

ATTACHMENT O

VOLUME 1 OF 2

**REMEDIAL ACTION PLAN AND
COST ESTIMATE**

**REMEDIAL ACTION PLAN
SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT**

In Support of the Stewardship Permit Application
Submitted By:

General Electric Company and
The City of Bridgeport

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**REMEDIAL ACTION PLAN
SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT**

1.0 INTRODUCTION

Leggette, Brashears & Graham, Inc. (“LBG”) has prepared this Remedial Action Plan (“RAP”) for the 17.16-acre vacant parcel located at 379 Bond Street in Bridgeport, Connecticut (herein referred to as the “Site”) (figure 1). The history, current conditions, scope and results of environmental investigations and comparison to regulatory criteria for that Site were documented in detail in a report entitled Phase I-III Environmental Site Assessment, General Electric Company, School Parcel, Bridgeport, Connecticut, Leggette, Brashears & Graham, March, 2013 (Phase III). Triton Environmental, Inc., the environmental consultant retained by the City of Bridgeport, also performed due-diligence investigations at the Site in August 2013. The results of these investigations have been documented in a report titled Targeted Due Diligence Testing, Triton Environmental, Inc., October 2013, attached as Appendix I to this RAP (“City Due Diligence”).

As part of parcel redevelopment, General Electric Company (“GE”) subdivided the Site from a larger 76.5-acre parcel owned by GE and identified as 1285 Boston Avenue in Bridgeport, Connecticut (“Boston Avenue Property” or “Property”). GE plans to convey the Site to the City of Bridgeport for use as a high school. This RAP has been prepared to outline the remedial actions that have been, or will be performed to bring soil and groundwater at the Site into compliance with Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulations (RSRs) for high school use and to satisfy the Connecticut’s Corrective Action requirements.¹

¹ The larger Boston Avenue Property is an interim status treatment storage and disposal facility (TSDF). It is also a “land disposal facility” (LDF) subject to the regulations governing “Corrective Action at Interim Status Disposal Facilities,” Regulations of Connecticut State Agencies (RCSA) §22a-449(c)-105(h) et seq., due to the presence of a former sludge drying bed that was located off- Site on the western portion of the Property. That unit was closed in 1991. Applicable regulations require the owner of a covered LDF to investigate and remediate all releases of hazardous waste and hazardous substances at or from the facility as a whole, not just from the individual hazardous waste unit, in accordance with RCSA §22a-449(d)-105(h)(2) (Corrective Action).

2.0 REGULATORY FRAMEWORK

Environmental conditions at the Site must be evaluated by comparing the concentrations of constituents of concern (COCs) found in various environmental media to applicable standards in the CTDEEP RSRs. See RCSA §22a-449(c)-105(h); RCSA §§22a-133k 1 through 22a-133k-3. A summary of those RSR criteria that apply to the Site is set out below. Some criteria in the RSRs are based upon land use. The Site will be used as a school, which qualifies as “residential activity.” Therefore, those RSR criteria that support residential uses will be applied. Remedial actions or other measures will be necessary where concentrations of COCs in the various environmental media exceed the applicable criteria from the RSRs.

2.1 Soil Remediation Standards

In general, soil impacts at the Site are evaluated against the applicable: 1) direct exposure criteria; and 2) pollutant mobility criteria. See RCSA §22a-133k-2(a).

Direct Exposure Criteria (DEC)

The DEC vary based on land use, with residential DEC (RDEC) being the default criteria and the ones that will apply to the Site given its intended use as a school. DEC apply to all soils within 15 feet of the ground surface, unless the soils are “inaccessible.” Soils are considered “inaccessible” if they are located below: 1) a building or other permanent structure; 2) 2 feet of clean fill and a concrete or asphalt pavement layer (minimum 3 inches); 3) 4 feet of clean fill; or 4) below a concrete or asphalt pavement layer (minimum 3 inches), but only if the soil is impacted by semi-volatile substances and petroleum hydrocarbons that are normal constituents of asphalt and/or by concentrations of metals less than two times the applicable DEC. In order to render soils inaccessible, an environmental land use restriction (ELUR) ensuring soils will not be exposed must be recorded on the land records.

Pollutant Mobility Criteria (PMC)

As discussed below in Section 2.2, the Site is located in an area with a “GB” groundwater classification, meaning that the GB PMC apply to those soils above the seasonal-high water table.

- For metals, cyanide and PCBs in soils, the results of a leaching test (typically synthetic precipitation leaching procedure (SPLP)) performed on the soils must be below the GB PMC.
- For all other constituents, in general, the total (mass) concentrations of the constituent in the soil must be below the GB PMC in the RSRs. As an alternative, for these other constituents, leaching analyses such as the SPLP can be performed and compared to 10 times Groundwater Protection Criteria (GWPC). In order to apply this alternative means of demonstrating compliance, non-aqueous phase liquids (NAPL) cannot be present in soil.

2.2 Groundwater Remediation Standards

The groundwater classification of the area affects application of the various RSR criteria. Groundwater at the Site is classified as “GB” and, therefore, RSR criteria applicable to GB areas will be used. A “GB” classification applies within highly urbanized areas or areas of intense industrial activity and where public water-supply service is available rather than private water-supply wells. The State's goal for groundwater with a GB classification is to prevent further degradation. Because the Site is in a GB area, the quality of groundwater at the Site is evaluated against either: 1) the surface-water protection criteria (SWPC) and the volatilization criteria (VC); or 2) the background concentration for groundwater in the plume. See RSCA §22a-133k-3(a)(1). In addition, constituent concentrations in GB groundwater must not interfere with any existing uses of that groundwater. See RSCA §22a-133k-3(a)(3). Light non-aqueous phase liquid (LNAPL) must be removed in accordance with RSCA §22a-449(c)-106(f) and all other NAPL must be removed to the “maximum extent prudent”.

Surface-Water Protection Criteria

The SWPC apply to groundwater at the point it discharges into a surface-water body. Alternatives to the SWPC listed in the RSRs may be calculated based upon site-specific conditions and using the equation in RSCA §22a-133k-3(b)(3)(A).

Volatilization Criteria (VC)

The VC vary based on land use, with residential VC (RVC) being the default criteria and the ones that will apply to the Site given its intended use as a school. Under the RSRs, the VC apply to volatile organic compound (VOC) concentrations in groundwater within 15 feet of the ground

surface or a building. In March 2003, CTDEEP proposed revisions to the VC that will change this value from 15 to 30 feet. As an alternative, compliance with the VC can be established through analysis of VOCs in actual soil vapor beneath a building compared to the soil-vapor volatilization criteria (SVVC).

2.3 Additional Polluting Substances/Alternative Criteria

Constituents without Criteria

For COCs detected at a site for which criteria have not been promulgated under the RSRs, commonly referred to as “additional polluting substances” (APSs), the RSRs provide a means by which to develop site-specific DEC, PMC and GWPC. Before these criteria for APSs may be used, the Commissioner must approve them on a site-specific basis. APSs have been identified at the Site. GE has submitted to the Commissioner a request for approval of APSs criteria for the Boston Avenue Property, and received approval of the request on April 7, 2014. The criteria identified in that request have been incorporated into this RAP.

Volatilization Criteria

As part of the APS submittal, GE requested permission to use the Volatilization Criteria set out within the Proposed Revisions; Connecticut’s Remediation Standard Regulations Volatilization Criteria, CTDEEP, March 2003 for the constituents that are included there. Approval of this request was received on April 7, 2014.

Phenanthrene

The CTDEEP recently acknowledged that the SWPC for phenanthrene was incorrectly calculated, and indicated they will accept requests to use the 2008 draft criterion of 23 ug/l (micrograms per liter) rather than the published criteria of 0.077 ug/l. The APS submittal included a request for this corrected value. Approval of this request was received on May 1, 2014.

CTDEEP Guidance for Certain Substances

Based on general guidance from CTDEEP, this report utilizes a more stringent GB PMC for arsenic of 0.1 mg/l (milligram per liter) rather than the promulgated 0.5 mg/l.

3.0 SITE BACKGROUND INFORMATION

3.1 Physical Description

The 17.16-acre Site is generally rectangular in shape with approximate dimensions of 1,300 feet (north-south) by 590 feet (east-west) (figure 2). The Site is bordered to the east by Bond Street and to the north, west and south by the remainder of the Boston Avenue Property. Steel chain-link fence is located along the eastern Site boundary. Access to the Site can be obtained from the Boston Avenue Property to the south, west and north and from gated entrances along Bond Street to the east. The only structure currently located on the Site is an approximate 160-square foot, pre-fabricated, free-standing, epoxy-coated steel waste storage unit located on the north-central portion of the Site.

The Site is developed with asphalt or concrete surfaces. The overall topography slopes from the east (Bond Street) to west. Grade elevations range from 41 feet above mean sea level (ft asml) along the northeastern portion of the Site to 24 ft asml at the northwestern portion. A series of catch basins are located on the Site running north to south, approximately 100 feet west of the eastern Site boundary. Stormwater runoff from the east drains to these catch basins and exits the Site via underground piping to the south of the School Parcel, eventually discharging to Brook C, which is located south of Stillman Pond. Stormwater runoff on the remainder of the Site either drains to a single catch basin located on the northern portion of the Site and exits the Site via underground piping to the west, northwest of the school parcel, into Brook B which is located north of Stillman Pond, or leaves the Site following the surface topography.

Overhead electrical lines enter the Site from the south and exit to the north. Four (4) of the 10 utility poles located along the western portion of the Site contain 10 non-polychlorinated biphenyl (PCB) transformers. An additional 9 utility poles are located on the eastern edge of Site. Sanitary sewer service is available to the Site, but not currently in use. Water is available to the Site through a metered connection located on the eastern side of the Site.

3.2 Geology and Hydrogeology

3.2.1 Unconsolidated Materials

The unconsolidated materials identified during the Site investigations include “urban fill,” stratified drift and till. Figure 3 shows the approximate lateral extent of these materials.

Urban Fill

The majority of the shallow unconsolidated materials located across the Site consist of “urban fill”- typically reworked sand, gravel and/or silt matrix containing varying quantities of brick and concrete. This fill generally ranges from 1 to 6 feet in thickness.

Stratified Drift and Till

The remaining unconsolidated material at the Site is mapped as stratified drift and/or till. Stratified drift is composed of interbeds of well-sorted material including gravel, sand, silt and clay. Till is composed of a densely-packed, poorly-sorted mixture of cobbles, gravel, sand, silt and clay.

The deepest layers of stratified drift are on the western and central portion of the Site, with thicknesses ranging up to 44 feet. This stratified drift is a prolific water-bearing unit, whereas the thinner stratified drift on the eastern portion of the Site yields less water.

Till is generally located below the eastern and northern portions of the Site and grades into the stratified drift on the western portion of the Site. Till typically was observed immediately above bedrock and is assumed to be present at most locations between the bedrock surface and the overlying stratified drift or urban fill. The till at the Site is a poor water-bearing unit because of its density and poorly sorted grain-size distribution.

3.2.2 Bedrock

The Site is located near the contact of two different bedrock formations. Bedrock beneath the majority of the Site is mapped as Cooks Pond Schist Formation (fine-grained, rusty-weathered schist), while bedrock beneath the northern edge of the Site is mapped as Southington Mountain Formation (thinly interlayered, medium to coarse-grained schist and finer-grained gneiss)

(ref. 1). Schist is a metamorphic rock that primarily contains biotite, quartz and muscovite, but may also contain several secondary minerals such as garnet or plagioclase. The bedrock beneath the Site is mapped as dipping to the northwest (ref. 1). Bedrock below the Site was observed to range from 10 ft bg (feet below grade) to 50 ft bg. As shown on figure 4, the bedrock surface slopes generally from the east to west, with a “bowl” feature (area of lower bedrock elevation) in the north-central portion of the Site, near former monitoring well L-50.

3.2.3 Groundwater

An extensive network of monitoring wells was installed to evaluate groundwater conditions below the Site. Groundwater is encountered in all of the geologic units described above.

From 1989 to 2010, the depths-to-groundwater measured in the unconsolidated materials across the Site ranged between 2 ft bg to 15 ft bg. Based upon the groundwater level elevation data, groundwater in these materials is generally expected to flow from east to west-southwest below the Site (see figure 5 for typical overburden potentiometric surface elevation map). The seasonal depth-to-water fluctuation for the above-referenced period ranged from less than 1 foot for wells completed in the stratified drift to as much as 3 feet for wells completed in the till. Based upon aquifer tests, the hydraulic conductivity of stratified drift is approximately 210 ft/day (feet per day) and the hydraulic conductivity of the till below the southern side of the Site was approximately 6 ft/day.

Based upon potentiometric surface levels in bedrock wells completed on other portions of the Boston Avenue Property, groundwater flow in bedrock below the Site is expected to be from northeast to southwest. Depth-to-groundwater in the bedrock wells ranged from approximately 3.4 ft bg to 15.8 ft bg, with seasonal fluctuations of less than 1 foot. Nested monitoring wells in the stratified drift deposits and bedrock below the western portion of the Site have shown slight upward hydraulic gradients.

3.2.4 Nearby Surface Water

Stillman Pond, an approximately 5-acre pond, and unnamed streams identified by GE as Brook A and Brook B are located between 100 and 200 feet west of the Site on the Boston

Avenue Property. Piezometers were installed within the onsite watercourses to evaluate the relationship between the shallow groundwater and the surface water. Water-level data indicate consistently upward gradients at most nearby locations, with slightly upward to neutral gradients at one location.

3.3 General Occurrence of Chemicals of Concern

This section provides an overview of the chemicals of concern (COCs) detected in soil and groundwater during environmental investigations of Site conditions. Emphasis has been placed on those areas where concentrations exceed applicable criteria and require remedial actions. It is sometimes difficult to determine whether the presence of a specific COC is associated with a particular area of concern (AOC) that has been identified; however, the Phase III report does provide a detailed discussion of the COCs that have been found for each identified (AOC). A summary of the site history and AOCs identified at the Site is provided in the Appendix II.

3.3.1 Petroleum Hydrocarbons

Petroleum hydrocarbons are the primary constituents in petroleum products, including kerosene, jet or diesel fuel, heating oils and motor oils.

Soils

Connecticut assesses the presence of petroleum hydrocarbons in soils using the Extractable Total Petroleum Hydrocarbon (ETPH) analytical method. In this RAP, we denote these petroleum hydrocarbons as ETPH, an abbreviation that refers to the analytical method rather than to the constituents themselves. Figure 6 shows the distribution of ETPH across the Site as compared to the applicable RDEC and GB PMC criteria.² As a recognized alternative means of demonstrating compliance with the GB PMC, samples collected above the seasonal high water table that contained concentrations of ETPH exceeding the GB PMC (based upon total analysis) were analyzed using SPLP. Most of the resulting SPLP ETPH concentrations met criteria because the concentrations were less than the ten times the GWPC, except for concentrations in two samples.

² ETPH was detected in samples collected across the Site, even in those areas not associated with identified AOCs. In several locations, there was no correlation between concentrations of ETPH in shallow soils and concentrations in the deeper, saturated soils or between ETPH concentrations at different, deeper intervals.

As an interim action, the Site areas containing the two sample points with SPLP ETPH exceedances,³ were further delineated and removed as interim actions. Similarly, certain soils containing ETPH above the RDEC on the eastern elevated portion of the Site have been removed. All of these removals were performed in accordance with the protocols set out in Sections 6.2.1 through 6.2.6 of this RAP. These actions are discussed further in Section 4.0 below and Appendix III.

Conclusion: Additional Site areas where the ETPH concentrations continue to exceed the RDEC will require future remedial actions, as described below in Sections 5.0 and 6.0.

Groundwater

ETPH was detected in groundwater samples from eight wells primarily in the central portion of the Site.⁴ ETPH was also detected in two wells near the western (downgradient) Site boundary (B43-MW-1 and UST5-8-MW-1, Plate 1). The only available groundwater criteria for ETPH under the RSRs are the GWPC, which do not apply to the Site.

Conclusion: No remediation is required at the Site for ETPH constituents in groundwater.

3.3.2 Semi-Volatile Organic Compounds

Semi-volatile organic compounds (SVOCs) include a broad range of organic compounds with various uses. For this Site, the SVOC analyte list includes compounds such as: phthalates (typically used as plasticizers; examples of relevant phthalates include diisodecyl phthalate (DIDP), bis(2-ethylhexyl)phthalate, di-n-butyl phthalate and butyl benzyl phthalate); polynuclear aromatic hydrocarbons (PAHs; a group of compounds present in petroleum products, asphalts, coal and combustion product; examples of relevant PAHs include benzo(a)anthracene, benzo(b)fluoranthene and carbazole); dibenzofuran (a coal-tar derivative that is often detected

³ These areas are located below former Building 30S and Building 31.

⁴ These wells are located near former Buildings 27W, 30W, 31W, 32W and 33W and the associated courtyards.

with PAHs); phenol (production of phenolic resins and in slimicides and some consumer products); and, several other compounds.

Soils

PAHs, phthalates, and phenols were detected in the Site soils, but only the PAHs exceeded one or more criteria. For RDEC, the Site-wide pattern of PAH detections above the criteria is similar to the pattern of ETPH detections exceeding the RDEC at most locations both above and below the water table (figure 7). In addition, using SPLP extraction and analysis, only the concentrations of benzo(a)anthracene, benzo(b)fluoranthene and carbazole exceeded the compliance criteria (a combination of the GB PMC and 10 times the GWPC), and then only in 8 samples above the seasonal high water table (also shown on figure 7).

As interim actions, certain soils containing PAHs above the RDEC on the eastern elevated portion of the Site, and soils containing PAHs above both the GB PMC and times ten the GWPC have been removed. All of these removals were performed in accordance with the protocols set out in Sections 6.2.1 through 6.2.6 of this RAP. These actions are discussed further in Section 4.0 below and Appendix III.

A July 11, 2014 CTDEEP comment letter requested either additional evaluation, investigation, or remediation for soils beneath former Building 33W (Sample B33W-B-7 (0.6-2)), where benzo(a)anthracene was detected in SPLP extract at a concentration of 0.0071 mg/l which is above 10 times the GWPC of 0.006 mg/l. The total benzo(a)anthracene result for B33W-B-7 (0.6-2) was ND<0.0071 mg/kg, while the GB PMC is 1 mg/kg; therefore the sample meets the GB PMC as specified in the RSRs, specifically R.C.S.A. section 22a-133k-2(c)(1) and remediation is not required. While remediation is not required to show compliance with the GB PMC, this RAP has been updated to include this area for remediation.

Conclusion: Additional Site areas where the PAH concentrations continue to exceed the RDEC will require future remedial actions, as described below in Sections 5.0 and 6.0. Remedial actions will be completed for the soils in the area of former Buildings 33W (sample location B33W-B-7) as described below in Sections 5.0 and 6.0.

The phthalates diisodecyl phthalate (DIDP), bis(2-ethylhexyl)phthalate, di-n-butyl phthalate and butyl benzyl phthalate were detected in soil. DIDP was present as LNAPL beneath former Courtyard 32, but was removed as an interim action between May and September 2013. These remedial actions are discussed further in Appendix IV.

Conclusion: No further remediation is required for these phthalates in soils.

No other Semi Volatile Organic Compounds were detected in soils above applicable criteria.

Groundwater

SVOCs have been detected in Site groundwater, with concentrations of certain PAHs (acenaphthylene, benzo(a)anthracene, benzo(a)pyrene and benzo(b)fluoranthene), and bis(2-ethylhexyl)phthalate exceeding the SWPC at certain locations on the Site. No SVOCs were detected above the SWPC in wells near the downgradient (western) property line, where groundwater exits the Site (Plate 2).

Conclusion: Given that concentrations of SVOCs comply with RSR criteria at the downgradient property boundary, no remediation for SVOCs in groundwater is required at the Site to demonstrate compliance with the applicable criteria (SWPC).

3.3.3 Polychlorinated Biphenyls

PCBs were historically used at the Site in transformers and capacitors. The equipment remaining onsite after 1978 was removed and replaced with PCB-free equipment between 1980 and 1987.

Soils

Figure 8 shows the distribution of PCBs detected in Site soils. Concentrations of PCBs below the RDEC of 1 mg/kg (milligram per kilogram) were sporadically detected in the shallow soils in the topographically lower former industrial area. Nearly all of the PCB detections were in soils located above the seasonal high water table.

Soils with PCBs greater than 1 mg/kg were excavated and properly disposed as part of several interim remedial actions completed between December 2010 and November 2013.⁵ These actions are discussed further in Appendix V.

During the City's due diligence, soil samples were collected from the Site and analyzed for various COCs. PCBs at a concentration of 22 mg/kg were reported in one of the samples collected in the vicinity of former Building 28E; however, concerns were raised about the sample validity and laboratory quality assurance/quality control. A split sample subsequently collected from this area detected PCBs at 0.225 mg/kg. In addition, PCBs were not detected above 1 mg/kg in soils immediately below or surrounding this sample. To be conservative, GE also excavated and properly disposed of soils from this location as an interim measure. These actions are discussed further in Appendix V.

Conclusion: No further remediation of PCBs in soil is required at the Site to achieve compliance with the RDEC and the GB PMC.

Groundwater

PCBs were detected in groundwater at the Site during two sampling events, but at concentrations below the SWPC (Plate 3). PCBs were not detected in the wells nearest the downgradient (western) property line.

Conclusion: No remediation of PCBs in groundwater is required.

3.3.4 Volatile Organic Compounds

Volatile organic compounds (VOCs) include a broad range of organic compounds with various uses. Included in the VOC analyte list for the Site are: aromatic hydrocarbons present in petroleum products and solvents; halogenated hydrocarbons used as solvents and degreasers; and, other VOCs used as solvents, degreasers and for other purposes.

⁵ These soils were located in the areas of former Building 26S, Courtyards 30W and 32W, Building 32S, and the northern portion of Building 54.

Soils

Those aromatic VOCs found at the Site generally were detected at trace levels and below the seasonal high water table. None of the aromatic VOC concentrations exceeded the applicable criteria.

Halogenated VOCs generally were detected on the western-central portion of the Site. Tetrachloroethene (PCE) was detected above the GB PMC at the location depicted in figure 9.⁶ As an interim action, these soils containing PCE above the GB PMC have been removed. All of these removals were performed in accordance with the protocols set out in Sections 6.2.1 through 6.2.6 of this RAP. These actions are discussed further in Section 4.0 below and Appendix III. No other halogenated VOCs were detected above the applicable criteria for soil.

Conclusion: No further remediation is required for VOCs in soils.

Groundwater

Halogenated VOCs have been detected below applicable groundwater criteria in the groundwater flowing onto the eastern portion of the Site from offsite. Halogenated VOCs have also been detected in groundwater at locations below the western portion of the Site. The concentrations of PCE have historically exceeded the SWPC at two well locations (only one since 2010, as shown on Plate 4). In one instance, a well further downgradient of the Site demonstrated compliance with the SWPC. In the other instance, subsequent data demonstrated compliance with the SWPC.

Conclusion: No remediation is required for VOCs in groundwater to address the SWPC.

The concentration of PCE exceeded the RVC at one location downgradient of former Building 32W (2010) and the concentration of vinyl chloride exceeded the RVC downgradient of former Building 32W and the associated courtyard (2006, but not subsequent samples).

⁶ This location is in former Building 29R.

Conclusion: If further groundwater monitoring does not demonstrate compliance with the RVC, an action to address the RVC for PCE would be required. The recommended action would be to record an ELUR prohibiting construction of a building over the groundwater containing PCE exceeding the RVC criteria.

3.3.5 Metals and Cyanide

Metals may be present in soil and groundwater at the Site as a result of natural conditions, but can also result from manufacturing operations (e.g., manufacture of wire insulation, milling, plating, drawing), storage and handling of raw materials and wastes and imported fill.

Soils

Most soil samples from the Site were analyzed for the “Connecticut list” of 15 metals. Selected samples were also analyzed for hexavalent chromium, trivalent chromium, boron, aluminum, iron and/or cyanide. Several samples were analyzed for arsenic or lead only. Various metals were detected in these soil samples. Figure 10 shows the sampling locations and where metals concentrations exceeded the RDEC and the GB PMC.

Arsenic⁷ and lead are the metals most frequently present at concentrations above the RDEC in Site soils. Arsenic concentrations above the RDEC (10 mg/kg) range up to 122 mg/kg, with the highest concentration identified at a depth of 12 to 13 ft bg at a location east of the main building. Arsenic was identified above the numerical RDEC in the upper four feet of material located on the elevated, southeastern portion of the Site. For the 77 samples collected in this area, the 95% UCL of the arithmetic mean resulted in a concentration of 8.5 mg/kg; therefore, these materials meet the RDEC (R.C.S.A. section 22a-133k-2(e)(1)) and no remediation is required in this area. Details regarding the aforementioned calculation are provided in Appendix VI.

⁷ Arsenic concentrations exceeding the RDEC are found primarily below and east of the former main building (south of Building 32), but also at a few locations near the western Site boundary.

Lead was present in samples collected across the Site, but concentrations above the RDEC (400 mg/kg) were detected only in samples from the upper 4 feet.⁸ The highest detected concentration of lead was 105,000 mg/kg. Antimony⁹, beryllium, copper, mercury¹⁰ and silver are also present in one or more soil samples in excess of the RDEC.

Conclusion: Site areas where the metals concentrations exceed the RDEC will require future remedial actions, as described below in Sections 5.0 and 6.0.

To assess compliance with the GB PMC, a number of samples were extracted by the SPLP method and analyzed for several of the metals and cyanide. Concentrations of SPLP lead¹¹ and mercury¹² exceeded the GB PMC in several locations. No other metals were detected above the GB PMC.

All soils containing mercury and soils containing lead above the GB PMC and located below former Buildings 29L and 31E, and Courtyards 28R and 30L have been removed. All of these removals were performed in accordance with the protocols set out in Sections 6.2.1 through 6.2.6 of this RAP. These actions are discussed further in Section 4.0 below and Appendix III.

Conclusion: Remedial actions are required to address the soils containing lead above the GB PMC located below former Buildings 54 and Courtyard 31R, as described below in Sections 5.0 and 6.0.

⁸ The highest concentrations were found below Buildings 29L and 31E and Courtyard 31R. Lead also exceeded the RDEC below the northern portion of Buildings 54 and 32R and Courtyard 31L.

⁹ The pattern of antimony concentrations above the RDEC (27 mg/kg) was similar to the pattern of lead concentrations above the RDEC near Building 31 and Courtyards 29L and 31R. Antimony was also detected above the RDEC in shallow soils below the eastern portion of Courtyard 27W.

¹⁰ Mercury and silver were detected above the RDEC only in soils below Courtyard 31E; these constituents (and cyanide) were detected at locations similar to those locations where lead was detected above the RDEC.

¹¹ The GB PMC exceedances for lead occurred in samples below former Buildings 29L, 31E and 54 and Courtyards 28R, 30L and 31R.

¹² The GB PMC exceedances for mercury occurred in samples on the northeastern portion of Courtyard 31R.

Groundwater

Arsenic, cadmium, copper and zinc were detected in groundwater above the SWPC on the Site. Along the western property line where groundwater exits the Site, concentrations exceeded the SWPC only for zinc in recent data (well B43-MW-1, Plate 5), although the trend over the past several years is one of declining concentrations at this location. While metals were detected above the SWPC at discrete locations on the Site, compliance with the SWPC is demonstrated at the point where the groundwater discharges to a receiving surface-water body (assuming concentrations are not increasing over time).

Conclusion: Compliance with the SWPC will be required for GE to satisfy its Corrective Action obligations for the remainder of the Boston Avenue Property. The compliance point for the Site (point closest to discharge to the surface-water body) is located on the larger Boston Avenue Property. Therefore, a demonstration of compliance with the SWPC on that parcel should also demonstrate compliance with the SWPC for the Site. GE may request a waiver of the SWPC for metals on the southern portion of the Site.

3.3.6 Pesticides

Soils

Pesticides were detected in soil on the Site,¹³ but not at concentrations above the applicable RSR criteria.

Conclusion: No remediation is required for pesticides in soil at the Site.

Groundwater

Groundwater samples from two locations were analyzed for pesticides, but pesticides were not detected.

Conclusion: No remediation is required for pesticides in groundwater at the Site.

¹³ Pesticides were detected in Building 35 structural fill, but not in the soils below the underlying slab, and at trace concentrations near the rail lines west of former Building 29L.

4.0 COMPLETED INTERIM REMEDIAL ACTIONS

4.1 Public Notice

GE published notice of its intent to remediate the Boston Avenue Property (including the Site) in the Connecticut Post on February 14, 2009. Notice of this intent was also mailed to all abutting property owners and to the Director of Health for the City of Bridgeport (Departments of Environmental Health and Social Services Administration). No comments were received. This notice applied to all of the completed interim actions.

4.2 Interim Remedial Action

As describe in several portions of Section 3.3 above, a number of interim remedial excavations have already been completed at the Site.

Several excavations were completed to remove soils containing concentrations above the GB PMC for ETPH, PAHs, PCE, mercury, and lead, and soils containing ETPH and PAHs above the RDEC from the eastern topographically higher portion of the Site. The RDEC excavations were completed because the shallow soils (upper 4 feet) in the topographically higher portion of the Site will not be rendered inaccessible as part of the construction of the new high school. The locations and lateral extents of these soil excavations are shown on figure 11, with the excavations identified as PMC 1 through 16 and RDEC 1 through 4. These soils were transported to the northwestern portion of the Boston Avenue Property and placed in a designated area bound by hay bales. The materials were then graded into the surrounding topography. Areas where grading occurred will be seeded in Spring 2014. This portion of the Boston Avenue Property is designated to be capped with an engineered control. Details regarding these excavations are presented in Appendix III.

Soils containing LNAPL beneath former Courtyard 32 was excavated and properly disposed between May and September 2013. All soils containing PCBs above 1 mg/kg were excavated and properly disposed as part of several interim remedial actions completed between December 2010 and November 2013. These remedial actions are detailed in Appendices IV and V, respectively.

5.0 PROPOSED ADDITIONAL REMEDIAL APPROACH

The following table identifies the combinations of COCs and media at the Site that still exceed applicable criteria and for which additional remedial action is required. Residential criteria are used for comparison to the DEC since a school meets the definition of a residential activity. This table takes into account the Site investigation data set forth above in Section 3.3 as well as those locations where the remedial actions described in Section 4.0 have already been completed.

COC	Soil		Groundwater	
	RDEC	GB PMC	SWPC*	RVC
ETPH	√	--	NA	NA
SVOCs	√	--	--	NA
PCBs	--	--	--	NA
VOCs	--	--	--	√
Metals	√	√	√	NA
Pesticides	--	--	--	NA

* Compliance with the SWPC can be demonstrated at the point where groundwater discharges to the surface-water body as long as certain conditions are met, so does not need to be demonstrated on the Site and can be demonstrated at well locations downgradient of the Site.

√ One or more analytes in this group exceeded criteria
 -- Analytes in this group did not exceed the criteria
 NA Criteria are not applicable to this analyte group

5.1 Soil

Remedial actions will be required to demonstrate compliance with the GB PMC and the RDEC at the Site. Figures 12 and 13 show the approximate extent of the soils that contain COCs above the GB PMC and RDEC. Additional delineation to define the lateral extent of PMC and DEC exceedances may be performed prior to implementing the remedial actions. Therefore, the PMC and DEC excavation limits shown on the figures may be changed. The proposed remedial approaches for soils are outlined below.

5.1.1 Pollutant Mobility Criteria

Figure 12 shows the approximate extent of soils that contain COCs above the GB PMC¹⁴. Soils above the seasonal high water table with COCs above the GB PMC will be excavated and

¹⁴ See the discussion of soils in Section 3.3.5 of this RAP.

relocated to the northwestern portion of the Boston Avenue Property. Figure 12 also shows where benzo(a)anthracene was detected in SPLP extract at a concentration of 0.0071 mg/l, which is above 10 times the GWPC of 0.006 mg/l. These soils will also be excavated and relocated to the northwestern portion of the Boston Avenue Property. The northwestern portion of the Boston Avenue Property is designated to be capped with an engineered control. All excavations will be backfilled with clean fill or onsite soils that are compliant with the GB PMC.

5.1.2 Direct Exposure Criteria

Figure 13 shows the approximate extent of soils that contain COCs above the RDEC.¹⁵ Some of these soils may be excavated and removed from the Site if necessary for Site development. Where RDEC exceedances in soil remain, those exceedances will be rendered inaccessible during Site development using one of the following methods allowed by the RSRs for residential use: (1) a building; or (2) 2 feet of clean fill and an asphalt cap; or (3) 4 feet of clean fill. For specific areas of the Site, it is expected that compliance with the RDEC will be achieved as follows:

- In the footprint of the proposed building, soil exceeding the RDEC would be rendered inaccessible by construction of the building. Therefore, soil removal and corresponding fill placement will be performed only to the extent dictated by construction.
- For the western, topographically lower portion of the Site, compliance with the RDEC will be achieved by rendering soils inaccessible with a final cover of 4 feet of clean fill or 2 feet of clean fill and asphalt. The specific method to be used will depend on the construction plans. In some locations, Site development may require soil removal before placement of the final cover material to achieve the planned construction grades while accommodating the required placement of clean cover. Plate 6 shows the currently anticipated grade elevations for the Site after construction of the school and related improvements. By considering the type of final cover (clean fill and/or clean fill plus pavement) that is expected to be used to achieve the final grades in various portions of the Site and then subtracting the required clearance to render soils inaccessible based on that cover method (i.e., 4 feet or 2 feet), the maximum allowable pre-construction surface elevations for soils containing RDEC has been determined. These anticipated starting elevations are shown on Plate 7. The school Site plan remains subject to modification during the approval processes. As a result, the expected final grades or expected means of cover may change, necessitating updates to Plates 6 and 7. Moreover, new conditions

¹⁵ See the discussion of soils in Sections 3.3.1, 3.3.2 and 3.3.5 of this RAP.

may arise during construction that will require in-field changes to the need for cover (e.g., if additional excavation occurs, cover may not be required in an area) or to the specific method of final cover that will be used for a particular area (e.g., if a parking lot expands, 2 feet of fill plus asphalt may be needed rather than 4 feet of fill). To ensure that proper starting elevations are achieved based on Site plans, and that the proper final grades have been achieved to render inaccessible soils containing COCs above the RDEC, site elevations will be surveyed a minimum of three times: once prior to any site-grading activities; second after the Site plans are finalized but prior to construction of Site buildings, parking lots and placement of clean fill; and finally again after all such work has been performed. If needed, corrections in final cover will be made based on the surveys to assure that applicable residential standards have been achieved.

- Arsenic was detected above the RDEC on the elevated eastern portion of the Site from depths between 4 and 13 ft bg. These areas of the Site already meet the requirement for 4 feet of clean fill. That fill will remain in place or be replaced by like material during construction.

After completion of Site development that affects placement of final cover, an ELUR will be recorded on the land records detailing the actual location where specific methods of cover have been used and the future requirements for maintaining that cover. Figure 14 shows the anticipated limits of the ELURs that would be recorded based on the kind of cover to be used. Section 6.4 below further discusses the ELURs.

5.2 Groundwater

As discussed below, additional actions at the Site are necessary to demonstrate compliance with two groundwater criteria: the RVC on the Site; and, the SWPC for groundwater plumes originating on the Site in those areas that are hydraulically downgradient of excavations that removed soils exceeding GB PMC criteria.

5.2.1 Volatilization Criteria

Available Site data have identified isolated sampling locations where VOCs concentrations in groundwater exceed the RVC.¹⁶ These areas are located on the west-central portion of the Site. It is possible that future groundwater monitoring will demonstrate that compliance with the RVC (thereby eliminating the need for any remedial actions). However, should future monitoring

¹⁶ See the discussion of groundwater in Section 3.3.4.

indicate continued RVC exceedances in this area, the following provision of the RSRs will be utilized to address these locations:

- The RVC only apply where a building exists above the VOC plume. According to the school Site plan, the portion of the Site containing RVC exceedances is outside the boundaries of the building footprint. Therefore, no measures are required within the School building for the Site to comply with the RVC.
- To ensure that future buildings are not constructed where concentrations of COCs in groundwater exceed the RVC, an ELUR will be recorded on the land records. Figure 14 shows the location at which the ELUR will prohibit the construction of a Site building (RCSA§ 22a-133k-3(c)(5)(A)).¹⁷

5.2.2 Surface-Water Protection Criteria

Concentrations of arsenic, cadmium, copper and zinc exceeding the SWPC were detected in groundwater at the Site.¹⁸ Under the RSRs, it is not necessary that all Site groundwater concentrations meet SWPC criteria in order for the Site to comply with the SWPC. Instead, one or more of the following three methods set forth in the RSRs can be used to for the Site to demonstrate compliance:

- Compliance can be demonstrated by showing that COC concentrations do not exceed the SWPC at the point of discharge to the nearest receiving surface-water body (Stillman Pond). This can be accomplished most easily by comparing groundwater data taken for the COCs at an appropriate sampling point downgradient of the Site to the applicable SWPC. This method may be used as long as the areal extent of the plume is not increasing over time and the individual concentrations at any point in the plume are not increasing over time (except as a result of seasonal variation or natural attenuation). It is expected that this method will show that concentrations of most COCs meet the SWPC.

¹⁷ Compliance with the RVC can also be demonstrated once all groundwater sampling results for COCs within a plume are less than the RVC for four sampling periods within two years, as long as the samples reflect seasonal variability on a quarterly basis. If future groundwater sampling shows compliance with the RVC in this manner, then an will no longer be necessary or the ELUR could be amended to modify or eliminate this restriction.

¹⁸ See the discussion of groundwater in Section 3.3.5.

- Compliance with the SWPC can also be demonstrated if the 95% UCL of the COC concentration in the plume is less than the SWPC for four sampling periods over two years, as long as the samples reflect seasonal variability on a quarterly basis. This method also requires that the areal extent of the plume is not increasing over time and the individual concentrations at any point in the plume are not increasing over time (except as a result of seasonal variation or natural attenuation).
- Finally, an alternative SWPC may be calculated in accordance with the RSRs for any individual COC that does not meet the SWPC, taking into consideration site-specific dilution and current human health and aquatic life criteria from Appendix D of Connecticut's most recent Water Quality Standards.

If compliance with the SWPC cannot be demonstrated for a particular COC at the Site using any of these methods, GE may request a waiver of the SWPC for that COC at the Site, because the compliance point for the Site (point closest to discharge to the surface-water body) is located on the Boston Avenue Property and a demonstration of compliance with the SWPC on that parcel should also demonstrate compliance with the SWPC for the Site.

6.0 REMEDIAL ACTION TASKS

Section 5.0 details the specific remedial actions that will be taken to demonstrate that the Site complies with applicable criteria under the RSRs for use as a school. This Section describes the means and methods that will be used to execute those remedial actions.

6.1 Health and Safety Plans

Every contractor that is excavating, grading or moving soil at the Site will prepare and follow its own site-specific Health and Safety Plan (HASP) as necessary to address exposure to those COCs that may be encountered during that contractor's soil work, as well as other potential safety concerns that might arise during its activities. Components of the HASP will include, at minimum: a list of potential COCs that might be encountered during the work and the appropriate personal protective equipment for those COCs; Site work area control measures; Site access and egress provisions; Site staging areas; personnel and equipment decontamination

procedures; Site dust control and perimeter monitoring measures; and VOC vapor control measures, monitoring and employee training.

6.2 Sequence of Activities

This anticipated sequence of activities is based on the description of required remedial activities set out above in Section 5.0. A more detailed sequence of work needed to implement this RAP will be established in consultation with the remediation and construction contractors, consistent with Site development plans, in order to create a safe and efficient safe workflow. GE will perform some of this work, while the City of Bridgeport will perform other tasks. For this reason, the work sequence may include multiple contractors from different parties working at more than one area simultaneously. A general sequence of work is presented here, with additional details about each step set out below:

- Field mark utilities;
- Field mark the boundaries of GB PMC excavation areas;
- Install and maintain erosion controls (stockpile management);
- Install air monitoring devices;
- Perform GB PMC excavations, soil relocation and confirmation sampling (and backfill);
- Remove remaining concrete, piping, and asphalt;
- Complete cut/fill of site in order to establish sub-grade (pre-construction) elevations;
- Survey graded Site prior to placement of clean fill to confirm that final grade elevations and features will successfully render soils “inaccessible”;
- Install utilities which will extend below the sub-grade elevation;
- Import and spread clean fill in areas to render soils “inaccessible”;
- Construct footprint of Site buildings and related infrastructure to complete all soil-related work. Install sub-slab vapor mitigation system;
- Complete final Site survey to verify RDEC soils have been rendered inaccessible with final cover including pavement and building;
- Complete building fit-out and final site landscaping, being certain to maintain final cover grades; and
- Remove erosion controls.

6.2.1 Protect Site Infrastructure/Utilities

As required by law, the utility mark out service Call Before You Dig (CBYD) will be contacted prior to excavating to confirm that utilities are not present in these areas. There are no permanent above-grade structures located in the vicinity of any of the excavations.

6.2.2 Designate Excavation Limits

Prior to beginning remediation, the lateral and vertical extents of the excavation areas will be marked out in the field (mark-outs) based on soil sampling data from the Phases II and III investigations, and additional data that may be gathered as needed. Mark-outs will be visible, using paint, stakes or other appropriate mean, with the support of a licensed surveyor, if necessary.

6.2.3 Install and Maintain Erosion Controls (Stockpile Management)

The GB PMC excavations will be performed prior to the onset of the constructions activities associated with site redevelopment which will require a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater General Permit). Therefore, these initial excavations will not be subject to a Stormwater Pollution Control Plan (SPCP). Therefore, this section sets for the soil erosion and sedimentation control measures that will be installed before initiating these excavations. Before initiating the GB PMC excavations, soil erosion and sedimentation control measures will be installed. All stock piles will be located at least 200 feet from Stillman Pond and the onsite brooks. It is anticipated that most excavated soils will be loaded directly into trucks and transferred to the northwestern portion of the Boston Avenue Property. However, should it be necessary to stockpile these excavated soils, the stockpiles will be surrounded by hay bales and/or silt fence, underlain with impermeable sheeting, and covered with impermeable sheeting at the end of each work day. These stockpiles of excavated materials will be handled in accordance with the requirements of CTDEEP's General Permit for Contaminated Soil and/or Sediment Management. Stockpiles of clean fill will also be surrounded by hay bales or silt fence; in addition, they will be covered if they will remain idle for more than 30 days or if necessary to mitigate dust.

As part of restoration, 3 to 6 inches of coarse crushed brick and concrete will be placed over the excavation area at the end of the project to provide erosion protection in accordance with the “Connecticut Guidelines for Soil Erosion and Control” handbook.

The remaining Site development activities and rendering of RDEC soils inaccessible will be subject to the Stormwater General Permit, and the erosion and sediment control activities required to comply with that permit will be detailed in a separate SPCP to be prepared by the Site development team.

6.2.4 Dust Control and Mitigation Procedures

The following methods will be used to mitigate conditions that might generate dust and to suppress dust should it occur during the excavation of soils containing COCs above the GB PMC.

- Traffic speed in the unpaved areas of the Site will be at most 5 miles per hour;
- A temporary track pad will be located at the entrance/egress of the northwestern portion of the Boston Avenue Property to keep adjacent paved areas clean and free of soil;
- Exposed excavations, disturbed ground surfaces, and unpaved traffic areas will be wetted as necessary to maintain a moist condition; and
- Soil and/or fill stockpiles will be wetted as necessary to maintain a moist condition and covered at the end of each work day.

Dust controls associated with the Site development activities and rendering of RDEC soils inaccessible are outlined in a separate Soil Management Plan prepared by the Site development team.

6.2.5 Excavations and Soil Relocation

Excavations will proceed within the areas that have been marked. Where possible, soils will be live-loaded and transported to the northwestern portion of the Boston Avenue Property. If necessary, excavated soils will be stockpiled and managed as set out above in the areas designated by LBG.

6.2.6 Confirmation Sampling

Where appropriate and sufficient data are available from soil borings, those data will be used to determine excavation endpoints for PMC excavations, and re-sampling at those endpoints will not be performed. Post-excavation confirmatory samples may be collected to augment the existing data where the existing data frequencies do not meet those set out below. These samples would be analyzed for the COCs that were targeted by the excavations.

Sidewall Samples

Post-excavation sidewall samples would be collected to augment existing data to assure that the frequency of sampling meets the following approximate rates:

- 1 sample for excavation sidewalls up to 30 feet in length;
- 2 samples for excavation sidewalls between 30 and 70 feet in length;
- 3 samples for excavation sidewalls between 70 and 150 feet in length; and
- 1 sample per 60 feet for excavation sidewalls greater than 150 feet in length.

Bottom Samples

Bottom samples are not required for two types of excavations at the Site: excavations for GB PMC compliance where the excavation bottom is at or below the seasonal high water table; and, excavations used only for DEC compliance where the soils at the bottom of the excavation will be rendered inaccessible. For all other instances, bottom samples would be collected to augment existing data to assure that the frequency of sampling meets the following approximate rates:

- 1 sample for excavation bottoms with area of 500 square feet (sf) or less;
- 1 sample per 500 sf for excavation bottoms with area between 500 and 1,500 sf; and
- 1 per 800 sf for excavation bottoms with area greater than 1,500 sf.

6.2.7 Backfill

All GB PMC excavations will be backfilled to grade either with clean fill or with onsite soils that meet at least the GB PMC in areas where these soils will be rendered inaccessible. All RDEC excavations will be backfilled to grade with clean fill. Backfill will either consist of onsite clean fill or clean fill obtained from approved sources. Any fill brought onto the Site will be analyzed for constituents of concern identified by the Site LEP prior to acceptance to ensure that the soil complies with the RSR requirements for “clean fill.” Sampling will occur at a rate of one sample for the first 1,000 cubic yards and one sample for each of the next 2,000 cubic yards from the same source. The frequency with which fill would be sampled may be modified based on the source of the fill and sample results. Each of the excavations will be backfilled in lifts and compacted to minimize settling.

6.2.8 Surveying

The implementation of this remedy relies on accurate surveys to confirm the correct pre-development and post-development elevations and surface completions are met. All surveying will be completed by a Connecticut licensed surveyor.

6.3 Environmental Land Use Restriction

ELURs will be used as part of the remediation strategy for the Site to demonstrate compliance with the RDEC and potentially the RVC. ELURs ensure that future Site users can identify the nature and physical boundaries of COCs left in place at concentrations above the RDEC and RVC.

Part of the remedy renders some soils “inaccessible” as defined in the RSRs, using the methods describe above in Section 5.0. An ELUR will be recorded to prohibit disturbance of the final cover materials and buildings over these soils and to require maintenance and replacement of these cover materials and buildings should they be disturbed during Site use (e.g., replacement/repair of asphalt at the end of its useful life). The areas subject to this ELUR are preliminarily identified on Figure 14, and will be finally identified after Site development has been completed.

Similarly, the RVC do not apply to any portions of the Site without a building above the VOC plume. Identified exceedances of the RVC in groundwater are found outside the planned footprint of the school building. Should future monitoring confirm that the RVC is exceeded in this area, an ELUR will be recorded to ensure either that no other building is constructed where VOC concentrations in groundwater exceed the RVC, or that any building that is constructed is built to prevent exposure to these VOCs in indoor air. The areas subject to this ELUR are preliminarily identified on figure 14, and will be finally identified after Site development has been completed. Further, these areas may be eliminated or modified if additional groundwater sampling shows compliance with the RVC.

The ELURs and supporting documents will be prepared following the completion of remediation activities and the identification and surveying of specific areas subject to the ELUR.

6.4 Groundwater Monitoring

A groundwater monitoring plan will be developed at the conclusion of remediation activities for two purposes: to monitor the effectiveness of remediation activities for exceedances of the GB PMC; and, to demonstrate compliance with the RVC and SWPC, as appropriate. That plan will specify the wells that will be used for these purposes, the sampling frequency, sample analytical parameters and compliance goals. The wells may include existing monitoring wells or new wells installed specifically for this purpose. The monitoring plan will be subject to periodic review and revision in response to monitoring results.

Existing monitoring wells that will not be used for future groundwater monitoring will be properly abandoned by removing the casing and screen and grouting the boreholes. Existing groundwater monitoring wells that will be used for post-remediation groundwater monitoring will be modified, if necessary, to provide access at the post-construction grade levels. Any wells that are damaged during the course of Site remediation or subsequent construction will be repaired or properly abandoned and replaced.

GE may request a waiver of the SWPC for the Site, as the compliance point for the Site (point closest to discharge to the surface-water body) is located on the Boston Avenue Property and a

demonstration of compliance with the SWPC for that parcel would also demonstrate compliance of the SWPC for the Site.

7.0 PROJECT SCHEDULE

The additional remedial actions will be performed beginning in the Spring of 2014 and anticipated to be completed by December 2015.

8.0 DOCUMENTATION

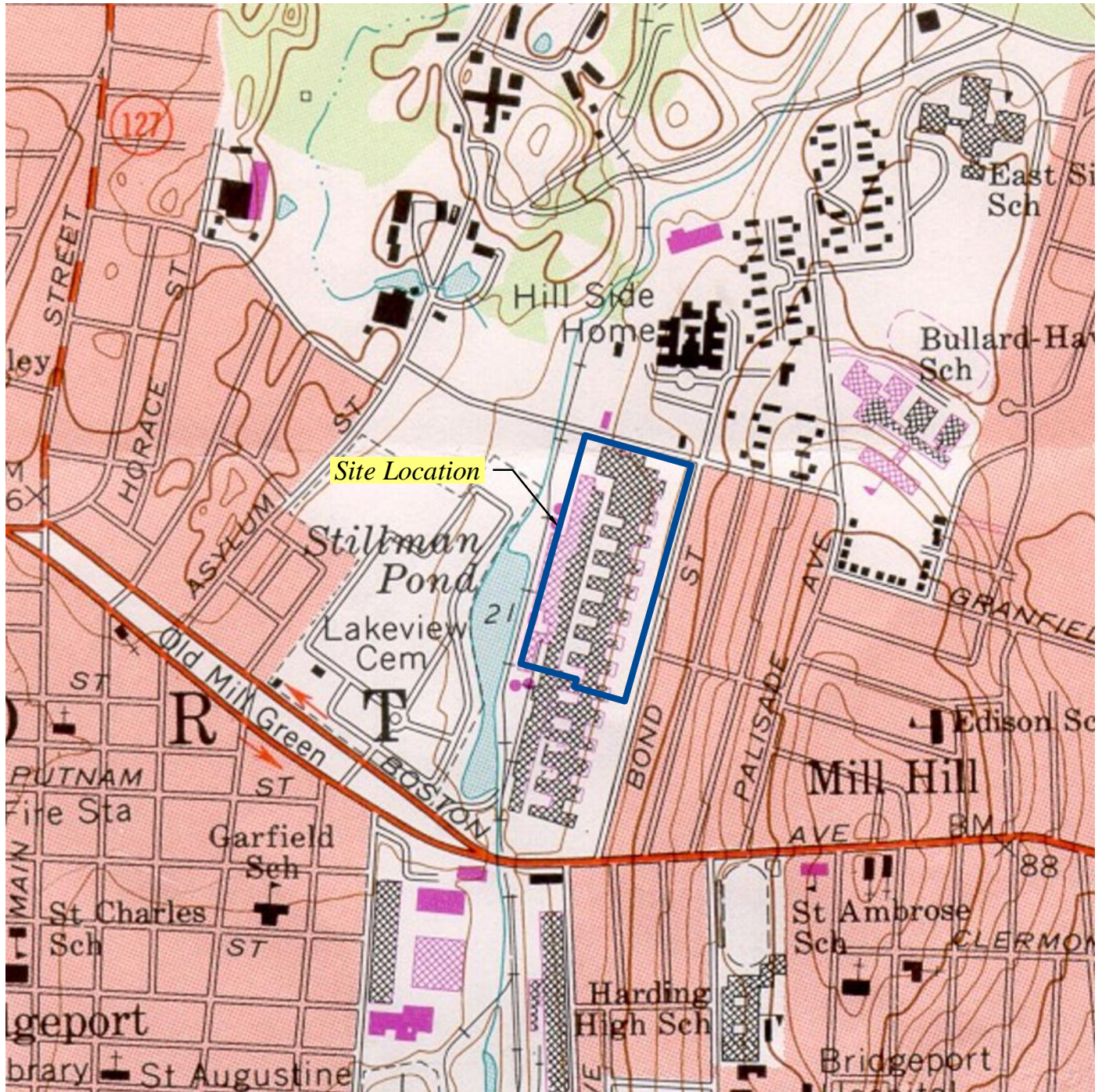
The following documentation will be maintained onsite during remediation:

- Health and Safety Plans;
- A working copy of the erosion sediment control plan (updated as necessary), including inspection forms, and necessary revisions;
- Dust Monitoring Log; and
- Daily work summary logs will be prepared by the environmental site supervisor until final grading and cover materials are in place. The logs will include a description of remedial activities and their location, a description of any waste disposal activities, a description of the volume and placement of imported clean fill and calibration logs for monitoring equipment (where applicable).


Documentation of the remedial action will consist of a consultant's report documenting that the RAP was implemented and achieved its objectives, and the report will include the following:

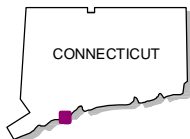
- A summary of the sequence of the remedial action at the Site, including select photographs of remedial activities;
- Copies of permits and registrations obtained for the work and public notices;
- Copies of waste disposal manifests;
- Maps showing excavation limits, post-excavation sampling locations, a table summarizing analytical data for post excavation samples and a documentation that the appropriate means are in place to show compliance with the RDEC and the GB PMC; and
- Analytical data for backfill soils.

FIGURES



SOURCE: USGS TOPOGRAPHIC QUADRANGLE BRIDGEPORT, CONNECTICUT (PHOTOREVISED 1984).

LEGEND
 PROPERTY BOUNDARY



0 800

SCALE IN FEET

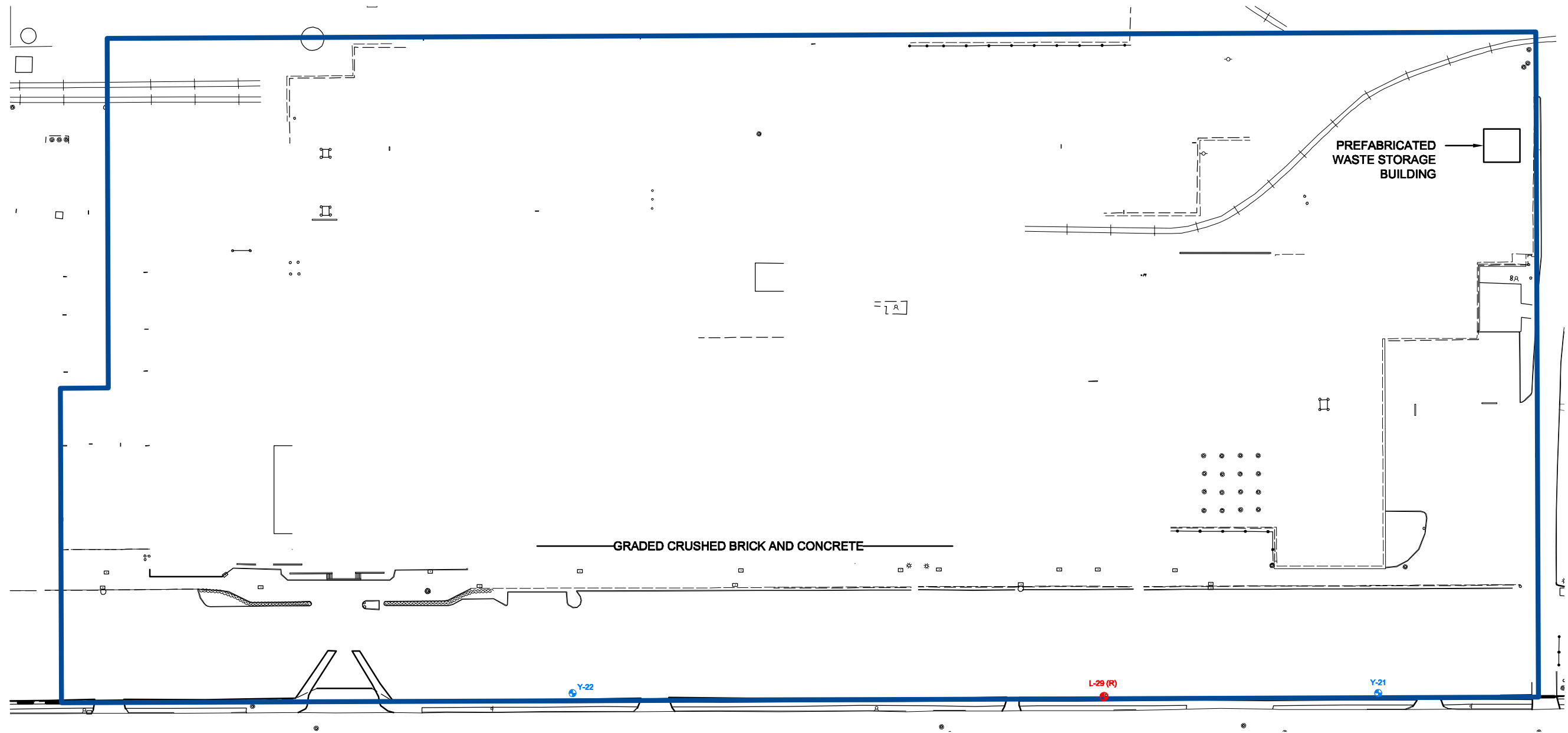
SCHOOL PARCEL 379 BOND STREET BRIDGEPORT, CONNECTICUT

SITE LOCATION MAP





DATE	REVISED	PREPARED BY:
		LEGGETTE, BRASHEARS & GRAHAM, INC.
		Professional Groundwater and Environmental Engineering Services
		4 Research Drive
		Suite 301
		Shelton, Connecticut 06484
		(203) 929-8555
DRAWN:	MRV	CHECKED: MM
		DATE: 04/25/14
		FIGURE: 1

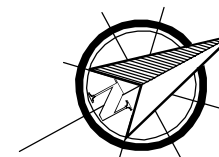


QUADRANGLE LOCATION
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LEGEND


-  PROPERTY BOUNDARY
-  OVERBURDEN MONITORING WELL
-  BEDROCK MONITORING WELL
-  STORM DRAIN

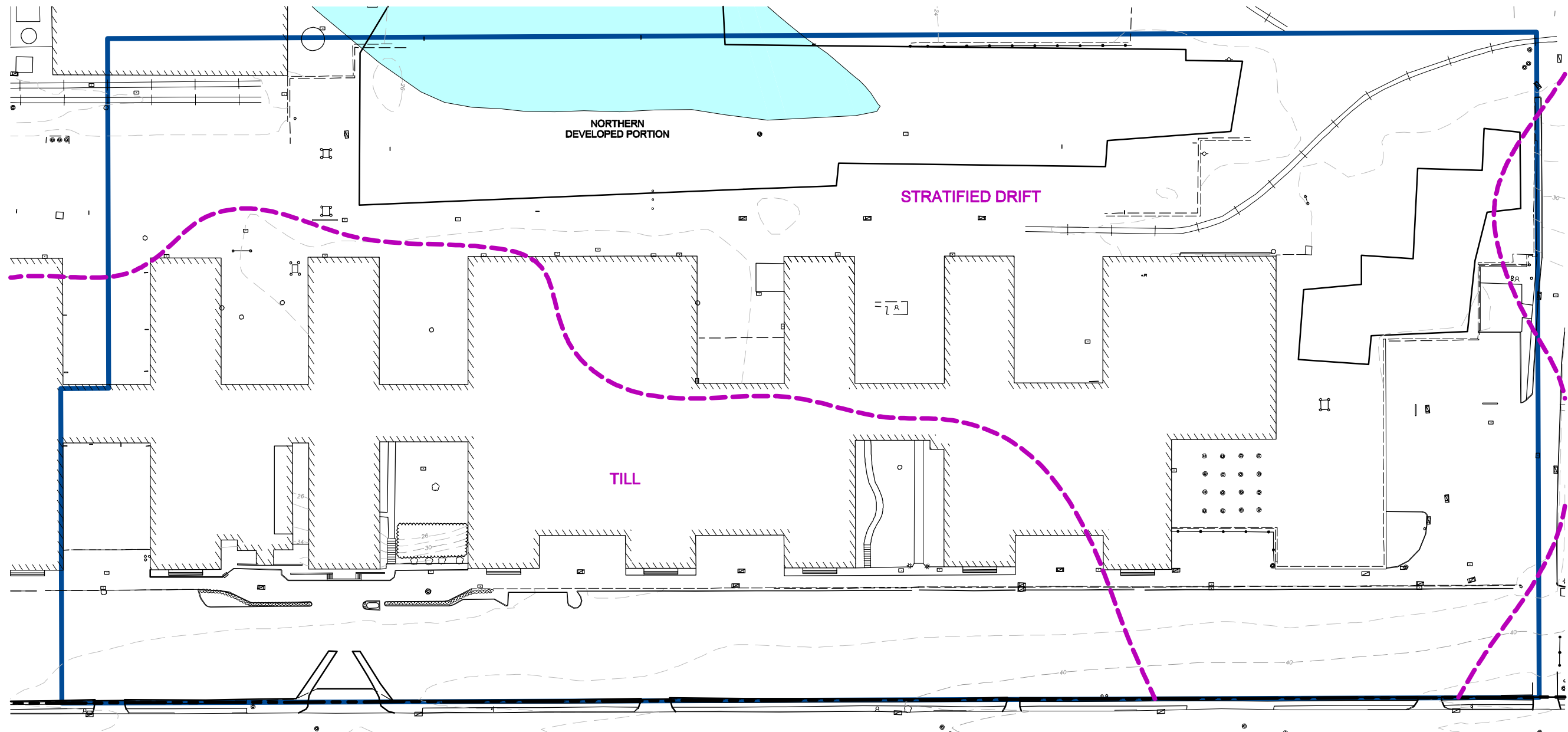


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SCALE IN FEET

SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

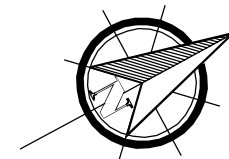
SITE MAP

DATE	REVISED	PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Groundwater and Environmental Engineering Services			
		 4 Research Drive Suite 301 Shelton, Connecticut 06484 (203) 929-8555			
DRAWN:	MRV	CHECKED:	MM	DATE:	04/24/14
				FIGURE:	2



LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE AREA CONTAINING DEEPER URBAN FILL PLACED FOR SITE DEVELOPMENT
- APPROXIMATE STRATIFIED DRIFT/TILL BOUNDARY



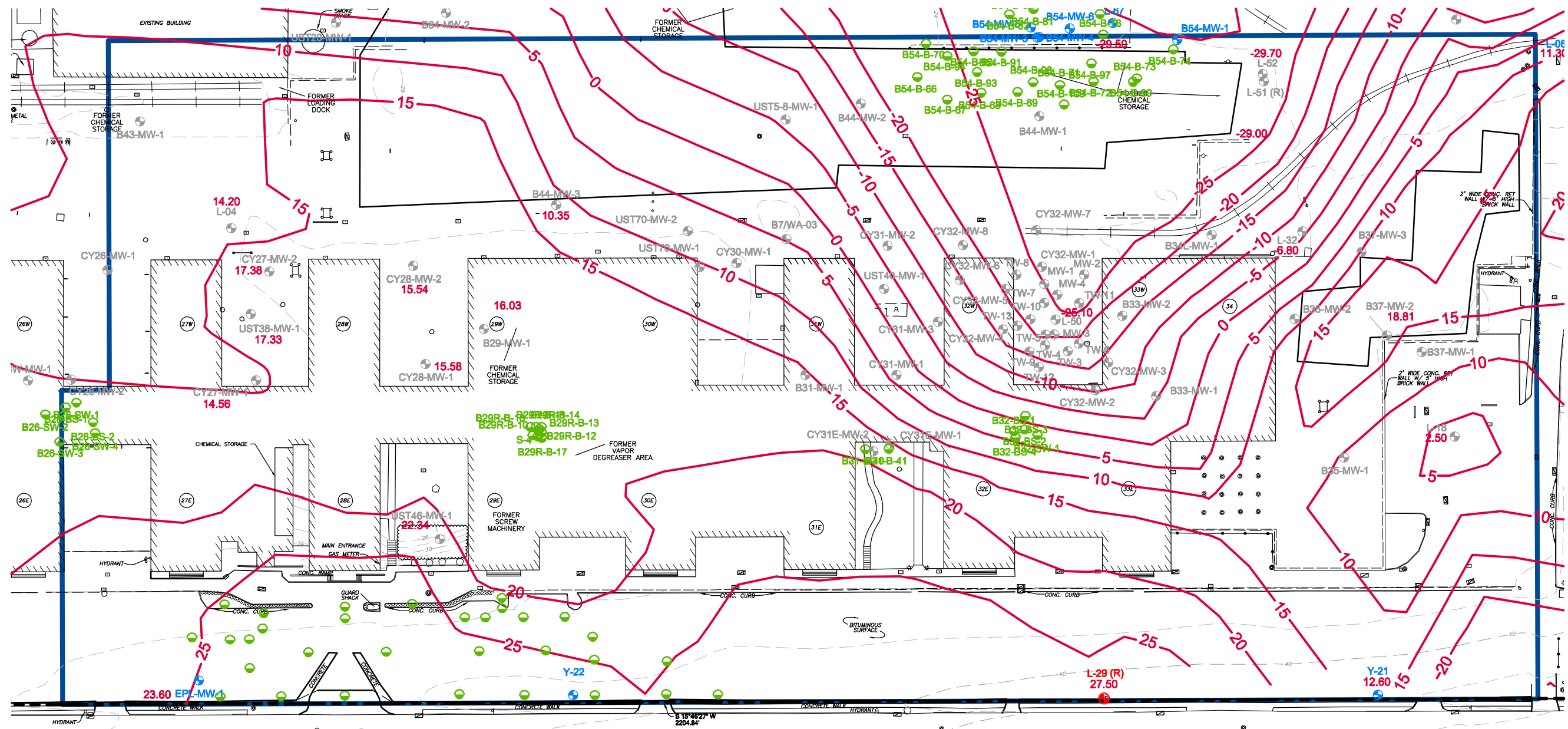
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SCHOOL PARCEL 379 BOND STREET BRIDGEPORT, CONNECTICUT

SITE MAP SHOWING UNCONSOLIDATED
MATERIAL DISTRIBUTION

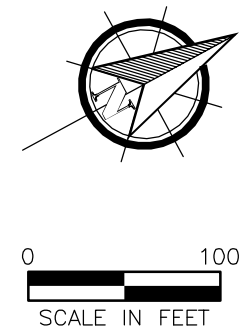
DATE	REVISED	PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC.		
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		Shelton, Connecticut 06484		
		(203) 929-8555		
DRAWN:	RAC	CHECKED:	MM	DATE: 04/07/14 FIGURE: 3



NOTE:
DUE TO SIZE LIMITATIONS, ONLY MONITORING WELLS, SELECT TEST BORINGS AND SELECT FORMER PRODUCTION WELLS WITH ASSOCIATED BEDROCK ELEVATIONS ARE SHOWN ON THIS MAP. THE BEDROCK ELEVATIONS FOR ALL MONITORING WELLS AND TEST BORINGS USED TO CREATE THE BEDROCK ELEVATION CONTOURS ARE SHOWN IN TABLE 2 OF THE SITE INVESTIGATION REPORT.

O:\DWG\General Electric\Bridgeport\2013\09-September\Bedrock Contours w PH3 Bound.dwg, Layout1, 4/25/2014 3:06:06 PM, AcroPlot.pc3

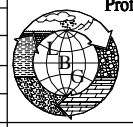
- LEGEND**
- OVERBURDEN MONITORING WELL
 - BEDROCK MONITORING WELL
 - BEDROCK ELEVATION (FEET ABOVE MEAN SEA LEVEL)
 - PROPERTY BOUNDARY
 - BEDROCK ELEVATION CONTOUR (DASHED WHERE INFERRED) (FEET ABOVE MEAN SEA LEVEL)

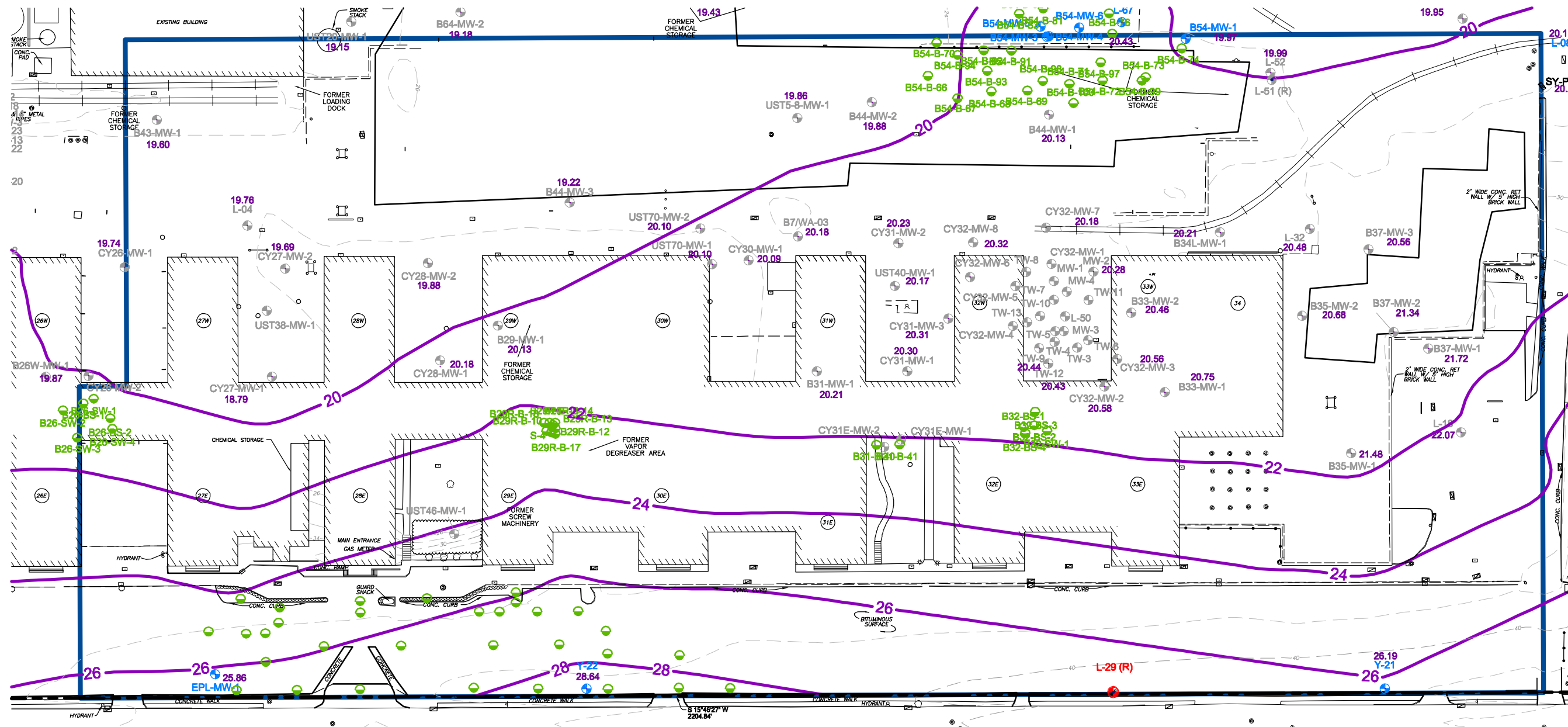


SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

BEDROCK SURFACE ELEVATION CONTOUR MAP

DATE	REVISED	PREPARED BY:
		LEGGETTE, BRASHEARS & GRAHAM, INC.
		Professional Groundwater and Environmental Engineering Services
		4 Research Drive Suite 301 Shelton, Connecticut 06484 (203) 929-8555
DRAWN:	RAC	CHECKED: MM
		DATE: 04/07/14
		FIGURE: 4





O:\DWG\General Electric\Bridgeport\2013\09-September\2008 GW Contours w PH3 Bound.dwg, Layout1, 4/25/2014 3:05:51 PM, AcroPlot.pc3

LEGEND

B31-MW-1

20.21

L-29 (R)

PROPERTY BOUNDARY

OVERBURDEN GROUNDWATER ELEVATION CONTOUR
(DASHED WHERE INFERRED)
(FEET ABOVE MEAN SEA LEVEL)

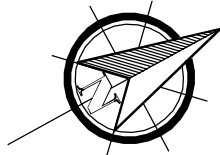
OVERBURDEN MONITORING WELL

OVERBURDEN GROUNDWATER ELEVATION ON APRIL 16, 2008
(FEET ABOVE MEAN SEA LEVEL)

BEDROCK MONITORING WELL

PROPERTY BOUNDARY

OVERBURDEN GROUNDWATER ELEVATION CONTOUR
(DASHED WHERE INFERRED)
(FEET ABOVE MEAN SEA LEVEL)



SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

APRIL 16, 2008 - OVERBURDEN GROUNDWATER
POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP

DATE

REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.

Professional Groundwater and Environmental Engineering Services



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Shelton, Connecticut 06484
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CHECKED:

MM

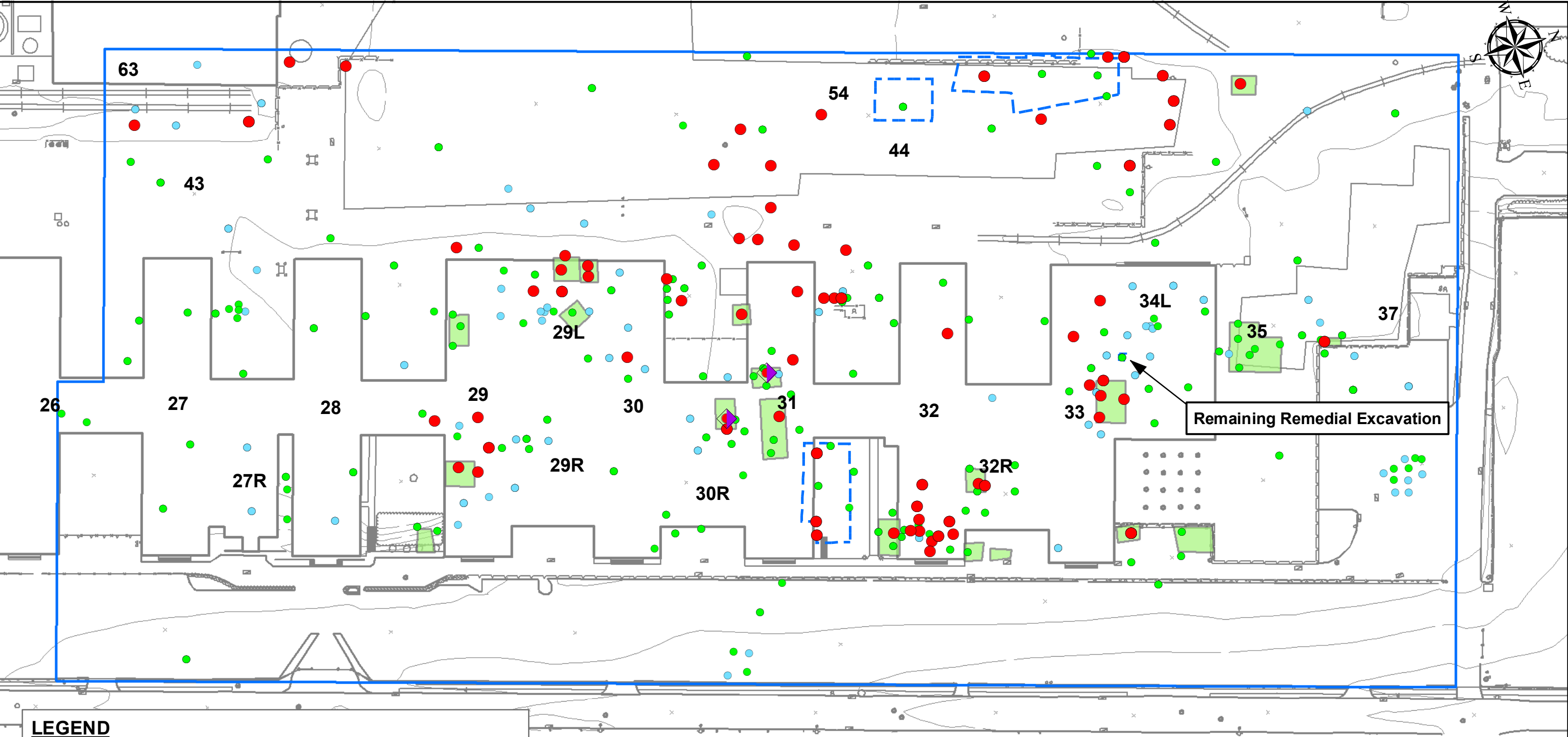
DATE:

04/07/14

FIGURE:

5

G:\1285 Boston Avenue - Bridgeport\GIS\Ppresentations\School\Parcel RAP\Revisions\School\Parcel RAP\Revisions\GE Bridgeport_stewide_COCS_ETPH_all.mxd



LEGEND

CT Extractable Total Petroleum Hydrocarbons

- ND
- No exceedance
- Exceeds RDEC
- Exceeds GB PMC and 10X GWPC
- Exceeds GB PMC and 10X GWPC, RDEC

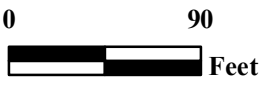
Remedial Excavations Completed

Remedial Excavations Remaining

Acronyms:

ND - Not detected above laboratory reporting limit
RDEC - Residential Direct Exposure Criteria
GB PMC - GB Pollutant Mobility Criteria
10X GWPC - 10 Times Groundwater Protection Criteria

NOTE: Background depicts site building prior to 2011/2012 building deconstruction.

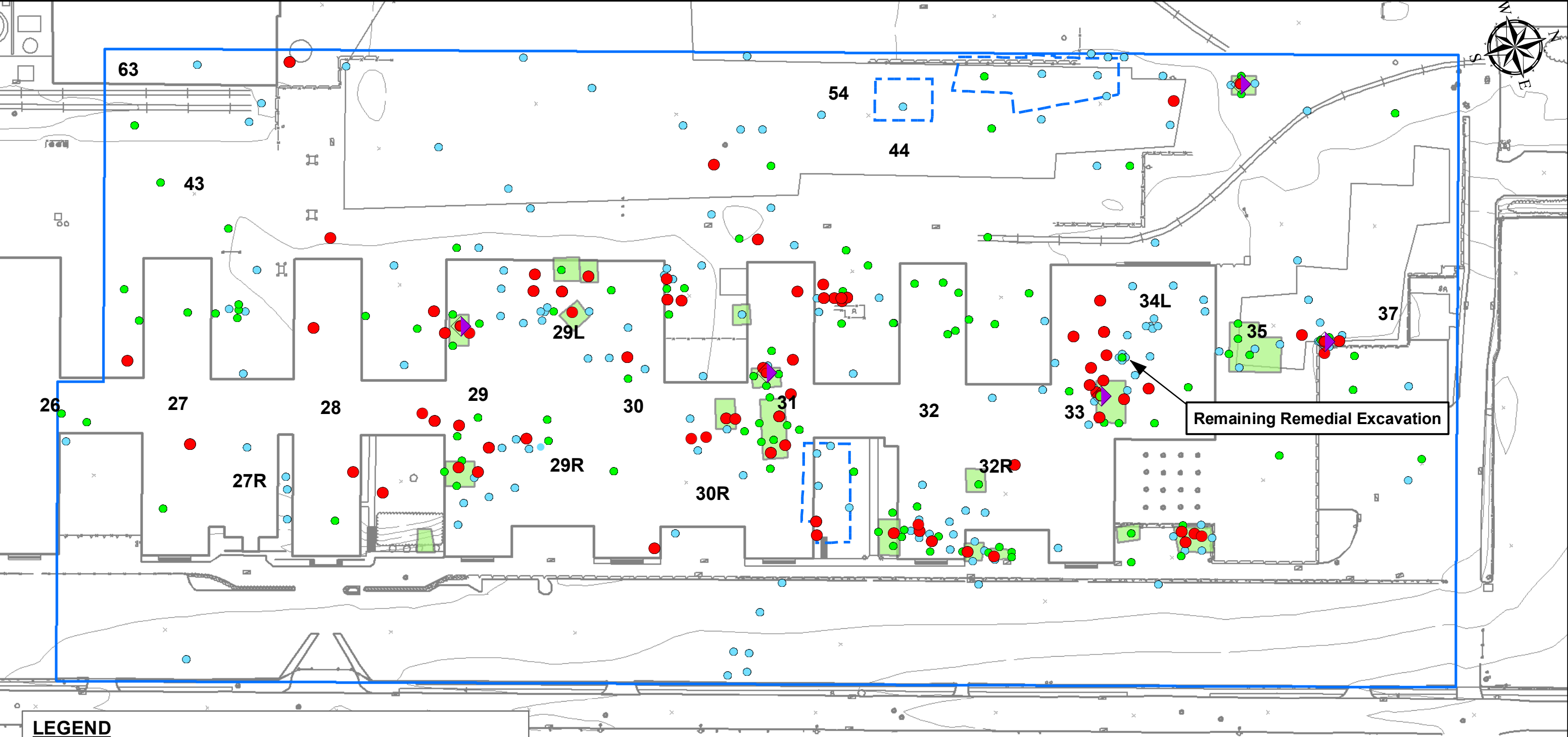


SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

SUMMARY OF SOIL ANALYTICAL RESULTS - ETPH

DATE:	REVISED:	PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Groundwater and Environmental Engineering Services 4 Research Drive Suite 30 Shelton, Connecticut 06484 (203) 929-8555		
DRAWN: SL		CHECKED:	DATE: 7/25/14	FIGURE: 6

G:\1285 Boston Avenue - Bridgeport\GIS\Ppresentations\School Parcel RAP\Revisions\School Parcel RAP\steward_COCs_PAHs_all.mxd



LEGEND

- Polycyclic Aromatic Hydrocarbons
- ND
 - No exceedance
 - Exceeds RDEC
 - Exceeds GB PMC and 10 X GWPC
 - Exceeds GB PMC and 10 X GWPC, RDEC
- Remedial Excavations Remaining
- Remedial Excavations Completed

Acronyms:

ND - Not detected above laboratory reporting limit
RDEC - Residential Direct Exposure Criteria
GB PMC - GB Pollutant Mobility Criteria
10X GWPC - 10 Times Groundwater Protection Criteria

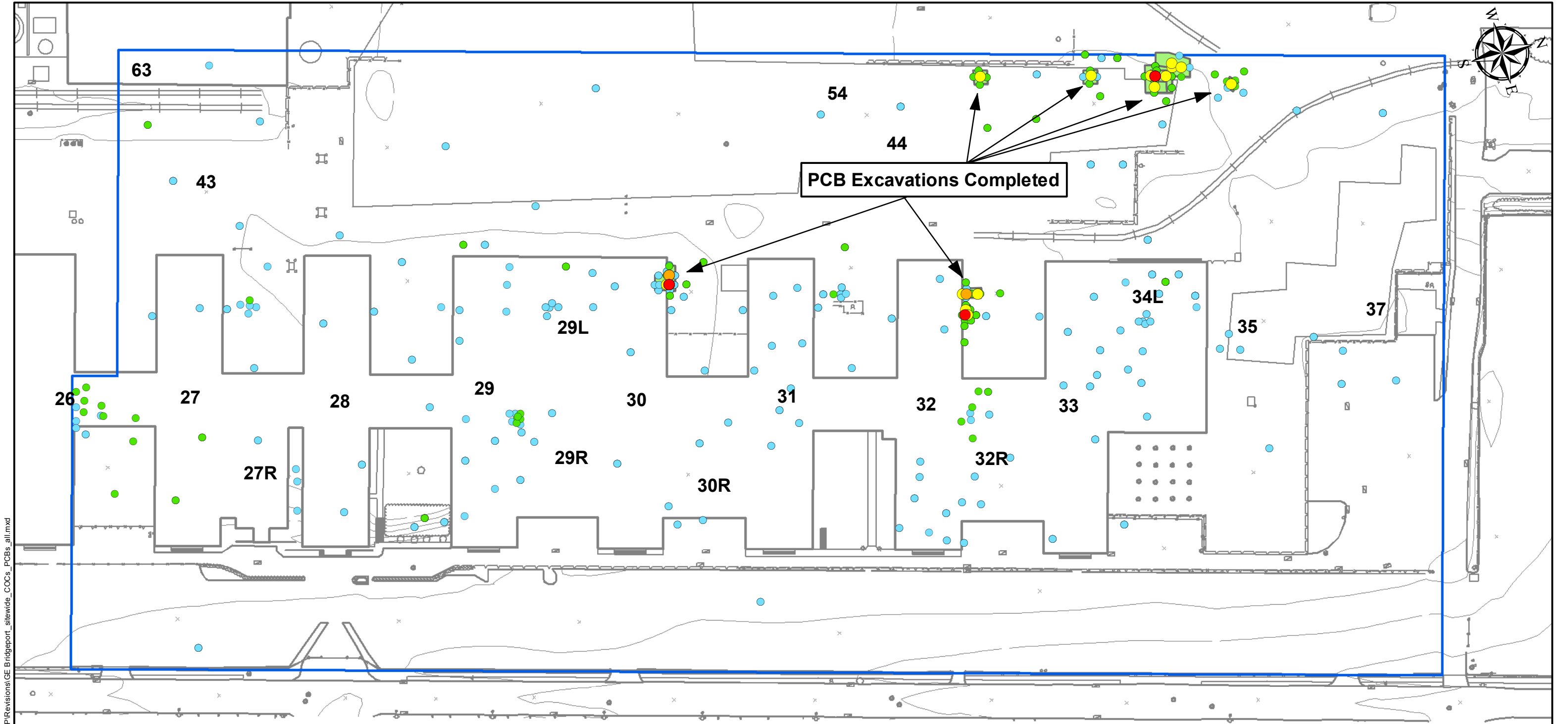
NOTE: Background depicts site building prior to 2011/2012 building deconstruction.



**SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT**

SUMMARY OF SOIL ANALYTICAL RESULTS - PAHs

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		Suite 30	
		Shelton, Connecticut 06484	
		(203) 929-8555	
DRAWN: SL	CHECKED:	DATE: 7/25/14	FIGURE: 7



LEGEND

- PCB Concentration (mg/kg)
- ND
 - > ND to 1
 - >1 to 10
 - >10 to < 50
 - >= 50
- Remedial PCB Excavations Completed

NOTE: 1. All PCBs detected above 1 mg/kg have been removed from the Site during interim remedial actions.
2. Background depicts site building prior to 2011/2012 building deconstruction.



**SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT**

SUMMARY OF SOIL ANALYTICAL RESULTS - PCBS

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DRAWN: SL	CHECKED:		
		DATE: 7/25/14	FIGURE: 8

G:\1285 Boston Avenue - Bridgeport\GIS\Ppresentations\School Parcel RAP\Revisions\School Parcel RAP\Revisions\GE Bridgeport_sitewide_COCS_all.mxd



LEGEND

Halogenated Volatile Organic Compounds

- ND
- Detected Below Criteria
- Exceeds RDEC
- Exceeds GB PMC
- Exceeds DEC, GB PMC
- Remedial Excavations Remaining
- Remedial Excavations Completed

Acronyms:

ND - Not detected above laboratory reporting limit
RDEC - Residential Direct Exposure Criteria
GB PMC - GB Pollutant Mobility Criteria
10X GWPC - 10 Times Groundwater Protection Criteria

NOTE: Background depicts site building prior to 2011/2012 building deconstruction.

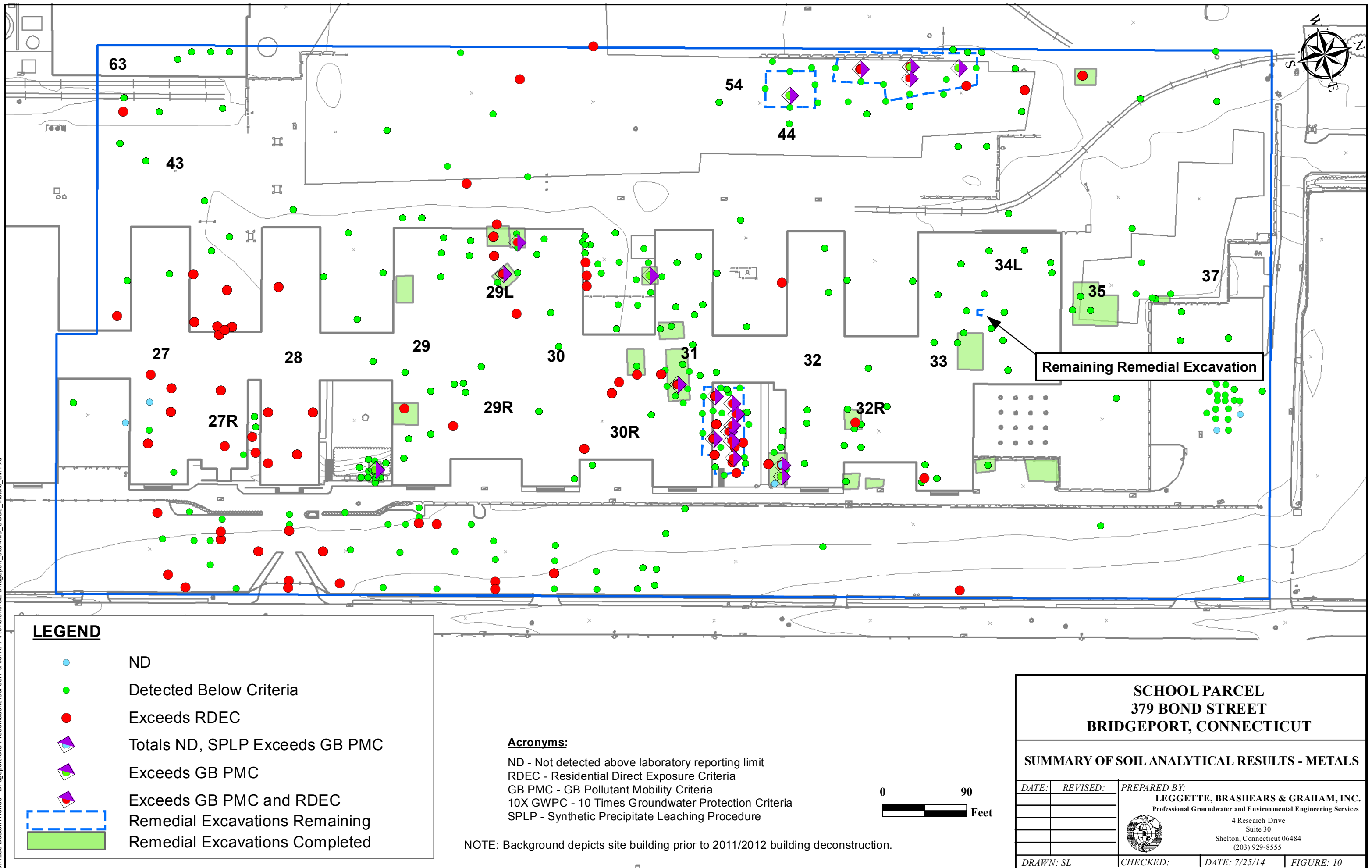


**SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT**

**SUMMARY OF SOIL ANALYTICAL
RESULTS - HALOGENATED VOCs**

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		Shelton, Connecticut 06484
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DRAWN: SL	CHECKED:	DATE: 7/25/14
		FIGURE: 9

G:\1285 Boston Avenue - Bridgeport\GIS\Ppresentations\School Parcel RAP\Revisions\School Parcel RAP\stewide_COCS_metals_all.mxd





LEGEND

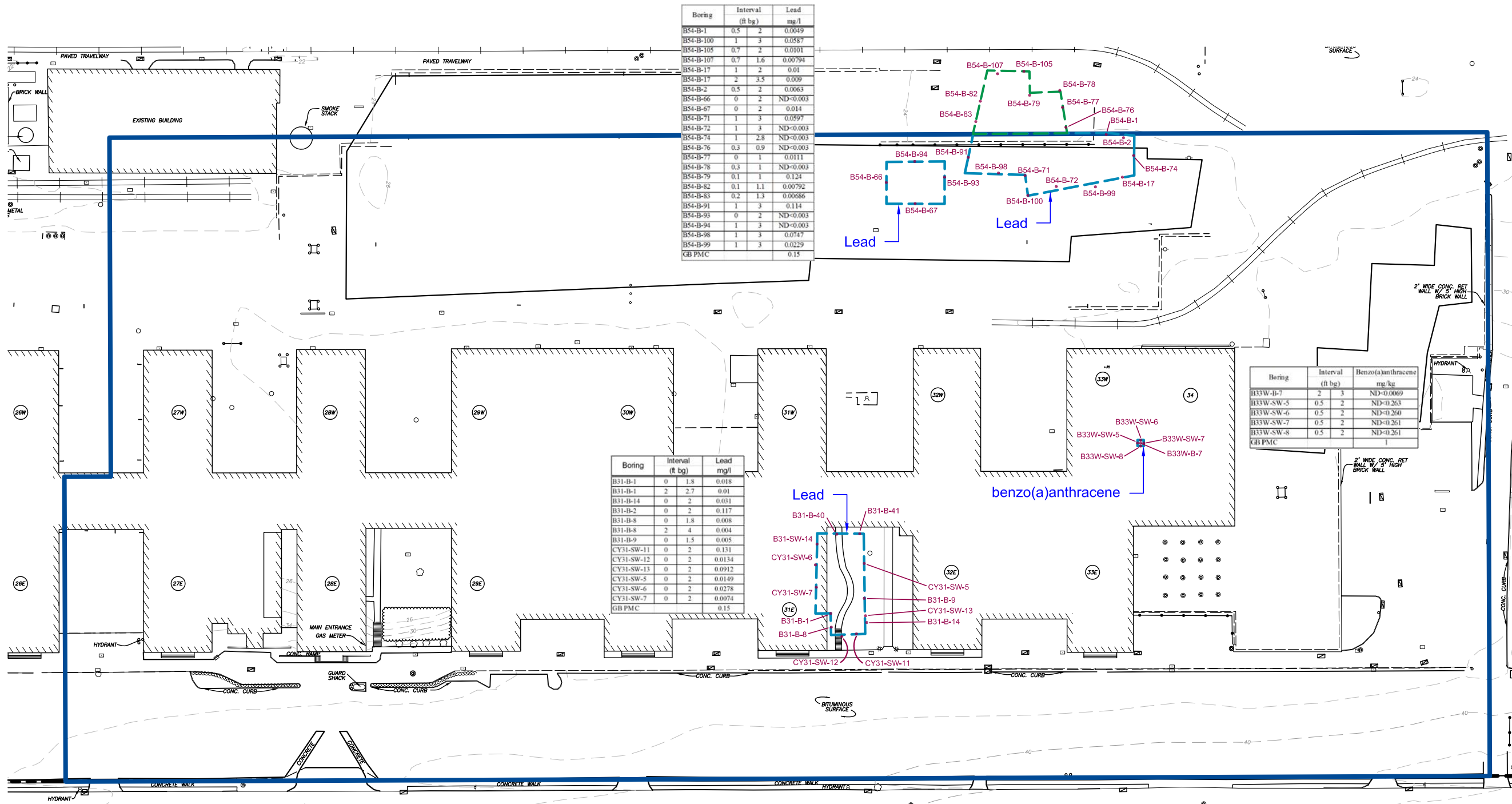
Depth (feet)

- 2
- 2.5
- 3
- 4
- 5
- 6
- 7

School Parcel

SCHOOL PARCEL 379 BOND STREET BRIDGEPORT, CONNECTICUT			
Summary of Remedial Excavations Completed			
DATE:	REVISED:	PREPARED BY:	
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		Professional Groundwater and Environmental Engineering Services	
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DRAWN: SL	CHECKED:	DATE: 3/28/12	FIGURE: 11

O:\DWG\General Electric\Bridgeport\2014\03-March\Soils exceeding the GB PMC.dwg, Layout1, 7/25/2014 4:53:56 PM, Adobe PDF

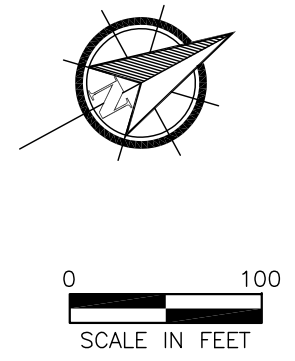


LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE EXTENT OF CONSTITUENTS DETECTED ABOVE THE GB POLLUTANT MOBILITY CRITERIA (TO BE RELOCATED)
- LEAD (OFFSITE PORTION NOT INCLUDED IN SCHOOL PARCEL RAP - TO BE COMPLETED DURING 1285 BOSTON AVENUE PARCEL REMEDIATION)
- CLOSURE SAMPLE USED TO DETERMINE GB PMC EXTENT

NOTE:

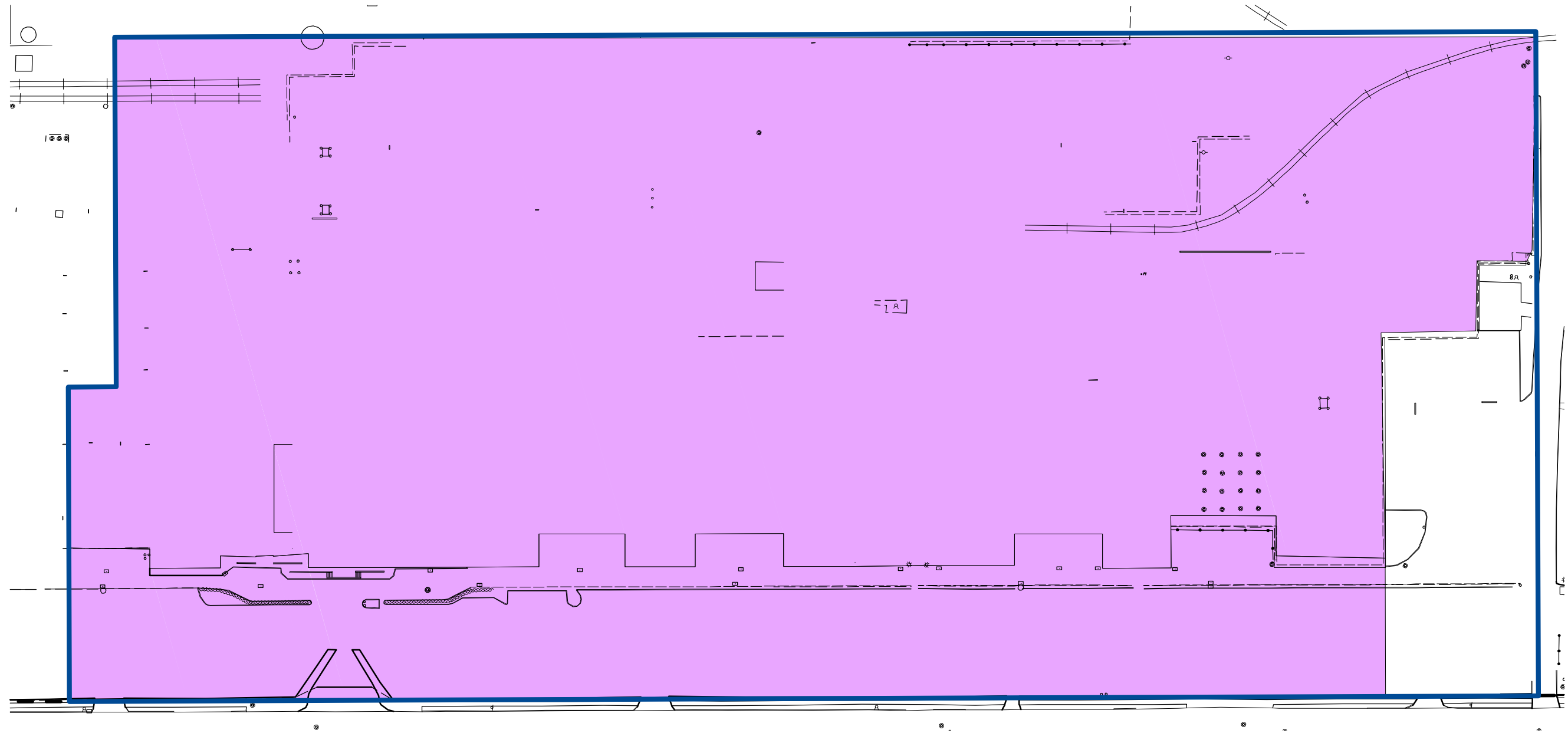
EXCAVATIONS WILL EXTEND TO WATER TABLE OR BEDROCK, WHICHEVER IS HIGHER, UNLESS BASAL SAMPLES DEMONSTRATE CLOSURE.



SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

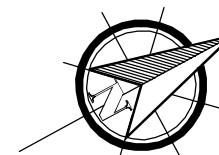
APPROXIMATE EXTENT OF SOILS EXCEEDING THE GB PMC

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		Professional Groundwater and Environmental Engineering Services
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		Shelton, Connecticut 06484
		(203) 929-8555
DRAWN:	MRV	CHECKED: SL
DATE:	07/25/14	FIGURE: 12



LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE EXTENT OF CONSTITUENTS DETECTED ABOVE THE RESIDENTIAL DIRECT EXPOSURE CRITERIA




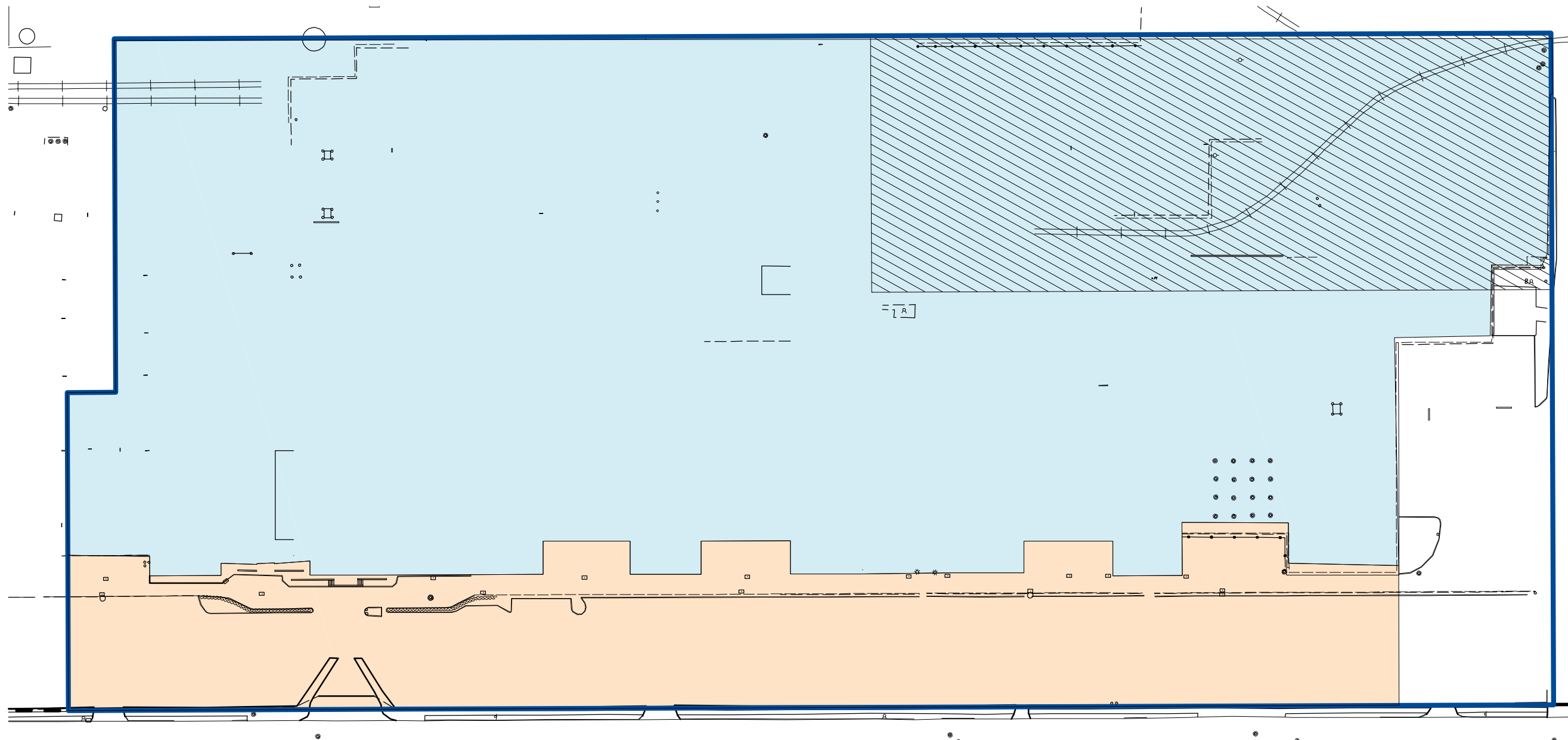
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SCALE IN FEET

O:\DWG\General Electric\Bridgeport\2014\01-January\Fig13-RDEC.dwg, Layout1, 4/25/2014 3:08:17 PM, AcroPlot.pc3

SCHOOL PARCEL 379 BOND STREET BRIDGEPORT, CONNECTICUT

APPROXIMATE EXTENT OF SOILS EXCEEDING THE RDEC

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		Shelton, Connecticut 06484		
		(203) 929-8555		
				
DRAWN:	RAC	CHECKED:	MM	DATE: 04/07/14
				FIGURE: 13



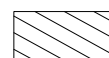
CONCEPTUAL SOIL REMEDY



ELUR RENDERING SOILS INACCESSIBLE AFTER PLACEMENT OF 4-FEET OR 2-FEET (BELOW PAVED AREAS) OF CLEAN FILL, OR BENEATH BUILDING



ELUR RENDERING SOILS INACCESSIBLE WHERE TOP 4-FEET (OR TOP 2-FEET BELOW PAVED AREAS) OF SOIL MEET RDEC PRIOR TO SITE REDEVELOPMENT, OR BENEATH BUILDING



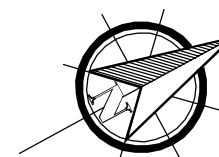
CONCEPTUAL GROUNDWATER REMEDY

ELUR PROHIBITING CONSTRUCTION OF A BUILDING

LEGEND




PROPERTY BOUNDARY



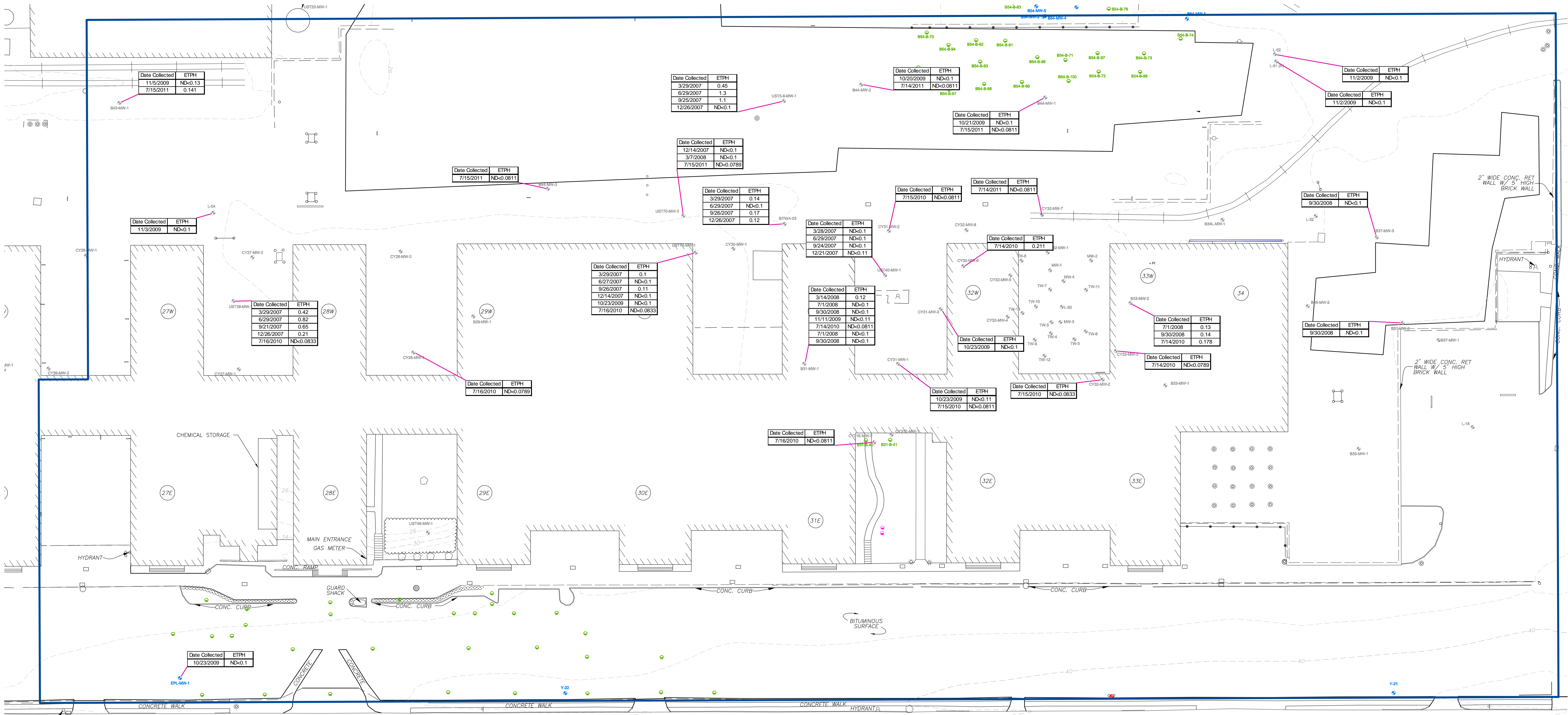
O:\DWG\General Electric\Bridgeport\2014\02-February\Fig14.dwg, Layout1, 4/25/2014 3:08:30 PM, AcroPlot.pc3

**SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT**

CONCEPTUAL LOCATION OF ELURs

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		Shelton, Connecticut 06484		
		(203) 929-8555		
				
DRAWN:	RAC	CHECKED:	MM	DATE: 04/07/14 FIGURE: 14

PLATES



Applicable Criteria		
SWPC	RVC	ICVC
ETPH	NE	NE

Acronyms	
ND	Not Detected
NE	Not Established
mg/l	Miligrams per liter
CT DEEP	Connecticut Department of Energy and Environmental Protection
RSRs	Remediation Standard Regulations
SWPC	Surface Water Protection Criteria
RVC	Residential Volatilization Criteria
ICVC	Industrial/Commercial Volatilization Criteria
ETPH	CT Extractable Total Petroleum Hydrocarbons

LEGEND

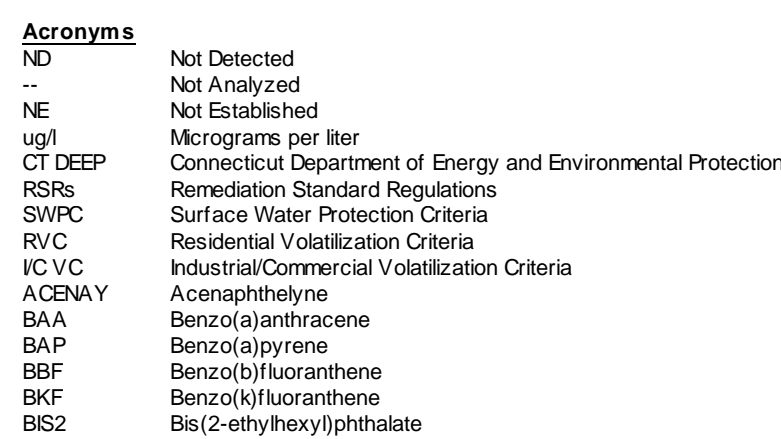
	PROPERTY BOUNDARY
	OVERBURDEN MONITORING WELL
	OVERBURDEN/BEDROCK MONITORING WELL
	EXCEEDS NUMERICAL VALUE OF SWPC
	EXCEEDS RVC
	EXCEEDS ICVC

- NOTES:
- ALL CONCENTRATIONS SHOWN IN mg/L.
 - BACKGROUND DEPICTS SITE BUILDING BEFORE 2011/2012 DECONSTRUCTION.

SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

SUMMARY OF GROUNDWATER RESULTS FOR ETPH

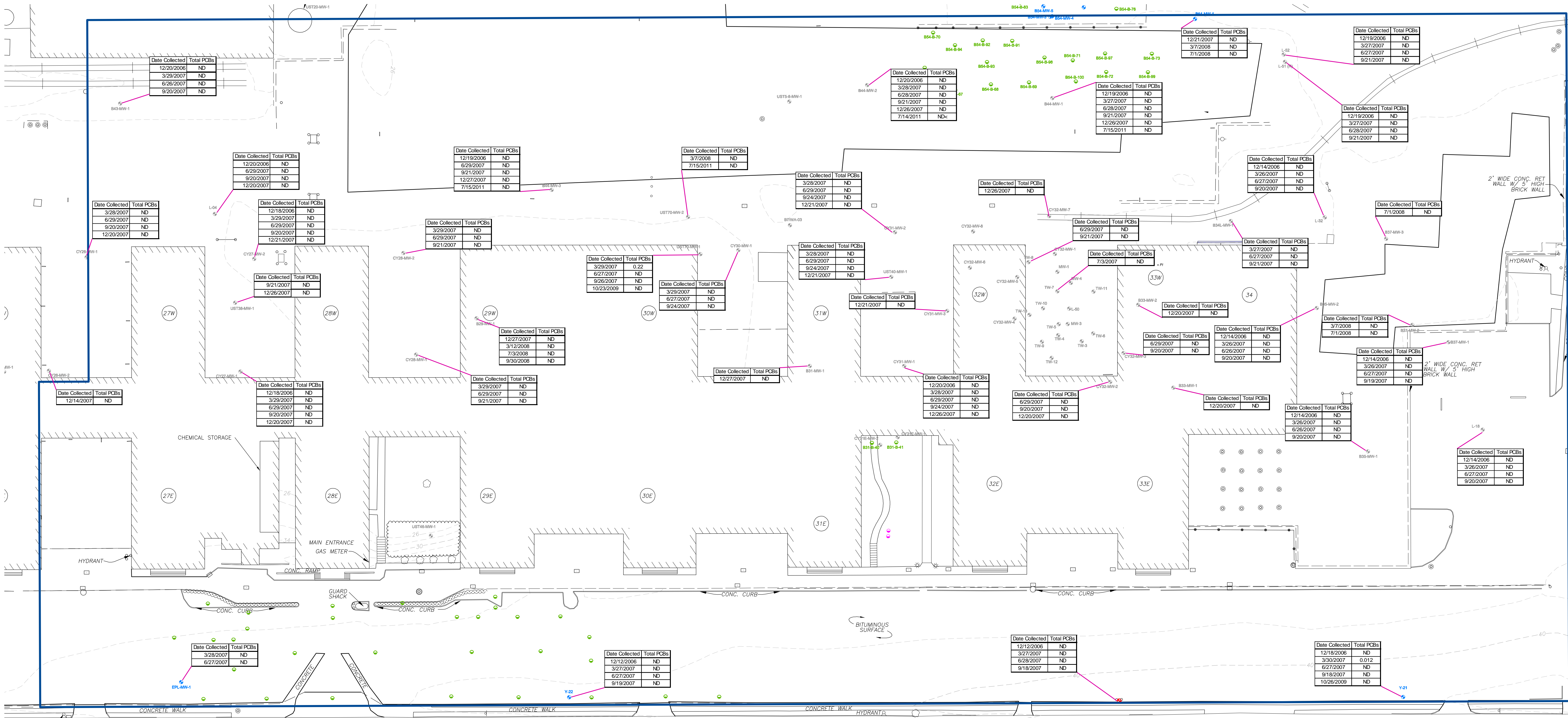
DATE		REVISED	PREPARED BY:	
			LEGGETTE, BRASHEARS & GRAHAM, INC.	
			Professional Groundwater and Environmental Engineering Services	
			4 Research Drive	
			Suite 301	
			Shelton, Connecticut 06484	
			(203) 929-8555	
DRAWN:	RAC	CHECKED:	SL	DATE: 02/14/14
		PLATE:		1



LEGEND

- PROPERTY BOUNDARY
- OVERBURDEN MONITORING WELL
- OVERBURDEN/BEDROCK MONITORING WELL
- EXCEEDS NUMERICAL VALUE OF SWPC
- EXCEEDS RVC
- EXCEEDS I/C VC

MRV	CHECKED: MM	DATE: 07/29/14	PLATE: 2
-----	-------------	----------------	----------



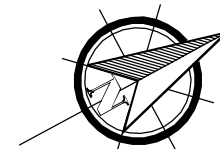
Applicable Criteria			
	SWPC	RVC	ICVC
Total PCBs	0.5	NE	NE

Acronyms	
ND	Not Detected
--	Not Analyzed
NE	Not Established
ug/l	Micrograms per liter
CT DEEP	Connecticut Department of Energy and Environmental Protection
RSRs	Remediation Standard Regulations
SWPC	Surface Water Protection Criteria
RVC	Residential Volatilization Criteria
ICVC	Industrial/Commercial Volatilization Criteria
PCBs	Polychlorinated biphenyls

LEGEND

	PROPERTY BOUNDARY
	OVERBURDEN MONITORING WELL
	OVERBURDEN/BEDROCK MONITORING WELL
	EXCEEDS NUMERICAL VALUE OF SWPC
	EXCEEDS RVC
	EXCEEDS ICVC

- NOTES:
- ALL CONCENTRATIONS SHOWN IN ug/L
 - BACKGROUND DEPICTS SITE BUILDING BEFORE 2011/2012 DECONSTRUCTION.

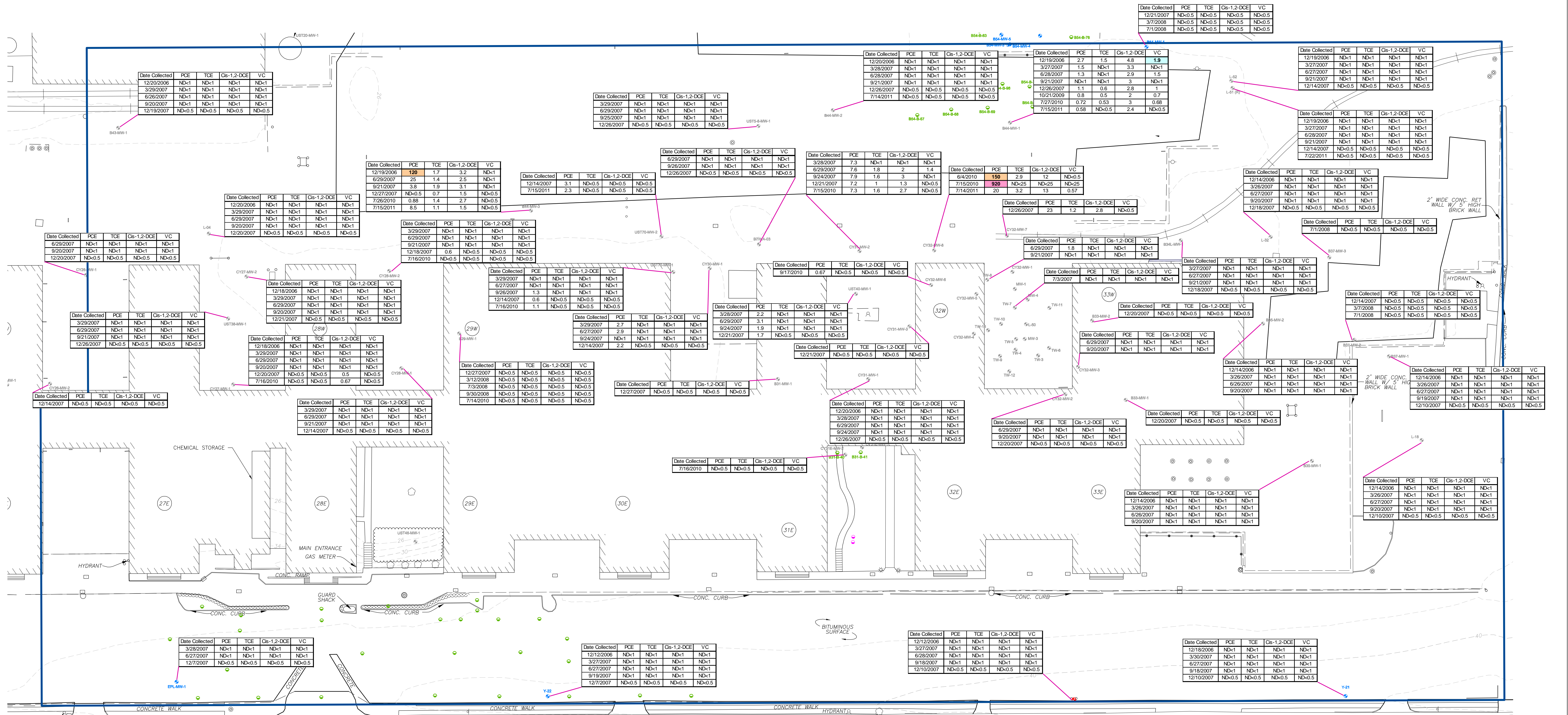


0 40
SCALE IN FEET

SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

SUMMARY OF GROUNDWATER RESULTS FOR PCBs

DATE		REVISED	PREPARED BY:	
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			Shelton, Connecticut 06484	
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DRAWN:		RAC	CHECKED:	SL
DATE:		02/14/14	PLATE:	
			3	



Applicable Criteria

	SWPC	RVC	VC VC
PCE	88	340	810
TCE	2,340	27	67
Cis-1,2-DCE	NE	830	11,000
VC	15,750	1.6	52

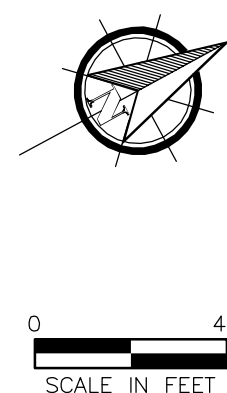
Acronyms

ND	Not Detected
NA	Not Analyzed
NE	Not Established
ug/l	Micrograms per liter
CT DEEP	Connecticut Department of Energy and Environmental Protection
RSRs	Remediation Standard Regulations
SWPC	Surface Water Protection Criteria
RVC	Residential Volatilization Criteria
VC VC	Industrial/Commercial Volatilization Criteria
PCE	Tetrachloroethene
TCE	Trichloroethene
Cis-1,2-DCE	Cis-1,2-dichloroethene
VC	Vinyl chloride

LEGEND

	PROPERTY BOUNDARY
	OVERBURDEN MONITORING WELL
	OVERBURDEN/BEDROCK MONITORING WELL
	EXCEEDS NUMERICAL VALUE OF SWPC
	EXCEEDS RVC
	EXCEEDS I/C VC
	EXCEEDS NUMERICAL VALUE OF SWPC AND I/C VC

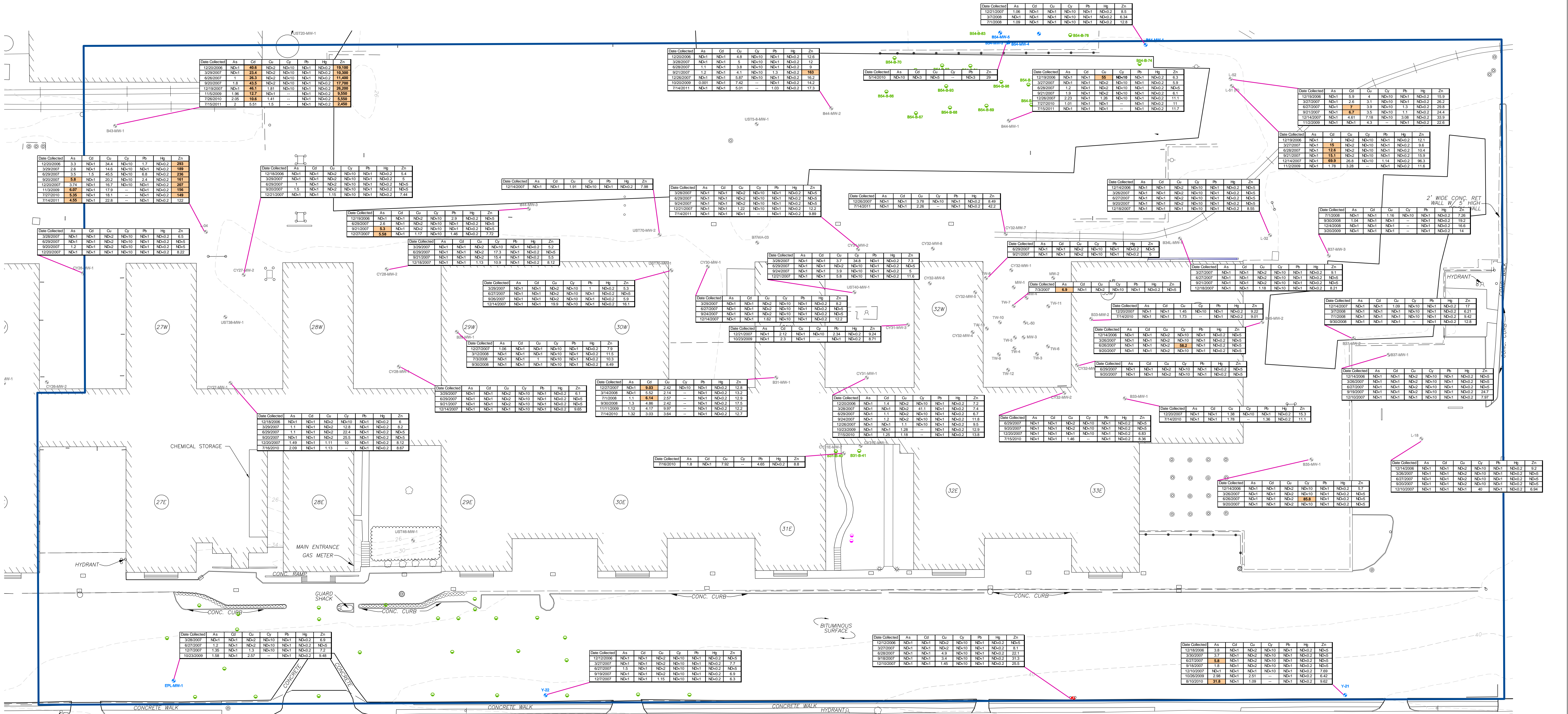
- NOTES:**
- ALL CONCENTRATIONS SHOWN IN ug/L
 - BACKGROUND DEPICTS SITE BUILDING BEFORE 2011/2012 DECONSTRUCTION.



SCHOOL PARCEL 379 BOND STREET BRIDGEPORT, CONNECTICUT

SUMMARY OF GROUNDWATER RESULTS FOR VOCs

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		Shelton, Connecticut 06484
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DATE:	02/14/14	PLATE: 4

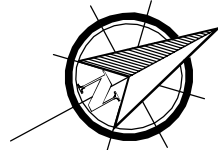


SWPC	RVC	ICVC
As	4	NE
Cd	5	NE
Cu	60	NE
Cr	20	NE
Pb	13	NE
Hg	0.4	NE
Zn	120	NE

SWPC	RVC	ICVC
As	4	NE
Cd	5	NE
Cu	60	NE
Cr	20	NE
Pb	13	NE
Hg	0.4	NE
Zn	120	NE

DATE	REVISED	PREPARED BY
		LEGGETTE, BRASHEARS & GRAHAM, INC.
		Professional Groundwater and Environmental Engineering Services
		4 Research Drive
		Suite 301
		Shelton, Connecticut 06484
		(203) 929-8555
DRAWN:	RAC	CHECKED: SL
		DATE: 02/14/14
		PLATE: 5

NOTES:
1. ALL CONCENTRATIONS SHOWN IN ug/L
2. BACKGROUND DEPICTS SITE BUILDING BEFORE 2011/2012 DECONSTRUCTION.

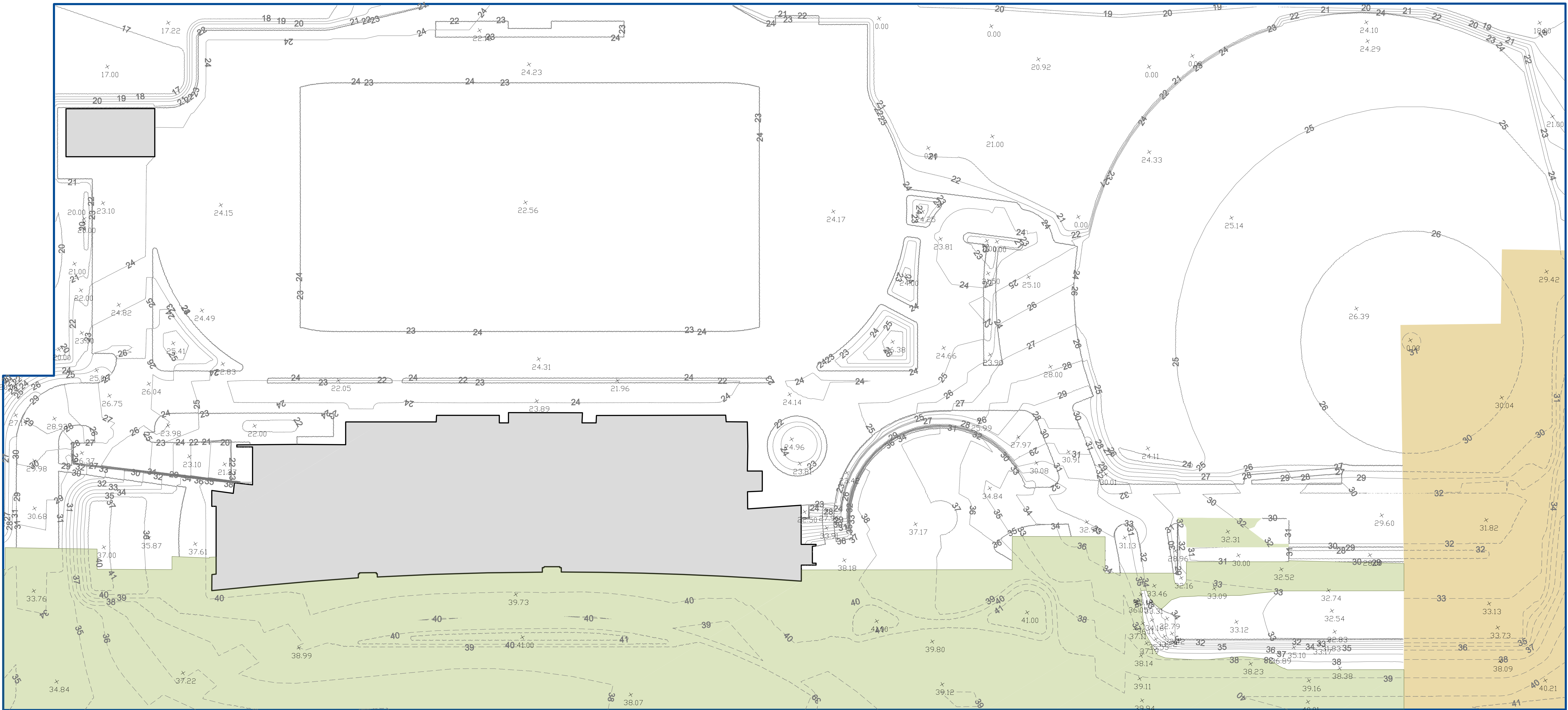


0 40
SCALE IN FEET

SCHOOL PARCEL 379 BOND STREET BRIDGEPORT, CONNECTICUT

SUMMARY OF GROUNDWATER RESULTS FOR METALS

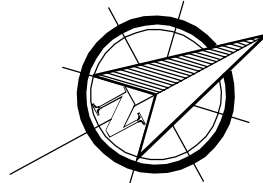
DATE	REVISED	PREPARED BY
		LEGGETTE, BRASHEARS & GRAHAM, INC.
		Professional Groundwater and Environmental Engineering Services
		4 Research Drive
		Suite 301
		Shelton, Connecticut 06484
		(203) 929-8555
DRAWN:	RAC	CHECKED: SL
		DATE: 02/14/14
		PLATE: 5



LEGEND

- SOIL TO BE RENDERED INACCESSIBLE UNDER BUILDING - NO ELEVATION REQUIREMENTS INCLUDED IN RAP
- CONTOURS OF MAXIMUM GRADE SURFACE ELEVATION PRIOR TO PLACEMENT OF CLEAN FILL
- PROPOSED SURFACE CONTOURS SHOWN FOR REFERENCE (NOT INCLUDED IN RAP ELEVATION RESTRICTIONS)
- SPOT ELEVATION OF CONTOURED SURFACE
- AREA MEETING DIRECT EXPOSURE CRITERIA WITHIN UPPER 2 OR 4 FEET OF PROPOSED SURFACE (INCLUDED IN ELUR)
- AREA MEETING DIRECT EXPOSURE CRITERIA - NO ELUR REQUIRED

- NOTE:
- ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL, NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.
 - RAP: REMEDIAL ACTION PLAN
 - ELUR: ENVIRONMENTAL LAND USE RESTRICTION



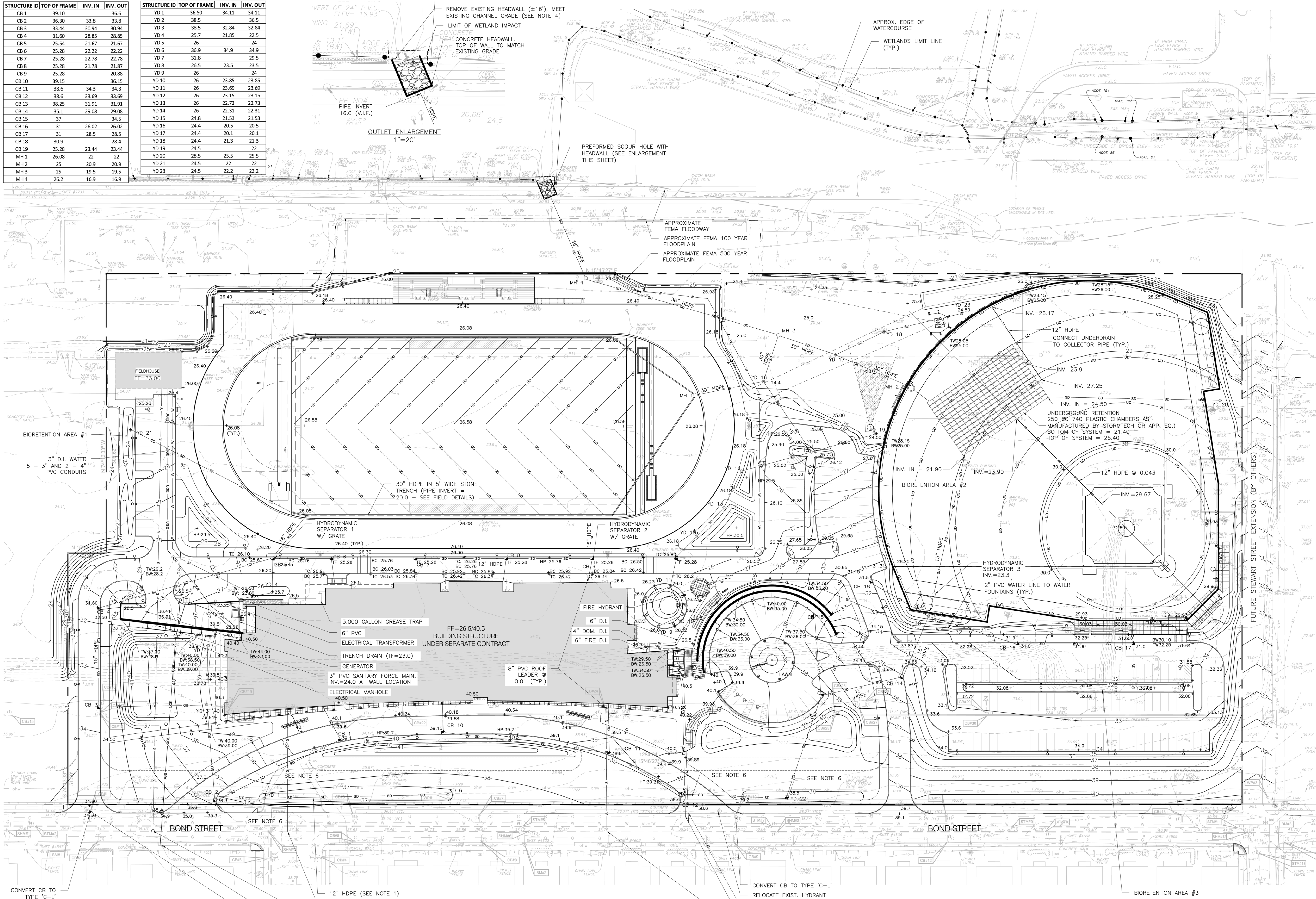
SCHOOL PARCEL
379 BOND STREET
BRIDGEPORT, CONNECTICUT

MAXIMUM GRADE ELEVATION PRIOR TO PLACEMENT OF CLEAN FILL

DATE	REVISED	PREPARED BY:	LEGGETTE, BRASHEARS & GRAHAM, INC.
			Professional Groundwater and Environmental Engineering Services
			4 Research Drive
			Suite 301
			Shelton, Connecticut 06484
			(203) 929-8555
DRAWN:	MRV	CHECKED:	MM
DATE:	04/21/14	PLATE:	6

STRUCTURE ID	TOP OF FRAME	INV. IN	INV. OUT
CB 1	39.10	33.8	36.6
CB 2	36.30	33.8	36.5
CB 3	33.44	30.94	30.94
CB 4	31.60	28.85	28.85
CB 5	25.54	21.67	21.67
CB 6	25.28	22.72	22.72
CB 7	25.28	22.72	22.78
CB 8	25.28	21.78	21.87
CB 9	25.28	20.88	
CB 10	39.15	36.15	
CB 11	38.6	34.3	34.3
CB 12	38.6	33.69	33.69
CB 13	38.25	31.91	31.91
CB 14	35.1	29.08	29.08
CB 15	37	34.5	
CB 16	31	26.02	26.02
CB 17	31	28.5	28.5
CB 18	30.9	28.4	
CB 19	25.28	23.44	23.44
MH 1	26.08	22	22
MH 2	25	20.9	20.9
MH 3	25	19.5	19.5
MH 4	26.2	16.9	16.9

STRUCTURE ID	TOP OF FRAME	INV. IN	INV. OUT
YD 1	36.50	34.11	34.11
YD 2	38.5	36.5	
YD 3	38.5	32.84	32.84
YD 4	25.7	21.85	21.85
YD 5	26	24	
YD 6	36.9	34.9	34.9
YD 7	31.8	29.5	
YD 8	26.5	23.5	23.5
YD 9	26	24	
YD 10	26	23.85	23.85
YD 11	26	23.69	23.69
YD 12	26	23.15	23.15
YD 13	26	22.73	22.73
YD 14	26	22.31	22.31
YD 15	24.8	21.53	21.53
YD 16	24.4	20.5	20.5
YD 17	24.4	20.1	20.1
YD 18	24.4	21.3	21.3
YD 19	24.5	22	22
YD 20	28.5	25.5	25.5
YD 21	24.5	22	22
YD 22	24.5	22.2	22.2



- NOTES:
- ALL DRAINAGE PIPES TO BE 12" HDPE UNLESS OTHERWISE NOTED.
 - FLOODPLAIN ELEVATIONS DEPICTED ARE APPROXIMATE AND ARE BASED ON THE FEMA FIRM ELEVATIONS (JULY 8, 2013).
 - ALL DRAINAGE STRUCTURES IN LAWN AREAS SHALL BE DRYWELL CATCH BASINS.

- CONTRACTOR IS RESPONSIBLE FOR PREVENTING REMOVAL DEBRIS FROM ENTERING THE CHANNEL. SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED DURING REMOVAL AND WALL/RIPRAP INSTALLATION. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED AFTER OUTLET INSTALLATION IS COMPLETE. NATURAL STREAMBED MATERIAL SHALL REMOVED AND REPLACED IN THE CHANNEL AFTER COMPLETION OF WORK.
- CONTRACTOR IS RESPONSIBLE FOR ADEQUATE SIZES OF MANHOLES AND YARD DRAINS TO ACCOMMODATE DRAINAGE PIPING. (SEE DETAIL 7, SHEET C-301 FOR ADDITIONAL INFORMATION)

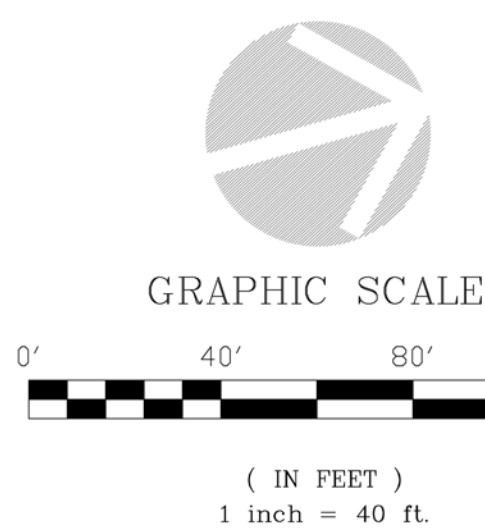
- 12" HDPE (SEE NOTE 1)
- 8" PVC SANITARY @ 0.01 MIN. CONNECT TO EXISTING PIPE
- 3" PVC SANITARY FORCE MAIN. CONNECT TO CITY SYSTEM AT NEW SANITARY MANHOLE (TF=35.25) EXIST. INV.=±26.8, PROPOSED FM INV.=31.0
- PRIMARY ELECTRICAL SERVICE FROM EXISTING POLE (2 - 5" PVC CONDUITS)
- RELOCATE EXIST. HYDRANT

NOTES:

- DRAINAGE STRUCTURES MAY NEED TO BE ADJUSTED/CONVERTED TO MANHOLE TOPS DURING BOND STREET RECONSTRUCTION PROJECT (BY OTHERS).
- PIPE LENGTHS ARE APPROXIMATE. CONTRACTOR TO VERIFY LENGTHS OF PIPE.
- FIRE SERVICE LINE SHALL BE 8" D.I. FROM STREET MAIN TO 8x6x6 TEE. TERMINATE WATER LINES INSIDE BUILDING 9" ABOVE FINISHED FLOOR WITH A BLIND FLANGE. COORDINATE ALL WORK WITH WATER COMPANY, PLUMBING AND SPRINKLER CONTRACTOR.

LEGEND

- SD STORM DRAINAGE PIPE
- RD ROOF DRAIN
- UD DRAINAGE UNDERDRAIN
- S SEWER PIPE
- UGE UNDERGROUND ELECTRIC LINE
- W WATER PIPE
- G GAS LINE



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CERTIFICATION

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REVISIONS

DATE DESCRIPTION

WARREN HARDING HIGH SCHOOL

CITY OF BRIDGEPORT
BOND STREET BRIDGEPORT, CT 06610
STATE PROJECT #015-0173 N

DRAWING TITLE

SITE GRADING AND DRAINAGE PLAN

SCALE: DRAWN BY: REVIEWED BY:
As Noted - -

DRAWING NO.

PLATE 7

DATE: 30 JANUARY 2014 JOB NUMBER: 192310277

APPENDIX I

TARGET DUE-DILIGENCE TESTING
TRITON ENVIRONMENTAL, INC.
OCTOBER 2013

APPENDIX II
SITE HISTORY

APPENDIX III

COMPLETED RDEC AND GB PMC
SOIL REMEDIAL ACTIONS

APPENDIX IV

**INTERIM REMEDIAL ACTION REPORT
COURTYARD 32W EXCAVATION**

APPENDIX V
INTERIM REMEDIAL ACTION REPORT
PCB REMOVALS

APPENDIX VI
STATISTICAL ANALYSES OF SOIL QUALITY DATA