND (0.00059)	ND (0.00069)
Ethylbenzene	40	ND (0.00066)	ND (0.0017)	ND (0.0007)	ND (0.00064)	ND (0.0013)	ND (0.00099)	ND (0.00092)	ND (0.00081)	ND (0.00071)	ND (0.00058)	ND (0.00083)	ND (0.0021)	ND (0.0011)	ND (0.0011)	ND (0.00072)	ND (0.0011)	ND (0.00086)	ND (0.00059)	ND (0.00069)
Isopropylbenzene (Cumene)	1000	ND (0.00066)	ND (0.0017)	ND (0.0007)	ND (0.00064)	ND (0.0013)	ND (0.00099)	ND (0.00092)	ND (0.00081)	ND (0.00071)	ND (0.00058)	ND (0.00083)	ND (0.0021)	ND (0.0011)	ND (0.0011)	ND (0.00072)	ND (0.0011)	ND (0.00086)	ND (0.00059)	ND (0.00069)
Naphthalene	4	ND (0.0026)	ND (0.0069)	ND (0.0028)	ND (0.0025)	ND (0.0053)	ND (0.004)	ND (0.0037)	ND (0.0032)	ND (0.0028)	ND (0.0023)	ND (0.0033)	ND (0.0083)	ND (0.0043)	ND (0.0045)	ND (0.0029)	ND (0.0043)	ND (0.0034)	ND (0.0024)	ND (0.0027)
n-Butylbenzene	NA	ND (0.00066)	ND (0.0017)	ND (0.0007)	ND (0.00064)	ND (0.0013)	ND (0.00099)	ND (0.00092)	ND (0.00081)	ND (0.00071)	ND (0.00058)	ND (0.00083)	ND (0.0021)	ND (0.0011)	ND (0.0011)	ND (0.00072)	ND (0.0011)	ND (0.00086)	ND (0.00059)	ND (0.00069)
n-Propylbenzene	100	ND (0.00066)	ND (0.0017)	ND (0.0007)	ND (0.00064)	ND (0.0013)	ND (0.00099)	ND (0.00092)	ND (0.00081)	ND (0.00071)	ND (0.00058)	ND (0.00083)	ND (0.0021)	ND (0.0011)	ND (0.0011)	ND (0.00072)	ND (0.0011)	ND (0.00086)	ND (0.00059)	ND (0.00069)
Toluene	30	ND (0.00098)	ND (0.0026)	ND (0.001)	ND (0.00095)	ND (0.002)	ND (0.0015)	ND (0.0014)	ND (0.0012)	ND (0.0011)	ND (0.00086)	ND (0.0012)	ND (0.0031)	ND (0.0016)	ND (0.0017)	ND (0.0011)	0.0022	ND (0.0013)	ND (0.00089)	ND (0.001)
Trichlorofluoromethane (CFC-11)	1000	ND (0.0026)	ND (0.0069)	ND (0.0028)	ND (0.0025)	ND (0.0053)	ND (0.004)	ND (0.0037)	ND (0.0032)	ND (0.0028)	ND (0.0023)	ND (0.0033)	ND (0.0083)	ND (0.0043)	ND (0.0045)	ND (0.0029)	ND (0.0043)	ND (0.0034)	ND (0.0024)	ND (0.0027)
Xylene (total)	100	ND (0.0013)	ND (0.0035)	ND (0.0014)	ND (0.0013)	ND (0.0026)	ND (0.002)	ND (0.0018)	ND (0.0016)	ND (0.0014)	ND (0.0012)	ND (0.0016)	ND (0.0042)	ND (0.0022)	ND (0.0022)	ND (0.0014)	ND (0.0021)	ND (0.0017)	ND (0.0012)	ND (0.0014)
SUM of Volatile Organic Compounds	NA	0.027	0.086	ND	ND	ND	ND	ND	ND	0.052	ND	0.033	0.142	ND	ND	0.053	0.0022	ND	ND	ND
Semi-Volatile Organic Compounds (mg/kg)																				
2-Methylnaphthalene	0.7	ND (0.22)	ND (0.33)	ND (0.22)	ND (0.21)	ND (0.32)	ND (0.26)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	**1**	ND (0.23)	ND (0.22)	ND (0.24)	ND (0.23)	ND (0.23)	ND (0.25)	ND (0.25)
Acenaphthene	4	ND (0.15)	ND (0.22)	0.16	ND (0.14)	ND (0.21)	ND (0.18)	0.57	ND (0.15)	0.8	ND (0.15)	ND (0.16)	3.8	ND (0.15)	0.2	ND (0.16)	0.62	ND (0.16)	ND (0.17)	ND (0.17)
Acenaphthylene	1	ND (0.15)	ND (0.22)	ND (0.14)	ND (0.14)	ND (0.21)	ND (0.18)	ND (0.16)	ND (0.15)	0.2	ND (0.15)	ND (0.16)	**2**	ND (0.15)	0.19	ND (0.16)	0.26	ND (0.16)	ND (0.17)	ND (0.17)
Anthracene	1000	ND (0.11)	ND (0.16)	0.66	ND (0.11)	ND (0.16)	ND (0.13)	1.3	ND (0.11)	2.1	ND (0.11)	ND (0.12)	6.7	ND (0.11)	0.62	ND (0.12)	1.4	ND (0.12)	ND (0.13)	ND (0.13)
Benzo(a)anthracene	7	0.14	ND (0.16)	3.9	0.16	ND (0.16)	ND (0.13)	3.2	ND (0.11)	6.1	0.24	ND (0.12)	**13**	ND (0.11)	1.8	ND (0.12)	5.4	ND (0.12)	ND (0.13)	ND (0.13)
Benzo(a)pyrene	2	ND (0.15)	ND (0.22)	**3.8**	0.18	ND (0.21)	ND (0.18)	**3.2**	ND (0.15)	**5**	0.24	ND (0.16)	**11**	ND (0.15)	1.4	ND (0.16)	**4.8**	ND (0.16)	ND (0.17)	ND (0.17)
Benzo(b)fluoranthene	7	0.17	ND (0.16)	5.9	0.28	ND (0.16)	ND (0.13)	4	ND (0.11)	6.9	0.3	ND (0.12)	**14**	ND (0.11)	1.9	ND (0.12)	6.4	ND (0.12)	ND (0.13)	ND (0.13)
Benzo(g,h,i)perylene	1000	ND (0.15)	ND (0.22)	2.7	0.14	ND (0.21)	ND (0.18)	1.6	ND (0.15)	3	ND (0.15)	ND (0.16)	7.3	ND (0.15)	0.87	ND (0.16)	2.8	ND (0.16)	ND (0.17)	ND (0.17)
Benzo(k)fluoranthene	70	ND (0.11)	ND (0.16)	2.1	ND (0.11)	ND (0.16)	ND (0.13)	1.4	ND (0.11)	2.2	ND (0.11)	ND (0.12)	5.1	ND (0.11)	0.67	ND (0.12)	2.3	ND (0.12)	ND (0.13)	ND (0.13)
bis(2-Ethylhexyl)phthalate	90	ND (0.18)	ND (0.27)	ND (0.18)	ND (0.18)	ND (0.26)	ND (0.22)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.2)	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)
Chrysene	70	0.14	ND (0.16)	5.1	0.23	ND (0.16)	ND (0.13)	3.1	ND (0.11)	5.8	0.23	ND (0.12)	11	ND (0.11)	1.8	ND (0.12)	5.2	ND (0.12)	ND (0.13)	ND (0.13)
Dibenz(a,h)anthracene	0.7	ND (0.11)	ND (0.16)	0.66	ND (0.11)	ND (0.16)	ND (0.13)	0.43	ND (0.11)	**0.84**	ND (0.11)	ND (0.12)	**1.8**	ND (0.11)	0.23	ND (0.12)	**0.74**	ND (0.12)	ND (0.13)	ND (0.13)
Dibenzofuran	100	ND (0.18)	ND (0.27)	ND (0.18)	ND (0.18)	ND (0.26)	ND (0.22)	0.44	ND (0.18)	0.5	ND (0.18)	ND (0.2)	2.4	ND (0.19)	ND (0.18)	ND (0.2)	0.46	ND (0.19)	ND (0.21)	ND (0.21)
Fluoranthene	1000	0.34	0.17	7.6	0.56	ND (0.16)	ND (0.13)	7.1	ND (0.11)	11	0.54	ND (0.12)	30	0.13	3.7	ND (0.12)	12	ND (0.12)	ND (0.13)	ND (0.13)
Fluorene	1000	ND (0.18)	ND (0.27)	0.2	ND (0.18)	ND (0.26)	ND (0.22)	0.62	ND (0.18)	0.83	ND (0.18)	ND (0.2)	4.3	ND (0.19)	0.22	ND (0.2)	0.47	ND (0.19)	ND (0.21)	ND (0.21)
Indeno(1,2,3-cd)pyrene	7	ND (0.15)	ND (0.22)	3.2	0.15	ND (0.21)	ND (0.18)	2	ND (0.15)	3.5	0.15	ND (0.16)	6.7	ND (0.15)	1	ND (0.16)	3.3	ND (0.16)	ND (0.17)	ND (0.17)
Naphthalene	4	ND (0.18)	ND (0.27)	ND (0.18)	ND (0.18)	ND (0.26)	ND (0.22)	0.4	ND (0.18)	0.44	ND (0.18)	ND (0.2)	2	ND (0.19)	ND (0.18)	ND (0.2)	0.33	ND (0.19)	ND (0.21)	ND (0.21)
Phenanthrene	10	0.24	ND (0.16)	4.3	0.27	ND (0.16)	ND (0.13)	5.9	ND (0.11)	6.5	0.33	ND (0.12)	**24**	ND (0.11)	2.6	ND (0.12)	6.9	ND (0.12)	ND (0.13)	ND (0.13)
Pyrene	1000	0.31	ND (0.16)	6	0.42	ND (0.16)	ND (0.13)	5.9	ND (0.11)	9.2	0.48	ND (0.12)	26	0.12	3.1	ND (0.12)	9.8	ND (0.12)	ND (0.13)	ND (0.13)
SUM of Semi-Volatile Organic Compounds	NA	1.34	0.17	46.28	2.39	ND	ND	41.16	ND	64.91	2.51	ND	172.1	0.25	20.3	ND	63.18	ND	ND	ND
Total Petroleum Hydrocarbons (mg/kg)																				
Petroleum hydrocarbons	1000	ND (36)	ND (53.8)	410	ND (34.8)	ND (51.3)	ND (44.5)	211	ND (35)	644	ND (37.2)	39.9	**1300**	ND (36.5)	322	ND (39)	348	ND (39.8)	ND (41.9)	ND (41)
EPH (mg/kg)																				
MADEP C11-C22 Aromatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	203	-	-	-	-	-	-	-
MADEP C11-C22 Aromatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	330	-	-	-	-	-	-	-
MADEP C19-C36 Aliphatic Hydrocarbons	3000	-	-	-	-	-	-	-	-	-	-	-	25.2	-	-	-	-	-	-	-
MADEP C9-C18 Aliphatic Hydrocarbons	1000	-	-	-	-	-	-	-	-	-	-	-	ND (14.1)	-	-	-	-	-	-	-
Inorganic Compounds (mg/kg)																				
Antimony	20	ND (2.2)	ND (3.3)	ND (2.2)	ND (2.11)	ND (3.1)	ND (2.59)	ND (2.31)	ND (2.2)	ND (2.16)	ND (2.21)	ND (2.36)	ND (2.24)	ND (2.26)	ND (2.27)	ND (2.33)	2.47	ND (2.35)	ND (2.49)	ND (2.47)
Arsenic	20	2.92	7.48	4.9	2.56	7.25	7.42	7.87	3.74	7.12	3.24	4.45	5.11	3.14	6.97	4.38	8.17	8.25	9.11	10.9
Barium	1000	33.5	29.2	55.8	24.9	30	64.2	83.8	41.7	61	38.7	28.9	47.2	34.2	84.3	39.3	112	68.7	87.3	83.2
Beryllium	90	0.273	0.436	ND (0.22)	0.244	0.582	0.621	0.356	0.33	0.286	0.234	0.628	0.291	0.444	0.327	0.345	0.365	0.664	0.797	0.806
Cadmium	70	0.855	0.693	0.806	0.682	0.644	ND (0.517)	ND (0.463)	ND (0.44)	1.03	0.783	ND (0.472)	ND (0.447)	ND (0.452)	ND (0.455)	ND (0.466)	ND (0.45)	ND (0.471)	ND (0.498)	ND (0.494)
Chromium	100	14.2	25.8	12.5	11.4	31	33.5	12.1	15.1	17.5	13.8	13.8	22.7	15.7	12.7	15.1	19	34	45.7	41.2
Lead	200	17.4	8.59	80.7	9.36	10.7	7.2	**266**	44.1	115	19.6	16.4	101	6.99	**242**	33.4	**412**	10.9	10.4	10.8
Mercury	20	ND (0.071)	ND (0.104)	0.144	ND (0.069)	ND (0.101)	ND (0.085)	1.71	0.072	0.273	ND (0.07)	ND (0.075)	0.209	ND (0.072)	0.906	0.105	0.89	ND (0.075)	ND (0.08)	ND (0.084)
Nickel	600	10.7	13.8	10.6	9.12	19.2	22.6	12.5	10.8	14.9	11.9	9.8	43.3	12.1	12.2	11.5	17.6	25	30.5	29.9
Selenium	400	ND (2.2)	ND (3.3)	ND (2.2)	ND (2.11)	ND (3.1)	ND (2.59)	ND (2.31)	ND (2.2)	ND (2.16)	ND (2.21)	ND (2.36)	ND (2.24)	ND (2.26)	ND (2.27)	ND (2.33)	ND (2.25)	ND (2.35)	ND (2.49)	ND (2.47)
Silver	100	ND (0.441)	ND (0.66)	ND (0.441)	ND (0.421)	ND (0.619)	ND (0.517)	ND (0.463)	ND (0.44)	ND (0.433)	ND (0.442)	ND (0.472)	ND (0.447)	ND (0.452)	ND (0.455)	ND (0.466)	ND (0.45)	ND (0.471)	ND (0.498)	ND (0.494)
Thallium	8	ND (2.2)	ND (3.3)	ND (2.2)	ND (2.11)	ND (3.1)	ND (2.59)	ND (2.31)	ND (2.2)	ND (2.16)	ND (2.21)	ND (2.36)	ND (2.24)	ND (2.26)	ND (2.27)	ND (2.33)	ND (2.25)	ND (2.35)	ND (2.49)	ND (2.47)
Vanadium	400	25.6	34.2	20.7	21.8	35.4	40.6	21.6	23.7	27.8	22.5	16.1	22.6	27.6	20	24.8	23.9	45.6	51.4	50.8
Zinc	1000	40.3	34.7	210	32.6	51.6	51.9	183	55.7	88.1	91.2	30.6	125	40.2	212	37.8	316	63.3	66.3	64.6
TCLP Inorganic Compounds (mg/L)																				
Lead	NA	-	-	-	-	-	-	ND (0.5)	-	ND (0.5)	-	-	ND (0.5)	-	ND (0.5)	-	ND (0.5)	-	-	-

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-3																			
Precharacterization Grid		A5		A6				B4		B5			B6		C4		C5				
Location Name		A5-TP	A5-TP	A6 (OW)	A6 (OW)	A6 (OW)	A6 (OW)	B4	B4	B5-TP	B5-TP	B5-TP	B6	B6	C4	C4	C5	C5	C5	C5
Sample Name		TP-A5_5-6.5	TP-A5_6.5-8.5	A6_0-5	A6_5-9	A6_10-15	A6_15-20	B4_0-5	B4_5-7	TP-B5_0-4.5	TP-B5_4.5-7.0	TP-B5_7-9	B6_0-5	B6_5-10	C4_0-5	C4_5-12	C5_0-6	C5_6-10	C5_10-15	C5_15-19
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/14/2017	08/14/2017	08/14/2017	08/14/2017	08/15/2017	08/15/2017	08/09/2017	08/09/2017	08/14/2017	08/14/2017	08/14/2017	08/09/2017 L1727786-01	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017
Lab Sample ID		L1728308-02	L1728308-03	L1728305-01	L1728305-02	L1728393-01	L1728393-02	L1728786-03 L1728249-02	L1727786-04	L1728308-04 L1728602-02	L1728308-05	L1728308-06	L1728249-01 L1728906-01	L1727786-02	L1727786-09 L1728249-04	L1727786-10	L1727786-05 L1728249-03	L1727786-06	L1727786-07	L1727786-08
Sample Depth (bgs)		5 - 6.5 (ft)	6.5 - 8.5 (ft)	0 - 5 (ft)	5 - 9 (ft)	10 - 15 (ft)	15 - 20 (ft)	0 - 5 (ft)	5 - 7 (ft)	0 - 4.5 (ft)	4.5 - 7 (ft)	7 - 9 (ft)	0 - 5 (ft)	5 - 10 (ft)	0 - 5 (ft)	5 - 12 (ft)	0 - 6 (ft)	6 - 10 (ft)	10 - 15 (ft)	15 - 19 (ft)
Soil Description		FILL	ORGANICS	FILL	FILL	ORGANICS	CLAY	FILL	FILL	FILL	FILL	ORGANICS	FILL	FILL	FILL	FILL	FILL	CLAY	CLAY	CLAY
Soil Disposal Classification		I-3	I-2	II-1	I-3	I-2	I-2	II-1	I-3	II-1	I-3	I-2	II-3	I-3	II-1	I-3	II-1	I-2	I-2	I-2
PCBs (mg/kg)																				
Aroclor-1242 (PCB-1242)	1	ND (0.0366)	ND (0.0552)	ND (0.0363)	ND (0.0352)	ND (0.0513)	ND (0.0441)	ND (0.0386)	ND (0.0357)	ND (0.0358)	ND (0.0357)	ND (0.0392)	ND (0.0362)	ND (0.0379)	ND (0.0363)	ND (0.0387)	ND (0.0368)	ND (0.0378)	ND (0.041)	ND (0.0406)
Aroclor-1248 (PCB-1248)	1	ND (0.0366)	ND (0.0552)	ND (0.0363)	ND (0.0352)	ND (0.0513)	ND (0.0441)	ND (0.0386)	ND (0.0357)	ND (0.0358)	ND (0.0357)	ND (0.0392)	ND (0.0362)	ND (0.0379)	ND (0.0363)	ND (0.0387)	ND (0.0368)	ND (0.0378)	ND (0.041)	ND (0.0406)
Aroclor-1254 (PCB-1254)	1	ND (0.0366)	ND (0.0552)	ND (0.0363)	ND (0.0352)	ND (0.0513)	ND (0.0441)	ND (0.0386)	ND (0.0357)	ND (0.0358)	ND (0.0357)	ND (0.0392)	ND (0.0362)	ND (0.0379)	ND (0.0363)	ND (0.0387)	0.0405	ND (0.0378)	ND (0.041)	ND (0.0406)
Aroclor-1260 (PCB-1260)	1	ND (0.0366)	ND (0.0552)	ND (0.0363)	ND (0.0352)	ND (0.0513)	ND (0.0441)	ND (0.0386)	ND (0.0357)	ND (0.0358)	ND (0.0357)	ND (0.0392)	0.0463	ND (0.0379)	ND (0.0363)	ND (0.0387)	ND (0.0368)	ND (0.0378)	ND (0.041)	ND (0.0406)
SUM of PCBs	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0463	ND	ND	ND	0.0405	ND	ND	ND
Other																				
Total Solids (%)	NA	88.6	60	90.4	91.5	62	74.1	83.9	89.5	89.5	89.4	84	89.2	87.4	87.9	82.9	86.9	83.4	78.2	77.5
Reactive Cyanide (mg/kg)	NA	ND (125)	ND (125)	ND (130)	ND (130)	ND (130)	ND (130)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)
Reactive Sulfide (mg/kg)	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	7	7.8	8.4	7.6	8.1	8	8	7.6	7.6	7.6	7.9	8	6.5	8	7.8	8.1	8	7.7	7.6
Conductivity (umhos/cm)	NA	48	340	54	29	550	610	48	38	98	53	150	78	19	86	95	73	100	240	460
VPH (mg/kg)																				
MADEP C5-C8 Aliphatic Hydrocarbons, Adjusted	100	-	-	-	-	-	-	-	-	-	-	-	ND (6.8)	-	-	-	-	-	-	-
MADEP C5-C8 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	ND (6.8)	-	-	-	-	-	-	-
MADEP C9-C10 Aromatic Hydrocarbons	100	-	-	-	-	-	-	-	-	-	-	-	ND (6.8)	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	ND (6.8)	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	ND (6.8)	-	-	-	-	-	-	-

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory detection limit
NI: Not Ignitable
- VOC, SVOC and PCB analytes detected in at least one sample are reported herein. For a complete li
- Bold values indicate an exceedance of the **RCS-1** criteria or RCRA limits for **TCLP**.

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-3													
Precharacterization Grid		C6			D4				D5		D6		E4	
Location Name		C6	C6	C6	D4	D4	D4	D4	D5	D5	D6-TP	D6-TP	E4-TP	E4-TP
Sample Name		C6_0-5	C6_10-14	C6_15-19	D4_0-5	D4_5-10.5	D4_10.5-15	D4_15-20	D5_0-5.4	D5_5.4-7.5	TP-D6_0-5	TP-D6_5-6.5	TP-E4_0-5	TP-E4_5-9
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/24/2017	08/24/2017	08/24/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/14/2017	08/14/2017	08/14/2017	08/14/2017
Lab Sample ID		L1729903-01	L1729903-02	L1729903-03	L1727786-13 L1728249-06	L1727786-14 L1728249-07	L1727786-15	L1727786-16	L1727786-11 L1728249-05	L1727786-12	L1728308-07 L1728602-03	L1728308-08 L1728602-04	L1728308-09	L1728308-10
Sample Depth (bgs)		0 - 5 (ft)	10 - 14 (ft)	15 - 19 (ft)	0 - 5 (ft)	5 - 10.5 (ft)	10.5 - 15 (ft)	15 - 20 (ft)	0 - 5.4 (ft)	5.4 - 7.5 (ft)	0 - 5 (ft)	5 - 6.5 (ft)	0 - 5 (ft)	5 - 9 (ft)
Soil Description		FILL	CLAY	CLAY	FILL	FILL	CLAY	CLAY	FILL	FILL	FILL	FILL	FILL	FILL
Soil Disposal Classification		II-1	I-2	I-2	II-3	II-1	I-2	I-2	II-1	I-3	II-1	II-1	II-4	I-3
Volatile Organic Compounds (mg/kg)														
1,2,4-Trimethylbenzene	1000	ND (0.0034)	ND (0.0034)	ND (0.0034)	ND (0.0031)	ND (0.004)	ND (0.0035)	ND (0.0028)	ND (0.0032)	ND (0.0027)	ND (0.0028)	ND (0.0047)	ND (0.0025)	ND (0.0028)
1,3,5-Trimethylbenzene	10	ND (0.0034)	ND (0.0034)	ND (0.0034)	ND (0.0031)	ND (0.004)	ND (0.0035)	ND (0.0028)	ND (0.0032)	ND (0.0027)	ND (0.0028)	ND (0.0047)	ND (0.0025)	ND (0.0028)
2-Butanone (Methyl Ethyl Ketone)	4	ND (0.0086)	ND (0.0086)	ND (0.0086)	ND (0.0078)	ND (0.01)	ND (0.0088)	ND (0.0069)	ND (0.008)	ND (0.0067)	ND (0.0069)	ND (0.012)	ND (0.0063)	ND (0.007)
Acetone	6	ND (0.031)	ND (0.031)	ND (0.031)	ND (0.028)	ND (0.036)	0.054	ND (0.025)	ND (0.029)	ND (0.024)	ND (0.025)	ND (0.042)	0.039	ND (0.025)
Benzene	2	ND (0.00086)	ND (0.00086)	ND (0.00086)	ND (0.00078)	ND (0.001)	ND (0.00088)	ND (0.00069)	ND (0.0008)	ND (0.00067)	ND (0.00069)	ND (0.0012)	ND (0.00063)	ND (0.0007)
Ethylbenzene	40	ND (0.00086)	ND (0.00086)	ND (0.00086)	ND (0.00078)	ND (0.001)	ND (0.00088)	ND (0.00069)	ND (0.0008)	ND (0.00067)	ND (0.00069)	ND (0.0012)	ND (0.00063)	ND (0.0007)
Isopropylbenzene (Cumene)	1000	ND (0.00086)	ND (0.00086)	ND (0.00086)	ND (0.00078)	ND (0.001)	ND (0.00088)	ND (0.00069)	ND (0.0008)	ND (0.00067)	ND (0.00069)	ND (0.0012)	ND (0.00063)	ND (0.0007)
Naphthalene	4	ND (0.0034)	ND (0.0034)	ND (0.0034)	0.035	ND (0.004)	ND (0.0035)	ND (0.0028)	ND (0.0032)	ND (0.0027)	ND (0.0028)	ND (0.0047)	ND (0.0025)	ND (0.0028)
n-Butylbenzene	NA	ND (0.00086)	ND (0.00086)	ND (0.00086)	ND (0.00078)	ND (0.001)	ND (0.00088)	ND (0.00069)	ND (0.0008)	ND (0.00067)	ND (0.00069)	ND (0.0012)	ND (0.00063)	ND (0.0007)
n-Propylbenzene	100	ND (0.00086)	ND (0.00086)	ND (0.00086)	ND (0.00078)	ND (0.001)	ND (0.00088)	ND (0.00069)	ND (0.0008)	ND (0.00067)	ND (0.00069)	ND (0.0012)	ND (0.00063)	ND (0.0007)
Toluene	30	ND (0.0013)	ND (0.0013)	ND (0.0013)	ND (0.0012)	ND (0.0015)	ND (0.0013)	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0018)	ND (0.00095)	ND (0.001)
Trichlorofluoromethane (CFC-11)	1000	ND (0.0034)	ND (0.0034)	ND (0.0034)	ND (0.0031)	ND (0.004)	ND (0.0035)	ND (0.0028)	ND (0.0032)	ND (0.0027)	ND (0.0028)	ND (0.0047)	ND (0.0025)	ND (0.0028)
Xylene (total)	100	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0016)	ND (0.002)	ND (0.0018)	ND (0.0014)	ND (0.0016)	ND (0.0013)	ND (0.0014)	ND (0.0023)	ND (0.0013)	ND (0.0014)
SUM of Volatile Organic Compounds	NA	ND	ND	ND	0.035	ND	0.054	ND	ND	ND	ND	ND	0.039	ND
Semi-Volatile Organic Compounds (mg/kg)														
2-Methylnaphthalene	0.7	ND (0.21)	ND (0.25)	ND (0.27)	0.48	ND (0.23)	ND (0.27)	ND (0.26)	0.28	ND (0.22)	ND (0.22)	0.28	0.22	ND (0.24)
Acenaphthene	4	0.24	ND (0.16)	ND (0.18)	2.1	0.82	ND (0.18)	ND (0.18)	0.99	ND (0.14)	0.43	1.2	0.57	ND (0.16)
Acenaphthylene	1	ND (0.14)	ND (0.16)	ND (0.18)	0.32	ND (0.16)	ND (0.18)	ND (0.18)	0.27	ND (0.14)	0.22	ND (0.17)	0.23	ND (0.16)
Anthracene	1000	0.78	ND (0.12)	ND (0.13)	4.1	2.3	ND (0.13)	ND (0.13)	2.4	ND (0.11)	1.1	2	1.7	0.14
Benzo(a)anthracene	7	2.2	ND (0.12)	ND (0.13)	**10**	4.1	ND (0.13)	ND (0.13)	6.7	ND (0.11)	3.4	4.5	4.8	0.43
Benzo(a)pyrene	2	1.7	ND (0.16)	ND (0.18)	**8**	**3**	ND (0.18)	ND (0.18)	**4.9**	ND (0.14)	**2.7**	**3.3**	**3.7**	0.42
Benzo(b)fluoranthene	7	2.2	ND (0.12)	ND (0.13)	**11**	4.1	ND (0.13)	ND (0.13)	6.5	ND (0.11)	3.7	4.5	5.1	0.53
Benzo(g,h,i)perylene	1000	1.1	ND (0.16)	ND (0.18)	4.4	1.4	ND (0.18)	ND (0.18)	2.8	ND (0.14)	1.6	1.9	2.3	0.24
Benzo(k)fluoranthene	70	0.81	ND (0.12)	ND (0.13)	3.9	1.5	ND (0.13)	ND (0.13)	2.5	ND (0.11)	1.3	1.6	1.7	0.2
bis(2-Ethylhexyl)phthalate	90	ND (0.18)	ND (0.21)	ND (0.22)	ND (0.18)	ND (0.19)	ND (0.22)	ND (0.22)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.2)
Chrysene	70	2.1	ND (0.12)	ND (0.13)	9.6	3.5	ND (0.13)	ND (0.13)	6	ND (0.11)	3.4	4.6	4.5	0.41
Dibenz(a,h)anthracene	0.7	0.3	ND (0.12)	ND (0.13)	**1.3**	0.46	ND (0.13)	ND (0.13)	**0.85**	ND (0.11)	0.47	0.51	0.68	ND (0.12)
Dibenzofuran	100	ND (0.18)	ND (0.21)	ND (0.22)	1.1	0.65	ND (0.22)	ND (0.22)	0.61	ND (0.18)	0.24	0.65	0.41	ND (0.2)
Fluoranthene	1000	4.6	ND (0.12)	ND (0.13)	22	8.4	ND (0.13)	ND (0.13)	12	ND (0.11)	6.7	8.9	7.5	0.92
Fluorene	1000	0.26	ND (0.21)	ND (0.22)	1.9	1.2	ND (0.22)	ND (0.22)	1	ND (0.18)	0.42	1.1	0.67	ND (0.2)
Indeno(1,2,3-cd)pyrene	7	1.2	ND (0.16)	ND (0.18)	5.5	1.8	ND (0.18)	ND (0.18)	3.5	ND (0.14)	1.9	2.1	2.7	0.28
Naphthalene	4	ND (0.18)	ND (0.21)	ND (0.22)	0.8	0.38	ND (0.22)	ND (0.22)	0.49	ND (0.18)	0.18	0.34	0.28	ND (0.2)
Phenanthrene	10	2.9	ND (0.12)	ND (0.13)	**16**	7.1	ND (0.13)	ND (0.13)	8.6	ND (0.11)	5	9.1	6.3	0.59
Pyrene	1000	3.8	ND (0.12)	ND (0.13)	18	6.3	ND (0.13)	ND (0.13)	10	ND (0.11)	6.1	8.1	6.2	0.75
SUM of Semi-Volatile Organic Compounds	NA	24.19	ND	ND	120.5	47.01	ND	ND	70.39	ND	38.86	54.68	49.56	4.91
Total Petroleum Hydrocarbons (mg/kg)														
Petroleum hydrocarbons	1000	179	ND (41.3)	ND (42.8)	785	188	ND (43.7)	ND (42.6)	536	ND (34.7)	407	408	**1400**	235
EPH (mg/kg)														
MADEP C11-C22 Aromatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C11-C22 Aromatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C19-C36 Aliphatic Hydrocarbons	3000	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C18 Aliphatic Hydrocarbons	1000	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Compounds (mg/kg)														
Antimony	20	ND (2.15)	ND (2.43)	ND (2.66)	2.79	ND (2.28)	ND (2.55)	ND (2.68)	**22**	ND (2.17)	ND (2.16)	ND (2.51)	ND (2.2)	ND (2.36)
Arsenic	20	3.08	9.25	16.3	8.53	7.78	8.37	9.6	6.06	3.22	11.5	8.68	4.8	4.97
Barium	1000	24.1	74.7	92.4	66.9	70	63.7	87.1	54.7	29.1	57.8	82.7	56.4	49.6
Beryllium	90	ND (0.215)	0.734	0.805	0.352	0.406	0.708	0.795	0.248	0.248	ND (0.216)	0.251	0.242	0.358
Cadmium	70	ND (0.43)	0.608	0.725	ND (0.446)	ND (0.456)	ND (0.51)	ND (0.537)	ND (0.436)	ND (0.435)	0.934	1.22	1.38	0.91
Chromium	100	8.58	38.5	48.4	27.4	38.4	36.1	44.5	10.5	15	12	14.3	13.5	22.4
Lead	200	20.8	9.57	10.1	161	176	11.4	10.3	**256**	17	168	**362**	90.4	34.9
Mercury	20	ND (0.068)	ND (0.08)	ND (0.086)	0.36	0.411	ND (0.085)	ND (0.087)	0.978	0.31	0.497	0.79	0.304	0.094
Nickel	600	6.22	28.6	33.3	16.5	16.4	23.3	31.2	9.75	10.6	11.7	12.6	11.1	16.1
Selenium	400	ND (2.15)	ND (2.43)	ND (2.66)	ND (2.23)	ND (2.28)	ND (2.55)	ND (2.68)	ND (2.18)	ND (2.17)	ND (2.16)	ND (2.51)	ND (2.2)	ND (2.36)
Silver	100	ND (0.43)	ND (0.486)	ND (0.533)	ND (0.446)	ND (0.456)	ND (0.51)	ND (0.537)	ND (0.436)	ND (0.435)	ND (0.432)	ND (0.502)	ND (0.441)	ND (0.471)
Thallium	8	ND (2.15)	ND (2.43)	ND (2.66)	ND (2.23)	ND (2.28)	ND (2.55)	ND (2.68)	ND (2.18)	ND (2.17)	ND (2.16)	ND (2.51)	ND (2.2)	ND (2.36)
Vanadium	400	11.5	48.3	57.2	26	24	44.3	57.6	14	19.9	17.9	20	22.7	30.6
Zinc	1000	38.1	68.4	73.4	141	322	52.7	71.5	129	36.4	151	216	146	61.6
TCLP Inorganic Compounds (mg/L)														
Lead	NA	-	-	-	ND (0.5)	ND (0.5)	-	-	ND (0.5)	-	ND (0.5)	ND (0.5)	-	-

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-3												
Precharacterization Grid		C6			D4				D5		D6		E4	
Location Name		C6	C6	C6	D4	D4	D4	D4	D5	D5	D6-TP	D6-TP	E4-TP	E4-TP
Sample Name		C6_0-5	C6_10-14	C6_15-19	D4_0-5	D4_5-10.5	D4_10.5-15	D4_15-20	D5_0-5.4	D5_5.4-7.5	TP-D6_0-5	TP-D6_5-6.5	TP-E4_0-5	TP-E4_5-9
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/24/2017	08/24/2017	08/24/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/14/2017	08/14/2017	08/14/2017	08/14/2017
Lab Sample ID		L1729903-01	L1729903-02	L1729903-03	L1727786-13 L1728249-06	L1727786-14 L1728249-07	L1727786-15	L1727786-16	L1727786-11 L1728249-05	L1727786-12	L1728308-07 L1728602-03	L1728308-08 L1728602-04	L1728308-09	L1728308-10
Sample Depth (bgs)		0 - 5 (ft)	10 - 14 (ft)	15 - 19 (ft)	0 - 5 (ft)	5 - 10.5 (ft)	10.5 - 15 (ft)	15 - 20 (ft)	0 - 5.4 (ft)	5.4 - 7.5 (ft)	0 - 5 (ft)	5 - 6.5 (ft)	0 - 5 (ft)	5 - 9 (ft)
Soil Description		FILL	CLAY	CLAY	FILL	FILL	CLAY	CLAY	FILL	FILL	FILL	FILL	FILL	FILL
Soil Disposal Classification		II-1	I-2	I-2	II-3	II-1	I-2	I-2	II-1	I-3	II-1	II-1	II-4	I-3
PCBs (mg/kg)														
Aroclor-1242 (PCB-1242)	1	ND (0.0352)	ND (0.0422)	ND (0.0453)	ND (0.0356)	ND (0.038)	ND (0.0439)	ND (0.0425)	ND (0.0365)	ND (0.0348)	ND (0.035)	ND (0.043)	**1.31**	ND (0.0394)
Aroclor-1248 (PCB-1248)	1	ND (0.0352)	ND (0.0422)	ND (0.0453)	ND (0.0356)	ND (0.038)	ND (0.0439)	ND (0.0425)	ND (0.0365)	ND (0.0348)	ND (0.035)	ND (0.043)	ND (0.189)	ND (0.0394)
Aroclor-1254 (PCB-1254)	1	0.0641	ND (0.0422)	ND (0.0453)	0.277	ND (0.038)	ND (0.0439)	ND (0.0425)	0.102	ND (0.0348)	ND (0.035)	ND (0.043)	**1.65**	ND (0.0394)
Aroclor-1260 (PCB-1260)	1	ND (0.0352)	ND (0.0422)	ND (0.0453)	0.0625	ND (0.038)	ND (0.0439)	ND (0.0425)	ND (0.0365)	ND (0.0348)	0.0646	ND (0.043)	ND (0.189)	ND (0.0394)
SUM of PCBs	1	0.0641	ND	ND	0.3395	ND	ND	ND	0.102	ND	0.0646	ND	**2.96**	ND
Other														
Total Solids (%)	NA	92.7	78.7	73.3	88.7	85.5	74.7	74.2	88.4	90.8	90.4	76.5	87.6	83.5
Reactive Cyanide (mg/kg)	NA	ND (130)	ND (130)	ND (130)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)
Reactive Sulfide (mg/kg)	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	8.9	7.7	7.9	8.2	8	7.9	8.2	8.1	8.1	8.3	8	8	7.9
Conductivity (umhos/cm)	NA	100	440	460	94	110	53	100	110	58	59	63	110	30
VPH (mg/kg)														
MADEP C5-C8 Aliphatic Hydrocarbons, Adjusted	100	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C5-C8 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C10 Aromatic Hydrocarbons	100	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory detection limit
NI: Not Ignitable
- VOC, SVOC and PCB analytes detected in at least one sample are reported herein. For a complete li
- Bold values indicate an exceedance of the **RCS-1** criteria or RCRA limits for **TCLP**.

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-3														Lot 5				
Precharacterization Grid		E5				E6						F4				E1			E3	
Location Name		E5	E5	E5	E5	E6	E6	E6	E6	E6	E6	F4	F4	F4	F4	E1 (OW)	E1 (OW)	E1 (OW)	E3	E3
Sample Name		E5_0-5	E5_5-12.5	E5_12.5-15	E5_20-25	E6_0-5	E6_5-8.5	E6_10-15	E6_15-20	E6_20-24	E6_30-34	F4_0-5	F4_5-10	F4_10-15	F4_15-20	E1_0-3	E1_3-8	E1_8-12	E3_0-3	E3_3-6.5
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/21/2017	08/21/2017	08/21/2017	08/23/2017	08/23/2017	08/23/2017	08/16/2017	08/17/2017	08/17/2017	08/17/2017	08/10/2017	08/10/2017	08/10/2017	08/08/2017	08/08/2017
		L1727786-17 L1728249-08				L1729260-01	L1729260-02					L1728716-01								
Lab Sample ID		L1728906-02	L1727786-18	L1727786-19	L1727786-20	L1729810-01	L1729810-02	L1729260-03	L1729590-01	L1729590-02	L1729590-03	L1729206-01	L1728827-01	L1728827-02	L1728827-03	L1727995-01	L1727995-02	L1727995-03	L1727453-01	L1727453-02
Sample Depth (bgs)		0 - 5 (ft)	5 - 12.5 (ft)	12.5 - 15 (ft)	20 - 25 (ft)	0 - 5 (ft)	5 - 8.5 (ft)	10 - 15 (ft)	15 - 20 (ft)	20 - 24 (ft)	30 - 34 (ft)	0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)	15 - 20 (ft)	0 - 3 (ft)	3 - 8 (ft)	8 - 12 (ft)	0 - 3 (ft)	3 - 6.5 (ft)
Soil Description		FILL	FILL	CLAY	CLAY	FILL	FILL	CLAY	CLAY	CLAY	CLAY	FILL	FILL	ORGANIC	CLAY	FILL	FILL	FILL	FILL	FILL
Soil Disposal Classification		II-3	I-3	I-2	I-2	II-3	I-3	I-2	I-2	I-2	I-2	II-4	I-3	I-3	I-2	II-3	II-1	I-3	II-3	II-1
Volatile Organic Compounds (mg/kg)																				
1,2,4-Trimethylbenzene	1000	ND (0.0038)	ND (0.0019)	ND (0.0029)	ND (0.0037)	ND (0.0033)	ND (0.0029)	ND (0.0038)	ND (0.0039)	ND (0.0035)	ND (0.0033)	ND (0.0032)	ND (0.0033)	ND (0.0034)	ND (0.0035)	ND (0.0028)	ND (0.0035)	ND (0.0026)	25	ND (0.0065)
1,3,5-Trimethylbenzene	10	ND (0.0038)	ND (0.0019)	ND (0.0029)	ND (0.0037)	ND (0.0033)	ND (0.0029)	ND (0.0038)	ND (0.0039)	ND (0.0035)	ND (0.0033)	ND (0.0032)	ND (0.0033)	ND (0.0034)	ND (0.0035)	ND (0.0028)	ND (0.0035)	ND (0.0026)	**10**	ND (0.0065)
2-Butanone (Methyl Ethyl Ketone)	4	ND (0.0095)	ND (0.0047)	0.012	ND (0.0093)	ND (0.0084)	ND (0.0073)	ND (0.0096)	ND (0.0097)	ND (0.0088)	ND (0.0082)	ND (0.0081)	ND (0.0082)	ND (0.0084)	ND (0.0088)	ND (0.007)	ND (0.0088)	ND (0.0066)	ND (2.2)	ND (0.016)
Acetone	6	ND (0.034)	0.018	0.056	ND (0.033)	ND (0.03)	ND (0.026)	ND (0.034)	ND (0.035)	ND (0.032)	ND (0.03)	ND (0.029)	ND (0.029)	ND (0.03)	ND (0.032)	ND (0.025)	ND (0.032)	ND (0.024)	ND (7.8)	ND (0.058)
Benzene	2	ND (0.00095)	ND (0.00047)	ND (0.00072)	ND (0.00093)	ND (0.00084)	ND (0.00073)	ND (0.00096)	ND (0.00097)	ND (0.00088)	ND (0.00082)	ND (0.00081)	ND (0.00082)	ND (0.00084)	ND (0.00088)	ND (0.0007)	ND (0.00088)	ND (0.00066)	ND (0.22)	ND (0.0016)
Ethylbenzene	40	ND (0.00095)	ND (0.00047)	ND (0.00072)	ND (0.00093)	ND (0.00084)	ND (0.00073)	ND (0.00096)	ND (0.00097)	ND (0.00088)	ND (0.00082)	ND (0.00081)	ND (0.00082)	ND (0.00084)	ND (0.00088)	ND (0.0007)	ND (0.00088)	ND (0.00066)	0.6	ND (0.0016)
Isopropylbenzene (Cumene)	1000	ND (0.00095)	ND (0.00047)	ND (0.00072)	ND (0.00093)	ND (0.00084)	ND (0.00073)	ND (0.00096)	ND (0.00097)	ND (0.00088)	ND (0.00082)	ND (0.00081)	ND (0.00082)	ND (0.00084)	ND (0.00088)	ND (0.0007)	ND (0.00088)	ND (0.00066)	0.49	ND (0.0016)
Naphthalene	4	ND (0.0038)	ND (0.0019)	ND (0.0029)	ND (0.0037)	ND (0.0033)	ND (0.0029)	ND (0.0038)	ND (0.0039)	ND (0.0035)	ND (0.0033)	ND (0.0032)	ND (0.0033)	ND (0.0034)	ND (0.0035)	ND (0.0028)	ND (0.0035)	ND (0.0026)	**8.4**	ND (0.0065)
n-Butylbenzene	NA	ND (0.00095)	ND (0.00047)	ND (0.00072)	ND (0.00093)	ND (0.00084)	ND (0.00073)	ND (0.00096)	ND (0.00097)	ND (0.00088)	ND (0.00082)	ND (0.00081)	ND (0.00082)	ND (0.00084)	ND (0.00088)	ND (0.0007)	ND (0.00088)	ND (0.00066)	0.43	ND (0.0016)
n-Propylbenzene	100	ND (0.00095)	ND (0.00047)	ND (0.00072)	ND (0.00093)	ND (0.00084)	ND (0.00073)	ND (0.00096)	ND (0.00097)	ND (0.00088)	ND (0.00082)	ND (0.00081)	ND (0.00082)	ND (0.00084)	ND (0.00088)	ND (0.0007)	ND (0.00088)	ND (0.00066)	1.2	ND (0.0016)
Toluene	30	ND (0.0014)	ND (0.0007)	ND (0.0011)	ND (0.0014)	ND (0.0012)	ND (0.0011)	ND (0.0014)	ND (0.0015)	ND (0.0013)	ND (0.0012)	ND (0.0012)	ND (0.0012)	ND (0.0013)	ND (0.0013)	ND (0.001)	ND (0.0013)	ND (0.001)	0.44	ND (0.0024)
Trichlorofluoromethane (CFC-11)	1000	ND (0.0038)	ND (0.0019)	ND (0.0029)	ND (0.0037)	0.0036	ND (0.0029)	ND (0.0038)	ND (0.0039)	ND (0.0035)	ND (0.0033)	ND (0.0032)	ND (0.0033)	ND (0.0034)	ND (0.0035)	ND (0.0028)	ND (0.0035)	ND (0.0026)	ND (0.86)	ND (0.0065)
Xylene (total)	100	ND (0.0019)	ND (0.00094)	ND (0.0014)	ND (0.0018)	ND (0.0017)	ND (0.0014)	ND (0.0019)	ND (0.0019)	ND (0.0018)	ND (0.0016)	ND (0.0016)	ND (0.0016)	ND (0.0017)	ND (0.0018)	ND (0.0014)	ND (0.0018)	ND (0.0013)	15	ND (0.0032)
SUM of Volatile Organic Compounds	NA	ND	0.018	0.068	ND	0.0036	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	61.56	ND
Semi-Volatile Organic Compounds (mg/kg)																				
2-Methylnaphthalene	0.7	ND (4.5)	ND (0.24)	ND (0.27)	ND (0.27)	0.52	ND (0.24)	ND (0.26)	ND (0.25)	ND (0.28)	ND (0.26)	ND (1.1)	ND (0.23)	ND (0.25)	ND (0.26)	ND (4.3)	ND (0.22)	ND (0.22)	0.55	ND (0.26)
Acenaphthene	4	ND (3)	ND (0.16)	ND (0.18)	ND (0.18)	1.3	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	1.2	ND (0.15)	ND (0.16)	ND (0.17)	**7.6**	ND (0.15)	ND (0.15)	0.94	ND (0.17)
Acenaphthylene	1	ND (3)	ND (0.16)	ND (0.18)	ND (0.18)	**1.2**	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.73)	ND (0.15)	ND (0.16)	ND (0.17)	ND (2.9)	ND (0.15)	ND (0.15)	0.26	ND (0.17)
Anthracene	1000	6.5	ND (0.12)	ND (0.13)	ND (0.13)	6.5	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	3.5	ND (0.11)	ND (0.12)	ND (0.13)	22	ND (0.11)	ND (0.11)	2	ND (0.13)
Benzo(a)anthracene	7	**16**	ND (0.12)	ND (0.13)	ND (0.13)	**13**	0.12	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**9.6**	ND (0.11)	ND (0.12)	ND (0.13)	**33**	0.38	ND (0.11)	3.2	0.21
Benzo(a)pyrene	2	**12**	ND (0.16)	ND (0.18)	ND (0.18)	**12**	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	**7.8**	ND (0.15)	ND (0.16)	ND (0.17)	**30**	0.43	ND (0.15)	**2.9**	0.19
Benzo(b)fluoranthene	7	**16**	ND (0.12)	ND (0.13)	ND (0.13)	**15**	0.15	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**11**	ND (0.11)	ND (0.12)	ND (0.13)	**38**	0.53	ND (0.11)	3.3	0.27
Benzo(g,h,i)perylene	1000	7.4	ND (0.16)	ND (0.18)	ND (0.18)	4.7	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	4	ND (0.15)	ND (0.16)	ND (0.17)	19	0.23	ND (0.15)	2	ND (0.17)
Benzo(k)fluoranthene	70	5.7	ND (0.12)	ND (0.13)	ND (0.13)	2.9	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	4.3	ND (0.11)	ND (0.12)	ND (0.13)	12	0.18	ND (0.11)	1.2	ND (0.13)
bis(2-Ethylhexyl)phthalate	90	ND (3.8)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.18)	ND (0.2)	ND (0.22)	ND (0.21)	ND (0.23)	ND (0.22)	ND (0.91)	ND (0.19)	ND (0.21)	ND (0.21)	ND (3.6)	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.22)
Chrysene	70	14	ND (0.12)	ND (0.13)	ND (0.13)	11	0.12	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	9.3	ND (0.11)	ND (0.12)	ND (0.13)	33	0.36	ND (0.11)	3	0.23
Dibenz(a,h)anthracene	0.7	ND (2.3)	ND (0.12)	ND (0.13)	ND (0.13)	**1.3**	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**1.1**	ND (0.11)	ND (0.12)	ND (0.13)	**4.4**	ND (0.11)	ND (0.11)	0.42	ND (0.13)
Dibenzofuran	100	ND (3.8)	ND (0.2)	ND (0.22)	ND (0.22)	1.2	ND (0.2)	ND (0.22)	ND (0.21)	ND (0.23)	ND (0.22)	ND (0.91)	ND (0.19)	ND (0.21)	ND (0.21)	7	ND (0.18)	ND (0.19)	0.38	ND (0.22)
Fluoranthene	1000	35	ND (0.12)	ND (0.13)	ND (0.13)	29	0.23	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	17	ND (0.11)	ND (0.12)	ND (0.13)	87	0.63	ND (0.11)	6.3	0.41
Fluorene	1000	ND (3.8)	ND (0.2)	ND (0.22)	ND (0.22)	2.2	ND (0.2)	ND (0.22)	ND (0.21)	ND (0.23)	ND (0.22)	1.3	ND (0.19)	ND (0.21)	ND (0.21)	10	ND (0.18)	ND (0.19)	0.89	ND (0.22)
Indeno(1,2,3-cd)pyrene	7	**8.6**	ND (0.16)	ND (0.18)	ND (0.18)	5.9	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	4.6	ND (0.15)	ND (0.16)	ND (0.17)	**20**	0.26	ND (0.15)	2	ND (0.17)
Naphthalene	4	ND (3.8)	ND (0.2)	ND (0.22)	ND (0.22)	0.73	ND (0.2)	ND (0.22)	ND (0.21)	ND (0.23)	ND (0.22)	ND (0.91)	ND (0.19)	ND (0.21)	ND (0.21)	3.9	ND (0.18)	ND (0.19)	0.55	ND (0.22)
Phenanthrene	10	**25**	ND (0.12)	ND (0.13)	ND (0.13)	**22**	0.21	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	**13**	ND (0.11)	ND (0.12)	ND (0.13)	**85**	0.24	ND (0.11)	6.3	0.41
Pyrene	1000	28	ND (0.12)	ND (0.13)	ND (0.13)	24	0.21	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	15	ND (0.11)	ND (0.12)	ND (0.13)	72	0.57	ND (0.11)	6.6	0.36
SUM of Semi-Volatile Organic Compounds	NA	174.2	ND	ND	ND	154.45	1.04	ND	ND	ND	ND	102.7	ND	ND	ND	483.9	3.81	ND	42.79	2.08
Total Petroleum Hydrocarbons (mg/kg)																				
Petroleum hydrocarbons	1000	**9390**	ND (40.3)	62	ND (43.5)	511	88.5	ND (41.7)	ND (42.5)	ND (44.8)	ND (42.2)	971	ND (37.7)	ND (41)	ND (41.2)	315	ND (36.2)	ND (36.6)	425	47.2
EPH (mg/kg)																				
MADEP C11-C22 Aromatic Hydrocarbons, Adjusted	1000	156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C11-C22 Aromatic Hydrocarbons, Unadjusted	NA	245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C19-C36 Aliphatic Hydrocarbons	3000	49.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C18 Aliphatic Hydrocarbons	1000	ND (14.9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Compounds (mg/kg)																				
Antimony	20	ND (2.26)	ND (2.42)	ND (2.62)	ND (2.6)	ND (2.12)	ND (2.32)	ND (2.49)	ND (2.47)	ND (2.73)	ND (2.53)	2.73	ND (2.26)	ND (2.42)	ND (2.49)	ND (2.15)	ND (2.24)	ND (2.18)	ND (2.13)	ND (2.5)
Arsenic	20	7.68	5.59	9.06	9.71	8.86	9.36	10.2	12.6	13.3	10.2	7	5.04	6.4	9.59	7.46	2.68	5.26	8.38	7.75
Barium	1000	117	41.1	73.6	91.4	51.7	97.7	81.7	89.4	86.4	75.1	106	46.4	37.7	94.6	106	42.2	41.6	78.4	200
Beryllium	90	0.393	0.402	0.806	0.914	ND (0.212)	0.26	0.469	0.455	0.469	0.424	0.314	0.479	0.523	0.792	0.343	0.3	0.484	0.316	0.345
Cadmium	70	ND (0.451)	ND (0.484)	ND (0.524)	ND (0.52)	0.892	0.642	0.963	1.24	1.36	1.14	ND (0.436)	ND (0.452)	ND (0.485)	ND (0.498)	7.07	2.27	ND (0.436)	1.73	0.845
Chromium	100	16.2	19.4	41.5	48.5	16.5	11.5	40.2	37.7	40.8	36.8	34.4	11.8	22	37.7	16.1	11.3	23.3	16.3	13.4
Lead	200	**257**	43	16.7	11.2	132	164	9.44	9.26	10.2	9.29	198	77.5	7.06	9.32	**500**	**493**	6.83	148	**394**
Mercury	20	0.493	0.162	ND (0.086)	ND (0.086)	0.334	0.336	ND (0.083)	ND (0.085)	ND (0.089)	ND (0.083)	0.407	0.26	ND (0.083)	ND (0.085)	0.418	0.114	ND (0.072)	0.229	1.48
Nickel	600	13.3	11	26.4	32	11.4	6.49	27.9	25.8	26.8	24.1	18	10.3	15	26.2	14.6	9.26	14.6	13.5	12.6
Selenium	400	ND (2.26)	ND (2.42)	ND (2.62)	ND (2.6)	ND (2.12)	ND (2.32)	ND (2.49)	ND (2.47)	ND (2.73)	ND (2.53)	ND (2.18)	ND (2.26)	ND (2.42)	ND (2.49)	ND (2.15)	ND (2.24)	ND (2.18)	ND (2.13)	ND (2.5)
Silver	100	ND (0.451)	ND (0.484)	ND (0.524)	ND (0.52)	ND (0.425)	ND (0.465)	ND (0.499)	ND (0.494)	ND (0.545)	ND (0.505)	ND (0.436)	ND (0.452)	ND (0.485)	ND (0.498)	ND (0.429)	ND (0.448)	ND (0.436)	ND (0.427)	ND (0.5)
Thallium	8	ND (2.26)	ND (2.42)	ND (2.62)	ND (2.6)	ND (2.12)	ND (2.32)	ND (2.49)	ND (2.47)	ND (2.73)	ND (2.53)	ND (2.18)	ND (2.26)	ND (2.42)	ND (2.49)	ND (2.15)	ND (2.24)	ND (2.18)	ND (2.13)	ND (2.5)
Vanadium	400	22	20.2	46.7	55.8	23.3	17.5	47.3	50.6	51.9	46.6	28.7	21.1	27.9	51.7	25.1	18.2	31.7	38.5	23.4
Zinc	1000	561	64.9	60.4	71.9	133	96	59.8	65.6	64.5	59.5	269	61.2	31.5	61.7	217	162	33.6	162	389
TCLP Inorganic Compounds (mg/L)																				
Lead	NA	0.619	-	-	-	ND (0.5)	ND (0.5)	-	-	-	-	ND (0.5)	-	-	-	0.894	3.32	ND (0.5)	ND (0.5)	ND (0.5)

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Parcel B-3														Lot 5				
Precharacterization Grid		E5				E6						F4				E1			E3	
Location Name		E5	E5	E5	E5	E6	E6	E6	E6	E6	E6	F4	F4	F4	F4	E1 (OW)	E1 (OW)	E1 (OW)	E3	E3
Sample Name		E5_0-5	E5_5-12.5	E5_12.5-15	E5_20-25	E6_0-5	E6_5-8.5	E6_10-15	E6_15-20	E6_20-24	E6_30-34	F4_0-5	F4_5-10	F4_10-15	F4_15-20	E1_0-3	E1_3-8	E1_8-12	E3_0-3	E3_3-6.5
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/09/2017	08/09/2017	08/09/2017	08/09/2017	08/21/2017	08/21/2017	08/21/2017	08/23/2017	08/23/2017	08/23/2017	08/16/2017	08/17/2017	08/17/2017	08/17/2017	08/10/2017	08/10/2017	08/10/2017	08/08/2017	08/08/2017
Lab Sample ID		L1727786-17 L1728249-08 L1728906-02	L1727786-18	L1727786-19	L1727786-20	L1729260-01 L1729810-01	L1729260-02 L1729810-02	L1729260-03	L1729590-01	L1729590-02	L1729590-03	L1728716-01 L1729206-01	L1728827-01	L1728827-02	L1728827-03	L1727995-01	L1727995-02	L1727995-03	L1727453-01	L1727453-02
Sample Depth (bgs)		0 - 5 (ft)	5 - 12.5 (ft)	12.5 - 15 (ft)	20 - 25 (ft)	0 - 5 (ft)	5 - 8.5 (ft)	10 - 15 (ft)	15 - 20 (ft)	20 - 24 (ft)	30 - 34 (ft)	0 - 5 (ft)	5 - 10 (ft)	10 - 15 (ft)	15 - 20 (ft)	0 - 3 (ft)	3 - 8 (ft)	8 - 12 (ft)	0 - 3 (ft)	3 - 6.5 (ft)
Soil Description		FILL	FILL	CLAY	CLAY	FILL	FILL	CLAY	CLAY	CLAY	CLAY	FILL	FILL	ORGANIC	CLAY	FILL	FILL	FILL	FILL	FILL
Soil Disposal Classification		II-3	I-3	I-2	I-2	II-3	I-3	I-2	I-2	I-2	I-2	II-4	I-3	I-3	I-2	II-3	II-1	I-3	II-3	II-1
PCBs (mg/kg)																				
Aroclor-1242 (PCB-1242)	1	ND (0.0369)	ND (0.0404)	ND (0.0454)	ND (0.0433)	ND (0.0348)	ND (0.0386)	ND (0.0436)	ND (0.043)	ND (0.0454)	ND (0.0423)	ND (0.181)	ND (0.0368)	ND (0.041)	ND (0.0429)	ND (0.0354)	ND (0.0372)	ND (0.036)	ND (0.0367)	ND (0.0432)
Aroclor-1248 (PCB-1248)	1	ND (0.0369)	ND (0.0404)	ND (0.0454)	ND (0.0433)	ND (0.0348)	ND (0.0386)	ND (0.0436)	ND (0.043)	ND (0.0454)	ND (0.0423)	ND (0.181)	ND (0.0368)	ND (0.041)	ND (0.0429)	ND (0.0354)	ND (0.0372)	ND (0.036)	ND (0.0367)	ND (0.0432)
Aroclor-1254 (PCB-1254)	1	0.226	0.0413	ND (0.0454)	ND (0.0433)	ND (0.0348)	ND (0.0386)	ND (0.0436)	ND (0.043)	ND (0.0454)	ND (0.0423)	**1.93**	ND (0.0368)	ND (0.041)	ND (0.0429)	ND (0.0354)	ND (0.0372)	ND (0.036)	ND (0.0367)	ND (0.0432)
Aroclor-1260 (PCB-1260)	1	0.0834	ND (0.0404)	ND (0.0454)	ND (0.0433)	0.0895 P	ND (0.0386)	ND (0.0436)	ND (0.043)	ND (0.0454)	ND (0.0423)	ND (0.181)	ND (0.0368)	ND (0.041)	ND (0.0429)	0.0382	ND (0.0372)	ND (0.036)	ND (0.0367)	ND (0.0432)
SUM of PCBs	1	0.3094	0.0413	ND	ND	0.0895	ND	ND	ND	ND	ND	**1.93**	ND	ND	ND	0.0382	ND	ND	ND	ND
Other																				
Total Solids (%)	NA	87.7	80	73.4	72.9	93.3	81.9	75.8	76.6	70.4	75.2	90.5	87.6	79.3	76.9	92	87.9	87.5	89.8	75.5
Reactive Cyanide (mg/kg)	NA	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (130)	ND (125)	ND (125)	ND (125)	ND (130)	ND (130)	ND (130)	ND (125)	ND (125)
Reactive Sulfide (mg/kg)	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	8.6	8.3	7.9	8.5	8.3	8.7	7.8	7.8	8	8.1	9.6	7.5	7.2	7.8	8.5	7.8	7.3	8.5	7.4
Conductivity (umhos/cm)	NA	120	130	130	370	100	76	120	160	160	160	99	42	56	110	72	440	82	96	2200
VPH (mg/kg)																				
MADEP C5-C8 Aliphatic Hydrocarbons, Adjusted	100	ND (5.05)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C5-C8 Aliphatic Hydrocarbons, Unadjusted	NA	ND (5.05)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C10 Aromatic Hydrocarbons	100	ND (5.05)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Adjusted	1000	ND (5.05)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Unadjusted	NA	ND (5.05)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory detection limit
NI: Not Ignitable
- VOC, SVOC and PCB analytes detected in at least one sample are reported herein. For a complete li
- Bold values indicate an exceedance of the **RCS-1** criteria or RCRA limits for **TCLP**.

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

Parcel	Regulatory Criteria	Lot 5												
Precharacterization Grid		F1		F2			F3			G1		G3		
Location Name		F1	F1	F2	F2	F2	F3	F3	F3	G1	G1	G3	G3	G3
Sample Name		F1_0-3	F1_3-7	F2_0-3	F2_3-8	F2_8-13.5	F3_0-3.5	F3_3.5-8	F3_8-12.8	G1_0-3	G1_3-11	G3_0-2	G3_2-6	G3_6-12
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/11/2017	08/11/2017	08/11/2017
Lab Sample ID		L1727453-07	L1727453-08	L1727453-05	L1727453-06	L1727453-11	L1727453-03	L1727453-04	L1727453-12	L1727453-09	L1727453-10	L1728211-01	L1728211-02	L1728211-03
Sample Depth (bgs)		0 - 3 (ft)	3 - 7 (ft)	0 - 3 (ft)	3 - 8 (ft)	8 - 13.5 (ft)	0 - 3.5 (ft)	3.5 - 8 (ft)	8 - 12.8 (ft)	0 - 3 (ft)	3 - 11 (ft)	0 - 2 (ft)	2 - 6 (ft)	6 - 12 (ft)
Soil Description		FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
Soil Disposal Classification		II-1	II-1	II-1	III-2/II-5	I-3	II-3	II-5, TCLP FAIL	I-3	III-2/II-5	II-1	II-1	II-2	I-3
Volatile Organic Compounds (mg/kg)														
1,2,4-Trimethylbenzene	1000	ND (0.0041)	ND (0.0048)	ND (0.0045)	ND (0.0042)	ND (0.0041)	ND (0.0035)	ND (0.0033)	ND (0.0034)	ND (0.005)	ND (0.0037)	ND (0.0029)	ND (0.0048)	ND (0.0034)
1,3,5-Trimethylbenzene	10	ND (0.0041)	ND (0.0048)	ND (0.0045)	ND (0.0042)	ND (0.0041)	ND (0.0035)	ND (0.0033)	ND (0.0034)	ND (0.005)	ND (0.0037)	ND (0.0029)	ND (0.0048)	ND (0.0034)
2-Butanone (Methyl Ethyl Ketone)	4	ND (0.01)	ND (0.012)	ND (0.011)	ND (0.01)	ND (0.01)	ND (0.0088)	ND (0.0083)	0.0094	ND (0.012)	ND (0.0093)	ND (0.0074)	ND (0.012)	ND (0.0085)
Acetone	6	ND (0.037)	ND (0.044)	ND (0.041)	ND (0.038)	ND (0.037)	ND (0.032)	ND (0.03)	0.059	ND (0.045)	ND (0.033)	ND (0.026)	ND (0.043)	ND (0.031)
Benzene	2	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.00088)	0.001	ND (0.00085)	ND (0.0012)	ND (0.00093)	ND (0.00074)	ND (0.0012)	ND (0.00085)
Ethylbenzene	40	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.00088)	ND (0.00083)	ND (0.00085)	ND (0.0012)	ND (0.00093)	ND (0.00074)	ND (0.0012)	ND (0.00085)
Isopropylbenzene (Cumene)	1000	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.00088)	ND (0.00083)	ND (0.00085)	ND (0.0012)	ND (0.00093)	ND (0.00074)	ND (0.0012)	ND (0.00085)
Naphthalene	4	ND (0.0041)	ND (0.0048)	ND (0.0045)	ND (0.0042)	ND (0.0041)	ND (0.0035)	0.01	ND (0.0034)	ND (0.005)	ND (0.0037)	ND (0.0029)	ND (0.0048)	ND (0.0034)
n-Butylbenzene	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.00088)	ND (0.00083)	ND (0.00085)	ND (0.0012)	ND (0.00093)	ND (0.00074)	ND (0.0012)	ND (0.00085)
n-Propylbenzene	100	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.00088)	ND (0.00083)	ND (0.00085)	ND (0.0012)	ND (0.00093)	ND (0.00074)	ND (0.0012)	ND (0.00085)
Toluene	30	ND (0.0016)	ND (0.0018)	ND (0.0017)	ND (0.0016)	ND (0.0015)	ND (0.0013)	ND (0.0012)	ND (0.0013)	ND (0.0019)	ND (0.0014)	ND (0.0011)	ND (0.0018)	ND (0.0013)
Trichlorofluoromethane (CFC-11)	1000	ND (0.0041)	ND (0.0048)	ND (0.0045)	ND (0.0042)	ND (0.0041)	ND (0.0035)	ND (0.0033)	ND (0.0034)	ND (0.005)	ND (0.0037)	ND (0.0029)	ND (0.0048)	ND (0.0034)
Xylene (total)	100	ND (0.0021)	ND (0.0024)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0018)	ND (0.0016)	ND (0.0017)	ND (0.0025)	ND (0.0018)	ND (0.0015)	ND (0.0024)	ND (0.0017)
SUM of Volatile Organic Compounds	NA	ND	ND	ND	ND	ND	ND	0.011	0.0684	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (mg/kg)														
2-Methylnaphthalene	0.7	ND (0.22)	ND (0.24)	ND (0.22)	ND (0.24)	ND (0.24)	ND (0.22)	ND (0.24)	ND (0.22)	0.24	ND (0.25)	ND (0.22)	0.26	ND (0.24)
Acenaphthene	4	0.47	0.39	0.15	0.85	ND (0.16)	0.94	ND (0.16)	ND (0.15)	0.75	ND (0.17)	ND (0.14)	ND (0.16)	ND (0.16)
Acenaphthylene	1	0.16	0.23	ND (0.15)	0.28	ND (0.16)	0.26	0.31	ND (0.15)	0.35	ND (0.17)	ND (0.14)	ND (0.16)	ND (0.16)
Anthracene	1000	1.2	1.4	0.45	2.2	ND (0.12)	3.7	0.33	ND (0.11)	2.3	0.14	ND (0.11)	0.47	ND (0.12)
Benzo(a)anthracene	7	3.3	3.4	1.4	5.2	ND (0.12)	**11**	0.98	ND (0.11)	6	0.32	ND (0.11)	1.7	ND (0.12)
Benzo(a)pyrene	2	**3.1**	**3.1**	1.3	**4.8**	ND (0.16)	**9**	0.96	ND (0.15)	**5.2**	0.29	ND (0.14)	1.8	ND (0.16)
Benzo(b)fluoranthene	7	4.1	3.8	1.7	6.2	ND (0.12)	**12**	1.1	ND (0.11)	6.8	0.36	ND (0.11)	2.6	ND (0.12)
Benzo(g,h,i)perylene	1000	1.8	1.7	0.81	3.2	ND (0.16)	5.6	0.59	ND (0.15)	3	0.17	ND (0.14)	1	ND (0.16)
Benzo(k)fluoranthene	70	1.2	1.3	0.49	2	ND (0.12)	3.3	0.4	ND (0.11)	2	ND (0.12)	ND (0.11)	0.73	ND (0.12)
bis(2-Ethylhexyl)phthalate	90	ND (0.18)	ND (0.2)	ND (0.18)	ND (0.2)	ND (0.2)	0.22	ND (0.2)	ND (0.18)	ND (0.19)	ND (0.21)	ND (0.18)	ND (0.2)	ND (0.2)
Chrysene	70	3.2	3.1	1.3	5	ND (0.12)	11	0.9	ND (0.11)	5.3	0.29	ND (0.11)	1.6	ND (0.12)
Dibenz(a,h)anthracene	0.7	0.47	0.45	0.2	**0.79**	ND (0.12)	**1.3**	0.14	ND (0.11)	**0.77**	ND (0.12)	ND (0.11)	0.27	ND (0.12)
Dibenzofuran	100	0.32	0.41	ND (0.18)	0.61	ND (0.2)	0.47	ND (0.2)	ND (0.18)	0.52	ND (0.21)	ND (0.18)	ND (0.2)	ND (0.2)
Fluoranthene	1000	7	7.3	2.8	11	ND (0.12)	26	2.1	ND (0.11)	12	0.69	ND (0.11)	3.5	ND (0.12)
Fluorene	1000	0.5	0.48	ND (0.18)	1.1	ND (0.2)	0.84	ND (0.2)	ND (0.18)	0.85	ND (0.21)	ND (0.18)	ND (0.2)	ND (0.2)
Indeno(1,2,3-cd)pyrene	7	2.1	2	0.88	3.4	ND (0.16)	6.3	0.64	ND (0.15)	3.5	0.18	ND (0.14)	1.2	ND (0.16)
Naphthalene	4	0.31	0.24	ND (0.18)	0.36	ND (0.2)	0.18	ND (0.2)	ND (0.18)	0.47	ND (0.21)	ND (0.18)	ND (0.2)	ND (0.2)
Phenanthrene	10	5	5.8	1.9	8.3	ND (0.12)	**14**	1.3	ND (0.11)	8.6	0.57	ND (0.11)	2.1	ND (0.12)
Pyrene	1000	6	6	2.4	8.9	ND (0.12)	22	1.7	ND (0.11)	9.9	0.59	ND (0.11)	2.9	ND (0.12)
SUM of Semi-Volatile Organic Compounds	NA	40.23	41.1	15.78	64.19	ND	128.11	11.45	ND	68.55	3.6	ND	20.13	ND
Total Petroleum Hydrocarbons (mg/kg)														
Petroleum hydrocarbons	1000	129	138	300	279	ND (40.4)	321	77.2	ND (36.3)	374	ND (40.7)	80.1	236	ND (38.9)
EPH (mg/kg)														
MADEP C11-C22 Aromatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C11-C22 Aromatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C19-C36 Aliphatic Hydrocarbons	3000	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C18 Aliphatic Hydrocarbons	1000	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganic Compounds (mg/kg)														
Antimony	20	ND (2.19)	17.8	ND (2.15)	10.3	ND (2.39)	ND (2.11)	ND (2.29)	ND (2.19)	ND (2.18)	ND (2.37)	ND (2.17)	2.37	ND (2.35)
Arsenic	20	5.68	11.1	5.31	8.5	3.42	6.43	14.4	3.65	8.63	10.8	2.33	8.97	3.33
Barium	1000	137	436	122	203	35.6	189	254	20.9	204	272	9.78	239	28.4
Beryllium	90	0.574	0.388	0.486	1.16	0.407	0.659	0.518	0.284	0.485	1.04	ND (0.217)	0.402	0.353
Cadmium	70	1.3	1.41	1.15	3.42	0.479	2.07	1.19	ND (0.438)	1.83	3.46	ND (0.433)	1.23	0.499
Chromium	100	24.7	33.9	23.7	38.2	18.2	31.2	18.3	12.2	21.9	50.8	4.96	13	16.5
Lead	200	**299**	**985**	**284**	**735**	15.6	**268**	**3320**	7.91	**1330**	**607**	10	**649**	8.09
Mercury	20	0.895	7.73	0.655	1.56	ND (0.077)	0.394	0.503	ND (0.074)	1.44	1.45	ND (0.069)	0.333	ND (0.078)
Nickel	600	18	13.2	17	58.2	13.8	22.8	17.1	9.43	17.2	31.2	4.02	15.5	14.2
Selenium	400	ND (2.19)	ND (2.34)	ND (2.15)	ND (2.33)	ND (2.39)	ND (2.11)	ND (2.29)	ND (2.19)	ND (2.18)	ND (2.37)	ND (2.17)	ND (2.36)	ND (2.35)
Silver	100	ND (0.438)	ND (0.467)	ND (0.43)	ND (0.465)	ND (0.479)	ND (0.422)	ND (0.459)	ND (0.438)	ND (0.437)	0.569	ND (0.433)	ND (0.473)	ND (0.471)
Thallium	8	ND (2.19)	ND (2.34)	ND (2.15)	ND (2.33)	ND (2.39)	ND (2.11)	ND (2.29)	ND (2.19)	ND (2.18)	ND (2.37)	ND (2.17)	ND (2.36)	ND (2.35)
Vanadium	400	29.9	19.2	25.3	26.8	27.4	36.6	24.6	17.2	25.5	32.8	8	20.9	28.4
Zinc	1000	257	398	175	456	42.3	279	486	28.6	504	352	15.4	293	36.7
TCLP Inorganic Compounds (mg/L)														
Lead	NA	0.927	3.71	0.912	1.8	ND (0.5)	1.17	**8.02**	ND (0.5)	4.26	1.62	ND (0.5)	2.05	ND (0.5)

TABLE I
SUMMARY OF SOIL QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

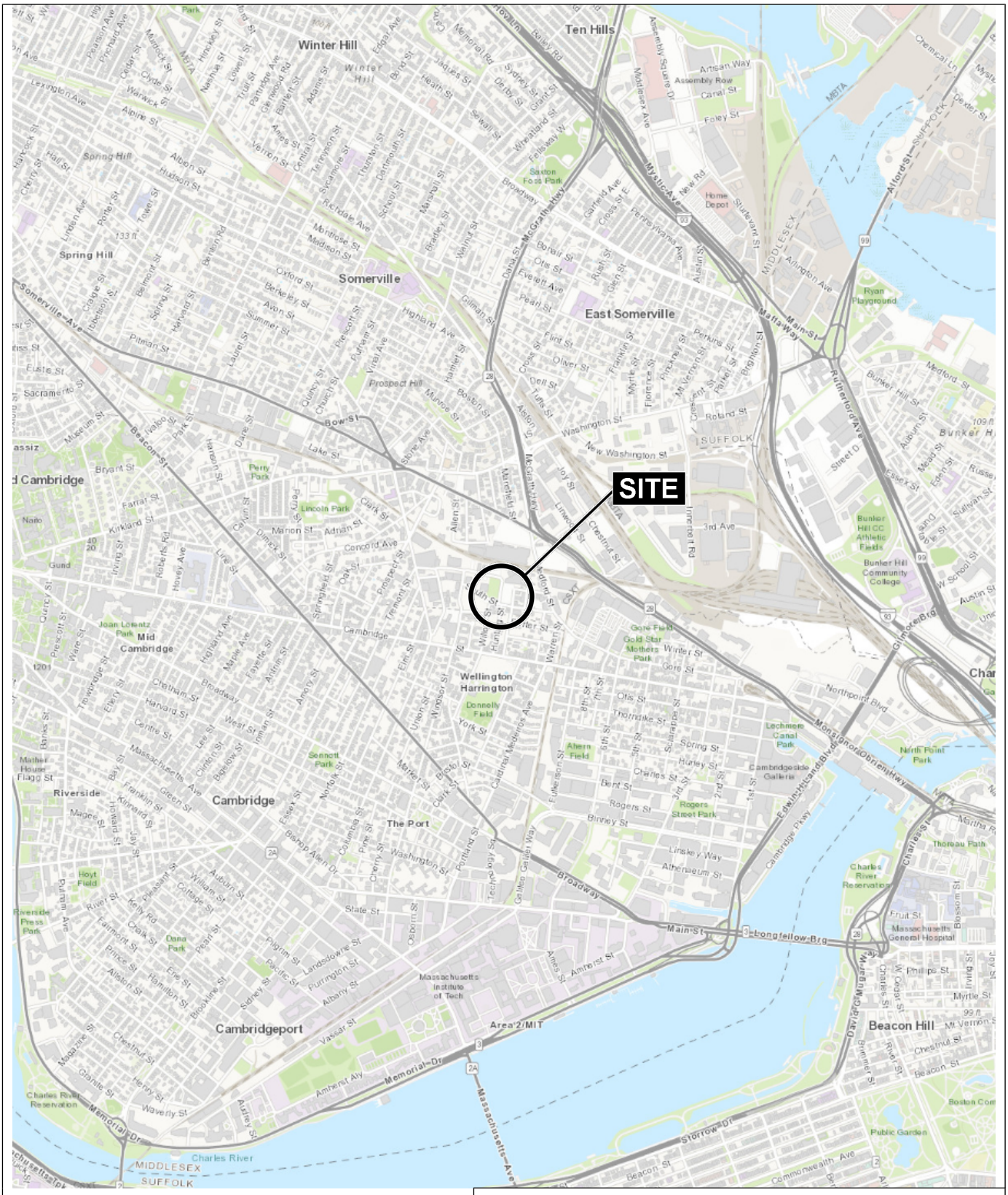
Parcel	Regulatory Criteria	Lot 5												
Precharacterization Grid		F1		F2			F3			G1		G3		
Location Name		F1	F1	F2	F2	F2	F3	F3	F3	G1	G1	G3	G3	G3
Sample Name		F1_0-3	F1_3-7	F2_0-3	F2_3-8	F2_8-13.5	F3_0-3.5	F3_3.5-8	F3_8-12.8	G1_0-3	G1_3-11	G3_0-2	G3_2-6	G3_6-12
Sample Date	MCP Reportable Concentrations RCS-1 2014	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/08/2017	08/11/2017	08/11/2017	08/11/2017
Lab Sample ID		L1727453-07	L1727453-08	L1727453-05	L1727453-06	L1727453-11	L1727453-03	L1727453-04	L1727453-12	L1727453-09	L1727453-10	L1728211-01	L1728211-02	L1728211-03
Sample Depth (bgs)		0 - 3 (ft)	3 - 7 (ft)	0 - 3 (ft)	3 - 8 (ft)	8 - 13.5 (ft)	0 - 3.5 (ft)	3.5 - 8 (ft)	8 - 12.8 (ft)	0 - 3 (ft)	3 - 11 (ft)	0 - 2 (ft)	2 - 6 (ft)	6 - 12 (ft)
Soil Description		FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
Soil Disposal Classification		II-1	II-1	II-1	III-2/II-5	I-3	II-3	II-5, TCLP FAIL	I-3	III-2/II-5	II-1	II-1	II-2	I-3
PCBs (mg/kg)														
Aroclor-1242 (PCB-1242)	1	ND (0.0363)	ND (0.0393)	ND (0.0348)	ND (0.0381)	ND (0.0404)	ND (0.0357)	ND (0.0387)	ND (0.0362)	ND (0.0372)	ND (0.0396)	ND (0.0367)	ND (0.0384)	ND (0.0379)
Aroclor-1248 (PCB-1248)	1	ND (0.0363)	ND (0.0393)	ND (0.0348)	ND (0.0381)	ND (0.0404)	ND (0.0357)	ND (0.0387)	ND (0.0362)	ND (0.0372)	ND (0.0396)	ND (0.0367)	ND (0.0384)	ND (0.0379)
Aroclor-1254 (PCB-1254)	1	0.0373	ND (0.0393)	ND (0.0348)	ND (0.0381)	ND (0.0404)	ND (0.0357)	ND (0.0387)	ND (0.0362)	0.0536	ND (0.0396)	ND (0.0367)	ND (0.0384)	ND (0.0379)
Aroclor-1260 (PCB-1260)	1	ND (0.0363)	ND (0.0393)	ND (0.0348)	ND (0.0381)	ND (0.0404)	ND (0.0357)	ND (0.0387)	ND (0.0362)	ND (0.0372)	ND (0.0396)	ND (0.0367)	ND (0.0384)	ND (0.0379)
SUM of PCBs	1	0.0373	ND	ND	ND	ND	ND	ND	ND	0.0536	ND	ND	ND	ND
Other														
Total Solids (%)	NA	89.6	80.8	89.9	84	82.1	90.4	83.8	88.1	88.2	79.4	90.7	82.4	83.8
Reactive Cyanide (mg/kg)	NA	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)	ND (125)
Reactive Sulfide (mg/kg)	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
Ignitability (Flashpoint)	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
pH (lab) (pH units)	NA	7.9	7.5	8.8	8.1	7.3	8.5	7.9	7.3	8.3	7.6	6.7	7.5	7
Conductivity (umhos/cm)	NA	140	120	280	420	140	830	140	65	60	170	26	200	74
VPH (mg/kg)														
MADEP C5-C8 Aliphatic Hydrocarbons, Adjusted	100	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C5-C8 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C10 Aromatic Hydrocarbons	100	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Adjusted	1000	-	-	-	-	-	-	-	-	-	-	-	-	-
MADEP C9-C12 Aliphatic Hydrocarbons, Unadjusted	NA	-	-	-	-	-	-	-	-	-	-	-	-	-

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory detection limit
NI: Not Ignitable
- VOC, SVOC and PCB analytes detected in at least one sample are reported herein. For a complete li
- Bold values indicate an exceedance of the **RCS-1** criteria or RCRA limits for **TCLP**.

TABLE II
SUMMARY OF GROUNDWATER QUALITY DATA
BOYNTON YARDS
SOMERVILLE, MA
FILE NO. 130771-002

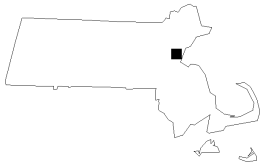
Precharacterization Grid	Regulatory Criteria		A6	E1	E6	Parcel B-2
Location Name	MCP Reportable Concentrations RCGW-2 2014	MWRA Discharge Criteria	A6 (OW)	E1 (OW)	E6	HA17-3 (OW)
Sample Name			A6_2017-0908	E1_2017-0908	E6_2017-0908	HA17-3_2017-0908
Sample Date			09/08/2017	09/08/2017	09/08/2017	09/08/2017
Lab Sample ID			L1731849-02	L1731849-04	L1731849-03	L1731849-01
Volatile Organic Compounds (ug/L)						
SUM of Volatile Organic Compounds	NA	NA	ND	ND	ND	ND
EPH (ug/L)						
MADEP C11-C22 Aromatic Hydrocarbons, Adjusted	5000	1000	ND (100)	ND (178)	ND (100)	ND (100)
MADEP C19-C36 Aliphatic Hydrocarbons	50000	1000	ND (100)	ND (178)	ND (100)	ND (100)
MADEP C9-C18 Aliphatic Hydrocarbons	5000	1000	ND (100)	ND (178)	ND (100)	ND (100)
2-Methylnaphthalene	2000	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Acenaphthene	6000	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Acenaphthylene	40	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Anthracene	30	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Benzo(a)anthracene	1000	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Benzo(a)pyrene	500	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Benzo(b)fluoranthene	400	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Benzo(g,h,i)perylene	20	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Benzo(k)fluoranthene	100	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Chrysene	70	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Dibenz(a,h)anthracene	40	NA	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Fluoranthene	200	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Fluorene	40	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Indeno(1,2,3-cd)pyrene	100	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Naphthalene	700	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Phenanthrene	10000	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Pyrene	20	1000	ND (11.4)	ND (17.8)	ND (11.4)	ND (11.1)
Dissolved Metals (mg/L)						
Antimony	8	10	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Arsenic	0.9	0.5	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Barium	50	NA	0.308	0.182	0.131	0.188
Beryllium	0.2	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cadmium	0.004	0.1	ND (0.004)	ND (0.004)	ND (0.004)	ND (0.004)
Chromium	0.3	1	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Iron	NA	NA	3.5	0.07	2.03	0.339
Lead	0.01	0.2	ND (0.01)	ND (0.01)	**0.021**	ND (0.01)
Mercury	0.02	0.001	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)
Nickel	0.2	1	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)
Selenium	0.1	5	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Silver	0.007	2	ND (0.007)	ND (0.007)	ND (0.007)	ND (0.007)
Thallium	3	NA	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Vanadium	4	NA	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Zinc	0.9	1	ND (0.05)	ND (0.05)	0.081	ND (0.05)

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory detection limit
- Analytes detected in at least one sample are reported herein. For a complete list of analytes see the laboratory data sheets.
- **Bold** values indicate an exceedance of the RCGW-2 Criteria
- **Bold** values indicate an exceedance of the MWRA Discharge Criteria.



MAP SOURCE: ESRI

SITE COORDINATES: 42°22'29"N, 71°5'26"W



HALEY ALDRICH

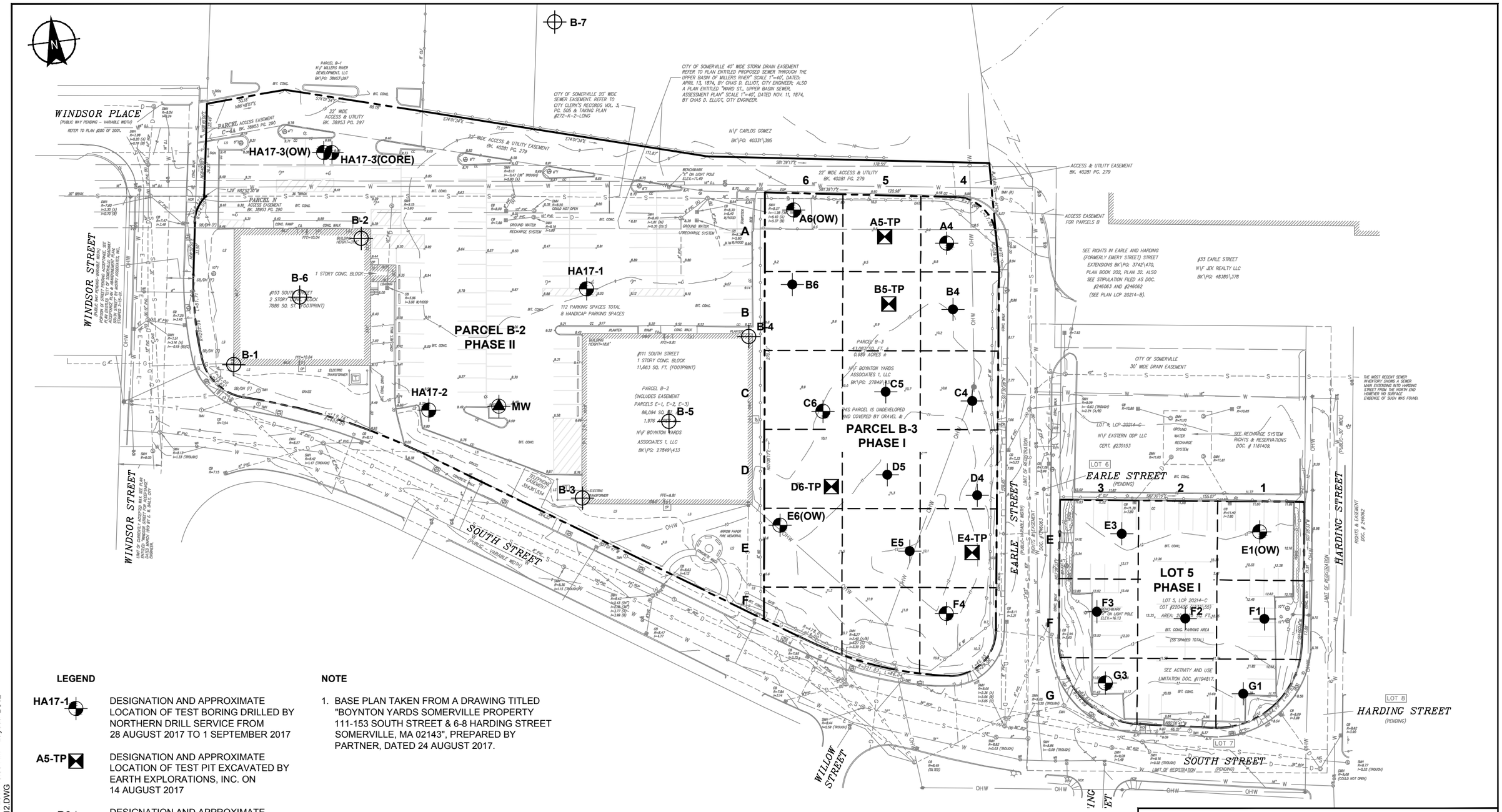
BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
NOVEMBER 2017

FIGURE 1

130771_1_LOCUS.PDF



LEGEND

HA17-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHERN DRILL SERVICE FROM 28 AUGUST 2017 TO 1 SEPTEMBER 2017
A5-TP	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY EARTH EXPLORATIONS, INC. ON 14 AUGUST 2017
B6	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE DRILLED BY NORTHERN DRILL SERVICE ON 8 AND 9 AUGUST 2017
B-1	DESIGNATION AND APPROXIMATE LOCATION OF 1997 GEOTECHNICAL EXPLORATIONS BY MILLER ENGINEERING
MW	DESIGNATION AND APPROXIMATE LOCATION OF EXISTING MONITORING WELL PERFORMED BY OTHERS

NOTE

1. BASE PLAN TAKEN FROM A DRAWING TITLED "BOYNTON YARDS SOMERVILLE PROPERTY 111-153 SOUTH STREET & 6-8 HARDING STREET SOMERVILLE, MA 02143", PREPARED BY PARTNER, DATED 24 AUGUST 2017.

HALEY ALDRICH

BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN
NOVEMBER 2017

FIGURE 2

ERVIN, DAYNA Printed: 10/31/2017 10:50 AM Layout: B012
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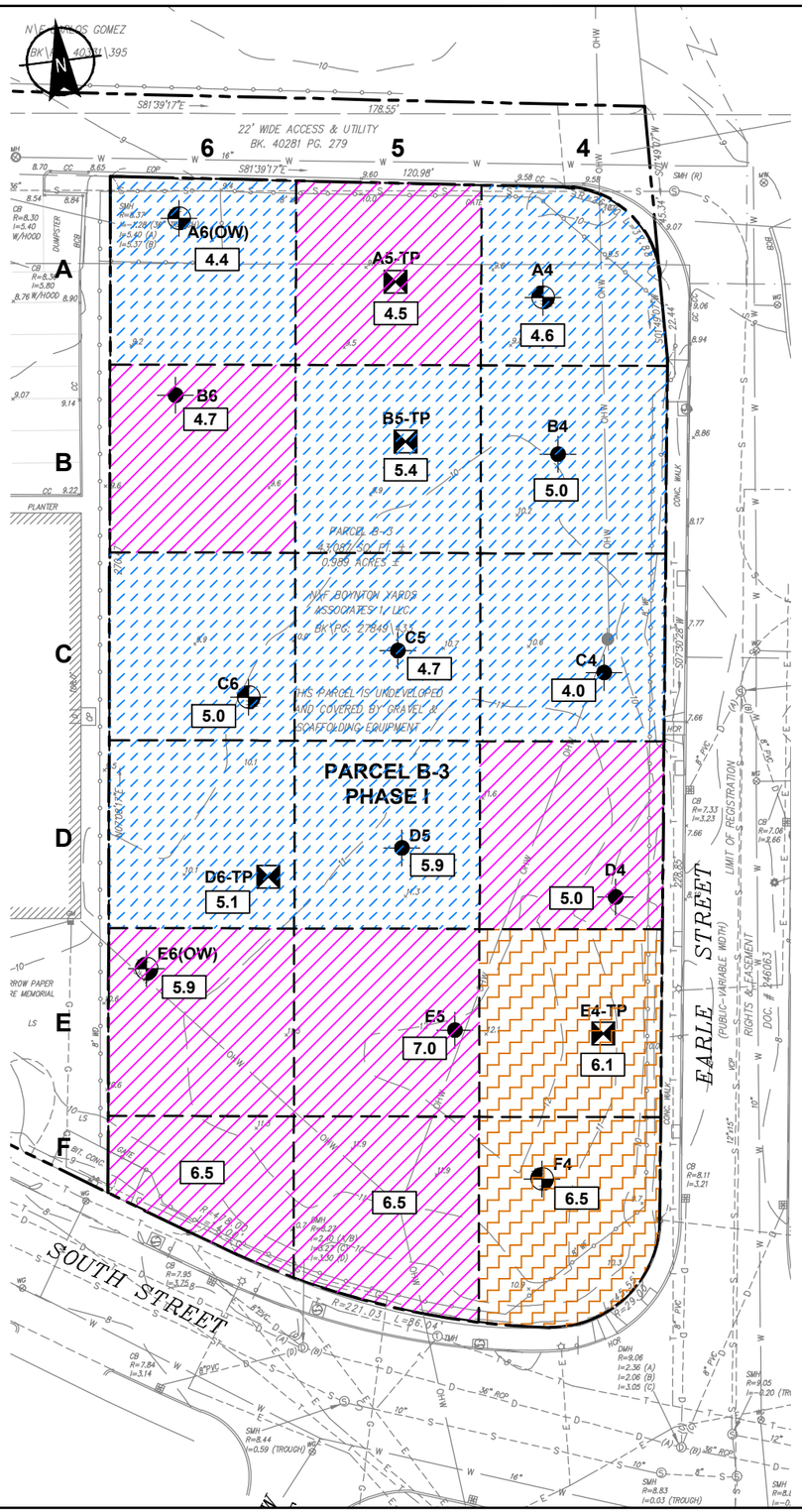

LEGEND

A4	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHERN DRILL SERVICE FROM 28 AUGUST 2017 TO 1 SEPTEMBER 2017
A5-TP	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY EARTH EXPLORATIONS, INC. ON 14 AUGUST 2017
B6	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE DRILLED BY NORTHERN DRILL SERVICE ON 8 AND 9 AUGUST 2017
(OW)	INDICATES OBSERVATION INSTALLED IN COMPLETED BOREHOLE
4.4	ELEVATION OF BOTTOM OF UPPER FILL

KEY

- GROUP I-2 (NATURALLY-DEPOSITED MATERIAL BELOW RCS-1)
- GROUP I-3 (FILL MATERIAL BELOW RCS-1)
- GROUP II-1 (MATERIAL MEETING IN-STATE, UNLINED LANDFILL CRITERIA)
- GROUP II-3 (MATERIAL MEETING SOIL RECYCLING CRITERIA)
- GROUP II-4 (MATERIAL REQUIRING THERMAL TREATMENT OR OUT-OF-STATE RECYCLING)

NOTE

1. BASE PLAN TAKEN FROM A DRAWING TITLED "BOYNTON YARDS SOMERVILLE PROPERTY 111-153 SOUTH STREET & 6-8 HARDING STREET SOMERVILLE, MA 02143", PREPARED BY PARTNER, DATED 24 AUGUST 2017.

0 40 80
SCALE IN FEET

HALEY ALDRICH

BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

PARCEL B3 SOIL PRECHARACTERIZATION PLAN: UPPER FILL (GROUND SURFACE TO ELEVATION SHOWN)

SCALE: AS SHOWN
NOVEMBER 2017

FIGURE 3

ERVIN, DAYNA Printed: 10/31/2017 10:39 AM Layout: B006
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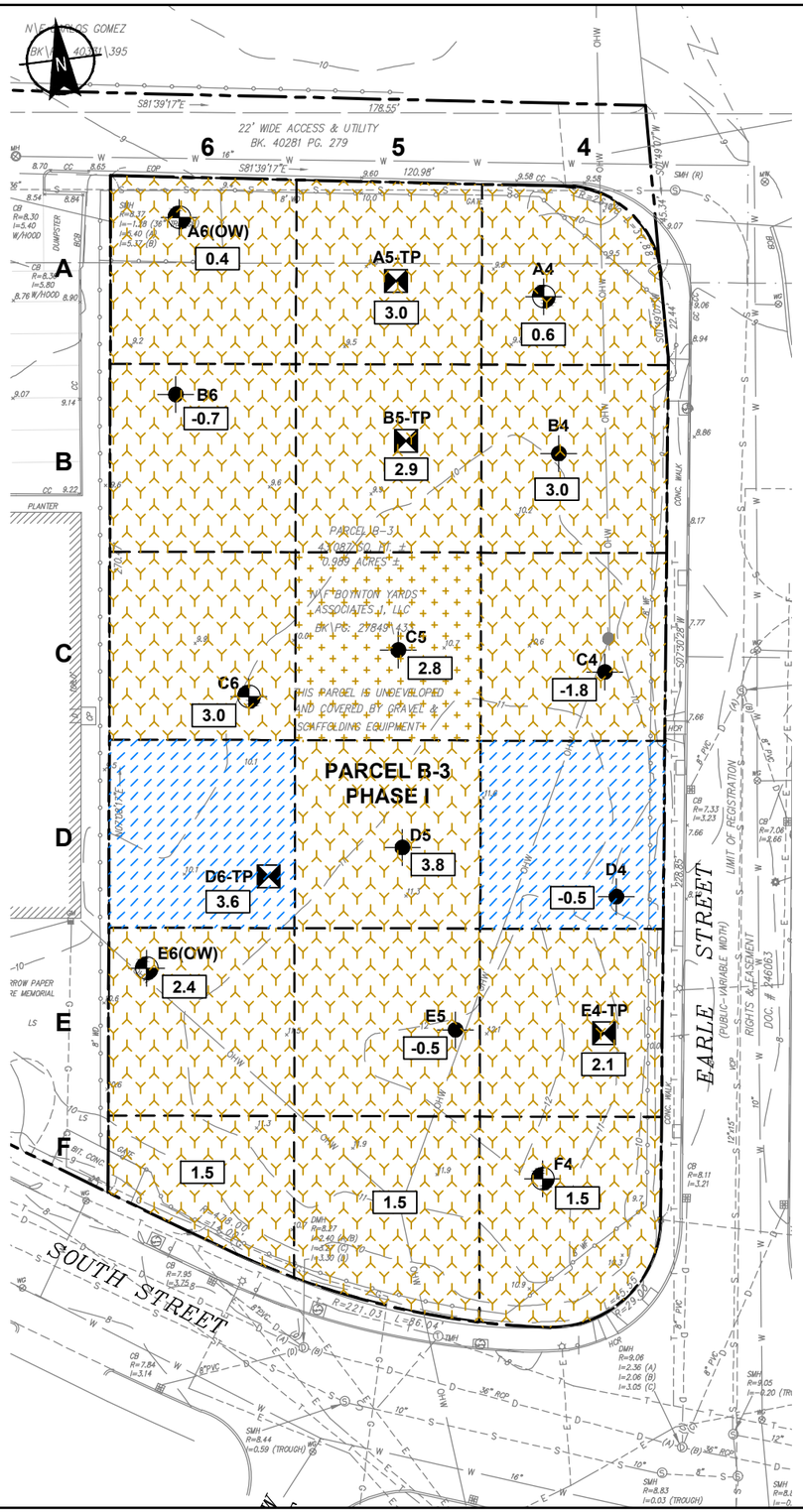

LEGEND

A4 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHERN DRILL SERVICE FROM 28 AUGUST 2017 TO 1 SEPTEMBER 2017

A5-TP — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY EARTH EXPLORATIONS, INC. ON 14 AUGUST 2017

B6 — DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE DRILLED BY NORTHERN DRILL SERVICE ON 8 AND 9 AUGUST 2017

(OW) — INDICATES OBSERVATION INSTALLED IN COMPLETED BOREHOLE

2.9 — ELEVATION OF TOP OF NATURAL

KEY

GROUP I-2 (NATURALLY-DEPOSITED MATERIAL BELOW RCS-1)

GROUP I-3 (FILL MATERIAL BELOW RCS-1)

GROUP II-1 (MATERIAL MEETING IN-STATE, UNLINED LANDFILL CRITERIA)

GROUP II-3 (MATERIAL MEETING SOIL RECYCLING CRITERIA)

GROUP II-4 (MATERIAL REQUIRING THERMAL TREATMENT OR OUT-OF-STATE RECYCLING)

NOTE

1. BASE PLAN TAKEN FROM A DRAWING TITLED "BOYNTON YARDS SOMERVILLE PROPERTY 111-153 SOUTH STREET & 6-8 HARDING STREET SOMERVILLE, MA 02143", PREPARED BY PARTNER, DATED 24 AUGUST 2017.

0 40 80
SCALE IN FEET

HALEY ALDRICH

BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

PARCEL B3 SOIL PRECHARACTERIZATION PLAN: LOWER FILL (UPPER FILL TO TOP OF NATURAL)

SCALE: AS SHOWN
NOVEMBER 2017

FIGURE 4

ERVIN, DAYNA Printed: 10/31/2017 10:39 AM Layout: B007
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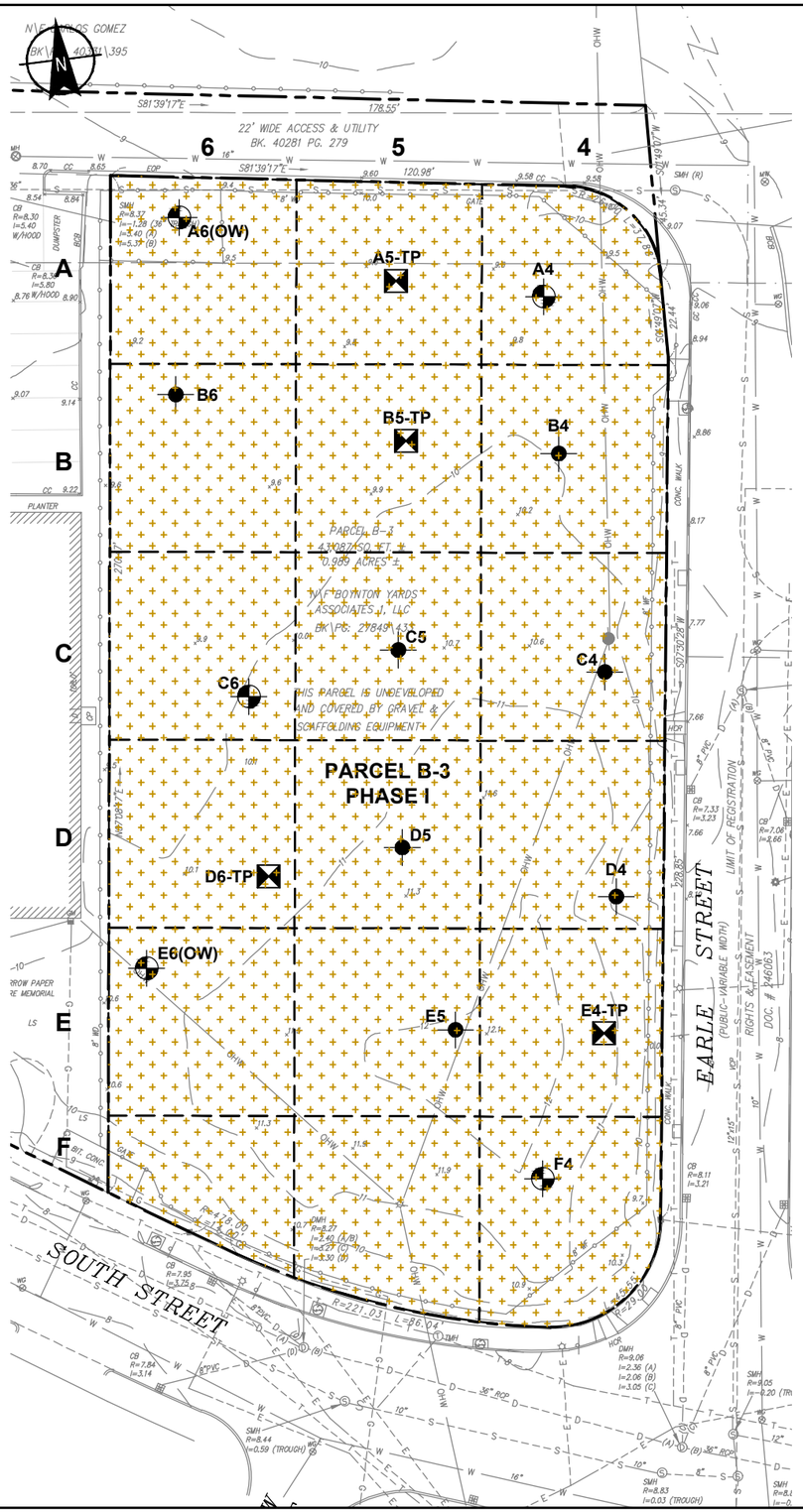

LEGEND

A4	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHERN DRILL SERVICE FROM 28 AUGUST 2017 TO 1 SEPTEMBER 2017
A5-TP	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY EARTH EXPLORATIONS, INC. ON 14 AUGUST 2017
B6	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE DRILLED BY NORTHERN DRILL SERVICE ON 8 AND 9 AUGUST 2017
(OW)	INDICATES OBSERVATION INSTALLED IN COMPLETED BOREHOLE

KEY

- GROUP I-2 (NATURALLY-DEPOSITED MATERIAL BELOW RCS-1)
- GROUP I-3 (FILL MATERIAL BELOW RCS-1)
- GROUP II-1 (MATERIAL MEETING IN-STATE, UNLINED LANDFILL CRITERIA)
- GROUP II-3 (MATERIAL MEETING SOIL RECYCLING CRITERIA)
- GROUP II-4 (MATERIAL REQUIRING THERMAL TREATMENT OR OUT-OF-STATE RECYCLING)

NOTE

1. BASE PLAN TAKEN FROM A DRAWING TITLED "BOYNTON YARDS SOMERVILLE PROPERTY 111-153 SOUTH STREET & 6-8 HARDING STREET SOMERVILLE, MA 02143", PREPARED BY PARTNER, DATED 24 AUGUST 2017.

0 40 80
SCALE IN FEET

HALEY ALDRICH

BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

PARCEL B3 SOIL PRECHARACTERIZATION PLAN: NATURAL (TOP OF NATURAL TO BOTTOM OF EXCAVATION)

SCALE: AS SHOWN
NOVEMBER 2017

FIGURE 5

ERVIN, DAYNA Printed: 10/31/2017 10:39 AM Layout: B008
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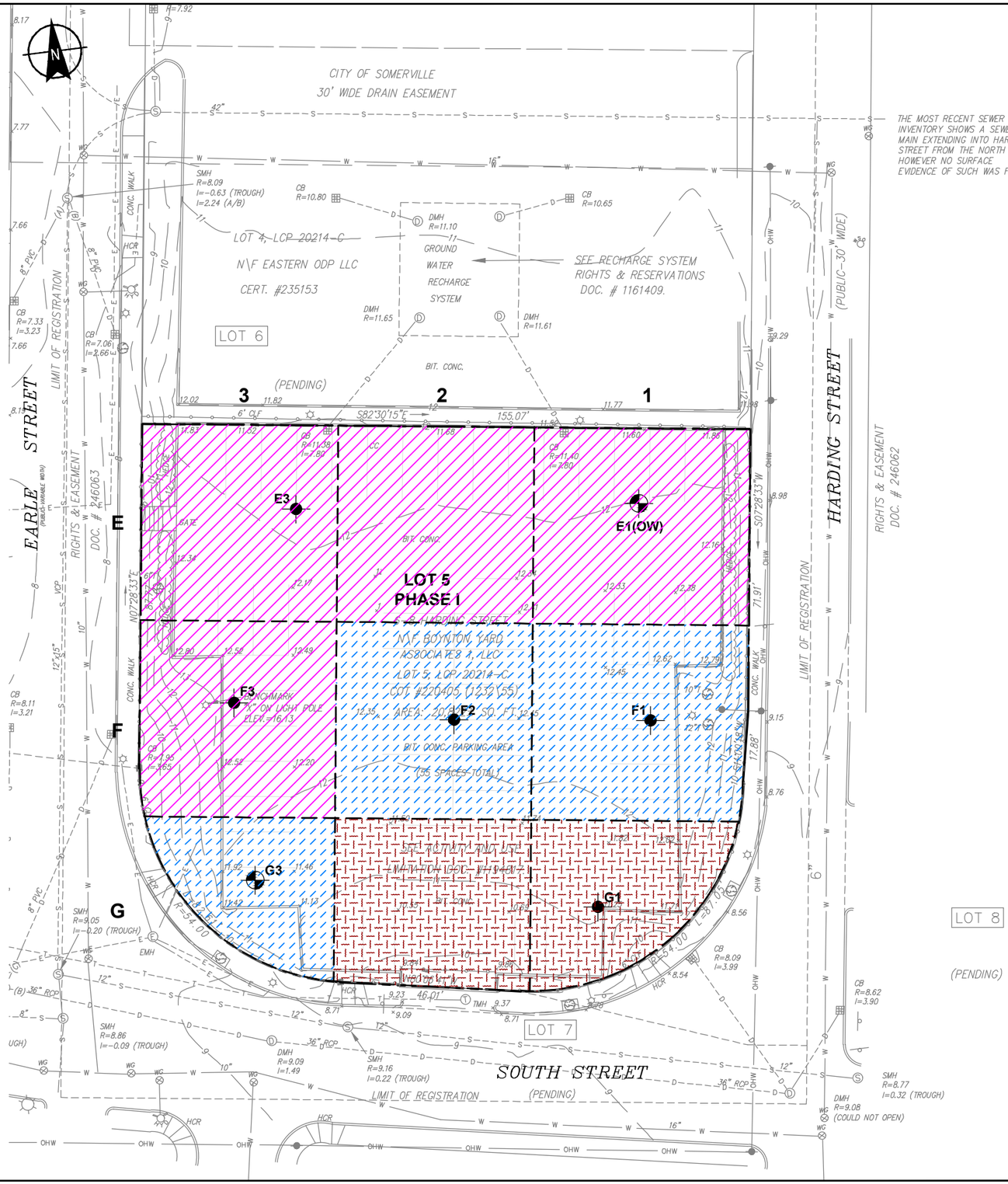

LEGEND

G3	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHERN DRILL SERVICE FROM 28 AUGUST 2017 TO 1 SEPTEMBER 2017
E3	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE DRILLED BY NORTHERN DRILL SERVICE ON 8 AND 9 AUGUST 2017
(OW)	INDICATES OBSERVATION INSTALLED IN COMPLETED BOREHOLE

KEY

- GROUP I-2 (NATURALLY-DEPOSITED MATERIAL BELOW RCS-1)
- GROUP I-3 (FILL MATERIAL BELOW RCS-1)
- GROUP II-1 (MATERIAL MEETING IN-STATE, UNLINED LANDFILL CRITERIA)
- GROUP II-2 (MATERIAL MEETING IN-STATE, LINED LANDFILL CRITERIA)
- GROUP II-3 (MATERIAL MEETING SOIL RECYCLING CRITERIA)
- GROUP II-4 (MATERIAL REQUIRING THERMAL TREATMENT OR OUT-OF-STATE RECYCLING)
- GROUP III-2/II-5 (HAZARDOUS WASTE WHICH IS CAPABLE OF BEING TREATED ON SITE)

NOTE

1. BASE PLAN TAKEN FROM A DRAWING TITLED "BOYNTON YARDS SOMERVILLE PROPERTY 111-153 SOUTH STREET & 6-8 HARDING STREET SOMERVILLE, MA 02143", PREPARED BY PARTNER, DATED 24 AUGUST 2017.

0 30 60
SCALE IN FEET

HALEY ALDRICH

BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

LOT 5
SOIL PRECHARACTERIZATION PLAN: URAM FILL (GROUND SURFACE TO EL.9.5)

SCALE: AS SHOWN
NOVEMBER 2017

FIGURE 6

ERVIN, DAYNA Printed: 10/31/2017 10:42 AM Layout: B009
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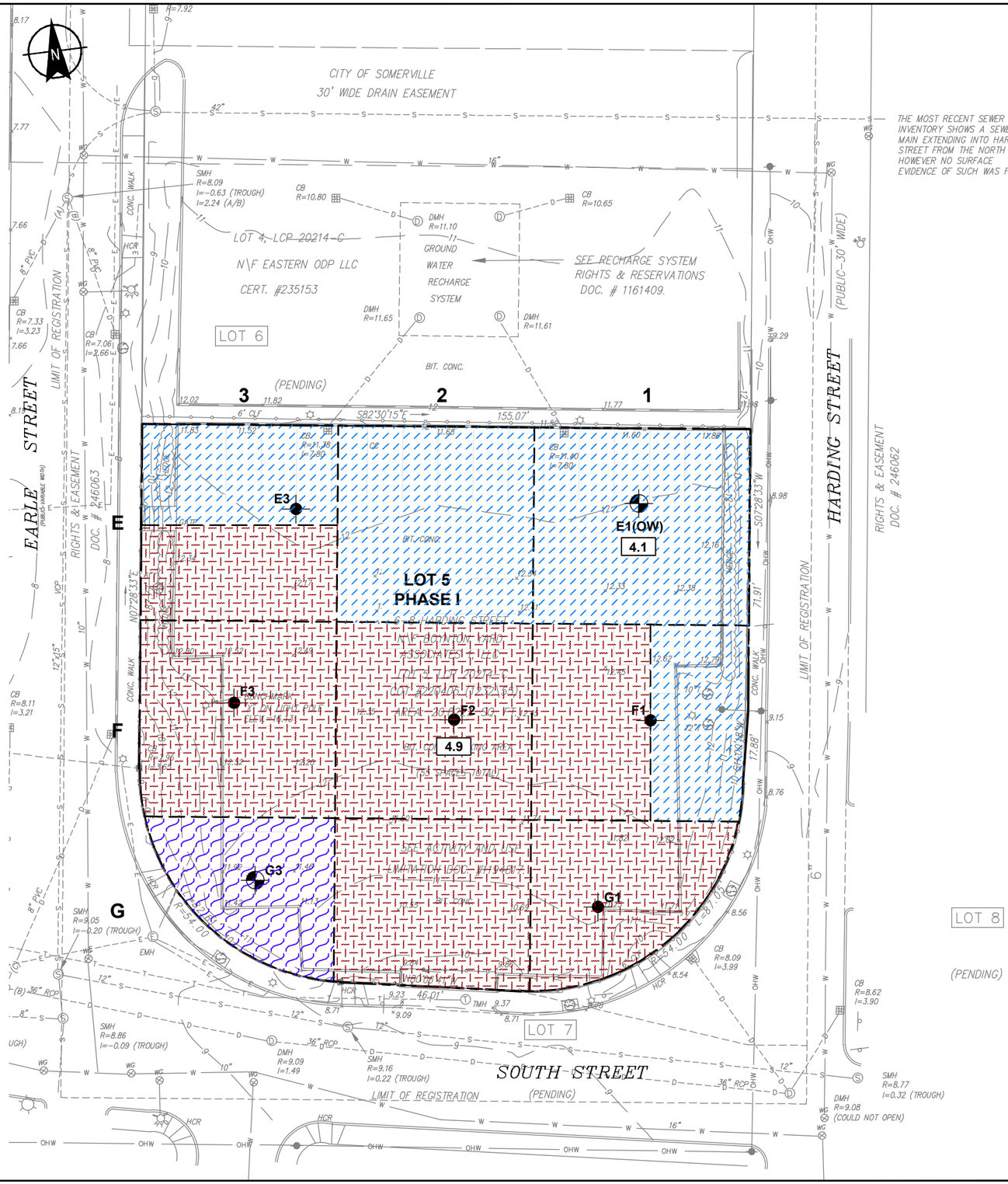

LEGEND

G3	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHERN DRILL SERVICE FROM 28 AUGUST 2017 TO 1 SEPTEMBER 2017
E3	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE DRILLED BY NORTHERN DRILL SERVICE ON 8 AND 9 AUGUST 2017
(OW)	INDICATES OBSERVATION INSTALLED IN COMPLETED BOREHOLE
4.1	EXCAVATED TO ELEVATION SHOWN

KEY

- GROUP I-2 (NATURALLY-DEPOSITED MATERIAL BELOW RCS-1)
- GROUP I-3 (FILL MATERIAL BELOW RCS-1)
- GROUP II-1 (MATERIAL MEETING IN-STATE, UNLINED LANDFILL CRITERIA)
- GROUP II-2 (MATERIAL MEETING IN-STATE, LINED LANDFILL CRITERIA)
- GROUP II-3 (MATERIAL MEETING SOIL RECYCLING CRITERIA)
- GROUP II-4 (MATERIAL REQUIRING THERMAL TREATMENT OR OUT-OF-STATE RECYCLING)
- GROUP III-2/II-5 (HAZARDOUS WASTE WHICH IS CAPABLE OF BEING TREATED ON SITE)

NOTE

1. BASE PLAN TAKEN FROM A DRAWING TITLED "BOYNTON YARDS SOMERVILLE PROPERTY 111-153 SOUTH STREET & 6-8 HARDING STREET SOMERVILLE, MA 02143", PREPARED BY PARTNER, DATED 24 AUGUST 2017.

0 30 60
SCALE IN FEET

HALEY ALDRICH

BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

LOT 5
SOIL PRECHARACTERIZATION PLAN: FILL (EL. 9.5 TO EL 5.5, OR ELEVATION SHOWN)

SCALE: AS SHOWN
NOVEMBER 2017

FIGURE 7

ERVIN, DAYNA Printed: 10/31/2017 10:42 AM Layout: B010
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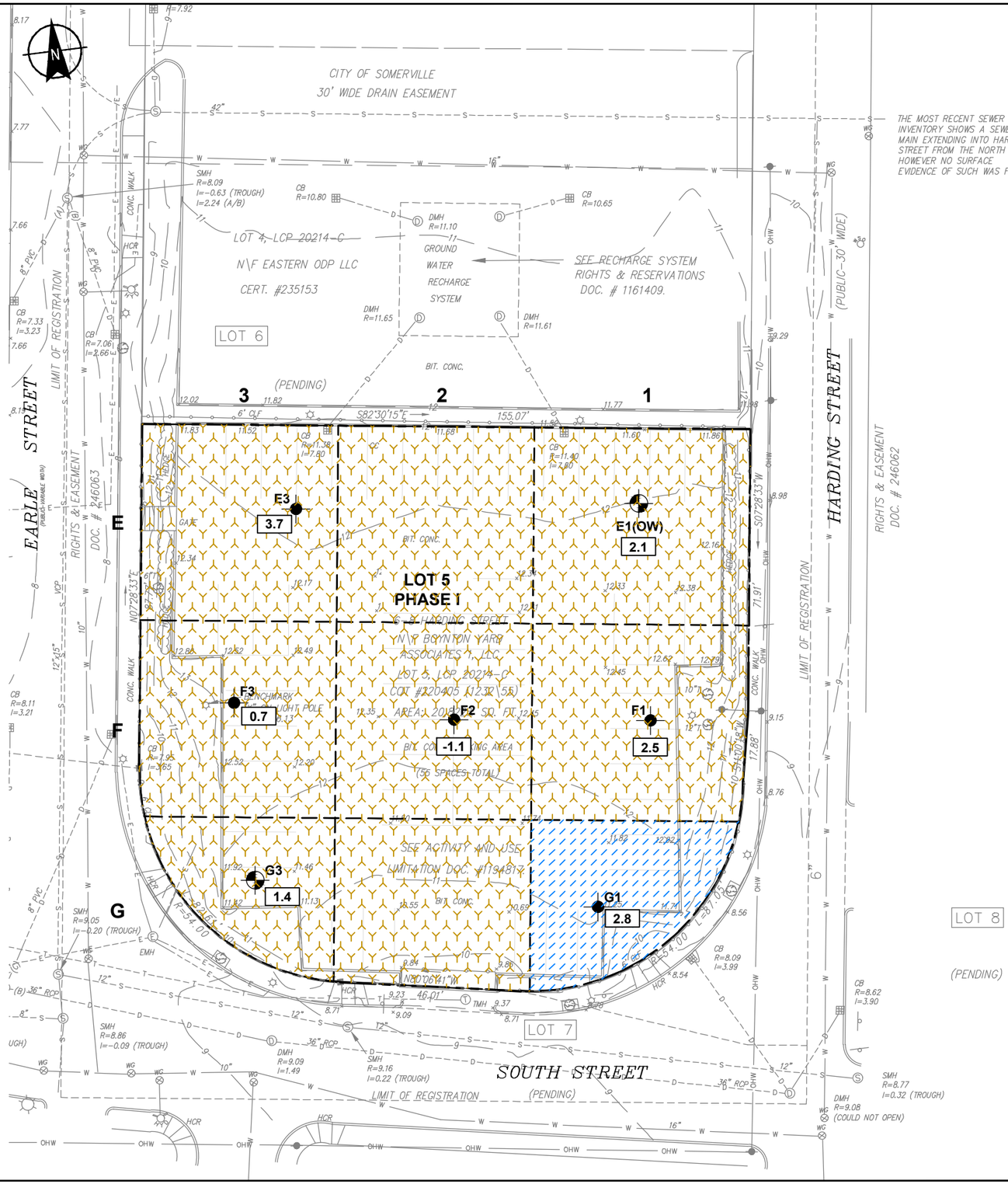

LEGEND

G3	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHERN DRILL SERVICE FROM 28 AUGUST 2017 TO 1 SEPTEMBER 2017
E3	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE DRILLED BY NORTHERN DRILL SERVICE ON 8 AND 9 AUGUST 2017
(OW)	INDICATES OBSERVATION INSTALLED IN COMPLETED BOREHOLE
2.1	ELEVATION OF TOP OF NATURAL

KEY

- GROUP I-2 (NATURALLY-DEPOSITED MATERIAL BELOW RCS-1)
- GROUP I-3 (FILL MATERIAL BELOW RCS-1)
- GROUP II-1 (MATERIAL MEETING IN-STATE, UNLINED LANDFILL CRITERIA)
- GROUP II-2 (MATERIAL MEETING IN-STATE, LINED LANDFILL CRITERIA)
- GROUP II-3 (MATERIAL MEETING SOIL RECYCLING CRITERIA)
- GROUP II-4 (MATERIAL REQUIRING THERMAL TREATMENT OR OUT-OF-STATE RECYCLING)
- GROUP III-2/II-5 (HAZARDOUS WASTE WHICH IS CAPABLE OF BEING TREATED ON SITE)

NOTE

1. BASE PLAN TAKEN FROM A DRAWING TITLED "BOYNTON YARDS SOMERVILLE PROPERTY 111-153 SOUTH STREET & 6-8 HARDING STREET SOMERVILLE, MA 02143", PREPARED BY PARTNER, DATED 24 AUGUST 2017.

0 30 60
SCALE IN FEET

HALEY ALDRICH

BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS

LOT 5
SOIL PRECHARACTERIZATION PLAN: COHESIVE FILL (EL.5.5 TO TOP OF NATURAL)

SCALE: AS SHOWN
NOVEMBER 2017

FIGURE 8

ERVIN, DAYNA Printed: 10/31/2017 10:42 AM Layout: B011
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APPENDIX A

Exploration Reports

TEST BORING REPORT

Boring No. A4

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 18 August 2017
Finish 18 August 2017
Driller John Beirholm
H&A Rep. S. Shay
Elevation 9.6 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 10.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	9 6 8 7	S1 24	0.0 2.5		SP-SM		Medium dense brown to black poorly graded SAND with silt and gravel (SP-SM), mps 3.0 cm, no structure except coarse gravel confined to two distinct 1.0 in. layers, no odor, dry, trace cinders, brick	10	10	20	20	30	10				
	8 9 8 11	S2 20	2.5 5.0		SM	7.1 2.5	Medium dense dark brown to black silty SAND (SM), mps 1.5 cm, no structure, no odor, dry, 5% cinders, trace ash		10	15	15	35	25				
							-FILL-										
5	8 6 11 4	S3 9	5.0 7.5		SP	4.6 5.0	Medium dense brown poorly graded SAND with gravel (SP), mps 3.0 cm, no structure, no odor, wet (probably from drilling)	10	15	35	20	15	5				
	2 1 3 6	S4 9	7.5 10.0		SP		S4 top 9.0 in.: Similar to above Note: 3.0 in. diameter spoon used from 5.0 to 10.0 ft for sample retrieval.	10	15	35	20	15	5				
					OL/ OH	0.6 9.0	From 3.0 in. spoon stiff olive gray ORGANIC SOIL (OL/OH) with peat, mps 1.0 mm, no structure, no odor, moist					10	90				
10	3 5 6 7	S5 24	10.0 12.5	0.9	CL	-0.4 10.0	-ORGANIC DEPOSITS- Stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist PP 2.5 tsf						100				
	6 6 7 8	S6 14	12.5 15.0	1.3	CL		Stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist PP 2.5 tsf						100	L	H	M	V
15							-MARINE DEPOSITS-										
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/18/17	1200	10.0	10.0	55.7	10.8

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 55.7
Rock Cored (ft) -
Samples S14

Boring No. A4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. A4
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	2 2 3 4	S7 24	20.0 22.0	0.8	CL		Medium stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, wet PP 1.5 tsf						100	N	H	H	V
	4 3 2 2	S8 10	22.0 24.0	0.3	CL		Medium stiff olive gray lean CLAY (CL), mps 2.8 cm as single coarse gravel piece, no odor, wet PP 1.2 tsf	5					95	N	M	H	V
25							-MARINE DEPOSITS-										
	2 2 2 3	S9 24	29.0 31.0	0.3	CL		Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 1.0 tsf						100	N	M	H	V
30																	
	1 1 1 3	S10 24	34.0 36.0	0.1	CL		Very soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP <0.5 tsf						100	N	L	H	V
35																	
	1 1 2 2	S11 24	39.0 41.0	0.1	CL		Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 0.8 tsf						100	N	L	H	V
40																	
	1 1/12 1	S12 24	44.0 46.0	0.2	CL		Similar to above, except very soft PP 0.5 tsf						100	N	L	H	V
45						-37.4 47.0	Note: Change in drilling effort at 47.0 ft.										
	6	S13	49.0	0.2	CL		Stiff olive gray sandy lean CLAY (CL), mps 2.2 cm, no structure, no		5	10	15	10	60				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. A4
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	8 5 9	12	51.0				odor, wet										
							-MARINE DEPOSITS-										
						-42.9	TOP OF WEATHERED BEDROCK 52.5 FT										
						52.5	-WEATHERED BEDROCK-										
55	21 22 17 100/2	S14 12	54.0 55.7	0.0			Dense light gray completely weathered rock, difficult to discern rock fabric										
						-46.1 55.7	BOTTOM OF EXPLORATION 55.7 FT Note: Split spoon refusal at 55.7 ft.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. A4

HALEY ALDRICH

TEST BORING REPORT

Boring No. A6 (OW)

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 14 August 2017
Finish 16 August 2017
Driller John Beirholm
H&A Rep. S. Shay
Elevation 9.4 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW NW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4 - 3	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 20.0 ft NW to 52.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	6 13 19 24	S1 24	0.0 2.5		SM			Dense brown to gray brown and dark brown silty SAND (SM), mps 3.0 cm as trace coarse gravel, layers up to 4.0 in. thick, no odor, dry, trace brick		10	20	20	30	20				
	9 13 13 10	S2 24	2.5 5.0		SM			Similar to above, except medium dense layers 4.0 to 6.0 in. thick	5	5	15	20	20	35				
								-FILL-										
5	6 3 2 2	S3 10	5.0 7.0		SC		4.4 5.0	Loose yellow brown clayey SAND with gravel (SC), mps 2.0 cm, no structure, no odor, moist, disturbed	5	10	10	10	25	40				
								-COHESIVE FILL-										
	2 2 1 1	S4 8	7.0 9.0		SC			Similar to S3 above Note: Used 3.0 in. diameter spoon 5.0 to 9.0 ft to recover sample volume. Color change at bottom of sample.	5	10	10	10	25	40				
							0.4 9.0											
10	2 2 3 2	S5 18	10.0 12.5		OL/ OH			Medium stiff gray ORGANIC SOIL (OL/OH), mps 1.0 mm, no structure, no odor, wet, 20% peat fibers throughout sample					5	95	N	L	M	
								-ORGANIC DEPOSITS-										
	2 1 1 1	S6 12	12.5 15.0		OL/ OH			Similar to S5 above, except very soft						100				
15	5 4 2 3	S7 24	15.0 17.5		SP		-5.6 15.0	Loose gray poorly graded SAND (SP), mps 4.0 mm, weakly stratified, slight organic odor, wet, trace shells, trace peat fibers										
								-ESTUARINE DEPOSITS-										
							-7.6 17.0											
	4 4 6 7	S8 24	17.5 20.0		CL			Stiff yellow brown lean CLAY (CL), mps < 0.1 mm, blocky, no odor, wet						100	N	M	H	V
20								-MARINE DEPOSITS-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/16/17	0650	16.0	NW 52	64.6	14.0

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft) 69.2
Rock Cored (ft) -
Samples S19

Boring No. A6 (OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. A6 (OW)
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	3 3 4 5	S9 2	20.0 22.0		CL			Medium stiff olive brown lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet, poor recovery						100				
								-MARINE DEPOSITS-										
25	2 1 2 1	S10 24	24.0 26.0		CL			Soft olive gray lean CLAY (CL), mps 3.0 cm as single coarse gravel piece, no structure, no odor, wet	5					95	N	L	H	V
30	1 1 1 1	S11 24	29.0 31.0		CL			Very soft gray olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	L	H	V
35	1 1 1 1	S12 24	34.0 36.0		CL			Very soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	L	H	V
40	1 1 1 1	S13 24	39.0 41.0		CL			Similar to above						100	N	L	H	V
45	1 6 10 11	S14 24	44.0 46.0		CL SC		-35.6 45.0	S14 top 12.0 in: Similar to above S14 bottom 12.0 in: Medium dense olive Orange clayey SAND with gravel (SC), mps 2.5	10	15	10	15	5 15	95 35	N	L	H	V
								Note: Well defined stratum break within sample.										
								-GLACIOMARINE DEPOSITS-										
	13	S15	49.0		SC			Dense olive gray clayey SAND with gravel (SC), mps 3.0 cm,	10	15	10	15	15	35				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. A6 (OW)

H&A-TEST BORING WITH PERM PID COLUMN HA-LIB09-BOS.GLB HA-TB+CORE+WELL-09 W FENCE.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 9 Nov 17

HALEY ALDRICH

TEST BORING REPORT

Boring No. A6 (OW)
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	22 11 8	18	51.0					no structure, no odor, wet										
								-GLACIOMARINE DEPOSITS-										
							-42.6	TOP OF WEATHERED BEDROCK 52.0 FT										
							52.0	Note: Abrupt change in drilling effort and effort to drive casing at 52.0 ft.										
	100/5	S16	54.0 54.4					Very dense light gray highly weathered rock, rock fabric present										
55								-WEATHERED BEDROCK-										
	100/5	S17 5	59.0 59.4					Very dense light gray highly weathered rock, rock fabric present										
60																		
	92 100/1	S18 7	64.0 64.6					Very dense light gray completely weathered rock, rock fabric, present, bedding apparent										
65																		
	100/2	S19 2	69.0 69.2				-59.8 69.2	Very dense gray highly weathered rock										
								BOTTOM OF EXPLORATION 69.2 FT										
								Note: Split spoon refusal at 69.2 ft.										
								Note: PID readings not recorded due to instrument malfunction.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. A6 (OW)

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

HALEY ALDRICH

Well No. A6 (OW)

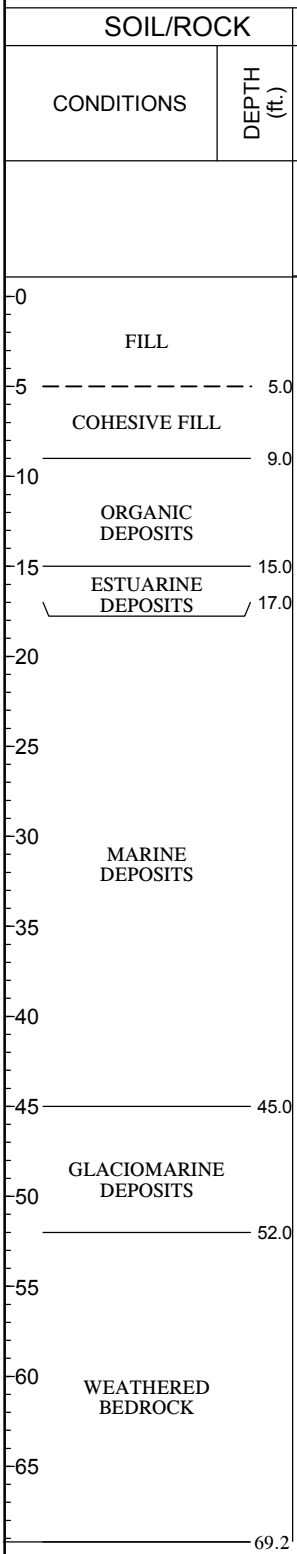
Project BOYNTON YARDS
Location SOMERVILLE, MA
Client DLJ REAL ESTATE CAPITAL PARTNERS
Contractor NORTHERN DRILL SERVICE, INC.
Driller John Beirholm

Initial Water Level (depth bgs) 14.0 ft

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

File No. 130771-002
Date Installed 16 Aug 2017
H&A Rep. S. Shay
Location See Plan

Ground El. 9.4 (est.)
Datum NAVD 88



WELL CONSTRUCTION DETAILS

Type of protective cover: Compression - pent. bolt

Depth of Roadway Box below ground surface: 0.0 ft

Depth of top of riser below ground surface: 0.2 ft

Type of protective casing: Roadway Box

Length: 0.9 ft

Inside diameter: 4.0 in.

Depth of bottom of Roadway Box: 0.9 ft

Type of riser pipe: Schedule 40 PVC

Inside diameter of riser pipe: 2.0 in.

Depth of bottom of riser pipe: 7.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.0	0.5
Bentonite	3.0	2.0
	-	-

Diameter of borehole: 4.5 in.

Depth to top of well screen: 7.0 ft

Type of screen: Machine slotted Sch 40 PVC

Screen gauge or size of openings: 0.010 in.

Diameter of screen: 2.0 in.

Type of Backfill around Screen: #1 Filter sand

Depth to bottom of well screen: 17 ft

Bottom of silt trap: Not used

Depth of bottom of borehole: 69.2 ft

COMMENTS:

HALEY ALDRICH

TEST BORING REPORT

Boring No. C6

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

	Casing	Sampler	Barrel
Type	HW	S	--
Inside Diameter (in.)	4	1 3/8	--
Hammer Weight (lb)	140	140	-
Hammer Fall (in.)	30	30	-

Drilling Equipment and Procedures:
Rig Make & Model: Mobile Drill B57 Truck
Bit Type: Roller Bit
Drill Mud: None
Casing: HW Drive to 10.0 ft
Hoist/Hammer: Winch Automatic Hammer
PID Make & Model: MiniRAE 2000 10.6 eV

File No. 130771-002
Sheet No. 1 of 1
Start 24 August 2017
Finish 24 August 2017
Driller Carl Beirholm
H&A Rep. S. Shay
Elevation 9.9 (est.)
Datum NAVD 88
Location See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	16 13 10 13	S1 20	0.0 2.0		SM		Medium dense dark gray silty SAND (SM), mps 1.5 cm, no structure, no odor, dry, 5% brick particles	5	5	20	20	30	20				
	15 11 12 33	S2 18	2.0 4.0		SP	7.9 2.0	Medium dense yellow brown poorly graded SAND (SP), mps 6.0 mm, no structure, no odor, moist		10	10	35	45					
							-FILL-										
							Note: Drove 3.0 in. spoon to 5.0 ft to cover environmental interval.										
5	3 4 5 9	S3 2	5.0 7.0				Note: Recovered 2.0 in, coarse gravel. One extra attempt with 3.0 in. spoon at 5.0 to 7.0 ft no recovery.										
	8 10 8 5	S4 12	7.0 9.0	1.8	SP	2.9 7.0	S4 top 6.0 in.: Medium dense dark brown poorly graded SAND (SP), mps 1.0 mm, no structure, organic odor, wet, trace peat fiber				25	70	5				
				0.1	CL	1.9 8.0	-ESTUARINE DEPOSITS-						100				
							S4 bottom 6.0 in.: Stiff olive brown and olive gray lean CLAY (CL), mps < 0.5 mm, irregular coloring, no odor, wet, trace organic fibers										
10	9 12 17 21	S5 8	10.0 12.0	0.1	CL		Very stiff olive brown lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	M	H	V
	3 5 7 8	S6 24	12.0 14.0	0.2	CL		Stiff olive brown lean CLAY (CL), mps < 0.1 mm, no structure, no odor, moist PP 2.5 tsf						100				
							-MARINE DEPOSITS-										
15	2 4 4 4	S7 24	15.0 17.0	0.0	CL		Similar to above, medium stiff						100				
	4 5 4 3	S8 24	17.0 19.0	0.0	CL		Similar to above, stiff PP 1.5 tsf PP 1.0 tsf										
						-9.1 19.0	BOTTOM OF EXPLORATION 19.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 19.0
Rock Cored (ft) -
Samples S8

Boring No. C6

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING WITH PERM PID COLUMN HA-LIB09-BOS.GLB HA-TB+CORE+WELL-09 W FENCE.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 6 Nov 17

HALEY ALDRICH

TEST BORING REPORT

Boring No. E1 (OW)

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 10 August 2017
Finish 10 August 2017
Driller John Beirholm
H&A Rep. S. Shay
Elevation 12.1 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW NW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4 - 3	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 14.0 ft NW to 49.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					SP		11.9 0.2	-ASPHALT-	5	15	15	35	25	5				
	12 23 19	S1 10	0.5 2.0					Dense yellow brown poorly graded SAND with gravel (SP), mps 3.0 cm, no structure, no odor, dry										
	16 10 8 11	S2 12	2.0 4.0		SP			S2 top 6.0 in.: Similar to above, except medium dense	10	10	15	35	30					
							9.1 3.0	-FILL-										
	5 3 2 2	S3 12	4.0 6.0		SM			S2 bottom 6 in.: Medium dense black silty SAND (SM), mps 8.0 mm, no structure, no odor, moist, trace brick Loose white/gray/black 100% ash/cinders			10	20	35	35				
5	3 6 7 4	S4 15	6.0 8.0		SM			Medium dense dark brown silty SAND (SM), 2.0 cm, no structure, no odor, wet, trace	5	5	10	10	40	30				
								-FILL-										
	4 4 5 5	S5 12	8.0 10.0		CL		4.1 8.0	Stiff yellow brown sandy lean CLAY (CL) mps 2.0 cm, no structure, no odor, moist		5	5	10	20	60				
								-COHESIVE FILL-										
	2 2 2 1	S6 6	10.0 12.0		OL/ OH		2.1 10.0	Loose soft dark brown disturbed ORGANIC SOIL (OL/OH) with peat fibers Note: No recovery first attempt used 3.0 in. diameter spoon for 6.0 recovery.										
								-ORGANIC DEPOSITS-										
	1 2 2 3	S7 24	12.0 14.0				-0.9 13.0	No recovery										
15					OL/ OH			Soft light olive gray ORGANIC SOIL (OL/OH), mps < 0.1 mm,no structure, no odor, moist, trace peat fibers					5	95				
								-ORGANIC DEPOSITS-										
							-5.4 17.5	-MARINE DEPOSITS-										
20	1 1	S8 24	19.0 21.0		CL			Very soft olive gray lean CLAY (CL), mps < 0.1 mm, occasional silt partings, no odor, wet						100	N	L	H	V

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/10/17	1345	0.25	49	60.2	11.2

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 60.2
Rock Cored (ft) -
Samples S16

Boring No. E1 (OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

TEST BORING REPORT

HALEY ALDRICH

Boring No. E1 (OW)
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	1 1																	
								-MARINE DEPOSITS-										
25	1 1 1 2	S9 24	24.0 26.0		CL			Very soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	L	H	V
30	1 1 1 1	S10 24	29.0 31.0		CL			Similar to S9 above						100	N	L	H	V
							-21.4 33.5	Note: Stratum change estimated based on change in drilling effort at 33.5 ft.										
35	6 7 9 11	S11 19	34.0 36.0		SM			Medium dense olive gray silty SAND with gravel (SM), mps 2.5 mm, no structure, no odor, wet	10	15	10	10	20	35				
							-25.4 37.5	-GLACIOMARINE DEPOSITS-										
40	7 17 14 19	S12 16	39.0 41.0		SM			Dense olive gray silty SAND with gravel (SM) mps 2.0 cm, moderately well bonded, no odor, moist	10	15	10	15	25	25				
								Note: Possible boulder 42.5 to 43.5 ft.										
45	52 24 13 17	S13 13	44.0 46.0		SM			Dense olive gray silty SAND with gravel (SM), mps 3.0 cm, well bonded, no odor, moist	10	10	10	10	20	40				
	16	S14	49.0		SM			Dense olive gray silty SAND with gravel (SM) mps 3.0 cm,	10	10	10	10	20	40				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. E1 (OW)

TEST BORING REPORT

HALEY ALDRICH

Boring No. E1 (OW)
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	9 36 19	9	51.0					occasional irregular fine sandy silt pockets, no odor, moist										
								-GLACIOMARINE DEPOSITS-										
							-41.9 54.0	TOP OF WEATHERED BEDROCK 54.0 FT Dense light gray completely weathered rock as residual soil										
55	12 16 15 16	S15 10	54.0 56.0															
								-WEATHERED BEDROCK-										
60	28 54 100/2"	S16 12	59.0 60.2					Very dense light gray completely to severely weathered rock, rock fabric present, bedding plains apparent ARGILLITE										
							-48.1 60.2	BOTTOM OF EXPLORATION 60.2 FT Note: Split spoon refusal at 60.2 ft. Note: PID reading not recorded due to instrument malfunction.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. E1 (OW)

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

HALEY ALDRICH

Well No. E1 (OW)

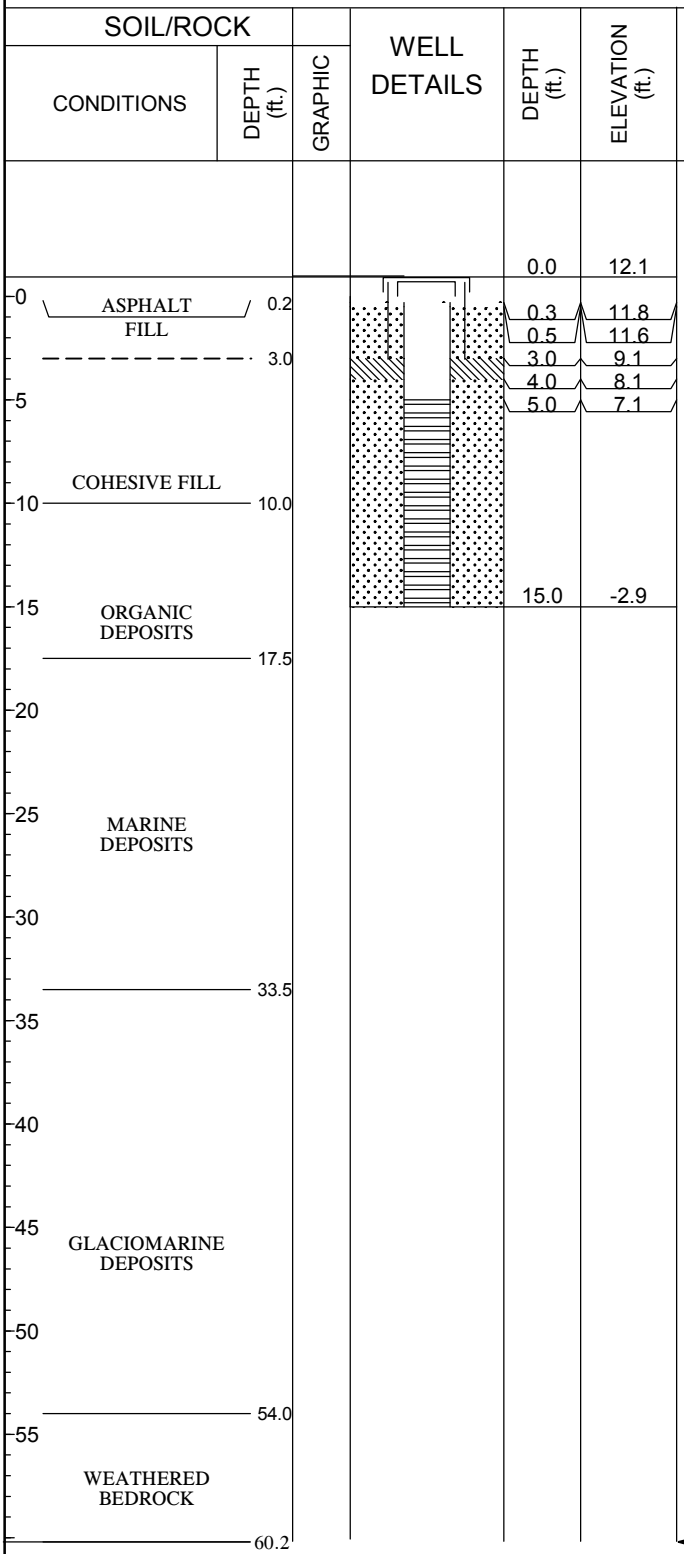
Project BOYNTON YARDS
Location SOMERVILLE, MA
Client DLJ REAL ESTATE CAPITAL PARTNERS
Contractor NORTHERN DRILL SERVICE, INC.
Driller John Beirholm

Initial Water Level (depth bgs) 11.2 ft

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

File No. 130771-002
Date Installed 10 Aug 2017
H&A Rep. S. Shay
Location See Plan

Ground El. 12.1 (est.)
Datum NAVD 88



WELL CONSTRUCTION DETAILS

Type of protective cover: Compression - pent. bolt

Depth of Roadway Box below ground surface: 0.0 ft

Depth of top of riser below ground surface: 0.3 ft

Type of protective casing: Roadway Box

Length: 0.9 ft

Inside diameter: 4.0 in.

Depth of bottom of Roadway Box: 0.9 ft

Type of riser pipe: Schedule 40 PVC

Inside diameter of riser pipe: 2.0 in.

Depth of bottom of riser pipe: 5.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.0	0.5
Bentonite	3.0	1.0
	-	-

Diameter of borehole: 4.5 in.

Depth to top of well screen: 5.0 ft

Type of screen: Machine slotted Sch 40 PVC

Screen gauge or size of openings: 0.010 in.

Diameter of screen: 2.0 in.

Type of Backfill around Screen: #1 Filter sand

Depth to bottom of well screen: 15 ft

Bottom of silt trap: Not used

Depth of bottom of borehole: 60.2 ft

COMMENTS:

HA-LIB09-BOS.GLB GW INSTALLATION REPORT-07-1 G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 6 Nov 17

HALEY ALDRICH

TEST BORING REPORT

Boring No. E6 (OW)

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 21 August 2017
Finish 23 August 2017
Driller Carl Beirholm
H&A Rep. S. Shay
Elevation 10.9 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 10.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	20 16 19 15	S1	0.0 2.5		SM			Dense black silty SAND with gravel (SM), mps 2.5 cm, no structure, no odor, dry, 5% cinders, trace concrete, trace brick	5	10	15	15	35	20				
	13 11 13 12	S2	2.5 5.0		SM			Similar to above, except 35% red brick pieces	5	10	15	15	35	20				
5	10 5 4 10	S3 4	5.0 7.0					Note: Used 3.0 in. diameter 0.0 to 5.0 ft to increase sample volume. -FILL-										
	9 6	S4 18	7.0 8.0		SP-SM			Medium dense dark brown poorly graded SAND with silt (SP-SM), mps 2.0 mm, no structure, slight petroleum-like odor, wet, trace brick				20	70	10				
	5 10	S4A	8.0 9.0		CL		2.4 8.5	Soft stiff olive gray/yellow brown lean CLAY (CL)						100				
10	6 11 14 18	S5 24	10.0 12.0		CL			Very stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky, structure, no odor, moist PP 4.5 tsf						100	N	H	M	V
	10 13 11 9	S6 24	12.0 14.0		CL			Similar to S5 above PP 4.0 tsf -MARINE DEPOSITS- Note: 3.0 in spoon to 15.0 ft to recover environmental.						100	N	H	M	V
15	2 3 2 5	S7 24	15.0 17.0	0.1	CL			Medium stiff olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 1.5 tsf						100	N	M	H	V
	4 3 4 3	S8 19	17.0 19.0	0.1	CL			Similar to S7 above PP 1.5 tsf Note: 3.0 in. spoon to 20.0 ft to recover environmental sample.						100	N	M	H	V
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/23/17	0650	40.0	10.0	15.0	5.7
8/24/17	0658	16.0	10.0	59.2	11.2

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 59.2
Rock Cored (ft) -
Samples S14

Boring No. E6 (OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. E6 (OW)
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	1 1 2 2	S9 24	20.0 22.0	0.0	CL			Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	L	H	V
	1 1 2 3	S10 24	22.0 24.0	0.3	CL			Similar to S9 above PP 0.75 tsf						100	N	L	H	H
25	1 2 2 3	S11 24	25.0 27.0	0.3	CL			Similar to above PP 1.5 tsf						100	N	L	H	V
30	1 1 1 3	S12 24	30.0 32.0	0.5	CL			Very soft olive gray lean CLAY (CL), mps < 0.1 mm, occasional silt partings, no odor, wet PP 0.1 tsf						100	L	H	H	V
	1 2 2 3	S13 24	32.0 34.0	0.0	CL			Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 0.5 tsf						100	N	L	H	V
35	1 1 2 3	S14 24	34.0 36.0	0.4	CL			Similar to above PP 0.5 tsf						100	N	L	H	V
								-MARINE DEPOSITS-										
40	1/12 3	S15 24	39.0 41.0	0.1	CL			Similar to above, very soft						100	N	L	H	V
	1 18 100/2	S16 14	44.0 46.0	0.1	CL GP		-34.1 45.0	Soft lean CLAY (CL) with gravel sized rock fragments Note: 13.0 in. probable boulder indicated by drilling effort 45.2 to 46.3 ft.		5	5	5	5	100 80				
								-GLACIOMARINE DEPOSITS-										
	13	S17	49.0		GP		-38.6	S17 top 6.0 in.: Dense olive gray to olive brown poorly graded										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. E6 (OW)

HALEY ALDRICH

TEST BORING REPORT

Boring No. E6 (OW)
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	27 29 42	18	51.0	0.0			49.5	GRAVEL (GP), mps 2.5 cm, no structure, no odor, wet TOP OF BEDROCK 49.5 FT S17 bottom 12.0 in.: Very dense gray highly weathered rock, sample breaks into angular fine gravel sized piece										
55	100/5	S18 5	54.0 54.4	0.0				Very dense gray ARGILLITE, shattered angular fine gravel sized pieces -BEDROCK-										
	100/2	S19 2	59.0 59.2				-48.3 59.2	Very dense light gray ARGILLITE, rock fabric present BOTTOM OF EXPLORATION 59.2 FT Note: spoon refusal at 59.2 ft.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. E6 (OW)

H&A-TEST BORING WITH PERM PID COLUMN HA-LIB09-BOS.GLB HA-TB+CORE+WELL-09 W FENCE.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 6 Nov 17

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

HALEY ALDRICH

Well No. E6 (OW)

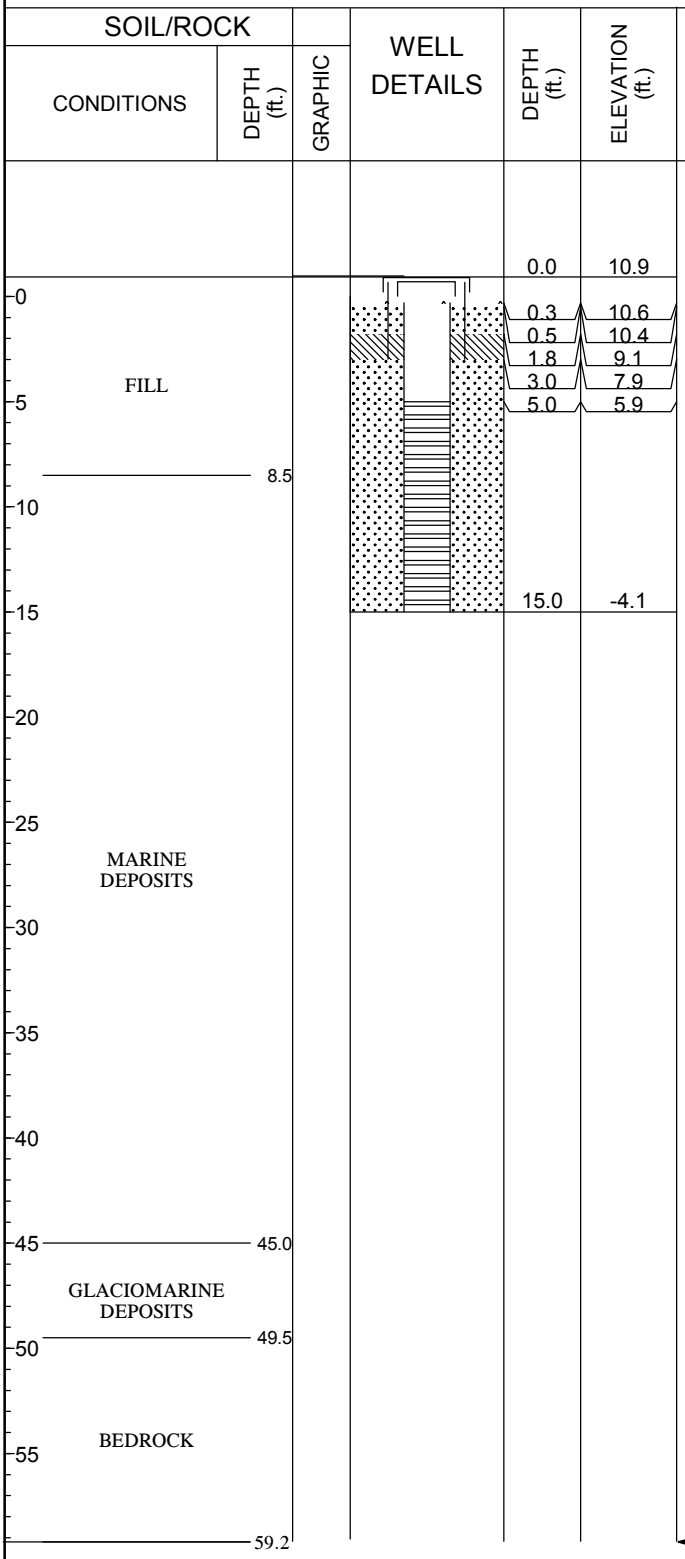
Project BOYNTON YARDS
Location SOMERVILLE, MA
Client DLJ REAL ESTATE CAPITAL PARTNERS
Contractor NORTHERN DRILL SERVICE, INC.
Driller Carl Beirholm

Initial Water Level (depth bgs) 5.7 ft

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

File No. 130771-002
Date Installed 23 Aug 2017
H&A Rep. S. Shay
Location See Plan

Ground El. 10.9 (est.)
Datum NAVD 88



WELL CONSTRUCTION DETAILS

Type of protective cover: Compression - pent. bolt

Depth of Roadway Box below ground surface: 0.0 ft

Depth of top of riser below ground surface: 0.3 ft

Type of protective casing: Roadway Box

Length: 0.9 ft

Inside diameter: 4.0 in.

Depth of bottom of Roadway Box: 0.9 ft

Type of riser pipe: Schedule 40 PVC

Inside diameter of riser pipe: 2.0 in.

Depth of bottom of riser pipe: 5.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.9	0.0
Bentonite	0.5	1.8
1.2	-	-

Diameter of borehole: 4.5 in.

Depth to top of well screen: 5.0 ft

Type of screen: Machine slotted Sch 40 PVC

Screen gauge or size of openings: 0.010 in.

Diameter of screen: 2.0 in.

Type of Backfill around Screen: #1 Filter sand

Depth to bottom of well screen: 15 ft

Bottom of silt trap: Not used

Depth of bottom of borehole: 59.2 ft

COMMENTS:

TEST BORING REPORT

Boring No. F4

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 16 August 2017
Finish 17 August 2017
Driller John Beirholm
H&A Rep. S. Shay
Elevation 10.5 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 15.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	6 8 6 4	S1 24	0.0 2.5		SM		Medium dense brown to dark brown silty SAND with gravel (SM), mps 2.0 cm, no structure, no odor, dry, trace brick	10	15	10	15	25	25				
	4 3 2 3	S2 20	2.5 5.0		SM		Similar to above, except loose, occasional clayey pockets -FILL-	10	10	15	15	30	20				
5	10 4 6 6	S3 24	5.0 7.5		SC	5.5 5.0	Loose yellow brown clayey SAND with gravel (SC), mps 3.0 cm, no structure although appears to be disturbed										
	4 3 2 3	S4 18	7.5 10.0		SC		Similar to S3 above -COHESIVE FILL-	10	10	10	15	20	35				
10	2 3 1 1	S5 24	10.0 12.5		OL/ OH	0.5 10.0	Soft gray sandy ORGANIC SOIL (OL/OH), mps 3.0 mm, frequent irregular peat pockets, slight organic odor, wet -ORGANIC DEPOSITS-				25	25	50				
	2 2 4 5	S6 24	12.5 15.0		OL/ OH		S6 top 10.0 in.: Soft gray ORGANIC SOIL with sand (OL/OH), mps 1.0 mm, no structure, no odor, wet					25	75				
					CL	-3.5 14.0	S6 bottom 14.0 in.: Medium stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist					5	95				
15	2 2 3 2	S7 24	15.0 17.0	0.9	CL		Medium stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist PP 1.5 tsf -MARINE DEPOSITS-						100	N	H	H	V
	4 4 3 2	S8 24	17.0 19.0	0.6	CL		Medium stiff olive brown lean CLAY (CL), mps <0.1 mm, blocky structure, no odor, moist PP 0.3 tsf										
20	1 1	S9 20	19.0 21.0	0.3	CL		Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	M	H	V

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/17/17	1235	0.5	15.0	56.0	6.1

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 56.0
Rock Cored (ft)
Samples S16

Boring No. F4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. F4
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	2 2						PP 0.5 tsf										
							-MARINE DEPOSITS-										
25	1 1 2 3	S10 24	24.0 26.0	0.6	CL		Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 0.3 tsf						100	N	L	H	V
30	1 2 2 3	S11 13	29.0 31.0	0.0	CL		Similar to above PP 0.5 tsf						100	N	L	H	V
35	1 1 2 3	S12 19	34.0 36.0	0.0	CL		Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 0.5 tsf						100	N	L	H	V
40	1 2 2 2	S13 24	39.0 41.0	0.1	CL		Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 0.8 tsf						100	N	L	H	V
					CL	-32.5 43.0											
45	12 15 17 18	S14 14	44.0 46.0	0.0	CL		Hard gray sandy lean CLAY with gravel (CL), mps 2.5 cm, moderately bonded, no odor, wet	5	5	5	10	10	65				
							-GLACIOMARINE DEPOSITS-										
	6	S15	49.0	0.0	CL		Stiff gray sandy lean CLAY (CL), mps 3.0 cm, no structure, no	5	5	5	10	10	65				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. F4

HALEY ALDRICH

TEST BORING REPORT

Boring No. F4
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	6 8 9	18	51.0				odor, wet										
							-GLACIOMARINE DEPOSITS-										
							TOP OF WEATHERED BEDROCK 53.8 FT										
						-43.3 53.8	Note: Abrupt change in drilling effort at 53.8 ft. Very dense light gray completely weathered rock, rock fabric present										
55	19 32 36 41	S16 12	54.0 56.0				-WEATHERED BEDROCK-										
						-45.5 56.0	BOTTOM OF EXPLORATION 56.0 FT										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. F4

H&A-TEST BORING WITH PERM PID COLUMN HA-LIB09-BOS.GLB HA-TB+CORE+WELL-09 W FENCE.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 6 Nov 17

HALEY ALDRICH

TEST BORING REPORT

Boring No. G3

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 11 August 2017
Finish 14 August 2017
Driller John Beirholm
H&A Rep. S. Shay
Elevation 11.4 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW NW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4 - 3	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 14.0 ft NW to 52.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						11.2	-ASPHALT-										
	8 6 9	S1 10	0.5 2.0		SP	0.2	Medium dense yellow brown poorly graded SAND (SP), mps 9.0 mm, no structure, no odor, dry		10	10	60	15	5				
	6 7 9 9	S2 14	2.0 4.0		SM		Medium dense black silty SAND (SM), mps 2.5 mm, no structure, no odor, moist, trace ash and cinders, trace brick	5	5	20	20	30	20				
	5 4 2 4	S3 10	4.0 6.0				Loose white/gray/black ash and cinders, trace glass -FILL-										
5	8 5 4 7	S4 9	6.0 8.0		CL	5.4 6.0	Soft yellow brown sandy lean CLAY (CL), mps 2.5 cm, no structure, no odor, moist -COHESIVE FILL-	5	5	10	10	20	50				
	2 2 2 2	S5 9	8.0 10.0		SP/ ML		Loose soft dark gray SILT/SAND mix (SP/ML), mps 1.5 cm, no structure, no odor, wet				25	25	50				
10	2 2 2 2	S6 12	10.0 12.0		OL/ OH	1.4 10.0	Soft gray with black staining sandy ORGANIC SOIL (OL/OH), mps 8.0 mm, appears to be disturbed, no odor, wet, trace gravel -ORGANIC DEPOSITS-				5	20	75				
	4 5 3 6	S7 20	12.0 14.0		CL	-0.6 12.0	Medium stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist, pocket PP = 2.0 tsf						100	N	H	H	V
15	4 4 4 3	S8 24	14.0 16.0		CL		Similar to above PP = 1.4 tsf						100	N	H	H	V
							-MARINE DEPOSITS-										
20	2 2	S9 8	19.0 21.0		CL		Soft olive brown lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	L	H	V

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/14/17	0708	64.0	14.0	41.0	9.5

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft) 54.5
Rock Cored (ft) -
Samples S16

Boring No. G3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING WITH PERM PID COLUMN HA-LIB09-BOS.GLB HA-TB+CORE+WELL-09 W FENCE.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 9 Nov 17

HALEY ALDRICH

TEST BORING REPORT

Boring No. G3
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	2 2																
							-MARINE DEPOSITS-										
25	1 1 1 1	S10 24	24.0 26.0		CL		Very soft olive brown lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP = 0.5 tsf						100	N	L	H	V
30	2 2 3 3	S11 18	29.0 31.0		CL		Similar to S10 above, except medium stiff PP = 0.5 tsf						100	N	M	H	V
35	3 3 4 4	S12 20	34.0 36.0		CL		Medium stiff olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet Note: No recovery first attempt, used 3.0 in., diameter split spoon same interval with 20.0 in. recovery.						100	N	M	H	V
						-25.6 37.0	Note: Stratification change estimated based upon change in drilling effort at 37.0 ft.										
40	8 10 6 7	S13 15	39.0 41.0		SC		Medium dense olive gray clayey SAND (SC), mps 2.0 cm, no structure, no odor, wet	5	5	15	20	20	35				
							-GLACIOMARINE DEPOSITS-										
						-30.6 42.0											
45	22 52 49 48	S14 12	44.0 46.0		GC		Very dense olive gray clayey GRAVEL with sand (GC), mps 2.8 cm, no structure, no odor, wet Note: NW casing required after S14.	20	40	10	5	10	15				
						-35.6 47.0											
	15	S15	49.0		SC		Dense olive gray clayey SAND with gravel (SC), mps 3.0 cm, no	10	20	10	10	10	40				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. G3

HALEY ALDRICH

TEST BORING REPORT

Boring No. G3
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	18 24 29	15	51.0				structure, no odor, wet										
							-GLACIOMARINE DEPOSITS-										
						-40.6 52.0	Note: Abrupt change in drilling effort at 52.0 ft.										
	100	S16 2	54.0 54.5		GP-GC	-43.1 54.5	Very dense gray poorly graded GRAVEL with clay and sand (GP-GC), mps 2.5 cm, no structure, no odor, wet	15	65	5	5		10				
							BOTTOM OF EXPLORATION 54.5 FT										
							Note: Split spoon refusal at 54.5 ft.										
							Note: PID readings not recorded due to instrument malfunction.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. G3

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-1

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 29 August 2017
Finish 29 August 2017
Driller Carl Beirholm
H&A Rep. S. Shay
Elevation 8.9 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 10.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						8.7	-ASPHALT-										
						0.2											
	24 14 12 19	S1 18	0.5 3.0		SM		Medium dense black silty SAND with gravel (SM), mps 3.0 cm, semi-cemented, platey structure, no odor dry, 5-10% cinders, trace brick, trace fibers	10	10	10	15	25	30				
	20 25 19 18	S2 24	2.5 5.0		SM		Similar to above, except dense	10	10	10	15	25	30				
							-FILL-										
							Note: 30.0 in. drive to reach environmental target depth.										
5						3.9											
	5 5 5 6	S3 20	5.0 7.0	0.9	SC/ CL	5.0	Loose olive brown clayey SAND (SC) with lean CLAY mixed (CL), mps 3.0 cm, disturbed, no odor, wet, trace shells, trace brick	5	5	10	10	20	50				
	9 6 3 3	S4 18	7.0 9.0	0.9	SC/ SM		Loose gray to black clayey SAND (SC) with silty SAND (SM), disturbed, slight petroleum-like odor, bottom of sample (black)		10	10	15	25	40				
							-COHESIVE FILL-										
	3 3 3 2	S5 14	9.0 11.0	0.8			S5: Top 4.0 in.: Similar to above										
10				0.7	OL/ OH	-1.1 10.0	S5 bottom 10.0 in.: Medium stiff dark brown ORGANIC SOIL (OL/OH), smooth texture, organic odor, wet						100				
						-2.1	-ORGANIC DEPOSITS-										
	5 5 4 4	S6 10	11.0 13.0		SP	11.0	Loose gray poorly graded SAND (SP), mps 1.5 cm, no structure, no odor, wet		10	25	35	25	5				
							-ESTUARINE DEPOSITS-										
	2 3 4 7	S7 11	13.0 15.0	0.5	SP		Loose gray poorly graded SAND with gravel (SP), mps 2.0 cm, no structure, no odor, wet										
15						-6.6											
	10 2 3 2	S8 10	15.0 17.0	0.6	CL	15.5	Note: Change in effort to drive split spoon at 15.5 ft. S8: Medium stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist						100	N	M	H	V
	2 2 3 4	S9 19	17.0 19.0	0.5	CL		Similar to S8 above PP 1.5 tsf						100	N	M	H	V
							-MARINE DEPOSITS-										
				0.0	CL		Medium stiff olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/29/17	0708	16.0	NW 54.0	54.0	5.5
8/29/17	0915	0.25	59.0	64.9	11.5

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 64.9
Rock Cored (ft)
Samples S19

Boring No. HA17-1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-1
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							PP 1.3 tsf										
	1 3 4 3	S10 24	21.0 23.0				-MARINE DEPOSITS-										
	1 1 2 2	S11 24	24.0 26.0	0.0	CL		Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	L	H	V
25							PP 0.8 tsf										
	1 1 1 2	S12 24	29.0 31.0	0.0	CL		Similar to above, very soft						100	N	L	H	V
30							PP 0.3 tsf										
	1 1 1 2	S13 24	34.0 36.0	0.0	CL		Very soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet						100	N	L	H	V
35							PP 0.5 tsf										
	1 2 2 3	S14 24	39.0 41.0	0.1	CL		Similar to above, except soft						100	N	L	H	V
40							PP 0.75 tsf										
	1 1 3 7	S15 24	44.0 46.0		CL		Soft olive gray lean CLAY with sand (CL), mps 1.0 cm, no odor, wet, sand and rounded gravel confined to bottom 6.0 in. of sample		5	5	5	10	75				
45																	
						-38.1 47.0	Note: Intermittent chatter 47.0 to 48.0 ft indicates strata change.										
							-GLACIOFLUVIAL DEPOSITS-										
	5	S16	49.0	0.0	GP		Medium dense gray poorly graded GRAVEL (GP), mps 2.5 cm, no	20	65	5	5	5					

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA17-1

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-1
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	15 15 17	8	51.0				structure although gravel rounded, no odor, wet										
							-GLACIOFLUVIAL DEPOSITS-										
						-43.6 52.5											
55	13 19 17 14	S17 10	54.0 56.0	0.0	SM		Dense gray silty SAND with gravel (SM), mps 1.5 cm, moderately well bonded, no odor, moist		15	15	20	20	30				
							-GLACIOMARINE DEPOSITS-										
							Note: Abrupt change in effort to drive casing at 57.5 ft.										
60	14 15 17 50	S18 16	59.0 61.0		SM		S18 top 10.0 in.: Dense gray silty SAND (SM), mps 8.0 mm as trace fine gravel, no structure, no odor, wet										
						-51.6 60.5	TOP OF WEATHERED BEDROCK 60.5 FT S18 bottom 6.0 in.: Very dense light gray completely weathered rock, difficult to discern rock fabric excel in split spoon tip										
	72 120/5	S19	61.0 63.0				S19: Very dense light gray/white completely weathered rock, approaching residual soil, rock fabric present in split spoon in tip										
							-WEATHERED BEDROCK-										
						-56.0 64.9	BOTTOM OF EXPLORATION 64.9 FT										
							Note: Split spoon refusal at 64.9 ft.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA17-1

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-2

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 25 August 2017
Finish 28 August 2017
Driller Carl Beirholm
H&A Rep. S. Shay
Elevation 9.7 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW NW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4 - 3	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 14.0 ft NW to 49.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						9.5	-ASPHALT-										
	9 7 7 13	S1 20	0.5 2.5		SM/ SP	0.2	Medium dense brown/gray/gray brown multi layered sand/silty sand (SM/SP), layers up to 8.0 in. thick										
	16 10 10 8	S2 24	2.5 5.0	0.4	SM/ SC		Medium dense brown silty with clayey SAND mix (SM/SC), mps 2.0 cm,no structure, no odor, wet, trace brick		5	5	15	25	50				
5	6 4 3 4	S3 24	5.0 7.0	0.5	SM/ SC		Similar to S2 above, except loose		5	5	15	25	50				
							-FILL-										
	4 4 3 2	S4 12	7.0 9.0		SM/ SC		Similar to above		5	5	15	25	50				
						0.7											
	2 5 2 5	S5 15	9.0 11.0		OL/ OH	9.0	Loose dark brown disturbed ORGANIC SOIL with sand (OL/OH)				10	15	75				
10							-ORGANIC DEPOSITS-										
	1 2 1 2	S6 10	11.0 13.0				S6 top 5.0 in.: Wood/wood fibers										
						-2.3											
					OL/ OH	12.0	S6 bottom 5.0 in.: Soft dark brown ORGANIC SOIL (OL/OH), mps 4.0 mm, no structure, no odor, wet					10	90				
	1 2 2 2	S7 24	13.0 15.0														
15						-5.3											
	2 4 5 6	S8 24	15.0 17.0	1.6 2.0	CL	15.0	Stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist PP 4.0 tsf						100	N	M	H	V
							-MARINE DEPOSITS-										
	6 6 5 4	S9 24	17.0 19.0	0.7	CL		Stiff olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist PP 1.5 tsf						100	N	M	H	V
	1 1	S10 19	19.0 21.0	0.2	CL		Soft olive gray lean CLAY (CL), < 0.1 mm, no structure, no odor, wet						100	N	L	H	V
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/25/17	1420	10.0	NW 43.0	50.5	10.9
8/28/17	0652	64.0	NW 43.0	50.5	10.1

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 50.5
Rock Cored (ft) -
Samples S17

Boring No. HA17-2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING WITH PERM PID COLUMN HA-LIB09-BOS.GLB HA-TB+CORE+WELL-09 W FENCE.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 9 Nov 17

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-2
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	2 2																
							-MARINE DEPOSITS-										
25	1 1 2 2	S11 21	24.0 26.0	0.0	CL		Similar to S10 above PP 0.5 tsf						100	N	L	H	V
30	1 1 2 2	S12 24	29.0 31.0	0.1	CL		Similar to above PP 0.5 tsf										
						-23.3 33.0											
35	7 15 27 25	S13 9	34.0 36.0	0.0	SM		Dense olive gray silty SAND with gravel (SM), mps 2.5 cm, no structure, no odor, wet	5	10	5	5	40	35				
							-GLACIOMARINE DEPOSITS- Note: Borehole required installation of NW (3.0 in. diameter) casing after S13, due to borehole not staying open.										
40	13 21 20 11	S14 10	39.0 41.0	0.0	SM		Dense olive brown silty SAND with gravel (SM), mps 2.2 cm, weakly bonded, no odor, wet	5	10	10	10	35	30				
						-32.3 42.0											
	110	S15 4	42.0 42.5	0.0	GP		Very dense gray coarse GRAVEL (GP), some rounded pieces -GLACIOFLUVIAL DEPOSITS-						100				
						-33.3 43.0	TOP OF COMPLETELY WEATHERED BEDROCK 43.0 FT Note: Abrupt change in drilling effort at 43.0 ft.										
45	18 20 29 48	S16 16	44.0 46.0				Dense light gray with iron staining completely weathered rock approaching residual soil -WEATHERED BEDROCK-										
	38	S17	49.0				Very dense white completely weathered rock as residual soil										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA17-2

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-2
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	51 120	9	50.5			-40.8 50.5	-WEATHERED BEDROCK- BOTTOM OF EXPLORATION 50.5 FT Note: Split spoon refusal at 50.5 ft.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA17-2

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-3 (OW)

Project	BOYNTON YARDS, SOMERVILLE, MA
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE, INC.

File No. 130771-002
Sheet No. 1 of 3
Start 29 August 2017
Finish 1 September 2017
Driller Carl Beirholm
H&A Rep. S. Shay
Elevation 10.0 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Mobile Drill B57 Truck
Inside Diameter (in.)	4	1 3/8	--	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW Drive to 10.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							9.8	-ASPHALT-										
	12 52 88	S1 8	0.5 2.0	1.9	SP		0.2	Very dense gray brown poorly graded SAND with gravel (SP), mps 2.8 cm, no structure, no odor, dry, 10% brick, trace ash	5	10	20	40	20	5				
	10 14 26 18	S2 15	2.0 4.0	0.4	SP-GM/SM			Dense brown and black in layers up to 4.0 in. thick poorly graded SAND with silt and silty GRAVEL (SM-SP/SM), mps 2.0 cm, well defined placed layers, no odor, moist, trace cinders	5	5	20	20	30	20				
5	6 7 6 5	S3 12	4.0 6.0		SP			Medium dense yellow brown poorly graded SAND (SP), mps 1.5 cm, trace gravel, no structure, no odor, wet from drilling			15	65	15	5				
	10 12 6 4	S4 10	6.0 8.0		SP			Similar to S3 above			15	65	15	5				
								-FILL-										
	4 3 3 5	S5 6	8.0 10.0		SM		2.0 8.0	Loose yellow brown silty SAND (SM), mps 2.5 cm, no structure, no odor, wet	5	5	15	30	15	30				
10	6 6 5 6	S6 2	10.0 12.0		GP			Medium dense coarse gravel, poor recovery	100									
	6 4 4 4	S7 6	12.0 14.0		SP			Loose yellow brown poorly graded SAND (SP), mps 4.0 mm, no structure, no odor, wet			5	80	10	5				
	3 5 7 8	S8 24	14.0 16.0		CL		-4.0 14.0	Stiff gray grading to olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist PP 3.5 tsf						100	N	H	H	V
15	7 8 8 8	S9 24	16.0 18.0		CL			Stiff gray grading to olive brown lean CLAY (CL), mps < 0.1 mm, blocky structure, no odor, moist PP 2.4 tsf										
								-MARINE DEPOSITS-										
	3 3		19.0 21.0					No recovery										
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
9/1/17	0705	16.0	NW 42.5	44.0	9.2

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 53
Rock Cored (ft) 9
Samples S13, C2

Boring No. HA17-3 (OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA17-3 (OW)
File No. 130771-002
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	4 4							-MARINE DEPOSITS-										
25	1 1 2 2	S10 24	24.0 26.0		CL			Soft olive gray lean CLAY (CL), mps < 0.1 mm, no structure, no odor, wet PP 0.6 tsf						100	N	L	H	V
30	1 1 2 2	S11 24	29.0 31.0		CL			Similar to S10 above PP 0.9 tsf						100	N	L	H	V
35	12 100	S12 9	34.0 35.0				-24.5 34.5	No recovery - bent spoon at 35.0 ft										
	39 53 100/2		35.0				-25.0 35.0	TOP OF WEATHERED BEDROCK 35.0 FT Very difficult drilling effort with no water return from 35.0 to 39.0 ft, advanced roller bit through very hard material to 39.0 ft Note: Drill action indicates seams of highly weathered and fractured bedrock from 35.0 to 42.0 ft;										
40	10 35 50/0	S13 6	39.0 40.0		GM			Very dense dark gray silty GRAVEL with sand (GM), mps 2.5 cm, no structure, no odor, wet Note: Possible seams within rock mass. -WEATHERED BEDROCK- Note: Borehole required installation of 3.0 in. (NW) spun casing after S13	10	35	5	15	15	20				
		25/0	42.0				-32.0 42.0	No recovery, split spoon bouncing on bedrock Note: Advanced borehole with roller bit to 44.0 ft prior to coring. See core boring report HA17-3 in. for rock visual classification and drilling information SEE CORE BORING REPORT FOR ROCK DETAILS										
45																		

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA17-3 (OW)

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA17-3 (OW)
File No. 130771-002
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Well Dia-gram	Elev./ Depth (ft)	Visual Description and Remarks
									SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
	4	C1	44.0	60	100.0	Fresh			C1: Very hard fresh to slightly weathered gray aphanitic to fine grained DIABASE. Bedding not apparent. Joints dipping at low to moderate angles, close to moderate, stepped to planar, discolored, open. Extremely thin to very thin secondary mineralization in irregular stringers minimal water loss after 46.0 ft within gray, silty wash water return.
			49.0	44	73.3				
45	3								
	4					Slight			
	3								
	3					Fresh			-BEDROCK-
	4	C2	49.0	48	100.0	Fresh			C2: Recovered bottom 1.0 ft of C1. Very hard fresh, gray, aphanitic to fine grained DIABASE. Similar to above, minimal water loss. Core barrel jammed at 53.0 ft.
			53.0	47	97.9				
50	4								
	4								
	4							-43.0	
	4					Fresh		53.0	BOTTOM OF EXPLORATION 53.0 FT
55									
60									
65									
70									
75									

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

HALEY ALDRICH

Well No. HA17-3 (OW)

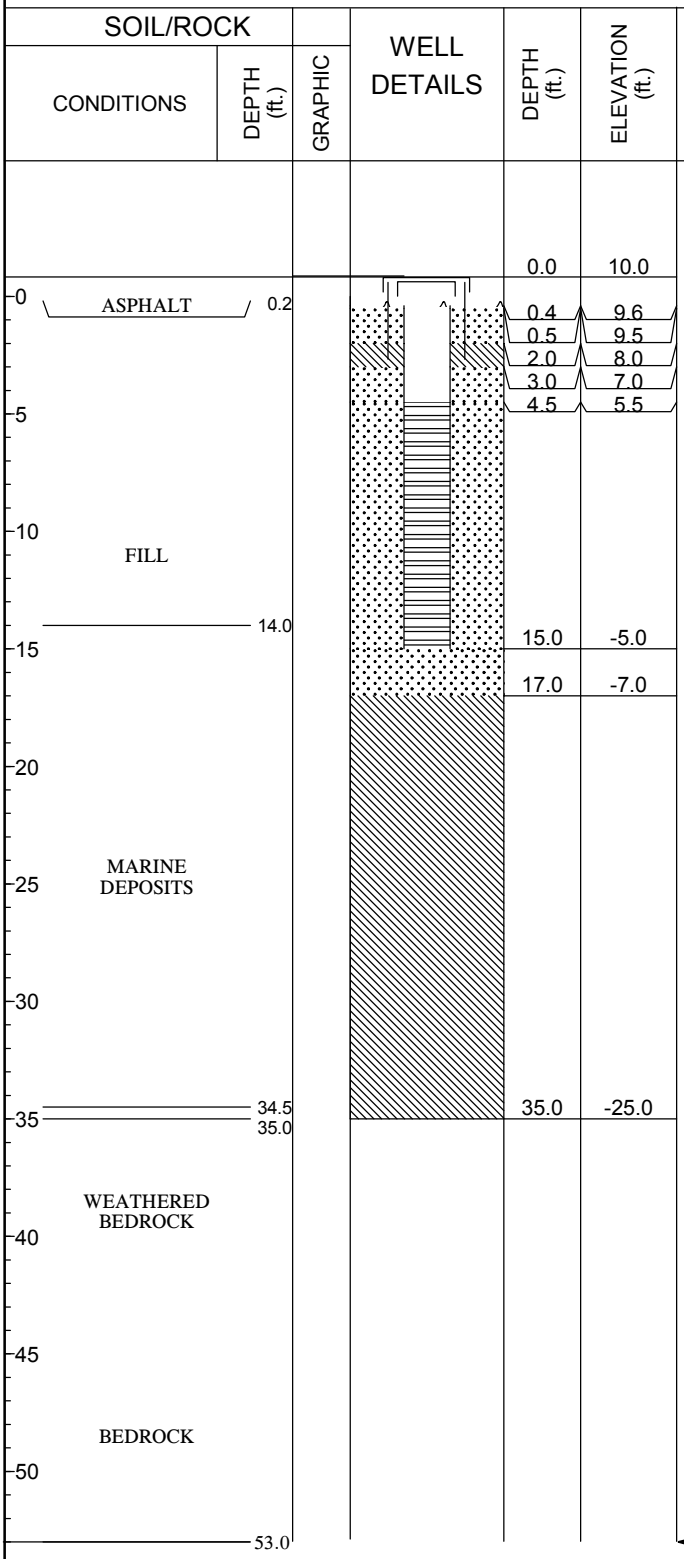
Project BOYNTON YARDS
Location SOMERVILLE, MA
Client DLJ REAL ESTATE CAPITAL PARTNERS
Contractor NORTHERN DRILL SERVICE, INC.
Driller Carl Beirholm

Initial Water Level (depth bgs) 9.2 ft

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

File No. 130771-002
Date Installed 1 Sep 2017
H&A Rep. S. Shay
Location See Plan

Ground El. 10.0 (est.)
Datum NAVD 88



WELL CONSTRUCTION DETAILS

Type of protective cover: Compression - pent. bolt

Depth of Roadway Box below ground surface: 0.0 ft

Depth of top of riser below ground surface: 0.4 ft

Type of protective casing: Roadway Box

Length: 0.9 ft

Inside diameter: 4.0 in.

Depth of bottom of Roadway Box: 0.9 ft

Type of riser pipe: Schedule 40 PVC

Inside diameter of riser pipe: 2.0 in.

Depth of bottom of riser pipe: 5.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.0	0.5
Bentonite	2.0	1.0
Bentonite	17.0	18.0

Diameter of borehole: 4.5 in.

Depth to top of well screen: 5.0 ft

Type of screen: Machine slotted Sch 40 PVC

Screen gauge or size of openings: 0.010 in.

Diameter of screen: 2.0 in.

Type of Backfill around Screen: #1 Filter sand

Depth to bottom of well screen: 15 ft

Bottom of silt trap: Not used

Depth of bottom of borehole: 53.0 ft

COMMENTS:

HA-LIB09-BOS.GLB GW INSTALLATION REPORT-07-1 G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-TB.GPJ 6 Nov 17

GEOPROBE REPORT

Boring No. B4

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 9 August 2017
Finish 9 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 10.0 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						9.9	-DEGRADED BITUMINOUS CONCRETE-	10	10	15	25	35	5				
	P U S H	G1 45	0.0 5.0	ND	SP SM	0.1 9.5	Tan poorly graded SAND with gravel (SP)	10	10	10	15	35	20				
						0.5	Olive to gray to dark gray brown silty SAND with gravel (SM), mps 1.625 in., layered, 20% lenses of cinders and ash, 10% coal, brick, concrete, no odor, moist										
							-FILL-										
5					SW		Light brown well graded SAND with gravel (SW), mps 1.6 in., no structure, no odor, moist to wet	10	15	20	30	25					
	P U S H	G2 39	5.0 10.0	ND	SC	4.5 5.5	Light gray brown clayey SAND with gravel (SC), no structure, no odor, wet, gravel is angular										
					SW	3.5 6.5											
					CL	3.0 7.0	-COHESIVE FILL-						100	N	L	L	
							Gray brown well graded SAND with gravel (SW), mps 0.8 in., no structure, no odor, wet										
							-ESTUARINE DEPOSITS-										
10						0.0 10.0	Light olive brown lean CLAY (CL), mps 1.2 in., no structure, no odor, wet										
							-MARINE DEPOSITS-										
							BOTTOM OF EXPLORATION 10.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/9/17	0915	0.5	Pulled, collapsed		to 4.3 ft

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 10.0
Rock Cored (ft) -
Samples G2

Boring No. B4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

GEOPROBE REPORT

Boring No. B6

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 9 August 2017
Finish 9 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 9.3 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 52	0.0 5.0	ND	SM		Olive gray to gray to black silty SAND with gravel (SM), mps 1.625 in., layered/ disturbed with 20% pockets/lenses of cinders and ash, 10% brick and concrete fragments, black silty sand with 20% wood particles at 3.8-4.6 ft, no odor, moist	10	10	10	20	30	20				
							-FILL-										
						4.7											
5	PUSH	G2 37	5.0 10.0	ND	SM	4.6	Olive silty SAND with gravel (SM), mps 1.2 in., no structure, occasional hard pieces of lean clay, appears disturbed, wet below approximately 9.5 ft, becomes slightly elastic below approximately 8 ft	5	15	10	20	20	30				
						-0.7	Note: Top of natural may be higher due to loose nature of sand.										
10	PUSH	G3 46	10.0 15.0	ND	SM	10.0	Gray to olive gray silty SAND (SM), mps 0.4 in., no visible structure, no odor, wet			10	30	45	15				
						-2.7	-ESTUARINE DEPOSITS-										
					OL/ OH	12.0	Olive gray brown ORGANIC SOIL (OL/OH), no structure, slight hydrogen sulfide odor, wet 10% peat fibers						100				
							-ORGANIC DEPOSITS-										
15						-5.7 15.0	BOTTOM OF EXPLORATION 15.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 15.0
Rock Cored (ft) -
Samples G3

Boring No. B6

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

GEOPROBE REPORT

Boring No. C4

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 9 August 2017
Finish 9 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 10.6 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 38	0.0 5.0	ND	SP-SM SM	10.0 0.6	Light gray brown poorly graded SAND with silt and gravel (SP-SM), mps 1.3 in., no structure, no odor, moist	5	15	10	20	40	10				
							Dark gray brown to gray brown silty SAND with gravel (SM), mps 1.625 in. (brick), layered, no odor, moist, 20% cinders, 10% brick rubble, 5% coal particles										
							-FILL-										
5	PUSH	G2 42	5.0 10.0	ND	SC	4.4 6.2	Olive brown clayey SAND with gravel (SC), mps 1.6 in., no structure, no odor, wet, trace cinders and clinkers, shell fragments, below 10 ft contains 20% very hard to the touch olive gray lean clay pieces, wet below 10 ft	5	10	10	20	30	25				
							-COHESIVE FILL-										
10	PUSH	G3 47	10.0 15.0	ND	CL	-1.4 12.0	Yellow brown lean CLAY (CL), blocky texture, no odor, wet						100	N	L	M	
							-MARINE DEPOSITS-										
15						-4.4 15.0	BOTTOM OF EXPLORATION 15.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/9/17	1115	0.2		10	9.9

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft) 15.0
Rock Cored (ft) -
Samples G3

Boring No. C4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-GEOPROBE-09 W/ PID HA-LIB09-BOS.GLB HA-TB+CORE+WELL-07-1.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-GEOPROBES.GPJ 5 Nov 17

HALEY ALDRICH

GEOPROBE REPORT

Boring No. C5

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 9 August 2017
Finish 9 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 10.7 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 44	0.0 5.0	ND	SM	10.3 0.4	Light gray brown silty SAND with gravel (SM), mps 0.6 in., no structure, no odor, moist										
					SM		Gray brown to black silty SAND with gravel (SM), mps 1.625 in., layered, no odor, moist, 15% cinders, ash, coal throughout, 10% brick and concrete fragments	10	10	10	15	40	15				
							-FILL-										
5	PUSH	G2 54	5.0 10.0	ND	SP	4.7 6.0	Brown poorly graded SAND with gravel (SP), mps 1.5 in., becoming silty and more fine with depth, no odor, wet	25	25	20	15	15					
					CL	3.5 7.2	-ESTUARINE DEPOSITS-						100	N	L	L	
							Note: Fines become elastic just above clay										
10	PUSH	G3 50	10.0 15.0	ND			Yellow gray brown lean CLAY (CL), blocky texture, no odor, wet -MARINE DEPOSITS-										
15	PUSH	G4 37	15.0 19.0	ND			Note: Becomes softer to touch and more gray with depth.										
						-8.3 19.0	BOTTOM OF EXPLORATION 19.0 FT										
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
			None	12	6.3

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 20.0
Rock Cored (ft) -
Samples G4

Boring No. C5

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-GEOPROBE-09 W/ PID HA-LIB09-BOS.GLB HA-TB+CORE+WELL-07-1.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-GEOPROBES.GPJ 5 Nov 17

HALEY ALDRICH

GEOPROBE REPORT

Boring No. D4

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 9 August 2017
Finish 9 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 9.5 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 50	0.0 5.0	ND	SM	8.6	Gray brown silty SAND with gravel (SM), mps 1.3 in., no structure, no odor, moist	5	15	10	20	35	15				
					SM	0.9	Gray brown to dark gray brown silty SAND with gravel (SM), mps 1.625 in., no structure, no odor, moist, 10% rubble (brick and concrete fragments), 5-10% cinders and ash, trace plastic										
5	PUSH	G2 40	5.0 10.0	ND			Note: From 5-7 ft approximately 30% cinders and ash, wet below 7.5 ft. -FILL-										
						0.2											
10	PUSH	G3 53	10.0 15.0	ND	SC/SM	9.3 -1.0	Olive gray brown clayey/silty SAND with gravel (SC/SM), mps 1.5 in., no structure, no odor, wet, trace brick, clinkers, ash, cinders -COHESIVE FILL-	10	15	10	20	25	20				
					OL/OH	10.5	Black ORGANIC SOIL (OL/OH), no structure, no odor, wet, trace roots -ORGANIC DEPOSITS-					5	95	N	L	L	
					CL	-3.5 13.0	Yellow brown lean CLAY (CL), blocky texture, no odor, wet -MARINE DEPOSITS-						100	N	M	M	
15	PUSH	G4 36	15.0 20.0	ND													
20						-10.5 20.0	BOTTOM OF EXPLORATION 20.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 20.0
Rock Cored (ft) -
Samples G4

Boring No. D4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-GEOPROBE-09 W/ PID HA-LIB09-BOS.GLB HA-TB+CORE+WELL-07-1.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-GEOPROBES.GPJ 5 Nov 17

HALEY ALDRICH

GEOPROBE REPORT

Boring No. D5

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 9 August 2017
Finish 9 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 11.3 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 41	0.0 5.0	ND	SM		Gray to black silty SAND with gravel (SM), mps 1.625 in., no structure, no odor, moist, 30-40% cinders, ash, and coal -FILL-	20	15	10	15	25	15				
5	PUSH	G2 49	5.0 10.0	ND	GW	5.9 5.4	Gray brown well graded GRAVEL with sand (GW), mps 1.6 in., no structure, no odor, wet, trace shell particles, wood, possible brick, appears disturbed especially at top of clay										
					CL	3.8 7.5	Light brown lean CLAY (CL), blocky texture, no odor, wet -MARINE DEPOSITS-										
10						1.3 10.0	BOTTOM OF EXPLORATION 10.0 FT										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/9/17	1350	0.3	Pulled	7.5	5.9

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 10.0
Rock Cored (ft) -
Samples G2

Boring No. D5

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

GEOPROBE REPORT

Boring No. E3

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 8 August 2017
Finish 8 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 11.9 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 30	0.0 3.0	ND	SP	11.6 0.3	-BITUMINOUS CONCRETE-										
					SM	11.3 0.6	Tan to yellow brown poorly graded SAND with gravel (SP)										
							Brown silty SAND with gravel (SM), mps 1.2 in., layered, no odor, moist, 20% cinders, ash, clinkers primarily below 2.1 ft.										
	PUSH	G2 45	3.0 8.0				Note: Observed 2-in. layer of black fine gravel held together by a tar-like substance at 1 ft, slight petrochemical/creosote-like odor. Poorly graded (fine) SAND layer from approximately 1.8-2.1 ft										
5							-FILL-										
				ND		5.4											
					ML	6.5	Light yellow brown sandy SILT with gravel (ML), mps 1.4 in., no structure, no odor, moist, occasional fragments of olive gray lean CLAY and brick particles										
						3.7											
	PUSH	G3 58	8.0 13.0		CL	8.2	-COHESIVE FILL-										
10							Olive yellow lean CLAY (CL), becoming more yellow brown with depth, blocky texture, slight yellow gray mottling, no odor, moist to wet below approximately 10.5-11 ft										
				ND			-MARINE DEPOSITS-										
						-1.1											
						13.0	BOTTOM OF EXPLORATION 13.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/8/17	1300	0.5		13	12* Not stable

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 13.0
Rock Cored (ft) -
Samples G3

Boring No. E3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

GEOPROBE REPORT

Boring No. E5

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 9 August 2017
Finish 9 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 12.0 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	PUSH	G1 47	0.0 5.0	ND	SM SM	11.6 0.4	Note: Top 5 in. contains no rubble or cinders/ash. Gray brown to near black silty SAND with gravel (SM), mps 1.4 in., weakly layered, no structure, no odor, moist, 5-10% brick and concrete fragments, 5-10% cinders, ash and coal particles, siltier from 3.5-5.0 ft with fewer cinders/ash, trace wood fragments -FILL-	5	10	10	20	35	20				
5	PUSH	G2 38	5.0 10.0	ND	SM/ SC	7.0 5.0	Brown to gray to olive silty/clayey SAND with gravel (SM/SC), mps 1.625 in., weakly layered, no structure, no odor, moist to wet below approximately 9 ft, from approximately 9-10 ft material is black with high silt/organic content, below 10 ft higher clay percentage, clearly disturbed, occasional, peat fibers -COHESIVE FILL-	10	10	10	15	30	25				
10	PUSH	G3 48	10.0 15.0	ND		-0.5											
					OL/ OH	12.5	Black ORGANIC SOIL with sand (OL/OH), no structure, organic odor, wet										
						-2.0	-ORGANIC DEPOSITS-										
15	PUSH	G4 50	15.0 20.0	ND	CL	14.0	Olive gray lean CLAY with sand (CL), becomes less sandy with depth and more yellow brown -MARINE DEPOSITS-										
20	PUSH	G5 40	20.0 25.0	ND			Similar to above except more gray brown, softer to the touch										
25						-13.0 25.0	BOTTOM OF EXPLORATION 25.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
			not checked		

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 25.0
Rock Cored (ft) -
Samples G5

Boring No. E5

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-GEOPROBE-09 W/ PID HA-LIB09-BOS.GLB HA-TB+CORE+WELL-07-1.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-GEOPROBES.GPJ 5 Nov 17

HALEY ALDRICH

GEOPROBE REPORT

Boring No. F1

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 8 August 2017
Finish 8 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 12.5 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						12.2	-BITUMINOUS CONCRETE-										
	PUSH	G1 34	0.0 3.0	ND	SM	0.3 12.0	2 inches of granular fill	5	15	10	10	30	30				
						0.5	Dark gray brown silty SAND with gravel (SM), mps 1.1 in, no structure, no odor, moist, 10% cinders and ash, 10% black metallic looking sand, trace brick and concrete particles										
	PUSH	G2 49	3.0 8.0	ND	SM	9.0 3.5	-FILL- Brown to gray to black CINDERS and ASH, 30% silty SAND with gravel (SM), layered, no odor, moist										
5							-CINDER/ASH FILL-										
					ML	5.5 7.0	Olive brown to red yellow to gray brown sandy SILT (ML), mps 1.625 in., no structure, no odor, moist, fines occasionally elastic, becoming more cohesive below 9 ft beneath a gravelly layer, brick fragments at 9.2 ft										
	PUSH	G3 37	8.0 13.0	ND		2.5	-COHESIVE FILL-										
10					OL/OH	10.0	Dark gray brown to gray to brown SILT/ORGANIC SOIL (OL/OH) with sand, appears disturbed (may be impacted by fill above), trace roots				5	25	70	N	L	L	
						0.0	-ORGANIC DEPOSITS-										
					CL	12.5	Light gray brown lean CLAY with sand (CL), mps 5 mm, no structure, grains are subangular to subrounded, no odor, wet, extremely soft to the touch										
	PUSH	G4 50	13.0 18.0	ND	CL	-0.5 13.0	Gray brown becoming more yellow brown with depth lean CLAY (CL), mps < 1 mm, blocky texture, no odor, wet										
15							-MARINE DEPOSITS-										
						-5.5 18.0	BOTTOM OF EXPLORATION 18.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/8/17		Hole collapsed to 9 ft			

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 18.0
Rock Cored (ft) -
Samples G4

Boring No. F1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

GEOPROBE REPORT

Boring No. F2

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 8 August 2017
Finish 8 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 12.4 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						12.1											
	P U S H	G1 47	0.0 3.0	ND	SP	0.3	-BITUMINOUS CONCRETE-	10	10	10	20	45	5				
					SM	11.8	Light brown poorly graded SAND with gravel (SP), mps 1.2 in.	5	10	10	15	30	30				
						0.6	Brown to gray brown silty SAND with gravel (SM), mps 1.625 in. (concrete), no structure, no odor, moist, 10% brick and concrete fragments, 10% ash, cinders, coal										
	P U S H	G2 49	3.0 8.0	ND			-FILL-										
5					SP	6.9	Black to brown poorly graded SAND (SP), mps < 2 mm, no structure, no odor, moist				15	80	5				
					SM	5.5	Brown to gray brown silty SAND (SM), intermixed with 40% cinders and ash, trace wood, porcelain, coal										
						4.9											
					CL	7.5	Gray brown lean CLAY with sand (CL), no structure, no odor, moist to wet, trace peat										
	P U S H	G3 46	8.0 13.0	ND	SM	4.4	Yellow brown silty SAND (SM), mps 1.3 in., well-bonded in situ, no odor, moist										
10						8.0	-COHESIVE FILL-										
						0.9	Note: Poorly bonded and primarily silt from approximately 10.5-11.5 ft.										
					CL	11.5	Gray to olive gray lean CLAY with sand (CL), fines slightly organic, no odor, wet, 5-10% brick particles, coal particles, cinders, ash, peat fibers, disturbed										
	P U S H	G4 56	13.0 18.0	ND	CL	-1.1	Gray brown/olive (becoming more yellow brown with depth), lean CLAY (CL), mps 1 mm, no odor, wet										
15						13.5	-MARINE DEPOSITS-										
						-5.6											
						18.0	BOTTOM OF EXPLORATION 18.0 FT										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/8/17	1030	0.5		~18	9.8

Sample ID
- O - Open End Rod
- T - Thin Wall Tube
- U - Undisturbed Sample
- S - Splitspoon Sample
- G - Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
- Overburden (ft) 18.0
- Rock Cored (ft) -
- Samples G4

Boring No. F2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

GEOPROBE REPORT

Boring No. F3

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 8 August 2017
Finish 8 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 12.5
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						12.2	-BITUMINOUS CONCRETE-										
	PUSH	G1 31	0.0 3.0	ND	SP	0.3	Yellow poorly graded (fine) SAND (SP)	5	5	5	15	80	5				
					SM	12.0	Brown silty SAND (SM) interbedded with layers of CINDERS, ASH and COAL with 40% silty SAND, occasional yellow sand layers, trace brick and concrete fragments				15	50	20				
						0.5											
						9.5											
	PUSH	G2 45	3.0 8.0	ND	SM	3.0	Note: Dark gray to black silty (fine) SAND from 3-3.5 ft (slightly metallic-looking with slight rusty brown coloration)										
						9.0	-FILL-										
5					SM	3.5	Similar to above SM from 0.5-3 ft										
						5.5											
					ML	7.0	Yellow to tan sandy SILT with gravel (ML), mps 1.5 in., no structure, feels very dense, no odor, moist	10	5		5	15	65	R			
	PUSH	G3 46	8.0 13.0	ND			-COHESIVE FILL-										
						3.5											
10						9.0	Note: Wet at 10 ft, becoming more cohesive with depth, occasional sandy pockets, occasional fragments of organic clay, trace wood fibers		5	5	10	15	65	N	L	L	
						-0.3											
					CL	12.8	Gray brown (becoming more yellow brown with depth), lean CLAY (CL), no visible structure, no odor, wet						100	N	L	L	
						-0.5	-MARINE DEPOSITS-										
						13.0	BOTTOM OF EXPLORATION 13.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/8/17		0.2		~13	9.9

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 13.0
Rock Cored (ft) -
Samples G3

Boring No. F3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

GEOPROBE REPORT

Boring No. G1

Project	BOYNTON YARDS, SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	NORTHERN DRILL SERVICE

File No. 130771-002
Sheet No. 1 of 1
Start 8 August 2017
Finish 8 August 2017
Driller Zack Nader
H&A Rep. M. Dodson
Elevation 11.3 (est.)
Datum NAVD 88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	None	G	--	Rig Make & Model: 6620 DT Geoprobe
Inside Diameter (in.)		1.695	--	Bit Type: Direct Push
Hammer Weight (lb)			-	Drill Mud: None
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						11.0	-BITUMINOUS CONCRETE-										
	P U S H	G1 28	0.0 3.0	ND	SP ML/ SM	0.3 10.5 0.8	Yellow brown poorly graded SAND with gravel (SP), mps 1.2 in., no structure, no odor, moist	10	10	5	20	50	5				
	P U S H	G2 56	3.0 8.0	ND			Gray brown to brown silty SAND/ sandy SILT (ML/SM), interbedded with ASH and CINDERS, trace wood, occasional blackish sand layers										
5						5.8	-FILL-										
					CL	5.5	Olive to gray to gray brown sandy lean CLAY with gravel (CL), mps 1.4 in., disturbed, no odor, wet at approximately 6.0 ft but moist to approximately 8.0 ft, trace wood debris, pockets of sand, inconsistent structure, very hard to touch										
	P U S H	G3 48	8.0 13.0	ND	OL/ OH/ CL	2.8 8.5	-COHESIVE FILL- Gray to olive gray to dark gray ORGANIC SOIL/ lean CLAY (OL/OH/CL), mps 0.4 in., appears disturbed, occasional peaty pockets, black wood fragments, no distinct odor, wet										
10						0.3	-ORGANIC DEPOSITS-										
					CL	11.0	Olive to light brown lean CLAY (CL), no visible structure, no odor, wet										
						-1.7	-MARINE DEPOSITS-										
						13.0	BOTTOM OF EXPLORATION 13.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/8/17	0845	0.2		~13	7.7

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 13.0
Rock Cored (ft) -
Samples G3

Boring No. G1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-GEOPROBE-09 W/ PID HA-LIB09-BOS.GLB HA-TB+CORE+WELL-07-1.GDT G:\130771 - 1 BOYNTON YARDS\GINT\130771-002-GEOPROBES.GPJ 5 Nov 17

HALEY ALDRICH

TEST PIT LOG

Test Pit No. A5-TP

Project	BOYNTON YARDS
Location	SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	EARTH EXPLORATIONS, INC.
Equipment Used	Bobcat E45
File No.	130771-002
H&A Rep	M. Dodson
Date	14 Aug 2017
Weather	Sunny, 70s

Ground El.: 9.5 (est.) **El. Datum:** NAVD 88 | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** Seepage from approximately 6.0 ft

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (color, natural grain size and artificial component percentage estimates, maximum particle size, manual test properties, structure, odors, moisture, other descriptions and observations GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests: Dilatancy	Toughness	Plasticity	Strength
0		9.3		-BITUMINOUS CONCRETE-										
		0.2	SM	PID = ND	15	20	10	15	25	15				
		8.7		Gray brown silty sand with gravel (SM), no oversized, mps 6 in., no structure, no odor, moist to dry, trace plastic trash										
		0.8	SM	Dark gray brown silty SAND with gravel (SM), no oversized, mps 10 in., no structure, no odor, moist, 5% brick, concrete, mortar, trace ash, cinders	10	10	15	20	25	20				
		7.7												
2		1.8	GW-GM	Light gray well graded GRAVEL with silt and sand (GW-GM)	20	30	15	10	15	10				
				-FILL-										
		7.0		PID = ND										
	0.0 - 5.0	2.5	SM	Dark gray silty SAND with gravel (SM), trace oversized, mps 1.5 in., no structure, no odor, moist, 15% rubble (primarily brick and concrete), trace plastic (plastic bags and poly), trace wood, glass, steel scrap	10	15	15	10	25	25				
4														
		4.5												
		5.0		Note: Stratum change varies between 4.5 and 5.0 ft.										
				PID = ND										
			SM/SC	Olive gray to olive brown silty/clayey SAND with gravel (SM/SC), 5% oversized, no structure, no odor, moist to near wet, possible wet at approximately 6.0 ft, 5% cobbles										
6	5.0 - 6.5													
		3.0		-COHESIVE FILL-										
		6.5		Note: Stratum change varies between 6.0 and 6.5 ft.										
				PID = ND										
			OL/OH	Olive gray to gray to black ORGANIC SOIL (OL/OH), organic odor, wet, 5-10% organic fibers, top foot appears disturbed (possibly from fill placement above), layered below approximately 6.5-7.0 ft						100				
	6.5 - 8.5			-ORGANIC DEPOSITS-										
8				Note: PEAT/ORGANIC SOIL from 7.5-8.0 ft. Olive gray sandy ORGANIC SOIL from 8.0-8.5 ft.										
		1.0												
		8.5		BOTTOM OF EXCAVATION 8.5 FT										

Obstructions: None

Remarks:

Field Tests

Dilatancy R - Rapid S - Slow N - None
Toughness L - Low M - Medium H - High
Plasticity N - Nonplastic L - Low M - Medium H - High
Dry Strength N - None L - Low M - Medium H - High V - Very High

Standing Water in Completed Pit

at depth Dry ft
measured after hours elapsed

Boulders

Diameter (in.)	Number		Approx. Vol. (cu.ft)
12 to 24	3	=	3
over 24	-	=	-

Test Pit Dimensions (ft)

Pit Length x Width (ft) 9 x 3
Pit Depth (ft) 8.5

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

HA TESTPIT-07-1 HA-LIB09-BOS.GLB HA-TP07-1.GDT G:\1\130771 - 1 BOYNTON YARDS\GINT\130771-002-TP.GPJ 6 Nov 17

HALEY ALDRICH

TEST PIT LOG

Test Pit No. B5-TP

Project	BOYNTON YARDS
Location	SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	EARTH EXPLORATIONS, INC.
Equipment Used	Bobcat E45
File No.	130771-002
H&A Rep	M. Dodson
Date	14 Aug 2017
Weather	Sunny, 80s

Ground El.: 9.9 (est.) **El. Datum:** NAVD 88 | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** Seepage below approximately 6.5 ft

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (color, natural grain size and artificial component percentage estimates, maximum particle size, manual test properties, structure, odors, moisture, other descriptions and observations GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0			SM	Light gray brown to dark gray brown silty SAND with gravel (SM), no oversized, mps 3.0 in., no structure, no odor, moist PID = ND	15	25	15	15	15	15				
		9.2 0.7	SM	Gray brown silty SAND with gravel (SM), no oversized, mps 11.0 in., no structure, no odor, moist, 5% brick/concrete/mortar fragments, trace cinders, ash, coal, porcelain, wood, asphalt, metal scrap	10	10	10	20	30	20				
2	0.0 - 4.5			PID = ND Note: Below approximately 3.0 ft material is siltier with higher percent of cinders, clinkers, ash (approximately 20%) -FILL-										
4		5.4												
		4.5	SC	Light brown clayey SAND (SC), occasionally sandy lean CLAY (CL), no structure, no odor, moist, occasional brick particles, cinders, occasional pieces/fragments of light gray lean CLAY PID = ND -COHESIVE FILL-		5		10	25	60	N	L	L	
6	4.5 - 7.0	3.9												
		6.0	GW	Red yellow to brown to dark gray well graded GRAVEL (GW) (cobbles), no structure, no odor, moist to wet below approximately 6.5 ft -FILL-										
		2.9 7.0	OL/OH	Dark gray to gray brown sandy ORGANIC SOIL (OL/OH), becoming less sandy with depth and mottled olive gray below approximately 8.0 ft, 10% peat fibers at 7.5-8.5 ft PID = ND					35	65	N	L	L	
8	7.0 - 9.0			-ORGANIC DEPOSITS-					5	96	N	M	M	
		0.9 9.0		BOTTOM OF EXPLORATION 9.0 FT										

Obstructions: None

Remarks:

Field Tests

Dilatancy R - Rapid S - Slow N - None
Toughness L - Low M - Medium H - High
Plasticity N - Nonplastic L - Low M - Medium H - High
Dry Strength N - None L - Low M - Medium H - High V - Very High

Standing Water in Completed Pit

at depth 8.5 ft
measured after 0.5 hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	-	= -
over 24	-	= -

Test Pit Dimensions (ft)

Pit Length x Width (ft) 9 x 3
Pit Depth (ft) 9.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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HALEY ALDRICH

TEST PIT LOG

Test Pit No. D6-TP

Project	BOYNTON YARDS
Location	SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	EARTH EXPLORATIONS, INC.
Equipment Used	Bobcat E45
File No.	130771-002
H&A Rep	M. Dodson
Date	14 Aug 2017
Weather	Sun and clouds, 80s

Ground El.: 10.1 (est.) **El. Datum:** NAVD 88 | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** Rapid from NE corner at approximately 6.0 ft

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (color, natural grain size and artificial component percentage estimates, maximum particle size, manual test properties, structure, odors, moisture, other descriptions and observations GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0			SM	Gray brown silty SAND with gravel (SM), oversized, 10% brick and concrete fragments PID = ND	10	25	20	15	15	15				
		9.2 0.9		Similar to above except brown to gray brown and 15% porcelain, plastic, glass, ash, cinders, wood, metal scrap, asphalt pieces										
1														
2				PID = ND										
	0.0 - 5.0													
3				-FILL-										
4														
				Note: Noticeably more damp/wet below 4.5 ft, sandier										
5				Note: On NE corner of pit, sand and shells extend up to approximately 4.5 ft.										
		4.6 5.5	SM	Dark gray silty SAND with gravel (SM), 10% oversized concrete pieces (especially at south edge of pit), 20% mussel shells, no odor, moist to wet, approximately 25% fine cinders, clinkers, ash intermixed -FILL- PID = ND										
6	5.0 - 6.5													
		3.6 6.5	CL	Note: Bottom of final bucket: olive gray brown mottled lean CLAY (CL)										
		3.3 6.8		-POSSIBLE MARINE DEPOSITS- Note: Terminated test pit due to rapid water entry in northeast corner of pit at 5.5 ft. BOTTOM OF EXCAVATION 6.8 FT										

Obstructions: Rubble

Remarks:

Field Tests

Dilatancy R - Rapid S - Slow N - None
Toughness L - Low M - Medium H - High
Plasticity N - Nonplastic L - Low M - Medium H - High
Dry Strength N - None L - Low M - Medium H - High V - Very High

Standing Water in Completed Pit

at depth 5.5 ft
measured after 0.1 hours elapsed

Boulders

Diameter (in.)	Number		Approx. Vol. (cu.ft)
12 to 24	2	=	3
over 24	-	=	-

Test Pit Dimensions (ft)

Pit Length x Width (ft) 8 x 3
Pit Depth (ft) 6.8

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST PIT LOG

Test Pit No. E4-TP

Project	BOYNTON YARDS
Location	SOMERVILLE, MASSACHUSETTS
Client	DLJ REAL ESTATE CAPITAL PARTNERS
Contractor	EARTH EXPLORATIONS, INC.
Equipment Used	Bobcat E45
File No.	130771-002
H&A Rep	M. Dodson
Date	14 Aug 2017
Weather	Sun and clouds, 80s

Ground El.: 11.1 (est.) **El. Datum:** NAVD 88 | **Location:** See Plan | **Groundwater depths/entry rates (in./min.):** None

Depth (ft)	Sample ID	Stratum Change Elev./ Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (color, natural grain size and artificial component percentage estimates, maximum particle size, manual test properties, structure, odors, moisture, other descriptions and observations GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Tests Dilatancy	Toughness	Plasticity	Strength
0			GW-GM	Gray brown well graded GRAVEL with silt and sand (GW-GM), no oversized, mps 11 in. (concrete piece), no structure, no odor, moist, 5% brick fragments, trace concrete										
		10.6 / 0.5	SM	PID = ND Brown to gray brown silty SAND with gravel (SM), oversized, no structure, no odor, moist, 15% brick and concrete fragments and pieces, 5% ash, cinders, clinkers, coal, 5% wood fragments, trace plastic, clay pieces										
2				PID = ND										
	0.0 - 5.0			-FILL-										
4														
		6.1 / 5.0	CL	Brown mottled/disturbed lean CLAY with sand (CL), no oversized, mps 8 in., disturbed, no odor, moist, becoming more gray with depth, slight petroleum-like odor from approximately 6-8 ft										
6				PID = ND Note: At approximately 6.0 ft depth, encountered an approximately 3-in. probable steel pipe running East to West towards a light pole in the street.										
	5.0 - 9.0			-COHESIVE FILL- Note: Below approximately 7.5 ft, material is olive gray to olive to light gray with occasional darker gray zones, variable organic and sand content, occasional cinders, very disturbed in appearance.										
8				Note: Bottom 6 in. may be natural organic soil but observation made based on coloration in-situ only. PID = ND										
		2.1 / 9.0		BOTTOM OF EXCAVATION 9.0 FT										

Obstructions: Pipe at 6.0 ft

Remarks:

Field Tests

Dilatancy R - Rapid S - Slow N - None
Toughness L - Low M - Medium H - High
Plasticity N - Nonplastic L - Low M - Medium H - High
Dry Strength N - None L - Low M - Medium H - High V - Very High

Standing Water in Completed Pit

at depth Dry ft
measured after hours elapsed

Boulders

Diameter (in.)	Number	Approx. Vol. (cu.ft)
12 to 24	-	= -
over 24	-	= -

Test Pit Dimensions (ft)

Pit Length x Width (ft) 10 x 3
Pit Depth (ft) 9.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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APPENDIX B

Haley & Aldrich Soil Precharacterization Group Classification System

APPENDIX B
HALEY & ALDRICH SOIL PRECHARACTERIZATION
GROUP CLASSIFICATION SYSTEM
BOYNTON YARDS
SOMERVILLE, MASSACHUSETTS
FILE NO. 130771-002

Haley & Aldrich has developed the following Soil Precharacterization Group Classification System to describe soil quality with regards to both Massachusetts Contingency Plan (MCP) requirements and disposal facility requirements (#COMM-97-001 and specific facility requirements):

GROUP I:

Note: Certain Group I soils (soils with levels of contaminants less than RCS-1) may not meet facility specific criteria (based on material characteristics or levels of contaminants) at most locations that accept material below RCS-1. Accordingly, these materials may require reuse at an in-state unlined landfill.

- Group I-1: Naturally deposited inorganic soils that contain no detectable levels of oil, waste oil, or hazardous materials other than background levels of naturally occurring metals or other natural substances.

- Group I-2: Naturally deposited soils that contain low levels of oil, waste oil, or hazardous materials below applicable RCS-1 release notification thresholds specified in CMR 40.0300 and/or background levels of naturally occurring metals or other natural substances and that are not otherwise a hazardous waste, as specified in DEP Policy.

- Group I-3: Urban Fill soils which contain oil, waste oil or hazardous materials at concentrations less than a release notification threshold equal to RCS-1 specified in CMR 40.0361, and that are not otherwise a hazardous waste, as specified in DEP Policy.

GROUP II:

Soils that contain oil, waste oil, or hazardous materials at concentrations greater than or equal to applicable RCS-1 release notification thresholds specified in CMR 40.0300, and that are not otherwise a hazardous waste as specified in MassDEP Policy. Group II soils are considered Remediation Waste and require management under the MCP unless specifically indicated otherwise. Unless otherwise specified, transport of Group II soils from the site to appropriate off-site facilities shall be tracked using Bureau of Waste Site Cleanup Bills-of-Lading (BOL) prepared by the Owner's LSP. Group II soils require off-site reuse, recycling, treatment, or disposal at MassDEP-approved facilities based on the results of the Precharacterization Testing Program and criteria outlining the following Groups:

- Group II-1: Material which meets the COMM-97-001 criteria for disposal at in-state unlined landfills to be reused as daily cover, intermediate cover, and pre-cap contouring material.

- Group II-2: Material which meets the COMM-97-001 criteria for disposal at in-state lined facilities to be reused as daily cover, intermediate cover, and pre-cap contouring material.

- Group II-3: Material which meets the acceptance criteria for in-state or regional asphalt batching recycling facilities.

- Group II-4: Material which meets regional thermal treatment facilities. These materials may also be acceptable for reuse or disposal at RCRA Subtitle D facilities.

- Group II-5: RCRA non-hazardous waste material which contains concentrations of contaminants that exceed acceptance criteria of regional recycling or thermal treatment facilities that require disposal at a RCRA Subtitle D landfill facility.

GROUP III - Hazardous Waste:

Soils that meet specific "characteristic" or "listed" hazardous waste criteria as defined in 310 CMR 30.000, the "Massachusetts Hazardous Waste Regulations."

- Group III-1: Soils determined to contain "listed" or "characteristic" hazardous waste constituents that cannot be readily treated on-site. This material must be transported to an out-of-state approved RCRA Subtitle C hazardous waste disposal or treatment facility that has been approved by the Owner in accordance with the procedures outlined in Section 1.7. These soils must be transported under Uniform Hazardous Waste Manifest. Land Disposal Restrictions (LDRs) may apply to the soil.

- Group III-2: Soils determined to exhibit a "characteristic" of hazardous waste such as ignitability, corrosivity, reactivity or toxicity (leachability) or soils that contain hazardous constituents from a listed hazardous waste that can be successfully treated on-site and no longer exhibits a characteristic of hazardous waste or has been determined (by the applicability of the Contained-in Determination) that the material is no longer a hazardous waste. The material will be reclassified depending on other contaminants and disposed of at a Group II-2, II-3, II-4, or II-5 facility that has been approved by the Owner. Decharacterized hazardous waste may not be acceptable for reuse at select Group II-3 facilities or for reuse as daily cover.

APPENDIX C

Laboratory Data Reports

APPENDIX D

Previous Reports