INTERIM PHASE III
REMEDIAL ACTION PLAN

SOILS AT THE WALSH FIELD ATHLETIC COMPLEX

PARKER STREET WASTE SITE
NEW BEDFORD, MASSACHUSETTS

Release Tracking Number - 4-15685

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1.0 INTRODUCTION

TRC prepared this Interim Phase III Remedial Action Plan (RAP) on behalf of the City of New Bedford (City) for the Walsh Field Athletic Complex (Walsh Field; the Site) comprising a portion of the larger Parker Street Waste Site (PSWS) located between Hathaway Boulevard and Liberty Street in New Bedford, Massachusetts. The location of the Site is shown on Figure 1-1.

The PSWS is tracked by the Massachusetts Department of Environmental Protection (MassDEP) under Release Tracking Number (RTN) 4-15685. Other properties in the area of Walsh Field that are tracked under this RTN include:

- New Bedford High School (NBHS);
- The Keith Middle School (KMS) property and a wetland adjacent to the KMS (referred to as the KMS wetland). A Class A-3 partial Response Action Outcome (RAO-P) has been submitted by others for the KMS portion of the PSWS. Response actions are on-going for the wetland portion;
- The Former Keith Junior High School (KJHS) property;
- Several other City-owned parcels (e.g., Department of Public Infrastructure [DPI] facilities);
- Several residential properties along Greenwood, Ruggles, and Durfee Streets, including vacant parcels along Ruggles Street and Hathaway Boulevard presently owned by the Bethel AME Church;
- A church property located at the corner of Hathaway Boulevard and Parker Street; and
- A commercial property located at 319 Hathaway Boulevard.

These properties and the Walsh Field property are variously impacted by the presence of polychlorinated biphenyls (PCBs), dibenzofuran, polyaromatic hydrocarbons (PAHs), and metal-contaminated fill material originating from the PSWS, formerly located in the vicinity of the NBHS campus. Figure 1-2 illustrates the Site boundary.

The Walsh Field portion of the PSWS is located on the south side of Parker Street, to the east of Hunter Street, to the north of Maxfield Street, and to the west of Lindsey Street and the City Maintenance Yard.

The identification, evaluation and selection of comprehensive remedial action alternatives were completed for Walsh Field in accordance with 310 CMR 40.0850. The results and conclusions of that evaluation are documented within this RAP in accordance with 310 CMR 40.0852(5).

This Phase III RAP was completed in accordance with 310 CMR 40.0860, with the following objective:

- Present the results of the initial screening of remedial action alternatives;
- Present a detailed evaluation of the remedial action alternatives considered reasonably feasible;
- Present justification for the selected remedial action alternative; and,
- Evaluate the feasibility of implementing the selected remedial action.

2.0 BACKGROUND

Submittal of this Phase III RAP follows the Interim Phase II Comprehensive Site Assessment (Interim Phase II CSA) Report, submitted to MassDEP e-DEP on July 29, 2009. A detailed presentation of the site history, nature and extent of contamination, fate and transport analysis, and risk characterization and exposure assessment is provided in the aforementioned Interim Phase II CSA Report.

The Phase II CSA Report presented analytical results for samples collected up to and including December 15, 2008. Environmental assessment activities are on-going at Walsh Field and surrounding properties to delineate contamination and to support risk characterization and remedial planning activities. Supplemental environmental sampling activities completed from February 16, 2009 to May 22, 2009 are presented in Appendix A.

A summary of the Phase II CSA findings is presented below.

2.1 Current Use

Walsh Field is an active athletic complex that contains a football stadium along Maxfield Street, a soccer field that abuts the City's maintenance yard, a fenced Varsity baseball field at the corner of Parker and Hunter Streets, the Junior Varsity baseball field abutting the maintenance yard between the soccer field and football stadium, and a central area used for athletic practices of various sports including softball.

There are small buildings within Walsh Field including restrooms, an abandoned field house, and maintenance buildings as well as bleachers/viewing stands at the football field and Varsity baseball field. The track at Walsh Field is made of crumb rubber and there are paved areas along Hunter Street and Maxfield Street. Approximately 10-percent of Walsh Field is currently covered by impervious surfaces (e.g., paved parking areas and the running track).

The Walsh Field complex serves as the primary athletic area for NBHS and also hosts collegiate level baseball games at the Varsity baseball field. The entire Walsh Field complex is surrounded by a fence to limit access by the general public in order to preserve the quality of the playing surfaces. The Varsity field is further surrounded by a second 8-foot fence. Athletic teams use the fields for practices and games between mid-March and late November each year.

For the purposes of evaluating risk to human health, Walsh Field was divided into exposure points applicable to the athletic activities that occur at the field as follows:

- WF-1: Football Field area
- WF-2: Soccer Field area
- WF-3: Practice area (including softball diamond)
- WF-4: Junior Varsity Baseball Field

- WF-5: Varsity Baseball Field

The exposure point area boundaries are illustrated in Figure 2-1.

2.2 Subsurface Conditions

Walsh Field is underlain by topsoil and up to approximately 11 feet of anthropogenic fill material that includes sandy material with ash, related to the historical PSWS operations. In places, the ash fill includes broken glass, brick fragments, rubber, slag, coal, cinders, and/or metallic fragments. Location of the top and bottom of fill material is varied throughout Walsh Field, ranging from 0.5 to 8 feet and 2 to 10 feet below ground surface, respectively.

Figure 2-2 illustrates the fill thickness at Walsh Field. The anthropogenic fill materials are underlain by approximately 0.25 to 6 feet of native dark brown organic peat material, mixed with silt and clay in places from the wetland that predates the disposal operations. Native soils below the organic peat layer are characterized by gray fine silty sands with trace gravel and/or medium sand in places.

2.3 Nature and Extent of Contamination

The Phase II CSA Report described the nature and extent of soil contamination relative to the 0 to 1 foot below ground surface horizon, 1 to 3 foot below ground surface horizon, and greater than 3 foot below ground surface horizon. The 0 to 1 foot horizon is considered to be representative of contamination located at or near the ground surface that is directly accessible, has a high potential for contact by people, and is representative of current exposures. The 1 to 3 foot horizon is considered to be representative of contamination that is below the ground surface, not immediately accessible and has a lower potential for contact by people (potential for contact by maintenance or construction personnel when performing activities that require digging below the ground surface exists). The following summaries are based on data presented in the Interim Phase II CSA, which includes samples collected through December 2008.

The nature and extent of soil contamination is discussed as separate exposure point areas based on the identification of varied activities and uses throughout the different areas of Walsh Field.

2.3.1 Walsh Field Football Field Soil Results (Exposure Point Area WF-1)

For soil samples taken from the Walsh Field Football Field area of the Site, identified as WF-1 on Figure 2-1, the laboratory results did not indicate the detection of any contaminants at concentrations that exceed the applicable MCP Method 1 soil cleanup standards with the exception of two PAHs [benzo(a)pyrene and dibenz(a,h)anthracene] and three MCP metals (arsenic, chromium, and lead).

2.3.2 Walsh Field Soccer Field Soil Results (Exposure Point Area WF-2)

For soil samples taken from the Walsh Field Soccer Field area, identified as WF-2 on Figure 2-1, the laboratory results did not indicate the detection of any contaminants at concentrations that exceed the applicable MCP Method 1 soil cleanup standards with the exception of four PAHs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and dibenz(a,h)anthracene], and three MCP metals (cadmium, chromium, and lead). The reporting limits were below applicable MCP Method 1 soil cleanup standards for all analytes.

No samples were collected in the greater than 3 foot below ground surface horizon.

2.3.3 Walsh Field Practice Area Soil Results (Exposure Point Area WF-3)

For soil samples taken from the Walsh Field Practice area, identified as WF-3 on Figure 2-1, the laboratory results did not indicate the detection of any contaminants at concentrations that exceed the applicable MCP Method 1 soil cleanup standards with the exception of five PAHs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene] and four MCP metals (arsenic, cadmium, chromium, and lead). The reporting limits were below applicable MCP Method 1 soil cleanup standards for all analytes except dibenz(a,h)anthracene in WFD-5 (1-2.5).

2.3.4 Walsh Field Junior Varsity Baseball field Area Soil Results (Exposure Point Area WF-4)

For soil samples taken from the Walsh Field Junior Varsity Baseball Field area of the Site, identified as WF-4 on Figure 2-1, the laboratory results did not indicate the detection of any contaminants at concentrations that exceed the applicable MCP Method 1 soil cleanup standards with the exception of four MCP metals (arsenic, cadmium, chromium, and lead). The reporting limits were below applicable MCP Method 1 soil cleanup standards for all analytes except arsenic in sample WFG-7.

2.3.5 Walsh Field Varsity Baseball field Area Soil Results (Exposure Point Area WF-5)

For soils taken from the Walsh Field Varsity Baseball Field, identified as WF-5 on Figure 2-1, the laboratory results did not indicate the detection of any contaminants at concentrations that exceed the applicable MCP Method 1 cleanup standards with the exception of three PAHs [benzo(a)anthracene, benzo(a)pyrene, and dibenz(a,h)anthracene], and seven MCP metals (mercury, arsenic, barium, cadmium, chromium, lead, and nickel). The reporting limits were below applicable MCP Method 1 cleanup standards for all analytes except for dibenz(a,h)anthracene in WFD-3.

A discrete "Hot Spot" area, where the concentrations of contaminants of concern are substantially higher than those present in the surrounding area, was identified at the Walsh Field Varsity Baseball Field area. At soil sample location WFB-4 (1-2.5 feet), a

Hot Spot was identified due to elevated concentrations of carcinogenic PAHs and petroleum hydrocarbons (Diesel Range Organics; DRO) 100-fold above concentrations typically found at Walsh Field.

The analytical results at WFB-4 (1-2.5 feet) did not indicate the detection of any contaminants of concern at concentrations exceeding the applicable MCP Method 1 cleanup standards, with the following exceptions: dibenzofuran at 28.0 mg/kg; PAHs including acenapthylene at 47.0 mg/kg, benzo(a)anthracene at 160 mg/kg, benzo(a)pyrene at 95.0 mg/kg, benzo(b)fluoranthene at 76.0 mg/kg, benzo(k)fluoranthene at 110 mg/kg, chrysene at 170 mg/kg, dibenz(a,h)anthracene at 17.0 mg/kg, and indeno(1,2,3-cd)pyrene at 28.0 mg/kg; and diesel range organics (DRO) at 6,063 mg/kg.

All contaminants of concern identified to date tend to exhibit strong soil partitioning tendencies and limited potential to leach to groundwater, and/or low solubility and have low likelihood of leaching through the soil and migrating with groundwater.

2.4 Immediate Response Actions

The following summarizes Immediate Response Actions undertaken at the Site.

2.4.1 Varsity and Junior Varsity Baseball Fields

Surface soil samples (0-0.5 foot below grade) collected from the Varsity and Junior Varsity (JV) Baseball Field portions of Walsh Field contained arsenic at concentrations that could pose an imminent hazard (IH) under 310 CMR 40.0321(2)(b). The potential IH condition was reported to MassDEP by TRC via telephone in conjunction with representatives of the City on July 30, 2008. MassDEP orally approved IRA assessment activities and assigned RTN 4-21407.

TRC collected soil samples indicating concentrations of arsenic in excess of the MassDEP "could pose" IH threshold of 40 mg/kg in the top six inches of soil. All of the concentrations over the "could pose" IH threshold were found to be in the top six inches of base path/infield soil at the Varsity baseball field except one, which was located in the grassed area adjacent to the base path/infield at the JV baseball field.

Follow-up work completed as part of the IRA included additional soil sampling, preparation of an IH evaluation, and implementing controls limiting access to the Site. The controls implemented included locking the perimeter fence around the area and posting "No Trespassing" signs. The IH evaluation concluded that an IH condition was present at the Varsity Baseball Field, but not at the Junior Varsity Baseball Field.

In September 2008, TRC submitted an IRA Completion Report to MassDEP. The objective of the September IRA Completion Report was to document the assessment and delineation of the potential IH condition and the mitigation of the condition through fencing. TRC subsequently submitted a second IRA Plan in November 2008. The objectives of the IRA Plan were to:

1. Remove the top six inches of base path, mound, and infield soil within the Varsity Baseball Field that contain elevated concentrations of arsenic;

2. Remove additional soil around the outer perimeter of the infield extending into the outfield and foul territory to a depth of six inches; and

3. Replace the removed surface soil with appropriately documented, contaminant-free soil.

In November 2008, TRC oversaw the excavation and off-site disposal of approximately 1,118 tons of arsenic-contaminated soil from the Varsity and Junior Varsity Baseball Fields. Although the initial IH evaluation had indicated that the arsenic concentrations at the Junior Varsity Baseball Field did not represent an IH, soil excavation was included at the Junior Varsity Baseball Field at the request of the Mayor.

A post-excavation evaluation demonstrated that an IH condition does not exist at either the Varsity or Junior Varsity Baseball Field and that the fields can continue to be safely used until a permanent remedy that addresses the remaining soil contamination can be implemented. TRC filed an IRA Completion Report on the City's behalf on April 13, 2009.

2.4.2 Soccer Field

RTN 4-21823 was triggered on March 4, 2009 by the detection of lead at a concentration posing an IH, based on TRC's initial evaluation and the accessibility of the soil (0 to 1 foot in depth) at the soccer field area of Walsh Field near soil sample WFE-5. TRC conducted additional soil sampling, prepared a risk evaluation, and oversaw the removal of approximately 41 cubic yards of contaminated soil in the area. The soil was transported to the Shawmut Avenue Transfer Station in lined and covered roll-off containers for temporary storage. TRC submitted an IRA Plan for this release on May 4, 2009.

A waste characterization soil sample was collected from the excavated soils, and submitted for laboratory analysis of volatile organic compounds (VOCs), total poly-chlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), and Resource and Conservation Recovery Act (RCRA) 8 metals. Additional volume was collected for Toxicity Characteristic Leaching Procedure (TCLP) metals analysis, contingent upon total metals results.

The waste characterization soil sample exhibited a lead concentration of 655 mg/kg. Since this concentration is greater than 20-times the allowable aqueous lead leachate level, the sample was analyzed for TCLP lead. Based on TCLP analysis, the extract from the soil contained a lead concentration of 8.04 mg/L. This concentration exceeds the 5.0 mg/L concentration identified as the regulatory level for lead by MassDEP in 310 CMR 30.125 (characteristic hazardous waste). The soil at the Shawmut Avenue Transfer

Station was subjected to lead stabilization treatment on July 13, 2009 by Triumvirate Environmental, Incorporated. Following treatment the soil no longer exceeded TCLP criteria and was shipped to Crapo Hill Landfill for reuse on July 20, 2009. The close out of this IRA condition will be documented in a future IRA completion report.

2.5 Summary of Phase II CSA Risk Characterization and Exposure Assessment

No IH conditions are currently known to exist at Walsh Field based on data collected through May 22, 2009 and the Immediate Response Actions conducted in 2008 and 2009 (see Appendix A for Supplemental Phase II sampling results from Walsh Field after December 2008).

However, soil EPCs for dibenzofuran, PAHs, DRO, arsenic, cadmium, and lead exceed applicable MCP Method 1/Method 2 S-1/GW-2 and S-1/GW-3 soil cleanup standards for current and/or future site conditions. Current and potential frequency of use by children and adults is "High" due to the active use of the athletic field for the majority of the year. As a result, a Condition of No Significant Risk does not exist for soil contamination at Walsh Field under current and future use scenarios.

A Stage I Environmental Risk Characterization indicated a condition of no significant risk to environmental receptors exists at the Site. Therefore, further ecological investigation at Walsh Field is not warranted.

3.0 REMEDIAL ACTION ALTERNATIVES

Walsh Field, comprising approximately 18 acres, is located within the footprint of a larger former disposal site that encompasses an area greater than 100 acres.

The objective of this interim remedial measure will be to remove, control, and/or eliminate the current and future risk to human health associated with soils located at Walsh Field, resulting in a permanent solution.

3.1 Initial Screening of Remedial Action Technologies

An initial screening of remedial technologies to identify remedial action alternatives for further evaluation which are reasonably likely to be feasible was completed in accordance with 310 CMR 40.0856. As defined in 310 CMR 40.0856, a remedial action alternative is reasonably likely to be feasible if:

a) The technologies to be employed by the alternative are reasonably likely to achieve a Permanent or Temporary Solution; and,
b) Individuals with the expertise needed to effectively implement available solutions would be available, regardless of arrangements for securing their services.

The United States Environmental Protection Agency (USEPA) has developed a compendium of remediation technologies at both screening levels and in-depth technology reviews. TRC utilized this information located on the internet at USEPA's technology innovation program website clu-in (www.clu-in.org), and TRC's experience at similar sites to complete this evaluation.

Where a technology was potentially applicable to the remedial objective it was included in the screening process. The screening process was two-fold. First, technologies were summarized and assessed based on contaminants present. Then, the ability to implement the remedy at this Site, the potential for success at meeting the remedial objectives, costs, potential risks, and reliability were considered. From that point, technologies were eliminated or considered potentially applicable. The results of that screening process are presented on Table 3-1.

Those technologies that were deemed potentially applicable during the initial screening process are presented in the subsections below.

3.1.1 Institutional Controls

Institutional controls establish restrictions on the use of a site that would otherwise result in exposure to the contaminants of concern. These use restrictions can be in the form of legal uses and controls and physical barriers such as fences. This would require the filing of a deed restriction in the form of an Activity and Use Limitation (AUL), as outlined in 310 CMR 40.1070.

Institutional controls such as fencing are not considered appropriate as a sole remedy for current and existing site uses and have been eliminated.

The use of this alternative would not be retained alone because it does not fully address exposure to contaminated soils at the Site, and does not lessen the toxicity, mobility, or volume of wastes. However, an AUL may be used in conjunction with other alternatives to achieve a condition of no significant risk of harm to human health and the environment.

Soil contamination at depths greater than three feet is considered *potentially accessible*, consistent with 310 CMR 40.0933(4)(c)(2). Institutional controls are commonly used to maintain a condition of No Significant Risk at sites and are appropriate, where necessary, to control risks associated with potentially accessible soils. Therefore, institutional controls have been retained for consideration in the development of remedial alternatives for soils subject to this interim remedial measure.

3.1.2 Reclamation/Recovery

Reclamation and recovery is a process of soil washing that scrubs soil to remove and separate the portion of the soil that is most polluted. Contaminants tend to sorb to certain soils such as fine-grained silt and clay. Silt and clay in turn stick to larger-grained sand and gravel. Soil washing is a process to separate the silt and clay from the larger-grained clean soils. This results in less soil volume requiring disposal.

Before using soil washing, soil is excavated from the impacted area and the material is sifted to remove large objects such as rocks and debris. The soil is then placed in a scrubbing unit with wash water and sometimes detergent. Output is wash water that must be treated, polluted soil that must undergo additional treatment or landfilling, and clean soil.

Soil washing is usually completed at the site, with air pollution controls used to manage dust and other potential air pollution problems as part of the process. Waste water generated must be treated prior to discharge.

An alternative ex situ method is with a solvent-based solution to extract bound contaminants. This technology has proven successful with PCBs, but is not designed to treat metals or PAHs.

Commercialization of these processes is not yet extensive. The presence of a complex mixture of contaminants such as metals, non-volatile organics, and PAHs and a heterogeneous matrix makes it difficult to formulate single washing solutions. Solvents that remain in the soil matrix must be heat treated prior to re-use of the soil. The used solvent wash must be destroyed as part of disposal.

Considering the ability to implement the technology in this actively used recreational site, the mixed contaminants and matrix, and the remaining wastes requiring further treatment or disposal after implementing this measure, this option was eliminated.

3.1.3 Removal – Excavation and Off-site Disposal

Excavation of contaminated soil can be targeted to remove risk-causing contaminants from a site and lessen the volume of wastes.

Typically, heavy equipment is used for removal, including backhoes, excavators, bulldozers, loaders, vacuum extractors, compactors, and dump trucks.

This alternative typically targets small volumes, rather than large volumes where feasible, due to the increased costs associated with excavation, transportation, and disposal fees. In addition, due to the current and future uses of this Site, complete site restoration would be necessary, thereby increasing costs.

Potential issues include the proximity to buildings, outbuildings, and underground utilities. Structural supports may be required or certain locations may need to be avoided.

Removal and off-site re-use, recycling, and/or disposal are common methods of site remediation. Given the proven performance of excavation as a site remedy at similar sites, this technology will be retained for further evaluation.

3.1.4 Solidification/ Stabilization

Solidification/stabilization is a type of cleanup method that binds or immobilizes contaminants to the soil particles. This method usually does not destroy the contaminant. Solidification results in a matrix that is similar to a solid block. Stabilization refers to a change in the contaminants so they become less harmful or less mobile.

In situ and ex situ stabilizing and solidifying the contaminants are proven technologies to prevent exposure by binding physically or changing chemically the contaminant of concern. Soil recycling, re-use, and/or disposal options are sometimes enhanced by stabilizing the material, essentially immobilizing the contaminants.

In general, the soil is mixed with binding agents and water to convert contaminants to a less soluble, mobile, or toxic form. The result is a less harmful or less mobile contaminant. Soils are either excavated then treated at the surface, or an injector head and/or auger/caisson systems are used to treat in situ. Ex situ treatment technologies have the advantage over in situ treatment, for the following reasons:

- Ex situ treatments are not limited by heterogeneities associated with soil and fill in the subsurface.
- The resultant soil-crete can be re-used on or off-site at to-be-determined locations;

- In situ volume increases and solidified material may not be compatible with current and future uses at Walsh Field; and,
- Ex situ processes typically provide a higher degree of reliability of mass removal and easily measurable performance criteria.

As a result, in situ solidification/stabilization has been eliminated as a remedial option.

In situ vitrification, a process that uses electric current to melt soil at high temperatures destroying the contaminants or locking the contaminants is a glass and crystalline mass, was immediately eliminated due to the few commercial applications and resultant on-site solidified glass matrix post-treatment.

Although ex situ solidification/stabilization requires reuse or disposal that may result in additional long term maintenance and capping if re-used on-site, it has been retained as a potentially applicable option for pre-treatment prior to off-site disposal or recycling.

3.1.5 Containment

Capping is a remedial technology that involves placing a cover over contaminated material. Excavating soil can be difficult based on site conditions and expensive, particularly when the lateral extent of contaminated soil is large. Capping provides an effective and proven alternative of containment. Containment measures are designed to isolate contaminants to prevent direct contact, erosion, and depending on the contaminants, leaching.

Capping options range from simple single layer vegetative soil to multilayer synthetics and may include physical barriers that include clay and soil, asphalt, concrete, and/or geosynthetic membranes. For this site, the contaminants present are not significantly mobile via leaching based on known mobility and the groundwater monitoring results from the Phase II CSA. The main purpose of containment at this site would be to eliminate direct contact with the contaminated soil. As a result, single layer capping techniques will be considered.

Clay and soil capping involves placing compacted clay covered with vegetative soil over the area of direct exposure to surficial contamination. Plant cover aids in erosion control and taking up water, preventing saturation in the underlying layer. For this site, a clay base would likely present a drainage issue due to the flat topography. In addition, in consultation with the Massachusetts Department of Environmental Protection (MassDEP), TRC has been informed that a minimum of three feet of cover is required between at risk contaminated soils and receptors where unconsolidated material is present or utilized. The addition of three-feet of cover material would be problematic given the current and future uses and the existing infrastructure and facilities. As a result, any alternative which includes capping must result in the maintenance of current ground surface grades and elevations.

Single layer bituminous asphalt and concrete capping directly on top of the contaminated soils is a proven and cost effective technology. The contaminants are isolated, preventing direct contact and erosion of the impacted soils. The cap material is easily maintained. Asphalt and concrete capping are largely incompatible with current and future uses at Walsh Field. However, there may be uses where asphalt and concrete capping as part of the alternative is necessary or appropriate, when combined with other remedial measures. As a result, this alternative has been retained.

Geosynthetic barriers are used in both single and multi-layer capping systems. In single layer systems, the barrier must be durable, capable of withstanding exposure, and compatible with Site uses. In this application, synthetic turf would be applicable to the current and future uses of Walsh Field. Synthetic turf fields have been widely used and are readily available. Urban uses have increased dramatically in recent years. Future operation and maintenance costs are minimal and are much less than natural field grass which require mowing, chemicals, and water. During a meeting with MassDEP on February 6, 2009 to discuss a remedy for Walsh Field, MassDEP indicated that synthetic turf is an acceptable containment technology. This alternative is consistent with current and future uses of the Site, and as a result, this alternative has been retained.

The capping alternatives presented do not lessen the toxicity, mobility, or volume of contaminated material present at the Site. However, capping is generally considered the most cost-effective method for managing large volumes of contaminated soil. Capping is considered a potentially applicable technology for Walsh Field.

4.0 DETAILED EVALUATION OF REMEDIAL ACTION ALTERNATIVES

In accordance with 310 CMR 40.0857(2), a detailed evaluation of remedial action alternatives is not required following the initial screening (presented in Section 4.0) due to the following:

- The remedial action alternatives are proven to be effective in remediating the types of oil and hazardous materials (OHM) present at the Site;
- The remedial actions will result in the reuse, recycling, destruction, detoxification, and/or treatment the OHM present at the Site;
- The remedial actions can be implemented in a manner that will not pose a significant risk of harm to health, safety, public welfare or the environment; and,
- The remedial actions are likely to result in a reduction and/or control of OHM at the Site to a degree and in a manner that a Class A Response Action Outcome will be met.

5.0 SELECTION OF REMEDIAL ACTION ALTERNATIVE

The selected remedial action alternative, Feasibility Evaluation, the assessment of the feasibility of approaching background, the ability to achieve no significant risk, and the elimination of substantial hazards is present below.

5.1 Proposed Remedial Action Alternative

To mitigate the current and future risks associated with Walsh Field soil, which will result in a Class A Response Action Outcome, soils will be remediated by removing the WFB-4 hot spot, by removing the soils that contribute to the Method 1/Method 2 S-1 soil standard exceedances, and by placing an AUL on the property to prevent potential exposure to impacted soils greater than three feet below ground surface.

The risk characterization completed as part of the Interim Phase II CSA report indicated the following:

- No Imminent Hazard condition is known to exist at Walsh Field.
- A Stage I Environmental Risk Characterization indicated no significant soil exposure pathways exist at Walsh Field and groundwater data indicate a condition of no significant risk to environmental receptors.
- Soil Exposure Point Concentrations exceed applicable MCP Method 1/Method 2 S-1/GW-2 and S-1/GW-3 soil cleanup standards for current and future Walsh Field conditions.
- A condition of No Significant Risk does not exist for soil contamination at Walsh Field under current and future use scenarios.

For each of the identified exposure points at Walsh Field, the following soil contaminants exceed applicable MCP Method 1/Method 2 soil cleanup standards and are identified as Contaminant of Concern (COCs):

Current Site Conditions

- WF-1: lead
- WF-2: benzo(a)pyrene, cadmium, lead
- WF-3: cadmium, lead
- WF-4: arsenic, cadmium, lead
- WF-5: arsenic, lead
- WFB-4 hot spot: dibenzofuran, acenaphthylene, carcinogenic PAHs, DRO

Future Site Conditions

- Walsh Field: arsenic, cadmium, lead

- WFB-4 hot spot: dibenzofuran, acenaphthylene, carcinogenic PAHs, DRO

The Walsh Field investigation focused on the nature and extent of soil contamination in the 0 to 1 foot below ground surface horizon, 1 to 3 feet below ground surface horizon, and greater than 3 feet below ground surface horizon.

The 0 to 1 foot horizon is considered to be representative of contamination located at or near the ground surface that is directly accessible, has a high potential for contact by people, and is representative of current exposures.

The 1 to 3 feet horizon is considered to be representative of contamination that is below the ground surface, not immediately accessible and has a lower potential for contact by people (potential for contact by maintenance or construction personnel when performing activities that require digging below the ground surface exists).

Potentially contaminated soil at the Site is present within the 0 to 3 feet depth interval as well as the 3 to 15 feet depth interval. In accordance with 310 CMR 40.0933(4)(c)(2), soil contamination within the top three feet is considered *accessible*, consistent with 310 CMR 40.0933(4)(c)(2), and soil within the 3 to 15 feet interval is considered *potentially accessible*.

To mitigate the current and future risks associated with Walsh Field soil, which will result in a Class A Response Action Outcome, soils will be remediated by removing the WFB-4 hot spot, by removing the soils that contribute to the Method 1/Method 2 S-1 soil standard exceedances, and by placing an AUL on the property to prevent potential exposure to impacted soils greater than three feet below ground surface.

TRC conducted soil sampling along concentric rings (i.e., step out sampling) around sampling locations identified for potential excavation, based on elevated contaminant concentrations. The supplemental step out and characterization sampling (presented in Appendix A) was completed within each exposure point area. The step-out sampling targeted the locations displaying the highest concentrations of identified COCs. The supplemental sampling results are used to determine pre-defined excavation boundaries for the lateral and vertical extent necessary to achieve the remedial goal (i.e., EPCs less than or equal to Method 1/Method 2 S-1 standards). Based on the risk characterization results, the vertical depth will be up to three feet below ground surface, targeting the accessible soils.

Following soil removal, the excavations will be backfilled with clean fill, topped with six inches of loam, and re-seeded.

Of the remedial action alternatives deemed potentially applicable during the screening process, the following technologies will be utilized as part of this remedial alternative:

- Removal – Off-Site Disposal.
- Removal/Treatment – Off-Site Disposal.

- Containment – Cover Material.
- Institutional Controls – Activity and Use Limitation; Fence and Access Controls.

Containment by asphalt, concrete, or geosynthetic membrane was not selected due to the limited extent of soils exhibiting risk, the fact that capping does not lessen the toxicity or volume of contaminated material present at the Site, and the relatively high cost versus benefit.

A conceptual design for this remedy has been prepared and is presented in Appendix B. Areas targeted for excavation are illustrated in this design document.

5.2 Feasibility Evaluation

A permanent solution has been proposed for Walsh Field. As discussed below, a Feasibility Evaluation was completed in accordance with 310 CMR 40.0860 and with consideration of the guidance presented in MassDEP's document *Conducting Feasibility Assessments Under the MCP* (Policy #WSC-04-160).

5.2.1 Feasibility of Approaching Background

MassDEP has expressed a position that for a limited number of pollutants, remedial actions to achieve or approach background are almost always feasible, i.e., the cost of conducting a remedial action would be modest and exceeded by the benefit or risk reduction.

As documented in MassDEP's guidance document, MassDEP considers it categorically feasible to remove small quantities of petroleum-contaminated soil. Specifically, for the purposes of achieving Presumptive Certainty pursuant to this policy, it is DEP's position that it is feasible to achieve background at a site where a condition of no significant risk has been reached, the remaining contamination is limited to 20 cubic yards or less of soil contaminated solely by petroleum products, and where such soil:

- is located less than three feet below the ground surface;
- is not covered by pavement or a permanent structure;
- is not located within a sensitive environment (e.g., wetlands); and
- is not located in an area where removal activities will substantially interrupt public service or threaten public safety.

However, for certain types of pollutants in certain types of environmental settings, remedial actions to achieve or approach background may be considered to be categorically infeasible. Such is the case when the incremental cost of conducting a remedial action would be substantial and almost always disproportionate to the incremental benefit or risk reduction.

At Walsh Field, the proposed remedy is to remediate soils to achieve a condition of no significant risk to human health, not to background. Approximately 1,400 square feet of

surface area will be removed and replaced. The cost of remediating the remaining S-1 soils on the approximately 780,000 square-foot Walsh Field in an attempt to achieve or approach background is disproportionate to the cost necessary to achieve a condition of No Significant Risk.

In accordance with MassDEP guidance (Policy #WSC-04-160), achieving or approaching background can be deemed categorically infeasible for persistent contaminants in soil located in areas with lower exposure potential (i.e., S-2 and S-3 soil categories). The contaminants of concern at Walsh Field are considered persistent contaminants. Remediating soils below three feet is not the proposed remedy at this Site; these soils will be contained by the physical barrier of three feet of soil cover.

In accordance with MassDEP guidance, for those co-located non-persistent COCs that are present below risk based standards, but at levels higher than would be the case if the disposal site was not present, it is unnecessary to evaluate the feasibility of achieving or approaching background where persistent contaminants are present.

5.2.2 Reducing Contaminants at or below Upper Concentration Limits

A comparison of soil EPCs to MCP Upper Concentration Limits (UCLs) was completed as part of the risk characterization for Walsh Field. No soil EPC exceeds its respective MCP UCL at Walsh Field.

5.2.3 Critical Exposure Pathways

There are no critical exposure pathways at Walsh Field.

6.0 PROJECT SCHEDULE

In accordance with 310 CMR 40.0861(2)(i), a projected schedule for implementation of Phase IV activities and an estimated timeframe by which the selected remedial action alternative will result in the achievement of no significant risk and/or no substantial hazard is presented in Appendix C. Walsh Field excavation activities may also be undertaken as a Release Abatement Measure (RAM).

7.0 PUBLIC INVOLVEMENT

In accordance with 310 CMR 40.0863 and 310 CMR 40.1400 thru 310 CMR 40.1406, the Mayor and the Board of Health for the City of New Bedford have been notified in writing of the availability of this report. The notifications were complete concurrent with the submittal of this report. Copies of the letters are provided in Appendix D.

8.0 PHASE III COMPLETION STATEMENT AND LSP OPINION

This Phase III Interim Remedial Action Plan was completed in accordance with the requirements of 310 CMR 40.0850 and the performance standards of 310 CMR 40.0853. Pursuant to 310 CMR 40.0862(3), it is the opinion of the Licensed Site Professional (LSP) overseeing this Phase III Interim Remedial Action that the selected remedial action alternatives selected is likely to achieve a Class A-3 Response Action Outcome for the Walsh Field portion of the disposal site.

The LSP overseeing this Phase III Interim Remedial Action Plan is:

Mr. David M. Sullivan, LSP, CHMM
LSP License Number: 1488
TRC Environmental Corporation
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854
(978) 656-3565

7/28/2009

David M. Sullivan, LSP, CHMM
TRC Environmental Corporation
Licensed Site Professional No. 1488

Date

Stamp

TABLE

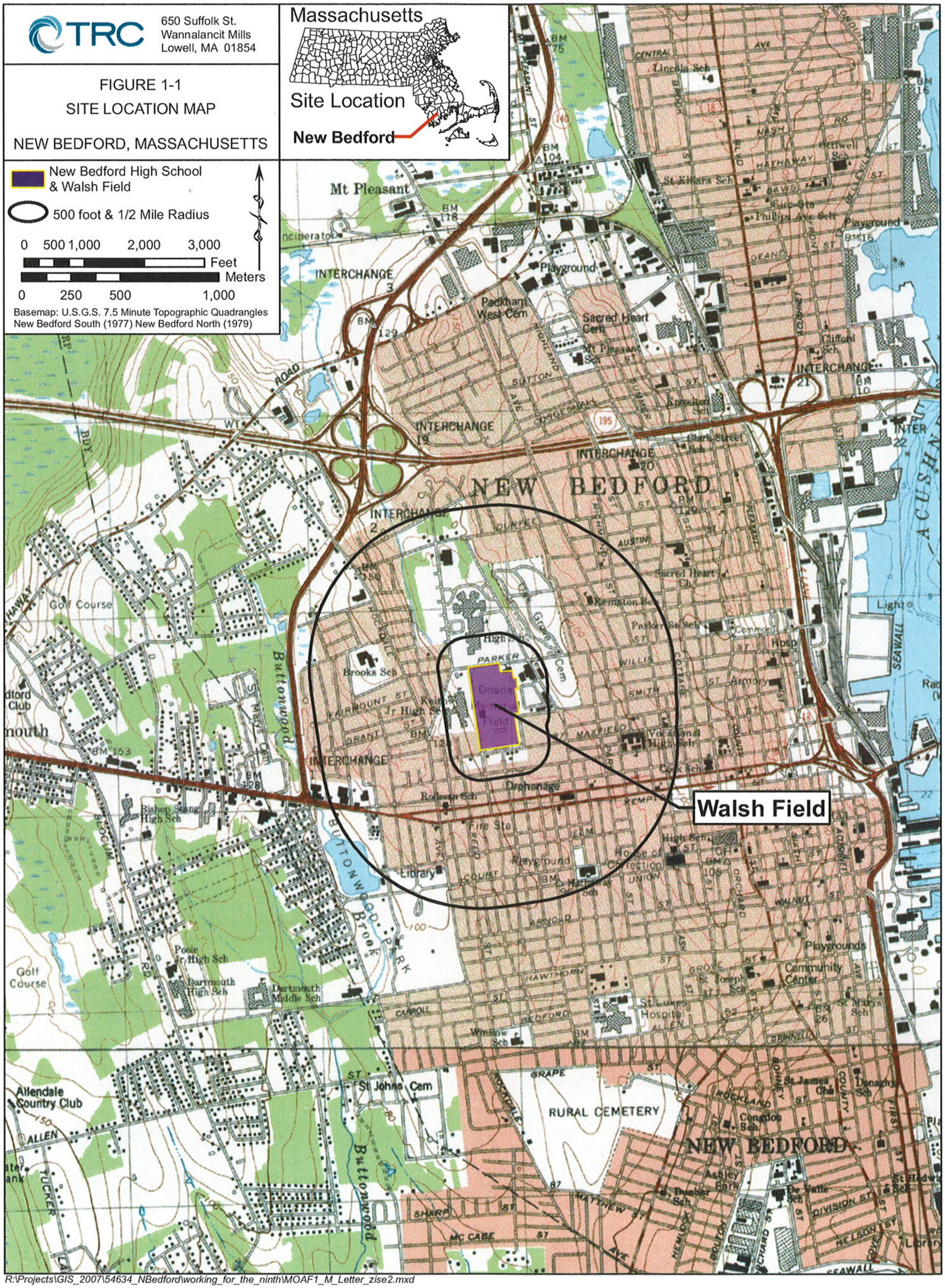
TABLE 3-1. INITIAL SCREENING OF REMEDIAL ACTION ALTERNATIVES - WALSH FIELD

General Response Action	Remedial Technology	Process Options	Description	Screening Result
No Action	No remedial action.	Not applicable	No additional action.	**Eliminated.** Will not be protective of human health.
Institutional Controls	Access Restrictions	Deed restriction.	Activity and Use Limitations	**Potentially applicable**. Needs to be combined with additional general response actions to be viable for current and future use.
Institutional Controls	Access Restrictions	Fencing.	Provide security fence to restrict direct exposure to surficial contamination	**Potentially applicable.** Needs to be combined with additional general response actions to be viable for current and future use.
Reclamation/Recovery	Physical/Chemical	Soil Washing	Ex situ water based technology that mechanically mixes, washes, and rinses soil to remove contaminants by dissolving or suspending the contaminants in the wash water.	**Eliminated.** Limited recoverable metal is available. Elevated fine-grain size material is present, with debris limiting the effectiveness of the process and the requirement for pre-treatment. Waste remaining post-treatment would require further manageement to protect human health. In addition, any PCBs present would require another technology.
		Chemical Extraction	Ex situ solvent based technology that requires physical separation steps to grade soil, targeting the fine fractions.	**Eliminated.** Proven successful for PCBs, but not designed to treat for metals or PAHs. Trace solvents may remain in treated soils. Capital costs are high and the material will still require secondary treatment and waste disposal.
Removal - Excavation and Off-Site Disposal	Excavation	Soil Excavation	Removal of unconsolidated overburden with off-site disposal at a regulated facility.	**Potentially applicable.** Very common method for similar contaminants.

TABLE 3-1. INITIAL SCREENING OF REMEDIAL ACTION ALTERNATIVES - WALSH FIELD

General Response Action	Remedial Technology	Process Options	Description	Screening Result
Solidification/Stabilization	Excavation/Physical/ Chemical	Ex situ Stabilization and Solidification	Excavated soil is mixed with binding agents and water to convert contaminants to a less soluble, mobile, or toxic form. Soil is re-used on-site or off-site.	**Potentially applicable.** Disposal of the solidified material on-site will not support current and future planned uses of the Site. However, this technology is potentially applicable to support off-site recycling, re-use, or disposal.
		In situ Stabilization and Solidification	Soil is treated with auger/caisson systems and injector heads. Binding agents and water to convert contaminants to a less soluble, mobile, or toxic form.	**Eliminated.** The solidified material will not support current and future plan uses of the Site.
Treatment (In-Situ)	Physcial/Chemical	In Situ Vitrification	High temperature appliced to contaminated soil to melt material and form an inert glass product	**Eliminated.** Risk related impacts are near the surface. The resulting glass product is not conductive to current or future uses.
Containment	Physical Barrier	Clay and soil	Compacted clay covered with soil over areas of direct exposure to surficial contamination.	**Potentially applicable.** Common method for similar contaminants.
		Asphalt	Installation of a layer of asphalt over areas of contamination.	**Potentially applicable.** Common method for similar contaminants.
		Concrete	Installlation of concrete slabover areas of contamination.	**Potentially applicable.** Common method for similar contaminants.
		Geosynthetic Membrane	Installation of a seam-sealed barrier over the area of contamintion. Can be used with or without other media (e.g. clay; soil)	**Potentially applicable.** Common method for similar contaminants.

FIGURES



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NOTES:

1. MAP PREPARED BASED ON DRAWINGS AND SURVEY DATA PROVIDED BY LAND PLANNING, INC. OF HANSON, MASSACHUSETTS.

2. ALL TRC SAMPLING LOCATIONS SURVEYED BY LAND PLANNING, INC. OF HANSON, MASSACHUSETTS.

3. BETA SAMPLE LOCATIONS ARE APPROXIMATE AND BASED ON THE FIGURE PROVIDED IN THE JUNE 9, 2006 "SUMMARY OF ANALYTICAL DATA, NEW BEDFORD HIGH SCHOOL, NEW BEDFORD, MASSACHUSETTS" BY BETA GROUP, INC. OF NORWOOD, MASSACHUSETTS.

FILE: T:\E_CAD\115058\PARKER ST PH III REM ACT PLN.dwg

LEGEND:

SAMPLING LOCATIONS OF PRIOR CONSULTANT
- BETA SOIL BORINGS FROM SEPTEMBER 2004 TO FEBRUARY 2006

TRC SAMPLING LOCATIONS
- AUGUST 2008 BORINGS
- SEPTEMBER 2008 SURFACE SOIL SAMPLES
- NOVEMBER 2008 SURFACE SOIL SAMPLES

HS-9 EXPOSURE POINT AREA/DESIGNATION

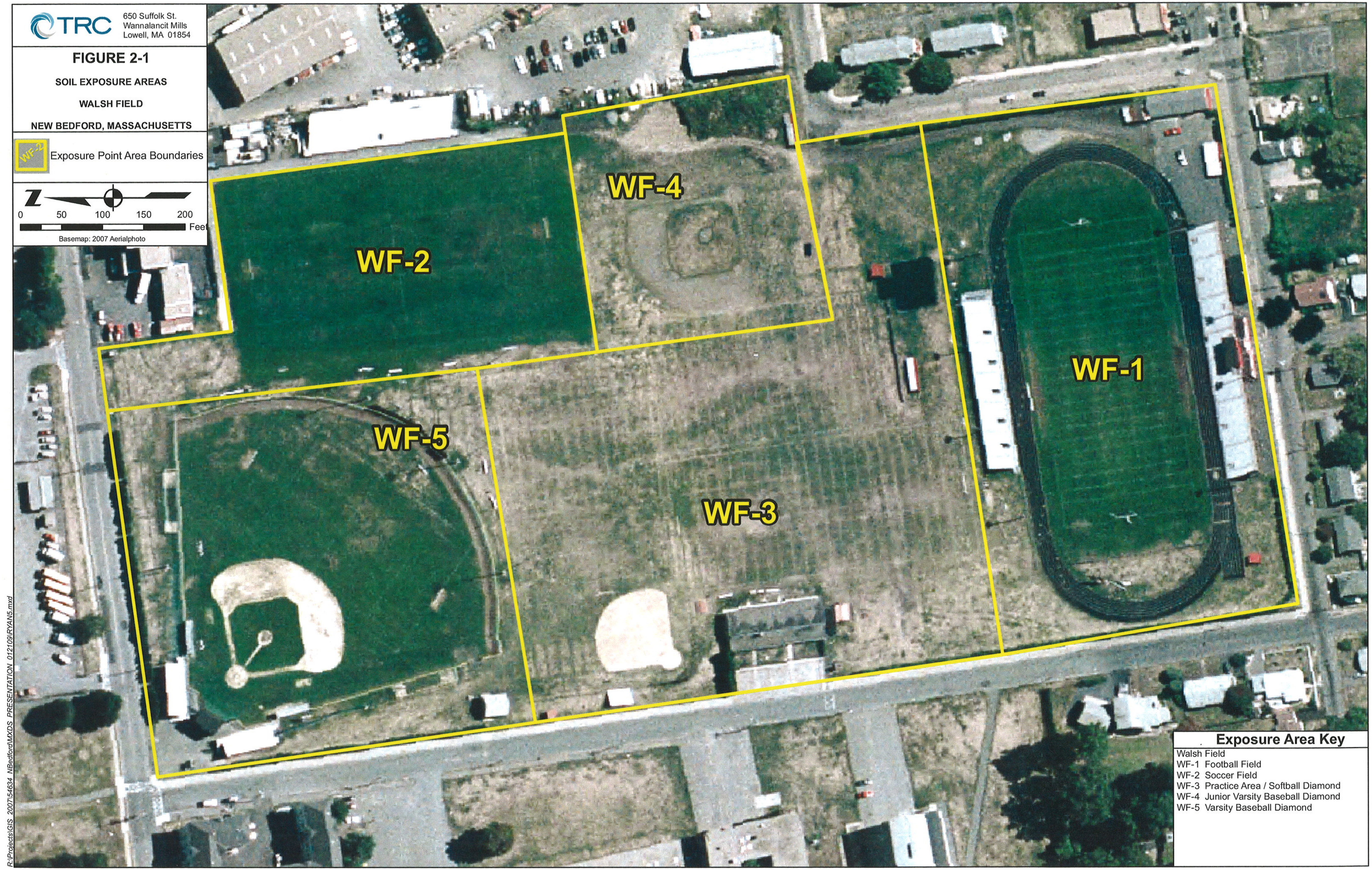
PARKER STREET WASTE SITE
INTERIM PHASE III REMEDIAL ACTION PLAN
NEW BEDFORD, MASSACHUSETTS

DISPOSAL SITE MAP
WALSH FIELD

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

FIGURE 1-2

DRAWN BY: HWB
CHECKED BY: JBS
DATE: JULY 2009


TRC
650 Suffolk St.
Wannalancit Mills
Lowell, MA 01854
FIGURE 2-1
SOIL EXPOSURE AREAS
WALSH FIELD
NEW BEDFORD, MASSACHUSETTS
WF-2
Exposure Point Area Boundaries
0 50 100 150 200
Feet
Basemap: 2007 Aerialphoto
WF-1
WF-2
WF-3
WF-4
WF-5
Exposure Area Key
Walsh Field
WF-1 Football Field
WF-2 Soccer Field
WF-3 Practice Area / Softball Diamond
WF-4 Junior Varsity Baseball Diamond
WF-5 Varsity Baseball Diamond
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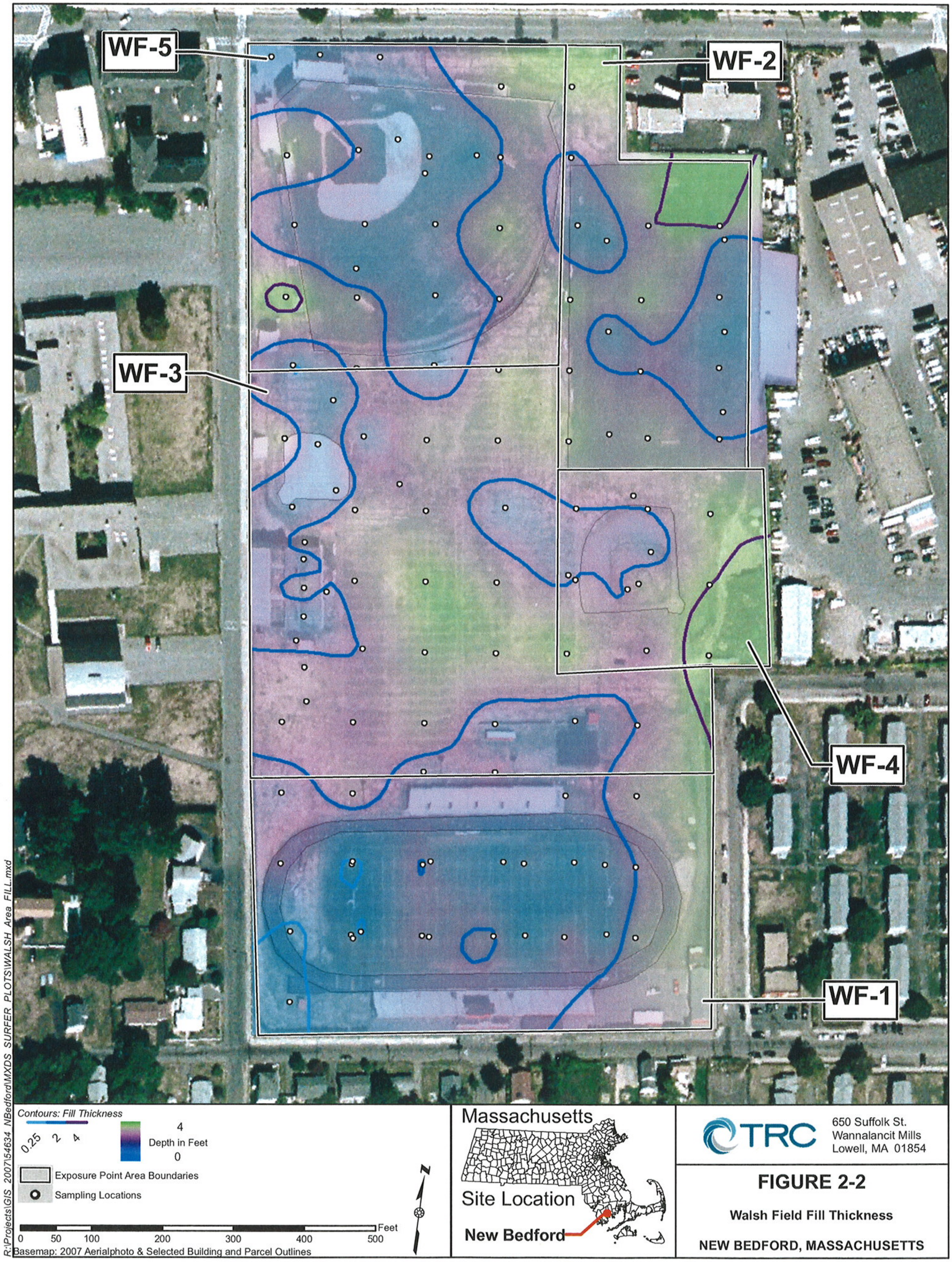

FIGURE 2-2

Walsh Field Fill Thickness

NEW BEDFORD, MASSACHUSETTS

APPENDIX A

SUPPLEMENTAL PHASE II CSA SAMPLING RESULTS

TRC
Wannalancit Mills
650Suffolk Street
Lowell, MA 01854

Main 978.970.5600
Fax 978.453.1995

Memorandum

To: David Sullivan, TRC Environmental

From: Ryan Niles, TRC Environmental

Subject: Supplemental Soil Samples, Walsh Field
Date: June 22, 2009
CC:
Project No.: 115058.0000

The following data tables – A-1, A-2, and A-3 – summarize soil analytical data for samples collected from Walsh Field between February 16, 2009 and May 22, 2009. These samples were collected to supplement the data summarized in TRC's June 2009 Phase II Comprehensive Site Assessment (CSA) report. Specifically, these data improve TRC's understanding of current risk, address data gaps identified during the Phase II CSA, and support remedial planning for the Walsh Field and preparation of the Phase III report. The data tables are organized as follows:

- *Table A-1: Summary of Analytical Results for Soil Samples – 2009 – Select Metals* provides data for soil samples collected at Walsh Field and analyzed for cadmium and lead or lead only. These soil samples were collected from 0 to 1 foot and 1 to 3 feet below ground surface (bgs) to provide more data to aid in characterizing risk from soil accessible to current site users.

- *Table A-2: Summary of Analytical Results for Soil Samples – 2009 – Full Analytical Suite* provides data for soil samples collected at Walsh Field and analyzed for a larger suite of contaminants including extractable petroleum hydrocarbons (EPH), polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) metals and mercury. These soil samples were collected to assess the vertical extent of anthropogenic fill beneath Walsh Field and assess data gaps identified by TRC in the Walsh Field data set.

- *Table A-3: Summary of Analytical Data for Sign Soil Samples – 2009* provides data for soil samples collected from the proposed location of a monument at Walsh Field. These samples were collected to aid in soil management decisions during any potential soil disturbances to erect the monument. Soil samples collected from this location were analyzed for semi-volatile organic compounds (SVOCs), PAHs, PCBs, MCP metals, and total petroleum hydrocarbons (TPH).

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Practice											
						Sample Location:	**SB-233A**		**SB-233B**			**SB-233C**			**SB-233D**		**SB-233F**	
						Sample Depth (ft.):	0-1	1-3	0-1	1-3	1-3	0-1	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*					Field Dup		Field Dup					
Metals, total																		
(mg/kg)	Cadmium	2	2	30	30	2	0.30 U	**0.74**	0.29 U	**1.51**	**0.68**	0.30 U	0.31 U	**4.26**	0.28 U	**4.08**	NA	NA
	Lead	300	300	300	300	300	**32.9**	**230**	**51.5**	**523**	**301**	**47.4**	**44.7**	**394**	**18.2**	**22,300**	**28.5**	**127**

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
NA - Sample not analyzed for the listed analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.
RC - Reportable Concentration.
* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Practice				Walsh Field - Practice							
						Sample Location:	SB-233G		SB-233H		WFA10-A		WFA10-B		WFA10-C		WFA10-D	
						Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*												
Metals, total																		
(mg/kg)	Cadmium	2	2	30	30	2	0.30 U	**2.01**	0.33 U	**2.86**	**0.60**	**2.66**	**0.39**	**0.62**	**0.50**	**0.95**	**0.49**	**0.68**
	Lead	300	300	300	300	300	**47.6**	**1,710**	**51.2**	**832**	**205**	**736**	**162**	**632**	**213**	**655**	**154**	**112**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Practice						Walsh Field - Football					
						Sample Location:	WFA10-E		WFA10-F		WFA10-G		WFA11-A		WFA11-B		WFA11-C	
						Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/20/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*												
Metals, total																		
(mg/kg)	Cadmium	2	2	30	30	2	**0.31**	**0.55**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	**365**	**208**	**324**	**428**	**120**	**147**	**168**	**498**	**160**	**1,420**	**119**	**606**

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
NA - Sample not analyzed for the listed analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.
RC - Reportable Concentration.
* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Football										
						Sample Location:	WFA11-D			WFA11-E		WFA11-F		WFA11-G		WFA11-H	
						Sample Depth (ft.):	0-1	1-3	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*			Field Dup								
Metals, total																	
(mg/kg)	Cadmium	2	2	30	30	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	**163**	**1,100**	**254**	**289**	**759**	**433**	**318**	**136**	**57.0**	**124**	**1,030**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Football												
						Sample Location:	WFB11-A			WFB11-B		WFB11-C		WFB11-D		WFB11-E		WFB11-F	
						Sample Depth (ft.):	0-1	1-3	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*			Field Dup										
Metals, total																			
(mg/kg)	Cadmium	2	2	30	30	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	**91.2**	**1,690**	**2,410**	**103**	**1,300**	**107**	**526**	**89.3**	**869**	**149**	**2,910**	**106**	**219**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Football												
						Sample Location:	**WFB11-G**		**WFB11-H**		**WFB11-I**	**WFB11-J**	**WFB11-L**	**WFB11-M**	**WFB11-N**	**WFB11-O**	**WFC13-A**		
						Sample Depth (ft.):	0-1	1-3	0-1	1-3	1-3	1-3	1-3	1-3	1-3	1-3	0-1	1-3	1-3
						Sample Date:	02/19/09	02/19/09	02/19/09	02/19/09	03/24/09	03/24/09	03/24/09	03/24/09	03/24/09	03/24/09	02/19/09	02/19/09	02/19/09 Field Dup
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*													
Metals, total																			
(mg/kg)	Cadmium	2	2	30	30	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	**116**	**110**	**50.4**	**6,410**	**16.4**	**157**	**839**	**267**	**390**	**98.5**	**109**	**390**	**147**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Football								Walsh Field - Practice			
						Sample Location:	**WFC13-B**		**WFC13-C**		**WFC13-D**		**WFC13-E**		**WFD6-A**		**WFD6-B**	
						Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/19/09	02/23/09	02/23/09	02/23/09	02/23/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*												
Metals, total																		
(mg/kg)	Cadmium	2	2	30	30	2	NA	NA	NA	NA	NA	NA	NA	NA	0.34 U	**0.59**	0.34 U	0.29 U
	Lead	300	300	300	300	300	**70**	**175**	**97.4**	**266**	**164**	**94**	**89.6**	**122**	**42.3**	**530**	**30.4**	**44.7**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Practice									Walsh Field - Football			
						Sample Location:	WFD6-C			WFD6-D		WFD6-E		WFD6-H		WFD13-A		WFD13-B	
						Sample Depth (ft.):	0-1	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	02/23/09	02/23/09 Field Dup	02/23/09	02/23/09	02/23/09	02/23/09	02/23/09	02/23/09	02/23/09	02/19/09	02/19/09	02/19/09	02/19/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*													
Metals, total																			
(mg/kg)	Cadmium	2	2	30	30	2	0.32 U	**0.34**	0.29 U	0.36 U	**0.52**	0.37 U	**0.79**	0.35 U	**10.2**	NA	NA	NA	NA
	Lead	300	300	300	300	300	**40.3**	**39.2**	**86.8**	**47.9**	**1,520**	**43.4**	**447**	**36.5**	**1,820**	**48.7**	**73.7**	**46.4**	**104**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte					Sample Area:	Walsh Field - Football				Walsh Field - Soccer								
						Sample Location:	WFD13-C		WFD13-D		WFE-5-E		WFE-5-F		WFE-5-H		WFE-5-I		
						Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3	0-1	0-1	1-3
						Sample Date:	02/19/09	02/19/09	02/19/09	02/19/09	02/23/09	02/23/09	02/23/09	02/23/09	02/23/09	02/23/09	03/11/09	03/11/09	03/11/09
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*												Field Dup	
Metals, total																			
(mg/kg)	Cadmium	2	2	30	30	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	**52.4**	**46.4**	**107**	**97**	**91**	**2,500**	**4.83**	**839**	**220**	**267**	**217**	**239**	**1,250**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-1: Summary of Analytical Results for Soil Samples - 2009 - Select Metals
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*	Walsh Field - Soccer					
						Sample Location:	WFE-5-J		WFE-5-K		WFE-5-L	
						Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3
						Sample Date:	03/11/09	03/11/09	03/11/09	03/11/09	03/11/09	03/11/09
Metals, total												
(mg/kg)	Cadmium	2	2	30	30	2	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	**108**	**1,490**	**142**	**482**	**219**	**277**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

RC - Reportable Concentration.

* - For reference purpose only.

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA	Walsh Field - Football								Walsh Field - Practice			
							Sample Location:	SB-351				SB-352				SB-353			
							Sample Depth (ft.):	0-1	1-3	3.5	7	0-1	1-2.5	3.5	6.5	0-1	1-2.5	4	5.5
							Sample Date:	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009
EPH (mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg)	Dibenzofuran	NS	NS	NS	NS	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	0.187 U	0.627 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	0.187 U	0.627 U
	Acenaphthylene	600	10	600	10	1	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	0.187 U	0.627 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	**0.297**	0.627 U
	Benzo(a)anthracene	7	7	40	40	7	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	**0.430**	0.186 U	**0.816**	0.627 U
	Benzo(a)pyrene	2	2	4	4	2	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	**0.418**	0.186 U	**0.780**	0.627 U
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	**0.613**	0.186 U	**0.943**	0.627 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	**0.283**	0.627 U
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	**0.376**	0.627 U
	Chrysene	70	70	400	400	70	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	**0.202**	0.192 U	**0.614**	0.186 U	**0.916**	0.627 U
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	0.187 U	0.627 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	**0.221**	0.192 U	**0.815**	**0.211**	**1.56**	0.627 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	0.187 U	0.627 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	**0.236**	0.186 U	**0.362**	0.627 U
	Naphthalene	40	500	40	1,000	4	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	0.231 U	0.186 U	0.187 U	0.627 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	0.201 U	0.192 U	**0.509**	0.186 U	**1.52**	0.627 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.240 U	0.201 U	0.236 U	0.201 U	0.231 U	0.191 U	**0.296**	0.192 U	**0.805**	**0.259**	**1.50**	0.627 U
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U
	Aroclor 1221	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U
	Aroclor 1232	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U
	Aroclor 1242	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U
	Aroclor 1248	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U
	Aroclor 1254	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U
	Aroclor 1260	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U
	Total PCBs	2	2	3	3	2	1	0.0613 U	0.0623 U	0.0672 U	0.0617 U	0.0656 U	0.0564 U	0.0657 U	0.0558 U	0.0640 U	0.0568 U	0.0537 U	0.246 U

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte						Sample Area:	Walsh Field - Football								Walsh Field - Practice			
							Sample Location:	SB-351				SB-352				SB-353			
							Sample Depth (ft.):	0-1	1-3	3.5	7	0-1	1-2.5	3.5	6.5	0-1	1-2.5	4	5.5
							Sample Date:	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA												
Metals, total																			
(mg/kg)	Mercury	20	20	30	30	20	N/A	**0.170**	**0.137**	**2.54**	0.013 U	**0.130**	**0.062**	**0.215**	0.017 U	**0.165**	**0.033**	**0.263**	**0.100**
	Antimony	20	20	30	30	20	N/A	5.75 U	4.82 U	5.65 U	4.81 U	5.53 U	4.57 U	4.82 U	4.61 U	5.54 U	4.46 U	4.47 U	15.1 U
	Arsenic	20	20	20	20	20	N/A	**5.3**	**4.48**	**14.2**	**3.64**	**4.09**	**4.37**	**12.0**	2.88 U	**6.29**	**3.55**	**5.74**	9.40 U
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**30.9**	**35.8**	**488**	**7.49**	**26.3**	**34.1**	**199**	**7.65**	**43.0**	**48.3**	**69.8**	18.8 U
	Beryllium	100	100	200	200	100	N/A	0.36 U	0.31 U	0.36 U	0.31 U	0.35 U	**0.48**	**0.89**	0.29 U	**0.44**	**0.48**	**0.44**	0.94 U
	Cadmium	2	2	30	30	2	N/A	**0.46**	0.31 U	**2.04**	0.31 U	**0.41**	0.29 U	**0.36**	0.29 U	0.35 U	0.28 U	0.28 U	0.94 U
	Chromium	30	30	200	200	30	N/A	**26.3**	**11.4**	**18.7**	**5.45**	**30.9**	**15.5**	**11.5**	**3.75**	**12.6**	**7.14**	**10.1**	1.88 U
	Lead	300	300	300	300	300	N/A	**51.2**	**95.4**	**769**	**2.29**	**41.4**	**19.6**	**244**	**1.50**	**124**	**25.2**	**109**	2.82 U
	Nickel	20	20	700	700	20	N/A	**3.9**	**4.46**	**11.9**	**6.00**	**4.49**	**5.75**	**9.11**	**1.55**	**4.75**	**4.00**	**5.35**	1.88 U
	Selenium	400	400	800	800	400	N/A	7.19 U	6.03 U	7.07 U	6.01 U	6.91 U	5.71 U	6.03 U	5.76 U	6.92 U	5.58 U	5.59 U	18.8 U
	Silver	100	100	200	200	100	N/A	0.72 U	0.61 U	0.71 U	0.61 U	**2.64**	0.58 U	0.61 U	0.58 U	0.70 U	0.56 U	0.56 U	1.88 U
	Thallium	8	8	60	60	8	N/A	**4.37**	**6.43**	4.24 U	3.61 U	4.15 U	**5.06**	3.62 U	3.46 U	**4.89**	**6.11**	**6.34**	11.3 U
	Vanadium	600	600	1,000	1,000	600	N/A	**15.1**	**12.8**	**26.5**	6.01 U	**15.4**	**20.0**	**37.0**	5.76 U	**18.0**	**11.9**	**14.0**	18.8 U
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**37.3**	**27.4**	**833**	**15.6**	**32.8**	**28.3**	**51.1**	**6.67**	**93.6**	**66.6**	**65.2**	3.76 U

Notes:

All units in mg/kg unless otherwise specified.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated nondetect.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

EPH - Extractable Petroleum Hydrocarbons.

PAHs - Polynuclear Aromatic Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

** - For reference purpose only.

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte						Sample Area:	Walsh Field - Practice													
							Sample Location:	SB-354					SB-355					SB-356			
							Sample Depth (ft.):	0-1	1-2.5	3-4	3-4	8	0-1	1-2.5	4	5.5	7.5	0-1	1-2	3.5	6.5
							Sample Date:	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA				Field Dup										
EPH (mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg)	Dibenzofuran	NS	NS	NS	NS	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Acenaphthylene	600	10	600	10	1	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Benzo(a)anthracene	7	7	40	40	7	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	**0.403**	0.249 U	1.21 U	NA	0.204 U	0.195 U	**0.261**	0.244 U
	Benzo(a)pyrene	2	2	4	4	2	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	**0.470**	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	**0.246**	**0.661**	0.249 U	1.21 U	NA	0.204 U	0.195 U	**0.282**	0.244 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	**0.270**	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Chrysene	70	70	400	400	70	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	**0.524**	0.249 U	1.21 U	NA	0.204 U	0.195 U	**0.403**	0.244 U
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	**0.251**	**0.750**	0.249 U	1.21 U	NA	0.204 U	0.195 U	**0.263**	0.244 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	**0.274**	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Naphthalene	40	500	40	1,000	4	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	0.199 U	0.249 U	1.21 U	NA	0.204 U	0.195 U	0.221 U	0.244 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	0.225 U	**0.472**	0.249 U	1.21 U	NA	0.204 U	0.195 U	**0.238**	0.244 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.232 U	0.191 U	0.227 U	0.252 U	0.202 U	**0.258**	**0.671**	0.249 U	1.21 U	NA	0.204 U	0.195 U	**0.528**	0.244 U
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U
	Aroclor 1221	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U
	Aroclor 1232	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U
	Aroclor 1242	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U
	Aroclor 1248	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U
	Aroclor 1254	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U
	Aroclor 1260	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U
	Total PCBs	2	2	3	3	2	1	0.0616 U	0.0556 U	0.0705 U	0.0768 U	0.0613 U	0.0624 U	0.0548 U	0.0835 U	0.336 U	NA	0.0634 U	0.0573 U	0.0662 U	0.0944 U

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA	Walsh Field - Practice													
							Sample Location:	SB-354					SB-355					SB-356			
							Sample Depth (ft.):	0-1	1-2.5	3-4	3-4	8	0-1	1-2.5	4	5.5	7.5	0-1	1-2	3.5	6.5
							Sample Date:	2/16/2009	2/16/2009	2/16/2009	2/16/2009 Field Dup	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009	2/16/2009
Metals, total (mg/kg)	Mercury	20	20	30	30	20	N/A	**0.166**	**0.213**	**0.326**	**0.421**	0.013 U	**0.396**	**0.164**	**0.103**	**0.095**	0.014 U	**0.137**	**0.257**	**1.18**	**0.016**
	Antimony	20	20	30	30	20	N/A	5.57 U	4.57 U	**42.3**	6.03 U	4.83 U	5.40 U	4.76 U	5.98 U	29.0 U	4.93 U	4.89 U	4.67 U	**31.4**	5.84 U
	Arsenic	20	20	20	20	20	N/A	**7.58**	**4.30**	**19.3**	**17.1**	3.02 U	**7.19**	**4.50**	**15.0**	**20.5**	**4.07**	**5.88**	**3.80**	**28.8**	3.65 U
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**23.6**	**18.8**	**363**	**296**	**9.22**	**54.8**	**58.1**	**856**	**103**	**13.5**	**26.6**	**23.5**	**437**	**15.2**
	Beryllium	100	100	200	200	100	N/A	**0.38**	**0.37**	**0.80**	**0.65**	0.31 U	**0.43**	0.30 U	**0.94**	1.82 U	0.31 U	**0.37**	**0.34**	**0.74**	0.37 U
	Cadmium	2	2	30	30	2	N/A	0.35 U	0.29 U	**3.25**	**1.43**	0.31 U	**0.39**	0.30 U	**1.36**	1.82 U	0.31 U	0.31 U	0.30 U	**8.84**	0.37 U
	Chromium	30	30	200	200	30	N/A	**10.3**	**7.13**	**66.9**	**23.5**	**4.06**	**12.3**	**7.69**	**19.1**	**37.7**	**5.46**	**9.96**	**8.25**	**11.5**	**5.80**
	Lead	300	300	300	300	300	N/A	**37.5**	**18.9**	**2,070**	**856**	**3.22**	**136**	**160**	**687**	**13.1**	**2.81**	**41.1**	**19.0**	**469**	**2.85**
	Nickel	20	20	700	700	20	N/A	**3.63**	**3.07**	**15.2**	**17.2**	**3.30**	**4.55**	**3.16**	**20.5**	**29.3**	**4.32**	**4.45**	**4.03**	**60.2**	**4.96**
	Selenium	400	400	800	800	400	N/A	6.96 U	5.71 U	6.80 U	7.54 U	6.04 U	6.74 U	5.95 U	7.47 U	36.3 U	6.16 U	6.12 U	5.83 U	6.63 U	7.30 U
	Silver	100	100	200	200	100	N/A	0.70 U	0.58 U	**1.88**	**1.10**	0.61 U	0.68 U	0.60 U	0.75 U	3.63 U	0.62 U	0.62 U	0.59 U	**1.01**	0.73 U
	Thallium	8	8	60	60	8	N/A	4.18 U	**4.47**	4.08 U	4.52 U	3.62 U	4.05 U	3.57 U	4.48 U	21.8 U	3.70 U	3.67 U	3.50 U	3.98 U	4.38 U
	Vanadium	600	600	1,000	1,000	600	N/A	**16.0**	**11.7**	**25.0**	**16.4**	**6.04**	**18.7**	**12.3**	**40.5**	**42.9**	**7.47**	**17.9**	**11.1**	**30.3**	7.30 U
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**30.3**	**17.0**	**831**	**704**	**12.6**	**72.7**	**77.2**	**979**	**134**	**17.3**	**27.7**	**17.2**	**1,280**	**19.6**

Notes:

All units in mg/kg unless otherwise specified.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated nondetect.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

EPH - Extractable Petroleum Hydrocarbons.

PAHs - Polynuclear Aromatic Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

** - For reference purpose only.

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte						Sample Area:	Walsh Field - Soccer					Walsh Field - Hot Spot								
							Sample Location:	SB-358					WFB-4-A		WFB-4-B			WFB-4-C		WFB-4-D	
							Sample Depth (ft.):	0-1	1-3	4	4	9.5-10	0-1	1-3	0-1	1-3	1-3	0-1	1-3	0-1	1-3
							Sample Date:	2/16/2009	2/16/2009	2/16/2009	2/16/2009 Field Dup	2/16/2009	2/24/2009	2/24/2009	2/24/2009	2/24/2009	2/24/2009 Field Dup	2/24/2009	2/24/2009	2/24/2009	2/24/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA														
EPH (mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	37.6 U	35.8 U	38 U	32.5 U	33.3 U	37.1 U	32.7 U	32.7 U	67.5 U
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	N/A	NA	NA	NA	NA	NA	37.6 U	35.8 U	38 U	32.5 U	33.3 U	37.1 U	32.7 U	32.7 U	67.5 U
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	37.6 U	35.8 U	38 U	**58.7**	33.3 U	37.1 U	32.7 U	32.7 U	67.5 U
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	NA	NA	NA	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	NA	NA	NA	NA	NA	0.2 U	0.2 U	0.2 U	**0.2**	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U
	Acenaphthylene	600	10	600	10	1	N/A	NA	NA	NA	NA	NA	0.2 U	**0.2**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	0.2 U	**0.8**	0.2 U	**1.1**	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U
	Benzo(a)anthracene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	**0.2**	**1.8**	0.2 U	**3.3**	**0.3**	**0.2**	0.2 U	**0.4**	**1.4**
	Benzo(a)pyrene	2	2	4	4	2	N/A	NA	NA	NA	NA	NA	**0.2**	**1.7**	**0.2**	**3.3**	**0.4**	**0.2**	0.2 U	**0.5**	**1.6**
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	**0.3**	**2.3**	**0.2**	**3.9**	**0.4**	**0.3**	0.2 U	**0.7**	**2.3**
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	0.2 U	**1.1**	0.2 U	**2**	**0.2**	0.2 U	0.2 U	**0.4**	**1.3**
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	**0.2**	**0.8**	0.2 U	**1.4**	**0.2**	0.2 U	0.2 U	**0.3**	**0.7**
	Chrysene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	**0.2**	**2**	**0.2**	**3.7**	**0.4**	**0.2**	0.2 U	**0.5**	**1.7**
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	NA	NA	NA	NA	NA	0.2 U	**0.3**	0.2 U	**0.6**	0.2 U	0.2 U	0.2 U	0.2 U	**0.4**
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	**0.4**	**4**	**0.3**	**5.9**	**0.5**	**0.3**	0.2 U	**0.6**	**2.5**
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	0.2 U	**0.2**	0.2 U	**0.3**	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	**0.2**	**1.2**	0.2 U	**2.2**	**0.3**	0.2 U	0.2 U	**0.4**	**1.5**
	Naphthalene	40	500	40	1,000	4	N/A	NA	NA	NA	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	NA	NA	NA	NA	NA	**0.2**	**3**	**0.2**	**3.1**	**0.3**	0.2 U	0.2 U	**0.2**	**0.9**
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	**0.5**	**4.2**	**0.4**	**8.0**	**0.7**	**0.4**	0.2 U	**0.7**	**2.8**
PAHs (mg/kg)	Dibenzofuran	NS	NS	NS	NS	100	N/A	NA	NA	NA	NA	NA	0.38 U	0.42 U	0.43 U	0.37 U	0.37 U	0.42 U	0.37 U	0.37 U	0.38 U
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.198 U	0.189 U	0.216 U	0.225 U	0.194 U	0.188 U	0.209 U	0.211 U	0.181 U	0.185 U	0.206 U	0.182 U	0.182 U	0.188 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.198 U	0.189 U	0.216 U	0.225 U	0.194 U	0.188 U	0.209 U	0.211 U	0.181 U	0.185 U	0.206 U	0.182 U	0.182 U	0.188 U
	Acenaphthylene	600	10	600	10	1	N/A	0.198 U	0.189 U	0.216 U	0.225 U	0.194 U	0.188 U	0.209 U	0.211 U	0.181 U	0.185 U	0.206 U	0.182 U	0.182 U	0.188 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.198 U	0.189 U	0.216 U	**0.353**	0.194 U	0.188 U	**0.429**	0.211 U	**0.273**	**0.409**	0.206 U	0.182 U	0.182 U	0.188 U
	Benzo(a)anthracene	7	7	40	40	7	N/A	0.198 U	0.189 U	0.216 U	**2.04**	0.194 U	**0.204**	**1.48**	0.211 U	**1.04**	**1.28**	**0.225**	0.182 U	**0.679**	**0.837**
	Benzo(a)pyrene	2	2	4	4	2	N/A	0.198 U	0.189 U	0.216 U	**1.67**	0.194 U	**0.195**	**1.43**	0.211 U	**1.06**	**1.32**	**0.228**	0.182 U	**0.714**	**0.964**
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	0.198 U	0.189 U	**0.260**	**2.05**	0.194 U	**0.210**	**1.79**	0.211 U	**1.15**	**1.42**	**0.293**	0.182 U	**0.908**	**1.28**
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.198 U	0.189 U	0.216 U	**0.461**	0.194 U	0.188 U	**0.588**	0.211 U	**0.488**	**0.519**	0.206 U	0.182 U	**0.310**	**0.420**
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	0.198 U	0.189 U	0.216 U	**0.928**	0.194 U	0.188 U	**0.720**	0.211 U	**0.449**	**0.582**	0.206 U	0.182 U	**0.353**	**0.514**
	Chrysene	70	70	400	400	70	N/A	0.198 U	0.189 U	**0.221**	**1.90**	0.194 U	**0.221**	**1.46**	0.211 U	**1.11**	**1.38**	**0.264**	0.182 U	**0.817**	**0.903**
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	0.198 U	0.189 U	0.216 U	0.225 U	0.194 U	0.188 U	0.209 U	0.211 U	0.181 U	0.185 U	0.206 U	0.182 U	0.182 U	0.188 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.198 U	**0.197**	**0.464**	**3.21**	0.194 U	**0.267**	**2.46**	0.211 U	**1.33**	**1.57**	**0.351**	0.182 U	**1.05**	**0.834**
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.198 U	0.189 U	0.216 U	0.225 U	0.194 U	0.188 U	0.209 U	0.211 U	0.181 U	0.185 U	0.206 U	0.182 U	0.182 U	0.188 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	0.198 U	0.189 U	0.216 U	**0.675**	0.194 U	0.188 U	**0.729**	0.211 U	**0.557**	**0.606**	0.206 U	0.182 U	**0.351**	**0.530**
	Naphthalene	40	500	40	1,000	4	N/A	0.198 U	0.189 U	0.216 U	0.225 U	0.194 U	0.188 U	0.209 U	0.211 U	0.181 U	0.185 U	0.206 U	0.182 U	0.182 U	0.188 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.198 U	0.189 U	**0.288**	**1.21**	0.194 U	**0.235**	**1.71**	0.211 U	**0.898**	**1.30**	**0.240**	0.182 U	**1.02**	**0.321**
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.198 U	**0.339**	**0.315**	**2.96**	0.194 U	**0.535**	**2.46**	0.211 U	**1.87**	**2.39**	**0.395**	0.182 U	**1.25**	**1.07**
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1221	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1232	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1242	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1248	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1254	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1260	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	0.0596 U	0.0550 U	0.0701 U	0.0703 U	0.0572 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA														
							Sample Area:	Walsh Field - Soccer					Walsh Field - Hot Spot								
							Sample Location:	SB-358					WFB-4-A		WFB-4-B			WFB-4-C		WFB-4-D	
							Sample Depth (ft.):	0-1	1-3	4	4	9.5-10	0-1	1-3	0-1	1-3	1-3	0-1	1-3	0-1	1-3
							Sample Date:	2/16/2009	2/16/2009	2/16/2009	2/16/2009 Field Dup	2/16/2009	2/24/2009	2/24/2009	2/24/2009	2/24/2009	2/24/2009 Field Dup	2/24/2009	2/24/2009	2/24/2009	2/24/2009
Metals, total																					
(mg/kg)	Mercury	20	20	30	30	20	N/A	**0.044**	**0.086**	**0.070**	**0.040**	**0.020**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Antimony	20	20	30	30	20	N/A	4.74 U	4.52 U	5.18 U	5.39 U	4.64 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	20	20	20	20	20	N/A	**3.33**	**6.81**	**7.46**	**14.3**	2.90 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**30.1**	**110**	**140**	**298**	**9.58**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	100	100	200	200	100	N/A	0.30 U	0.29 U	**0.53**	**0.54**	0.29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	2	N/A	0.30 U	**0.32**	0.33 U	**1.05**	0.29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	30	N/A	**11.1**	**41.3**	**8.36**	**21.7**	**3.74**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	N/A	**13.8**	**21.0**	**200**	**525**	**14.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	20	N/A	**5.65**	**17.2**	**8.15**	**15.8**	**3.21**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	400	400	800	800	400	N/A	5.92 U	5.65 U	6.47 U	6.73 U	5.80 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	100	100	200	200	100	N/A	0.60 U	0.57 U	0.65 U	0.68 U	0.58 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	8	8	60	60	8	N/A	3.56 U	3.39 U	3.89 U	4.04 U	3.48 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	600	600	1,000	1,000	600	N/A	**14.4**	**41.1**	**24.6**	**32.8**	5.80 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**24.1**	**45.7**	**95.2**	**516**	**24.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

All units in mg/kg unless otherwise specified.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated nondetect.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.

EPH - Extractable Petroleum Hydrocarbons.

PAHs - Polynuclear Aromatic Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

** - For reference purpose only.

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte						Sample Area:	Walsh Field - Hot Spot		Walsh Field - Soccer											
							Sample Location:	WFB-4-F		WFE-5-A		WFE-5-B			WFE-5-C		WFE-5-D		WFE-5-G		
							Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	1-3	0-1	1-3	0-1	1-3	0-1	1-3	
							Sample Date:	2/24/2009	2/24/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009 Field Dup	2/23/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009	
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA														
EPH (mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Acenaphthylene	600	10	600	10	1	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Benzo(a)anthracene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Benzo(a)pyrene	2	2	4	4	2	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Chrysene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Naphthalene	40	500	40	1,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Phenanthrene	500	500	1,000	1,000	10	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PAHs (mg/kg)	Dibenzofuran	NS	NS	NS	NS	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	0.212 U	0.229 U	0.238 U	0.243 U	0.214 U	
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	0.212 U	0.229 U	0.238 U	0.243 U	0.214 U	
	Acenaphthylene	600	10	600	10	1	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	**0.305**	0.229 U	0.238 U	0.243 U	0.214 U	
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	**2.00**	0.229 U	0.238 U	0.243 U	0.214 U	
	Benzo(a)anthracene	7	7	40	40	7	N/A	0.213 U	0.188 U	0.236 U	**0.233**	0.202 U	0.233 U	**0.283**	**0.260**	**4.03**	**0.245**	0.238 U	0.243 U	0.214 U	
	Benzo(a)pyrene	2	2	4	4	2	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	**0.254**	**0.235**	**3.27**	0.229 U	0.238 U	0.243 U	0.214 U	
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	0.213 U	0.188 U	0.236 U	**0.237**	0.202 U	0.233 U	**0.281**	**0.263**	**3.77**	**0.231**	0.238 U	0.243 U	0.214 U	
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	**0.978**	0.229 U	0.238 U	0.243 U	0.214 U	
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	**1.36**	0.229 U	0.238 U	0.243 U	0.214 U	
	Chrysene	70	70	400	400	70	N/A	0.213 U	0.188 U	0.236 U	**0.296**	0.202 U	0.233 U	**0.338**	**0.290**	**3.93**	**0.293**	0.238 U	0.243 U	**0.214**	
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	**0.291**	0.229 U	0.238 U	0.243 U	0.214 U	
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.213 U	0.188 U	0.236 U	**0.489**	0.202 U	0.233 U	**0.488**	**0.443**	**6.48**	**0.371**	0.238 U	0.243 U	**0.334**	
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	0.222 U	0.212 U	**0.617**	0.229 U	0.238 U	0.243 U	0.214 U	
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	0.233 U	**0.223**	0.212 U	**1.28**	0.229 U	0.238 U	0.243 U	0.214 U	
	Naphthalene	40	500	40	1,000	4	N/A	0.213 U	0.188 U	0.236 U	0.225 U	0.202 U	**0.524**	0.222 U	0.212 U	0.212 U	0.229 U	**0.763**	0.243 U	0.214 U	
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.213 U	0.188 U	0.236 U	**0.484**	0.202 U	0.233 U	**0.514**	**0.389**	**7.96**	**0.342**	0.238 U	0.243 U	**0.249**	
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.213 U	0.188 U	0.236 U	**0.622**	**0.257**	**0.289**	**0.748**	**0.604**	**8.15**	**0.630**	**0.314**	0.243 U	**0.412**	
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Aroclor 1221	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Aroclor 1232	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Aroclor 1242	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Aroclor 1248	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Aroclor 1254	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Aroclor 1260	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Total PCBs	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte						Sample Area:	**Walsh Field - Hot Spot**		**Walsh Field - Soccer**										
							Sample Location:	WFB-4-F		WFE-5-A		WFE-5-B			WFE-5-C		WFE-5-D		WFE-5-G	
							Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	1-3	0-1	1-3	0-1	1-3	0-1	1-3
							Sample Date:	2/24/2009	2/24/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009 Field Dup	2/23/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009	2/23/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA													
Metals, total																				
(mg/kg)	Mercury	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Antimony	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	20	20	20	20	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	2	N/A	NA	NA	**0.750**	**0.830**	0.310 U	**0.880**	**0.710**	**0.560**	**1.93**	**0.550**	**0.950**	NA	NA
	Chromium	30	30	200	200	30	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	N/A	NA	NA	**3,360**	**1,830**	**40.7**	**268**	**254**	**214**	**654**	**253**	**1,040**	**100**	**303**
	Nickel	20	20	700	700	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	400	400	800	800	400	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	8	8	60	60	8	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	600	600	1,000	1,000	600	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

All units in mg/kg unless otherwise specified.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
U - Compound was not detected at specified quantitation limit.
UJ - Estimated nondetect.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.
EPH - Extractable Petroleum Hydrocarbons.
PAHs - Polynuclear Aromatic Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
TSCA - Toxic Substances Control Act criteria.
* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.
** - For reference purpose only.

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte						Sample Area:	Walsh Field - Soccer							
							Sample Location:	WFF-5-A		WFF-5-B		WFF-5-C		WFF-5-D	
							Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
							Sample Date:	2/25/2009	2/25/2009	2/25/2009	2/25/2009	2/25/2009	2/25/2009	2/23/2009	2/23/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA								
EPH															
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
PAHs															
(mg/kg)	Dibenzofuran	NS	NS	NS	NS	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.199 U	0.387 U	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	0.192 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.199 U	0.387 U	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	0.192 U
	Acenaphthylene	600	10	600	10	1	N/A	0.199 U	0.387 U	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	0.192 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.199 U	0.387 U	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	0.192 U
	Benzo(a)anthracene	7	7	40	40	7	N/A	0.199 U	**1.28**	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	**0.589**
	Benzo(a)pyrene	2	2	4	4	2	N/A	0.199 U	**1.00**	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	**0.579**
	Benzo(b)fluoranthene	7	7	40	40	7	N/A	0.199 U	**1.17**	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	**0.615**
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.199 U	**0.402**	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	**0.273**
	Benzo(k)fluoranthene	70	70	400	400	70	N/A	0.199 U	**0.507**	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	**0.260**
	Chrysene	70	70	400	400	70	N/A	0.199 U	**1.46**	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	**0.616**
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	N/A	0.199 U	0.387 U	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	0.192 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.199 U	**1.68**	0.198 U	0.186 U	**0.306**	**1.06**	0.192 U	**0.897**
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.199 U	0.387 U	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	0.192 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	N/A	0.199 U	**0.503**	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	**0.335**
	Naphthalene	40	500	40	1,000	4	N/A	0.199 U	0.387 U	0.198 U	0.186 U	0.216 U	1.02 U	0.192 U	0.192 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.199 U	**1.50**	0.198 U	0.186 U	**0.267**	**1.34**	0.192 U	**0.454**
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.199 U	**2.59**	0.198 U	0.186 U	**0.406**	**1.70**	0.192 U	**1.07**
PCBs															
(mg/kg)	Aroclor 1016	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1221	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1232	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1242	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1248	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1254	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1260	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA

Table A-2: Summary of Analytical Results for Soil Samples - 2009 - Full Analytical Suite
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte						Sample Area:	Walsh Field - Soccer							
							Sample Location:	WFF-5-A		WFF-5-B		WFF-5-C		WFF-5-D	
							Sample Depth (ft.):	0-1	1-3	0-1	1-3	0-1	1-3	0-1	1-3
							Sample Date:	2/25/2009	2/25/2009	2/25/2009	2/25/2009	2/25/2009	2/25/2009	2/23/2009	2/23/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA								
Metals, total															
(mg/kg)	Mercury	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Antimony	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	20	20	20	20	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	2	N/A	0.30 U	0.30 U	0.30 U	0.28 U	0.33 U	0.31 U	0.290 U	**0.340**
	Chromium	30	30	200	200	30	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	N/A	**18.3**	**139**	**13.0**	**9.16**	**25.2**	**96.4**	**11.8**	**67.7**
	Nickel	20	20	700	700	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	400	400	800	800	400	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	8	8	60	60	8	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	600	600	1,000	1,000	600	N/A	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
All units in mg/kg unless otherwise specified.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
U - Compound was not detected at specified quantitation limit.
UJ - Estimated nondetect.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.
EPH - Extractable Petroleum Hydrocarbons.
PAHs - Polynuclear Aromatic Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
TSCA - Toxic Substances Control Act criteria.
* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.
** - For reference purpose only.

Table A-3: Summary of Analytical Data for Sign Soil Samples - 2009
Walsh Field
New Bedford, Massachusetts

Analysis	Analyte				Sample Area:	Varsity			
					Sample ID:	SIGN-1		SIGN-2	
					Sample Depth (ft.):	0-1	1-3	0-1	1-3
					Sample Date:	4/17/2009	5/22/2009	4/17/2009	5/22/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3				
SVOCs									
(mg/kg)	1,2,4-Trichlorobenzene	70	500	70	900	0.400 U	NA	0.390 U	NA
	1,2-Dichlorobenzene	30	300	30	300	0.400 U	NA	0.390 U	NA
	Azobenzene	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	1,3-Dichlorobenzene	40	100	40	500	0.400 U	NA	0.390 U	NA
	1,4-Dichlorobenzene	4	50	4	300	0.400 U	NA	0.390 U	NA
	2,4,5-Trichlorophenol	1,000	600	1,000	600	0.400 U	NA	0.390 U	NA
	2,4,6-Trichlorophenol	20	20	20	20	0.400 U	NA	0.390 U	NA
	2,4-Dichlorophenol	60	40	60	40	0.400 U	NA	0.390 U	NA
	2,4-Dimethylphenol	100	500	100	1,000	0.400 U	NA	0.390 U	NA
	2,4-Dinitrophenol	50	50	50	90	0.790 U	NA	0.780 U	NA
	2,4-Dinitrotoluene	2	2	10	10	0.400 U	NA	0.390 U	NA
	2,6-Dinitrotoluene	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	2-Chloronaphthalene	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	2-Chlorophenol	100	100	100	300	0.400 U	NA	0.390 U	NA
	2-Methylnaphthalene	80	300	80	500	0.196 U	0.19 U	0.194 U	2.0 U
	2-Nitrophenol	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	3,3'-Dichlorobenzidine	1	1	10	10	0.200 U	NA	0.200 U	NA
	4-Bromophenyl phenyl ether	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	4-Chloroaniline	100	3	100	3	0.790 U	NA	0.780 U	NA
	4-Nitrophenol	NS	NS	NS	NS	0.790 U	NA	0.780 U	NA
	Acenaphthene	1,000	1,000	3,000	3,000	0.196 U	0.19 U	0.194 U	2.0 U
	Acenaphthylene	600	10	600	10	0.196 U	0.19 U	**0.214**	2.0 U
	Acetophenone	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Aniline	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Anthracene	1,000	1,000	3,000	3,000	0.196 U	0.19 U	**0.488**	2.0 U
	Benzo(a)anthracene	7	7	40	40	**0.458**	**0.49**	**1.28**	**9.4**
	Benzo(a)pyrene	2	2	4	4	**0.382**	**0.48**	**1.13**	**5.7**
	Benzo(b)fluoranthene	7	7	40	40	**0.446**	**0.53**	**1.29**	**6.3**
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	**0.287**	**0.31**	**0.767**	**2.6**
	Benzo(k)fluoranthene	70	70	400	400	**0.256**	**0.20**	**0.469**	**2.6**
	Bis(2-chloroethoxy)methane	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Bis(2-chloroethyl)ether	0.7	0.7	0.7	3	0.400 U	NA	0.390 U	NA
	Bis(2-chloroisopropyl)ether	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Bis(2-ethylhexyl)phthalate	200	200	700	700	0.400 U	NA	0.390 U	NA
	Butylbenzylphthalate	NS	NS	NS	NS	0.790 U	NA	0.780 U	NA
	Chrysene	70	70	400	400	**0.497**	**0.49**	**1.48**	**13**
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.196 U	0.19 U	0.194 U	2.0 U
	Dibenzofuran	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Diethylphthalate	200	300	200	300	0.400 U	NA	0.390 U	NA
	Dimethylphthalate	50	600	50	600	0.790 U	NA	0.780 U	NA
	Di-n-butylphthalate	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Di-n-octylphthalate	NS	NS	NS	NS	0.790 U	NA	0.780 U	NA
	Fluoranthene	1,000	1,000	3,000	3,000	**0.841**	**0.86**	**2.39**	**14**
	Fluorene	1,000	1,000	3,000	3,000	0.196 U	0.19 U	**0.239**	**2.2**
	Hexachlorobenzene	0.7	0.7	5	5	0.400 U	NA	0.390 U	NA
	Hexachlorobutadiene	6	6	90	90	0.400 U	NA	0.390 U	NA
	Hexachloroethane	3	9	3	100	0.400 U	NA	0.390 U	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	**0.315**	**0.36**	**0.903**	**3.0**
	Isophorone	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	m & p-cresol(s)	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Naphthalene	40	500	40	1,000	0.196 U	0.19 U	0.194 U	2.0 U
	Nitrobenzene	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	o-cresol	NS	NS	NS	NS	0.400 U	NA	0.390 U	NA
	Pentachlorophenol	10	10	70	10	0.400 U	NA	0.390 U	NA
	Phenanthrene	500	500	1,000	1,000	**0.356**	**0.70**	**3.29**	**34**
	Phenol	50	20	50	20	0.400 U	NA	0.390 U	NA
	Pyrene	1,000	1,000	3,000	3,000	**0.782**	**1.0**	**2.90**	**24**
PCBs									
(mg/kg)	PCB 1016	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
	PCB 1221	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
	PCB 1232	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
	PCB 1242	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
	PCB 1248	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
	PCB 1254	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
	PCB 1260	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
	PCB 1262	2	2	3	3	0.118 U	NA	0.117 U	NA
	PCB 1268	2	2	3	3	0.118 U	NA	0.117 U	NA
	Total PCBs	2	2	3	3	0.118 U	0.0545 U	0.117 U	0.0546 U
Metals, total									
(mg/kg)	Mercury	20	20	30	30	**0.183**	**0.17**	**0.169**	**0.061**
	Antimony	20	20	30	30	4.69 U	4.5 U	4.66 U	4.7 U
	Arsenic	20	20	20	20	**5.31**	**4.8**	**5.56**	3.0 U
	Barium	1,000	1,000	3,000	3,000	**56.2**	**49**	**53.9**	**49**
	Beryllium	100	100	200	200	0.30 U	0.28 U	0.30 U	0.30 U
	Cadmium	2	2	30	30	0.30 U	0.28 U	**0.42**	0.30 U
	Chromium	30	30	200	200	**9.40**	**8.2**	**10.4**	**6.9**
	Lead	300	300	300	300	**134**	**130**	**158**	**110**
	Nickel	20	20	700	700	**6.78**	**5.3**	**5.47**	**4.3**
	Selenium	400	400	800	800	5.87 U	5.7 U	5.82 U	5.9 U
	Silver	100	100	200	200	0.59 U	0.57 U	0.59 U	0.59 U
	Thallium	8	8	60	60	3.52 U	3.4 U	3.49 U	3.5 U
	Vanadium	600	600	1,000	1,000	**16.1**	**15**	**17.4**	**13**
	Zinc	2,500	2,500	3,000	3,000	**70.4**	**51**	**119**	**58**
Total Petroleum Hydrocarbons									
(mg/kg)	Unknown Hydrocarbons	1,000	1,000	3,000	3,000	**63**	NA	**130**	NA

Note

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

PCBs - Polychlorinated Biphenyls.

SVOCs - Semivolatile Organic Compounds.

APPENDIX B

CONCEPTUAL DESIGN – WALSH FIELD REMEDY

BASIS OF DESIGN REPORT

Dr. Paul F. Walsh Field
Parker and Hunter Streets
New Bedford, Massachusetts

April 2009

Prepared for:

City of New Bedford
133 William Street
New Bedford, Massachusetts 02740

Prepared by:

TRC Environmental Corporation
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854

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FIGURE

1.0 INTRODUCTION

TRC Environmental Corporation (TRC) was tasked by the City of New Bedford (City) to develop a conceptual design for the Dr. Paul F. Walsh Field (Site) located to the south of the New Bedford High School (NBHS). This Basis of Design report documents the design basis followed through the conceptual phase of the design process. This version of the Basis of Design report reflects the conceptual design phase and focuses on the issues and current understanding of the remedial requirements as of April 2009. The Basis of Design Report will be modified and expanded if appropriate, as the design continues to progress. The Massachusetts Department of Environmental Protection (MassDEP) has assigned Release Tracking Numbers (RTNs) applicable to the site include 4-15685, 4-21407, and 4-21823. RTNs 4-21407 and 4-21823 are associated with Immediate Response Actions (IRAs), which are expected to be incorporated into the remedy advanced for RTN 4-15685, the original release associated with the Parker Street Waste Site (PSWS).

Section 1.0 of this report presents an introduction and summary of the report organization. Section 2.0 presents a description of the Site and summarizes the history. Section 3.0 presents a summary of the risk assessment for the Site. Section 4.0 describes the planned excavations and site restoration measures that will be implemented at the Site.

In accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000), the analytical data generated through the collection and chemical analysis of samples of the soils and fill materials present within the upper 3 feet of the subsurface were evaluated. Based on this evaluation, areas found to contain elevated contaminant concentrations associated with a condition of significant risk to health were targeted for removal actions. This approach to the overall remediation has been reviewed and approved by the Site Licensed Site Professional (LSP) of Record. This approach has also been discussed with representatives from MassDEP during a meeting on February 6, 2009. At that time MassDEP expressed agreement with the approach currently being followed for the remediation of the Site.

The design effort for the Site focuses on detailing the tasks to be performed as part of implementing the selected remedy sufficiently to facilitate implementation. Forthcoming submittals, required under the MCP, will document the results of investigatory efforts and the assessment of current and future potential risks in detail. Associated information is presented in this report only to the extent necessary to document the Basis of Design.

2.0 SITE DESCRIPTION AND HISTORY

The Dr. Paul F. Walsh Field athletic complex is comprised of several athletic fields including a large baseball field near the corner of Hunter and Parker Streets (Varsity Field), a smaller baseball field (Junior Varsity Field), a softball field and general athletic practice area, a soccer field, and a football/track and field complex. There are small ancillary buildings within Walsh Field including restrooms, an abandoned field house, and maintenance buildings. The track at Walsh Field is made of crumb rubber and there are paved areas along Hunter Street and along Maxfield Street. Approximately 10-percent of the Site is covered by impervious surfaces.

The Site is located within the footprint of a larger former disposal site that encompasses an approximately 140-acre area based on currently available information, in the vicinity of the New Bedford High School. The Site occupies approximately 22 acres within the larger disposal site and is identified by the City of New Bedford Assessor as the following parcels: map 63 block 92, map 63 block 2, and map 63 block 48. The NBHS parcel is located on the north side of Parker Street between Hathaway Boulevard on the west and Liberty Street on the east. The Site is located on the south side of Parker Street, to the east of Hunter Street, and to the north of Maxfield Street. The east side of the Site is bordered by Lindsey Street and a City maintenance yard.

2.1 Varsity Field

The Varsity Field baseball diamond is located in the northwestern corner of the Site near the intersection of Parker and Hunter Streets. An August 8, 2008 Imminent Hazard (IH) evaluation indicated that at the Varsity Baseball Diamond there was an estimated cancer risk (3E-05) that exceeded the MCP IH criterion. The IH was identified at the Varsity Field baseball diamond primarily due to the incidental ingestion of arsenic-containing surface soil. The potential IH condition was reported to the MassDEP by TRC via telephone in conjunction with the City on July 30, 2008. MassDEP orally approved IRA assessment activities and assigned RTN 4-21407. Follow-up work completed as part of the IRA included additional soil sampling, preparation of an IH evaluation, and limiting access to the Site. In September 2008, TRC submitted an IRA Completion Report to MassDEP, and soil excavation activities to remove arsenic-contaminated soil from the infield base paths of the Varsity and Junior Varsity Baseball Diamonds was planned. At the request of MassDEP these soil removals were conducted under the completed IRA. Due to additional delineation requirements along with more extensive restoration requirements, the Varsity Field remedy is not a component of this conceptual design. A separate submittal will be provided for the Varsity Field portion of the Site. In addition, an area of the Junior Varsity field in the vicinity of post-excavation sample Post-10 requires further delineation for arsenic in soil. This memo will be updated once the Post-10 location is fully delineated and the extent of soil removal has been determined.

3.0 RISK CHARACTERIZATION

The risk characterization was conducted consistent with 310 CMR 40.0835(4) g and h of the MCP and provides a risk characterization for the Football Field (WF-1), Soccer Field (WF-2), Practice Area (WF-3), and Junior Varsity Field (WF-4) of Walsh Field (see Figure 1 for an illustration of the exposure areas). As previously described, the Post-10 location at the Junior Varsity Field is undergoing additional delineation activities for arsenic in soil. The goals of the risk characterization were: (1) to identify those compounds present within the top three feet of ground surface that pose a significant risk to health for each subarea of Walsh Field; and (2) to determine the extent of excavation necessary to achieve a condition no significant risk for the top three feet of soil. The Varsity Field (WF-5) has not been included in this effort because further delineation sampling for arsenic is required to determine the extent of excavation necessary to achieve a condition of no significant risk for the top three feet of soil.

To evaluate baseline (i.e., pre-excavation) conditions at WF-1 through WF-4, the data for each sub-area were summarized to generate exposure point concentrations (EPCs). The EPCs were then compared to applicable Method 1 standards to determine those compounds that pose an unacceptable risk to health, as well as the locations where the most elevated concentrations are found.

Soil EPCs under baseline condition indicate a condition of No Significant Risk has not been achieved for soil under current and future use scenarios. For WF-1, the lead EPC exceeded applicable Method 1 standards. Benzo(a)pyrene, cadmium and lead EPCs were identified as exceeding Method 1 standards at WF-2. Cadmium and lead EPCs exceeded applicable Method 1 standards at WF-3. For WF-4, arsenic, cadmium and lead EPCs exceed applicable Method 1 standards. Based on this information, these compounds of concern (COCs) were identified for targeted removal to achieve a condition of no significant risk for the top three feet of soil.

The following sampling locations were identified as requiring remediation based on elevated detection of the identified COCs:

- **WF-1:** WFA-11, WFB-11, WFC-13, and WFD-13
- **WF-2:** WFF-5 and WFE-5
- **WF-3:** WFA-10, WFD-6, and SB-233
- **WF-4:** WFG-7, Post-9, and Post-10

To confirm that a condition of no significant risk would be achieved if the areas of elevated contaminant concentrations identified were excavated, EPCs were recalculated for each subarea after the samples within the excavation boundary were eliminated from the data set. Compounds with maximum detected concentrations below MassDEP background concentrations for natural soils were not considered to be compounds of potential concern (COPCs) and were not evaluated further.

The risk characterization documents that Method 1 standards will no longer be exceeded and a condition of no significant risk will exist at the Football Field, Soccer Field, Practice Area, and Junior Varsity Field following the removal of soil to the extent identified in the Project Drawings at the targeted areas. The determination of no significant risk at the Junior Varsity Field will be confirmed following the completion of delineation sampling at Post-10.

FIGURE 1

Walsh Field Exposure Areas

NEW BEDFORD, MASSACHUSETTS

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4.0 EXCAVATION AND SITE RESTORATION

Historical locations with elevated concentrations of contaminants were targeted for additional analysis. Supplemental sampling was conducted during February through April 2009 at each targeted location. All of these data (historical and supplemental) were evaluated during the risk characterization. At each location, between four to sixteen samples were collected in a grid pattern having a 4-foot lateral separation around the original sample point and between supplemental sample points. The limits of excavation were determined using risk assessment calculations and areas to be removed were bound by supplemental sample locations with lesser levels of contamination than present at the original sampling point.

4.1 Limits of Excavation

The areas requiring excavation are listed in Table 4-1 by historical sample location. Supplemental sample points used to bound the excavation area are indicated in the excavation limits column by letter. The full sample identifier is the historical location followed by the letter. For example, at historical location WFA-11, the excavation area is bound by the following supplemental samples: WFA-11E, WFA-11F, WFA-11G and WFA-11H.

Location	Excavation Limits (0-1')	Excavation Limits (1-3')
WF-1 (Football Field)		
WFA-11	E, F, G, H	E, F, G, H
WFB-11	F, G, I, J, K, L, M, N, O	F, G, I, J, K, L, M, N, O
WFC-13	B, C, D, E	B, C, D, E
WFD-13	A, B, C, D	A, B, C, D
WF-2 (Soccer Field)		
WFF-5	A, B, C, D	A, B, C, D
WF-3 (Practice Area)		
WFA-10	D, E, F, G	D, E, F, G
WFD-6	B, C, E, H	B, C, E, H
SB-233	A, F, G, H	A, F, G, H
WF-4 (JV Field)		
WFG-7	A, B, D, G	A, B, D, G
Post-9	A, B, C, D	A, B, C, D
Post-10	Pending	Pending

4.2 Completed Excavations

On March 13, 2009, an excavation of historical sample location WFE-5 (noted on the Project Drawings) was completed by D. W. White Construction, Inc. of Acushnet, Massachusetts (DW White). Due to elevated concentrations of lead within the top foot of soil, this area was identified as potentially posing an "Imminent Hazard". This prompted the City to mobilize DW White and TRC to remove soils from this area as soon as possible. Once the area soils were removed and transported off-site, the area was backfilled and seeded to restore the area to pre-excavation conditions. The work was performed under an IRA orally approved by MassDEP. The limits of excavation were defined by the B, G, H, and L delineation samples, which were used in determining that the IH condition had been mitigated by the soil removal action.

4.3 Engineering Controls During Construction

During soil removal activities, appropriate controls will be employed to monitor and control potential releases of contamination. Such controls include air monitoring for fugitive dust, control of precipitation run-on and run-off and decontamination of equipment and vehicles that contact contaminated soil. Currently, it is anticipated that monitoring shall be conducted in the same manner as performed during the previously performed removal activities.

Control of precipitation of run-on and run-off will be achieved by minimizing the time of exposure of contaminated soils. As previously described, sampling and analysis has been performed to fully define the required limits of excavation prior to initiation of soil removal activities. As the lateral and vertical limits of excavation will be pre-determined, this will allow backfill with clean soil materials immediately upon completion of required excavation.

Uncontrolled off-site transport of contaminated materials via vehicle traffic will be achieved through removal of soil materials from the body and tires of all vehicles prior to exiting the Site. As a minimum, the provision of stabilized construction entrances at locations where vehicles leave unpaved areas and enter paved areas. While vehicles are on these construction entrances, they shall be visually inspected to ensure no visible soil materials are present on the body or on the tires. As removal activities are completed, the stabilized construction entrances shall be removed, along with any materials generated during decontamination activities, and disposed of together with excavated materials.

4.4 Site Restoration

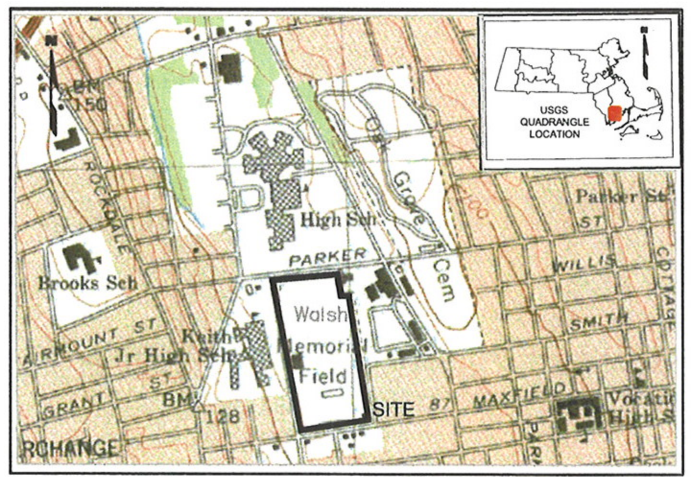
Upon completion of the planned remedial activities, all areas of excavation are proposed to be backfilled with documented clean fill. Backfilling activities will include bringing these areas up to pre-excavation grades.

CONCEPTUAL DESIGN
DR. PAUL F. WALSH FIELD
APRIL 2009

City of New Bedford
New Bedford, Massachusetts

Index of Drawings

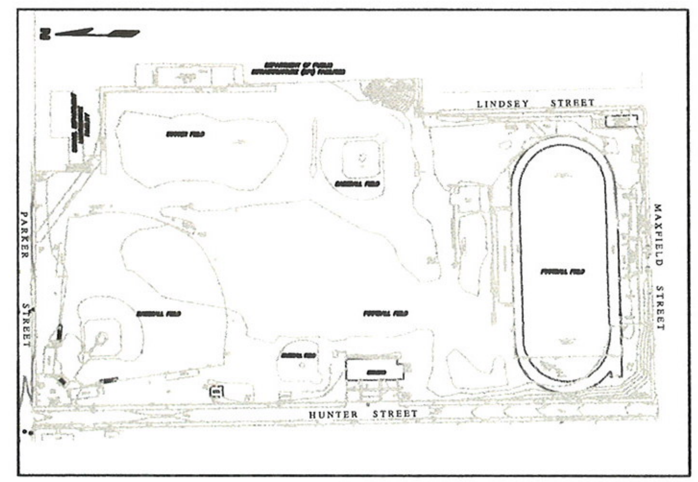
Drawing No.	Drawing Title
T-100	Title Sheet
C-100	Existing Conditions
C-101	Excavation Overview



Locus Plan

GRAPHIC SCALE
NTS

Base map is a portion of the following 7.5' USGS Topographic Quadrangle:
New Bedford North, MA, 1979



Site Plan

GRAPHIC SCALE
NTS

Index of Drawings

Drawing No.	Drawing Title
C-101A	Extent of Excavations
C-101B	Extent of Excavations
C-102	Typical Details

ENGINEER IN RESPONSIBLE CHARGE OF THE WORK SHOWN ON THIS DRAWING

DATE: ________ SIGNATURE

MA PROFESSIONAL ENGINEER:
LIC. # 40489

Prepared by:
TRC

Prepared for:
The City of New Bedford
Massachusetts

REV	DATE	BY	DESCRIPTION	DESIGN SUPERVISOR	PROJECT ENGINEER
0	4/10/09	A.H.	CONCEPTUAL DESIGN SUBMITTAL	M.P.	A.H.

DRAWING TITLE: TITLE SHEET

DESIGNED: A.H. DRAWN BY: A.C.H. CHECKED BY: M.P. PROJECT ENGINEER: A.H.
ISSUE DATE: FEB. 2009 SUPERVISOR: M.P.

PROJECT TITLE: CONCEPTUAL DESIGN WALSH FIELD EXTERIOR REMEDY

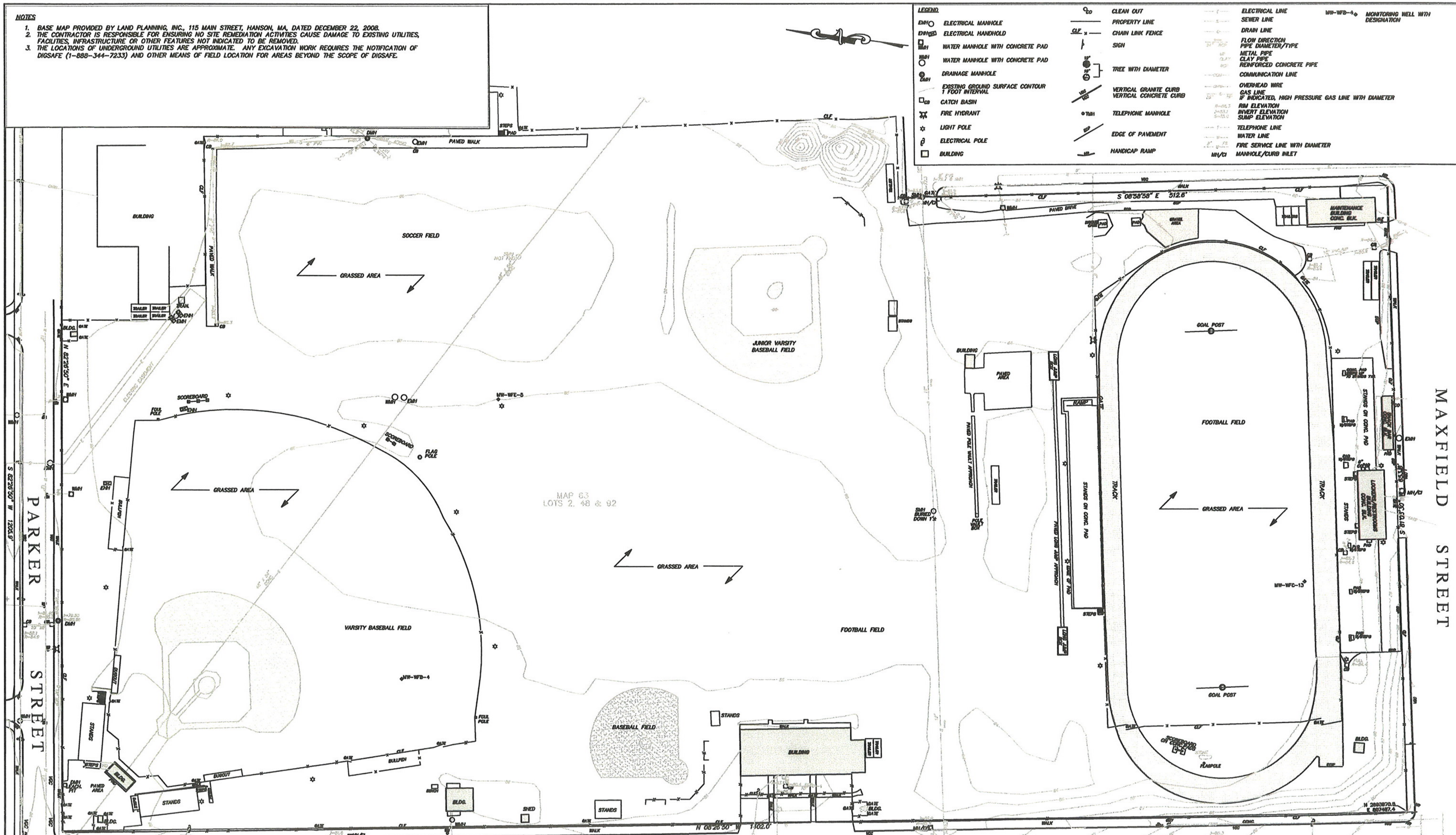
SCALE: NTS

PREPARED FOR: City of New Bedford
133 WILLIAM STREET NEW BEDFORD, MASSACHUSETTS 02740

DRAWING NO. T-100 REV 0

NOTES

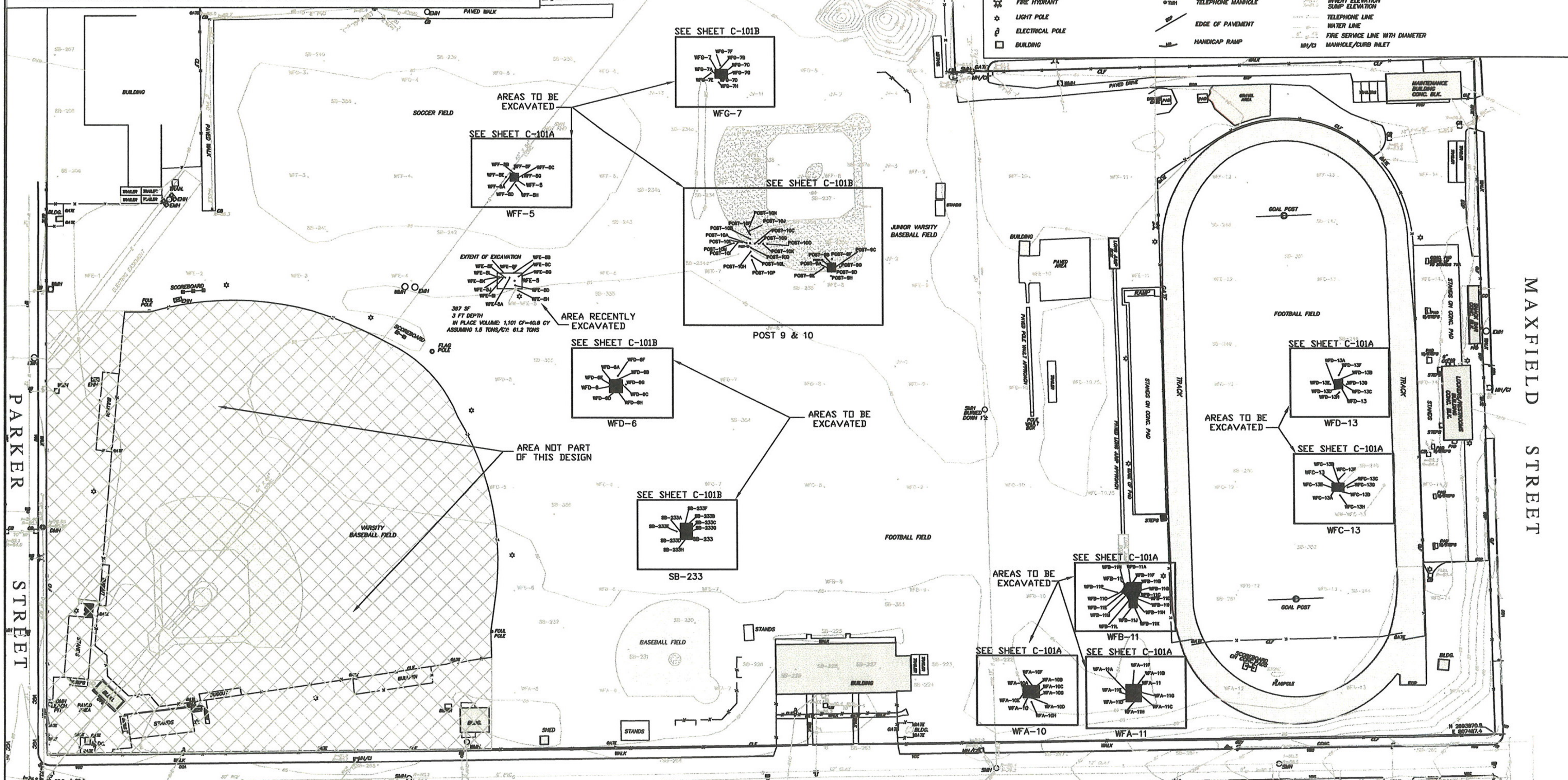
1. BASE MAP PROVIDED BY LAND PLANNING, INC., 115 MAIN STREET, HANSON, MA, DATED DECEMBER 22, 2008.
2. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING NO SITE REMEDIATION ACTIVITIES CAUSE DAMAGE TO EXISTING UTILITIES, FACILITIES, INFRASTRUCTURE OR OTHER FEATURES NOT INDICATED TO BE REMOVED.
3. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE. ANY EXCAVATION WORK REQUIRES THE NOTIFICATION OF DIGSAFE (1-888-344-7233) AND OTHER MEANS OF FIELD LOCATION FOR AREAS BEYOND THE SCOPE OF DIGSAFE.



ENGINEER IN RESPONSIBLE CHARGE OF THE WORK SHOWN ON THIS DRAWING DATE: ______ SIGNATURE MA PROFESSIONAL ENGINEER: LIC. # 40489	Prepared by: TRC	Prepared for: The City of New Bedford Massachusetts	REV 0 · DATE 4/16/09 · BY A.H. · DESCRIPTION CONCEPTUAL DESIGN SUBMITTAL · DESIGN SUPERVISOR M.P. · PROJECT ENGINEER A.H.	DRAWING TITLE: EXISTING CONDITIONS A.H. · DRAWN BY A.H. · CHECKED BY M.P. · PROJECT ENGINEER A.H. · DATE FEB. 2009 · SUPERVISOR M.P. GRAPHIC SCALE 0 50' 100'	PROJECT TITLE: CONCEPTUAL DESIGN WALSH FIELD EXTERIOR REMEDY PREPARED FOR: City of New Bedford, 133 WILLIAM STREET, NEW BEDFORD, MASSACHUSETTS 02740 DRAWING NO. C-100	SCALE 1" = 100' 0

NOTES

1. BASE MAP PROVIDED BY LAND PLANNING, INC., 115 MAIN STREET, HANSON, MA, DATED DECEMBER 22, 2008.
2. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE. ANY EXCAVATION WORK REQUIRES THE NOTIFICATION OF DIGSAFE (1-888-344-7233) AND OTHER MEANS OF FIELD LOCATION FOR AREAS BEYOND THE SCOPE OF DIGSAFE.
3. THE EXCAVATION AREAS SHOWN ARE APPROXIMATE AND REFLECT THE MODELING OF SUBSURFACE CONDITIONS AS OF APRIL 2009. AREAS AND/OR LOCATIONS OF EXCAVATION MAY CHANGE.
4. THE REMEDIATION WORK AT THE VARSITY BASEBALL FIELD IS NOT INCLUDED.
5. ELECTRICAL LINES TO LIGHT POLES, SCOREBOARDS, AND IRRIGATION (ELECTRICAL AND WATER) LINES ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING KNOWLEDGEABLE FACILITY RESPRESENTATIVE(S) PRIOR TO EXCAVATING.
6. SOILS TO BE EXCAVATED WILL BE DISPOSED OF OFFSITE.
7. SITE RESTORATION WILL INCLUDE BACKFILLING AND SEEDING TO PRE-EXISTING GRADES AND CONDITIONS.
8. EXCAVATED AREAS SHALL BE BACKFILLED IMMEDIATELY ONCE THE EXCAVATION HAS FULLY ACHIEVED THE PROPOSED LATERAL AND VERTICAL LIMITS, THE REQUIRED SAMPLING (BY OTHERS) IS COMPLETE, AND THE LIMITS HAVE BEEN CONFIRMED BY THE LICENSED SITE PROFESSIONAL.



ENGINEER IN RESPONSIBLE CHARGE OF THE WORK SHOWN ON THIS DRAWING	Prepared by:	Prepared for:	DRAWING TITLE	PROJECT TITLE
DATE: ______ SIGNATURE	TRC	The City of New Bedford Massachusetts	EXTENT OF EXCAVATIONS	CONCEPTUAL DESIGN WALSH FIELD EXTERIOR REMEDY
MA PROFESSIONAL ENGINEER: LIC. # 40489				SCALE 1" = 100'

REV	DATE	BY	DESCRIPTION		
0	4/17/09	A.H.	CONCEPTUAL DESIGN SUBMITTAL	M.P.	A.H.

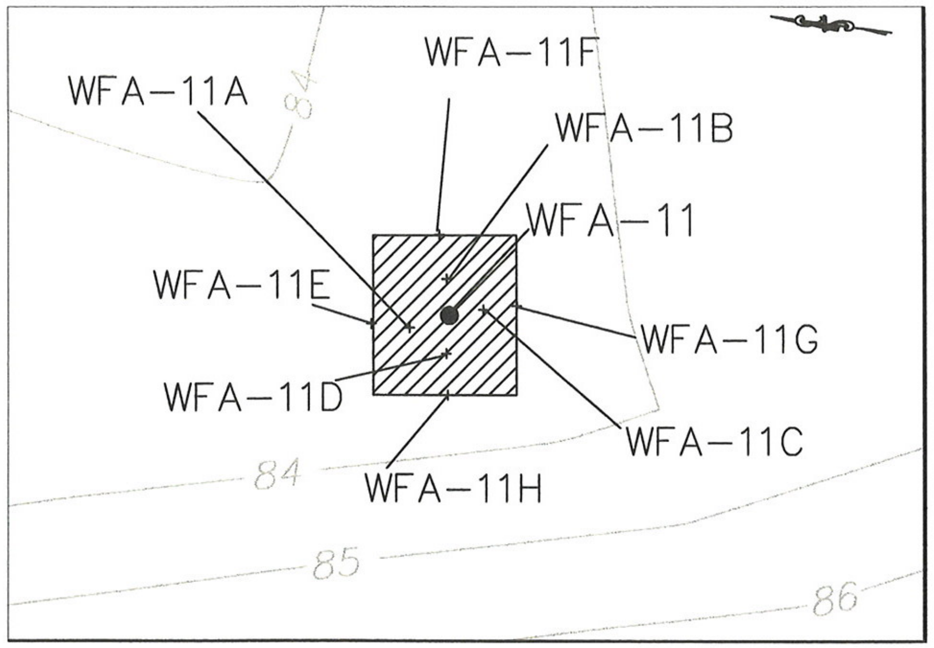
DESIGN SUPERVISOR / PROJECT ENGINEER

DESIGNED: A.H. DRAWN BY: A.C.H. CHECKED BY: M.P. PROJECT ENGINEER: A.H.
DATE: FEB. 2009 SUPERVISOR: M.P.

GRAPHIC SCALE: 0 50' 100'

PREPARED FOR: City of New Bedford, 133 WILLIAM STREET, NEW BEDFORD, MASSACHUSETTS 02740

DRAWING NO. C-101 — 0

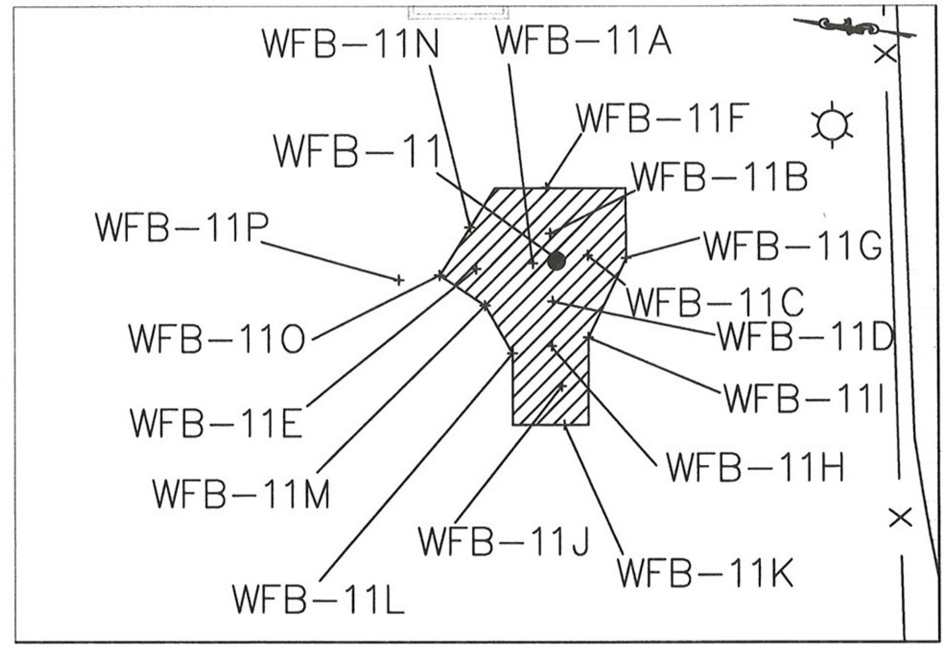


WFA-11

GRAPHIC SCALE 0 20' 1" = 20'

Notes:
1. Depth of Excavation = 3 ft bgs
2. Area = 249.2 sf
3. Volume = 27.7 cy

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES

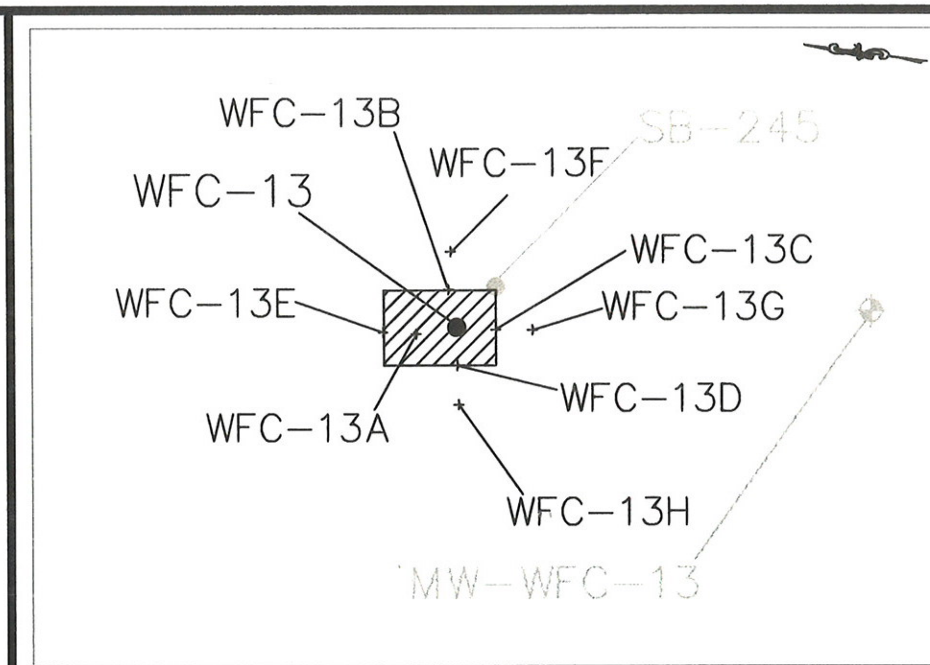


WFB-11

GRAPHIC SCALE 0 20' 1" = 20'

Notes:
1. Depth of Excavation = 3 ft bgs
2. Area = 306.4 sf
3. Volume = 34 cy

SEE SHEET C-100 FOR LEGEND AND GENERAL NOTES

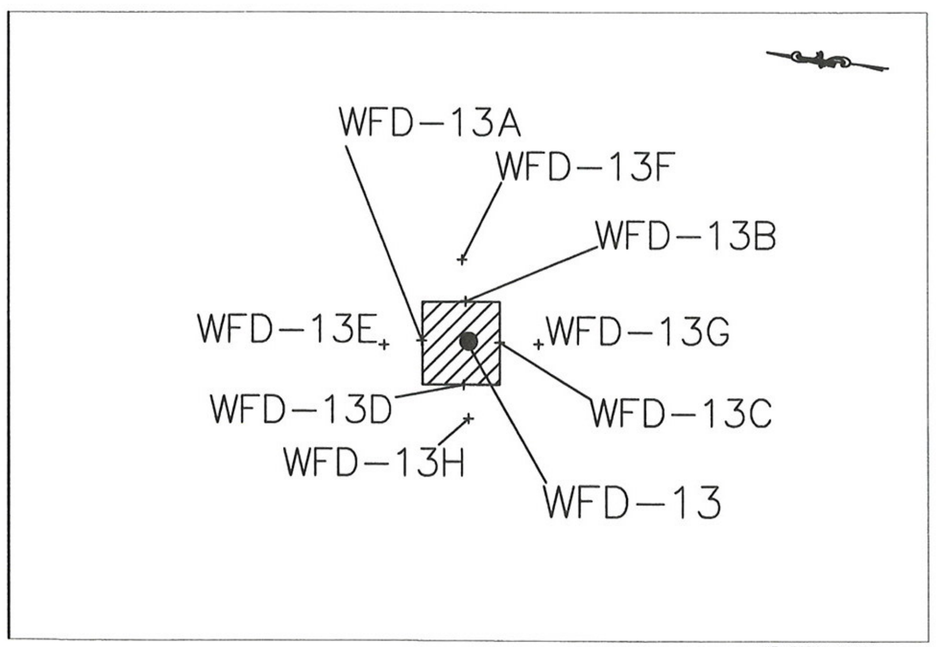


WFC-13

GRAPHIC SCALE 0 20' 1" = 20'

Notes:
1. Depth of Excavation = 3 ft bgs
2. Area = 90.7 sf
3. Volume = 10.1 cy

SEE SHEET C-100 FOR LEGEND AND GENERAL NOTES

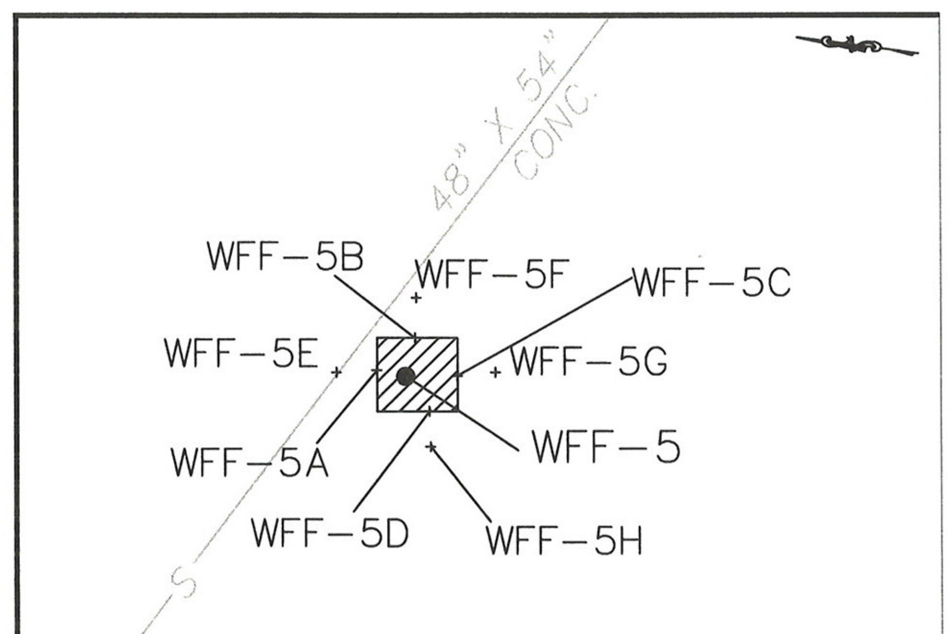


WFD-13

GRAPHIC SCALE 0 20' 1" = 20'

Notes:
1. Depth of Excavation = 3 ft bgs
2. Area = 70.3 sf
3. Volume = 7.8 cy

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES

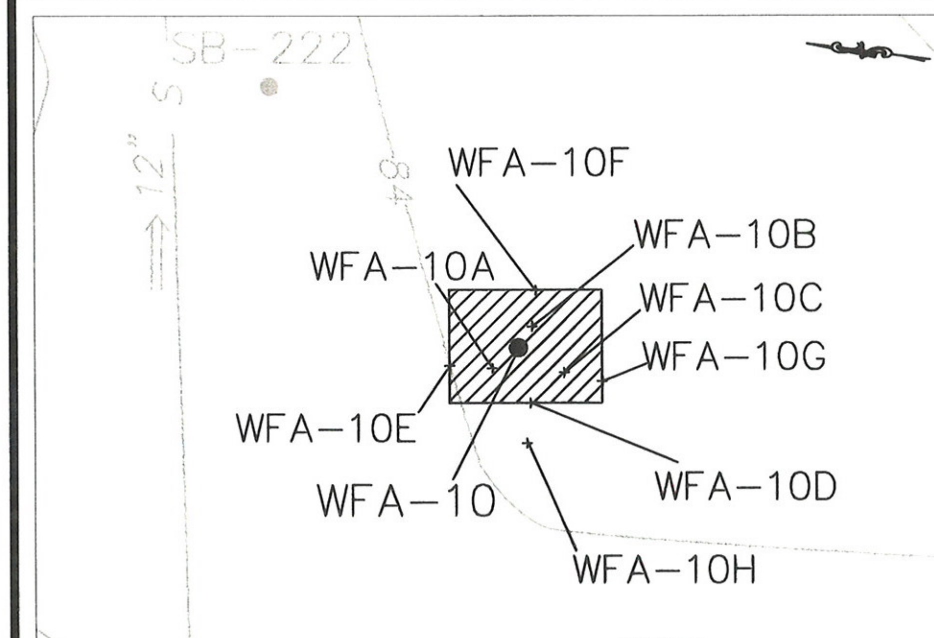


WFF-5

GRAPHIC SCALE 0 20' 1" = 20'

Notes:
1. Depth of Excavation = 3 ft bgs
2. Area = 63 sf
3. Volume = 7 cy

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES



WFA-10

GRAPHIC SCALE 0 20' 1" = 20'

Notes:
1. Depth of Excavation = 3 ft bgs
2. Area = 185.6 sf
3. Volume = 20.6 cy

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES

ENGINEER IN RESPONSIBLE CHARGE OF THE WORK SHOWN ON THIS DRAWING

DATE: ________ SIGNATURE

MA PROFESSIONAL ENGINEER: LIC. # 40489

Prepared by: TRC

Prepared for: The City of New Bedford Massachusetts

REV	DATE	BY	DESCRIPTION	DESIGN SUPERVISOR / PROJECT ENGINEER
0	4/27/09	A.H.	CONCEPTUAL DESIGN SUBMITTAL	M.P. / A.H.

DRAWING TITLE: EXTENT OF EXCAVATIONS

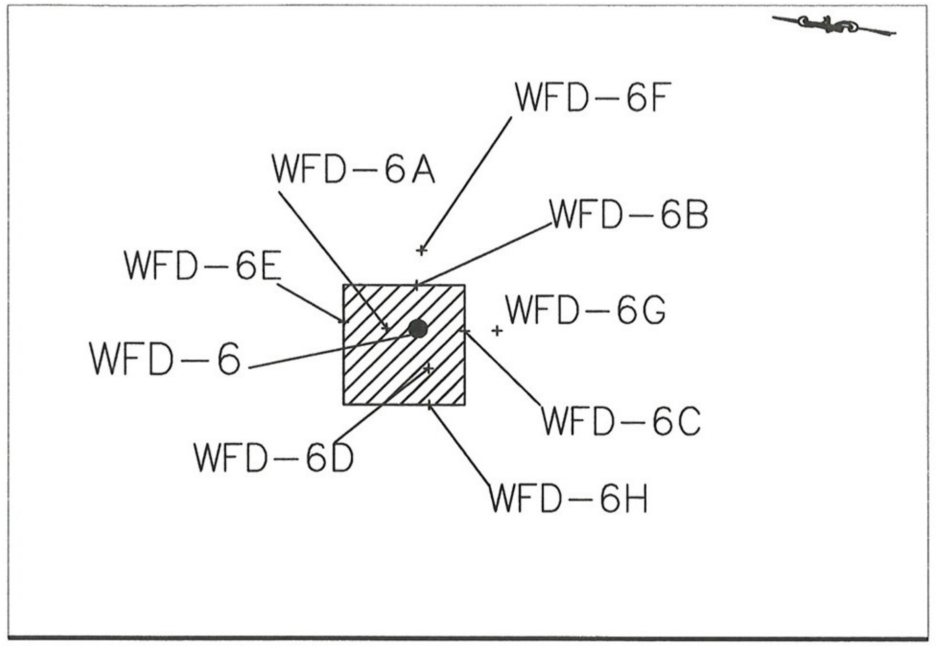
DESIGNED BY: A.H. DRAWN BY: A.C.H. CHECKED BY: M.P. PROJECT ENGINEER: A.H. DATE: FEB. 2009 SUPERVISOR: M.P.

PROJECT TITLE: CONCEPTUAL DESIGN WALSH FIELD EXTERIOR REMEDY

SCALE: NTS

PREPARED FOR: City of New Bedford, 133 WILLIAM STREET, NEW BEDFORD, MASSACHUSETTS 02740

DRAWING NO. C-101A, REV 0



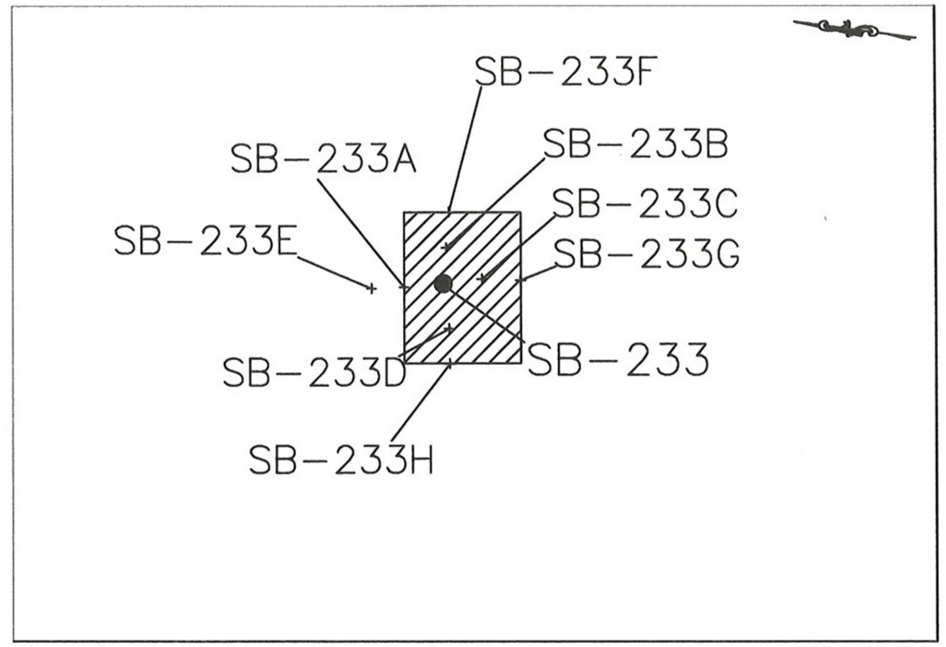
WFD-6

GRAPHIC SCALE 0 20'
1" = 20'

Notes:

1. *Depth of Excavation = 3 ft bgs*
2. *Area = 155.2 sf*
3. *Volume = 17.2 cy*

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES



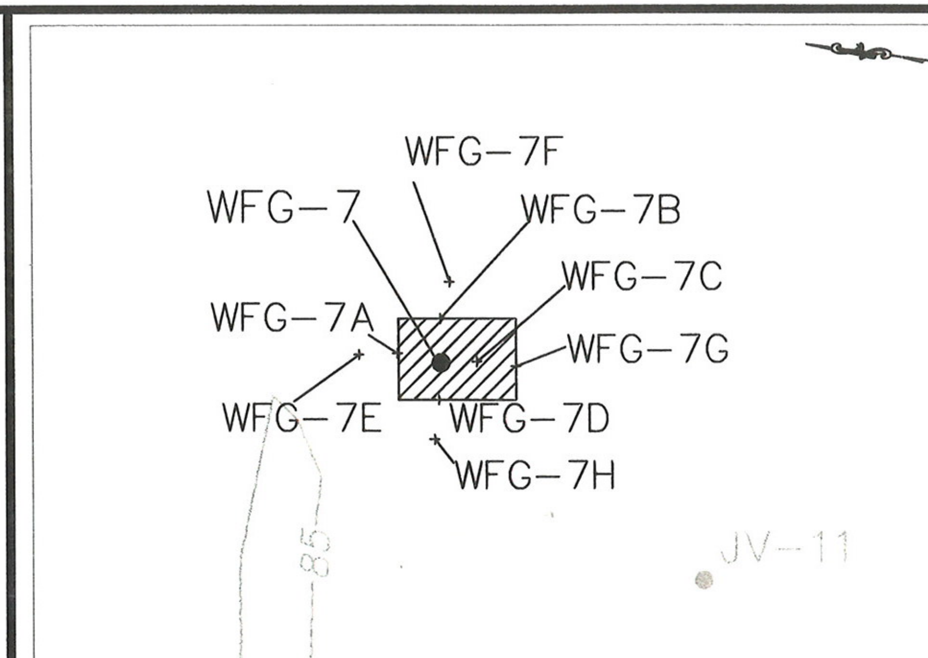
SB-233

GRAPHIC SCALE 0 20'
1" = 20'

Notes:

1. *Depth of Excavation = 3 ft bgs*
2. *Area = 190.15 sf*
3. *Volume = 21.1 cy*

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES



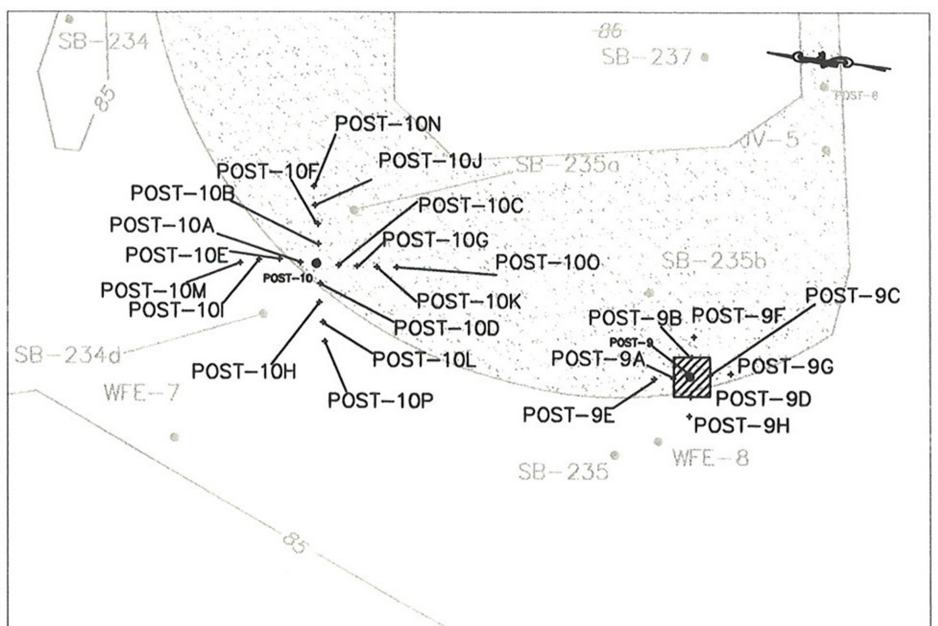
WFG-7

GRAPHIC SCALE 0 20'
1" = 20'

Notes:

1. *Depth of Excavation = 3 ft bgs*
2. *Area = 102.5 sf*
3. *Volume = 11.3 cy*

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES



POST-9 & 10

GRAPHIC SCALE 0 40'
1" = 40'

Notes:

1. *Post-9: Depth of Excavation = 3 ft bgs*
2. *Area = 63.3 sf*
3. *Volume = 7.0 cy*
4. *Post-10 extent of excavation will be determined at a later date.*

SEE SHEET C-101 FOR LEGEND AND GENERAL NOTES

ENGINEER IN RESPONSIBLE CHARGE OF THE WORK SHOWN ON THIS DRAWING

DATE: ________ SIGNATURE

MA PROFESSIONAL ENGINEER: LIC. # 40489

Prepared by:

TRC

Prepared for:

The City of New Bedford Massachusetts

REV	DATE	BY	DESCRIPTION		
0	4/17/09	A.H.	CONCEPTUAL DESIGN SUBMITTAL	H.P.	A.H.
				DESIGN SUPERVISOR	PROJECT ENGINEER

DRAWING TITLE: EXTENT OF EXCAVATIONS

DESIGNED BY: A.H. | DRAWN BY: A.C.H. | CHECKED BY: H.P. | PROJECT ENGINEER: A.H.
ISSUE DATE: FEB. 2009 | SUPERVISOR: H.P.

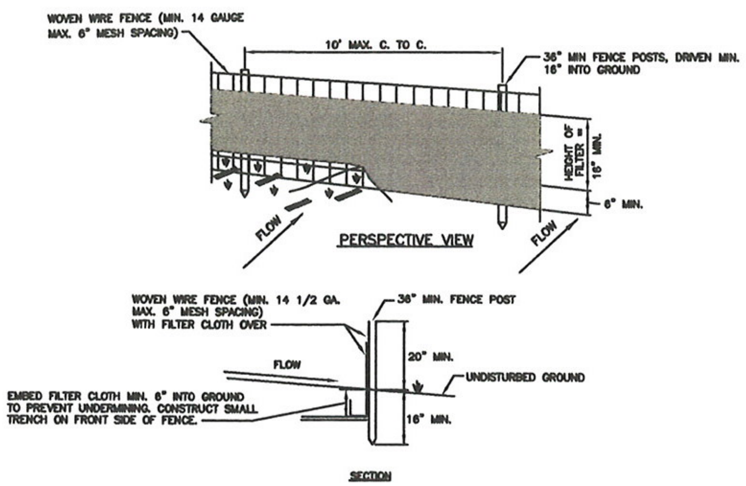
PROJECT TITLE: CONCEPTUAL DESIGN WALSH FIELD EXTERIOR REMEDY

SCALE: NTS

PREPARED FOR: City of New Bedford, 133 WILLIAM STREET, NEW BEDFORD, MASSACHUSETTS 02740

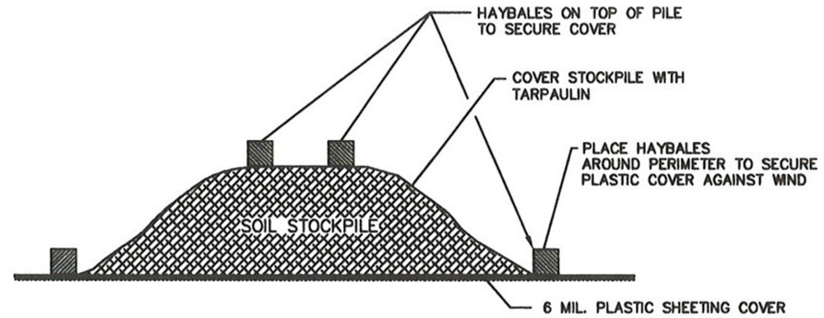
DRAWING NO. C-101B

0



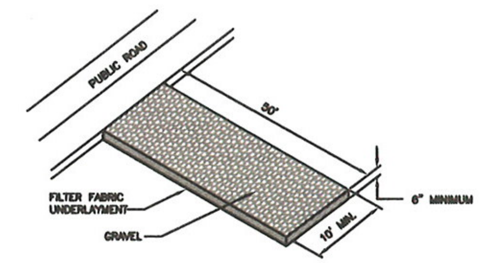
SILT FENCE (1)

NTS



STRAW BALE AND SILT FENCE BARRIER (2)

NTS

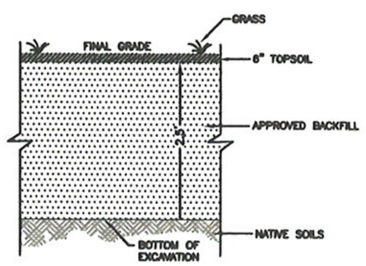


NOTES:

1. THE PAD SHOULD EXTEND THE FULL WIDTH OF THE CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
2. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
3. IF THE SITE CONDITIONS ARE SUCH THAT THE MAJORITY OF MUD IS NOT REMOVED FROM THE VEHICLE TIRES BY THE GRAVEL PAD, THEN THE TIRES SHALL BE WASHED BEFORE THE VEHICLE LEAVES THE SITE. WASH WATER SHALL BE DIRECTED INTO A SEDIMENT TRAP OR OTHER APPROVED SEDIMENT TRAPPING DEVICE.
4. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE.
5. REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD IMMEDIATELY.

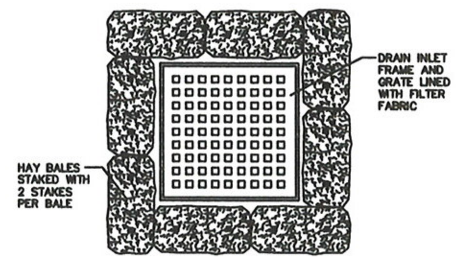
CONSTRUCTION ENTRANCE (3)

NTS



BACKFILL DETAIL (4)

NTS

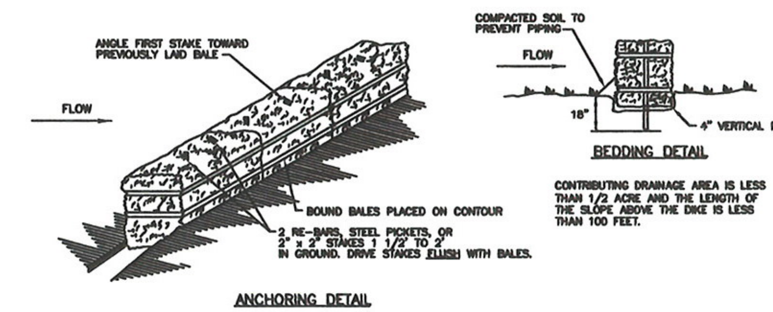


NOTES:

1. HAY BALES SHALL BE POSITIONED IN A ROW SO THAT EACH END TIGHTLY ABUTS THE ADJACENT BALE.
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
3. FREQUENT INSPECTIONS SHALL BE CONDUCTED AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY IF NECESSARY.
4. HAYBALES PLACED AROUND INLET STRUCTURES WITHIN PAVEMENT AREAS SHALL ONLY BE PLACED ON TOP OF THE PAVEMENT AND TIED TOGETHER TO PREVENT MOVEMENT. HAYBALES PLACED ON PAVEMENT AREAS SHALL NOT BE ANCHORED IN PLACE.

TYPICAL HAY BALE FILTER (5)

NTS



NOTES:

1. CONSTRUCT ALL EROSION AND SEDIMENT CONTROL STRUCTURES AS SPECIFIED, AND AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN.
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO INITIATION OF SITE CLEARING OPERATIONS.
3. PERFORM GRADING IN ACCORDANCE WITH DESIGN PLAN.

STRAW BALE DIKE (6)

NTS

ENGINEER IN RESPONSIBLE CHARGE OF THE WORK SHOWN ON THIS DRAWING

DATE: ______ SIGNATURE

MA PROFESSIONAL ENGINEER: LIC. #

Prepared by: TRC

Prepared for: The City of New Bedford Massachusetts

REV	DATE	BY	DESCRIPTION	DESIGN SUPERVISOR / PROJECT ENGINEER
0	4/17/09	A.H.	CONCEPTUAL DESIGN SUBMITTAL	M.P. / A.H.

DRAWING TITLE: TYPICAL DETAILS

DESIGNER: A.H. | DRAWN BY: A.C.H. | CHECKED BY: M.P. | PROJECT ENGINEER: A.H. | ISSUE DATE: FEB. 2009 | SUPERVISOR: M.P.

PROJECT TITLE: CONCEPTUAL DESIGN WALSH FIELD EXTERIOR REMEDY

SCALE: NTS

PREPARED FOR: City of New Bedford, 133 WILLIAM STREET, NEW BEDFORD, MASSACHUSETTS 02740

DRAWING NO. C-102 (0)

APPENDIX C

PROJECT SCHEDULE

Walsh Field

Proposed Schedule for Phase IV/RAM/Activities

▪ Submit Phase IV or RAM Plan	August 2009
▪ Initiate Soil Removal	August/September 2009
▪ Prepared Partial RAO	Winter 2009/2010

APPENDIX D

PUBLIC INVOLVEMENT NOTIFICATIONS

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

978.970.5600 PHONE
978.453.1995 FAX

www.TRCsolutions.com

July 29, 2009

TRC Reference Number: 115058.0000

Mayor Scott W. Lang
City Hall, Room 311
133 William Street
New Bedford, MA 02740

RE: Interim Phase III Remedial Action Plan
Parker Street Waste Site – Soils at the Walsh Field Athletic Complex;
New Bedford, Massachusetts;
MassDEP RTN 4-15685

Dear Mayor Lang:

On behalf of the City of New Bedford, Massachusetts, and pursuant to 310 CMR 40.1403(3)(e) of the Massachusetts Contingency Plan (MCP), TRC Environmental Corporation (TRC) has prepared this letter to inform you of the submittal of an Interim Phase III Remedial Action Plan pertaining to soil contamination at the Parker Street Waste Site in New Bedford, Massachusetts. This submittal will be made to the Massachusetts Department of Environmental Protection (MassDEP) by July 30, 2009. The attachment presents a copy of Section 5 that outlines the selection of the remedial action alternative.

A copy of this document can be obtained from David Fredette in the Department of Environmental Stewardship. If you have any questions concerning this letter please contact me at (978) 656-3565.

Sincerely,
TRC Environmental Corporation

David M. Sullivan

David M. Sullivan, CHMM, LSP
Sr. Project Manager

Cc: David Fredette, New Bedford Department of Environmental Stewardship

5.0 SELECTION OF REMEDIAL ACTION ALTERNATIVE

The selected remedial action alternative, Feasibility Evaluation, the assessment of the feasibility of approaching background, the ability to achieve no significant risk, and the elimination of substantial hazards is present below.

5.1 Proposed Remedial Action Alternative

To mitigate the current and future risks associated with Walsh Field soil, which will result in a Class A Response Action Outcome, soils will be remediated by removing the WFB-4 hot spot, by removing the soils that contribute to the Method 1/Method 2 S-1 soil standard exceedances, and by placing an AUL on the property to prevent potential exposure to impacted soils greater than three feet below ground surface.

The risk characterization completed as part of the Interim Phase II CSA report indicated the following:

- No Imminent Hazard condition is known to exist at Walsh Field.
- A Stage I Environmental Risk Characterization indicated no significant soil exposure pathways exist at Walsh Field and groundwater data indicate a condition of no significant risk to environmental receptors.
- Soil Exposure Point Concentrations exceed applicable MCP Method 1/Method 2 S-1/GW-2 and S-1/GW-3 soil cleanup standards for current and future Walsh Field conditions.
- A condition of No Significant Risk does not exist for soil contamination at Walsh Field under current and future use scenarios.

For each of the identified exposure points at Walsh Field, the following soil contaminants exceed applicable MCP Method 1/Method 2 soil cleanup standards and are identified as Contaminant of Concern (COCs):

Current Site Conditions

- WF-1: lead
- WF-2: benzo(a)pyrene, cadmium, lead
- WF-3: cadmium, lead
- WF-4: arsenic, cadmium, lead
- WF-5: arsenic, lead
- WFB-4 hot spot: dibenzofuran, acenaphthylene, carcinogenic PAHs, DRO

Future Site Conditions

- Walsh Field: arsenic, cadmium, lead

- WFB-4 hot spot: dibenzofuran, acenaphthylene, carcinogenic PAHs, DRO

The Walsh Field investigation focused on the nature and extent of soil contamination in the 0 to 1 foot below ground surface horizon, 1 to 3 feet below ground surface horizon, and greater than 3 feet below ground surface horizon.

The 0 to 1 foot horizon is considered to be representative of contamination located at or near the ground surface that is directly accessible, has a high potential for contact by people, and is representative of current exposures.

The 1 to 3 feet horizon is considered to be representative of contamination that is below the ground surface, not immediately accessible and has a lower potential for contact by people (potential for contact by maintenance or construction personnel when performing activities that require digging below the ground surface exists).

Potentially contaminated soil at the Site is present within the 0 to 3 feet depth interval as well as the 3 to 15 feet depth interval. In accordance with 310 CMR 40.0933(4)(c)(2), soil contamination within the top three feet is considered *accessible*, consistent with 310 CMR 40.0933(4)(c)(2), and soil within the 3 to 15 feet interval is considered *potentially accessible*.

To mitigate the current and future risks associated with Walsh Field soil, which will result in a Class A Response Action Outcome, soils will be remediated by removing the WFB-4 hot spot, by removing the soils that contribute to the Method 1/Method 2 S-1 soil standard exceedances, and by placing an AUL on the property to prevent potential exposure to impacted soils greater than three feet below ground surface.

TRC conducted soil sampling along concentric rings (i.e., step out sampling) around sampling locations identified for potential excavation, based on elevated contaminant concentrations. The supplemental step out and characterization sampling (presented in Appendix A) was completed within each exposure point area. The step-out sampling targeted the locations displaying the highest concentrations of identified COCs. The supplemental sampling results are used to determine pre-defined excavation boundaries for the lateral and vertical extent necessary to achieve the remedial goal (i.e., EPCs less than or equal to Method 1/Method 2 S-1 standards). Based on the risk characterization results, the vertical depth will be up to three feet below ground surface, targeting the accessible soils.

Following soil removal, the excavations will be backfilled with clean fill, topped with six inches of loam, and re-seeded.

Of the remedial action alternatives deemed potentially applicable during the screening process, the following technologies will be utilized as part of this remedial alternative:

- Removal – Off-Site Disposal.
- Removal/Treatment – Off-Site Disposal.

- Containment – Cover Material.
- Institutional Controls – Activity and Use Limitation; Fence and Access Controls.

Containment by asphalt, concrete, or geosynthetic membrane was not selected due to the limited extent of soils exhibiting risk, the fact that capping does not lessen the toxicity or volume of contaminated material present at the Site, and the relatively high cost versus benefit.

A conceptual design for this remedy has been prepared and is presented in Appendix B. Areas targeted for excavation are illustrated in this design document.

5.2 Feasibility Evaluation

A permanent solution has been proposed for Walsh Field. As discussed below, a Feasibility Evaluation was completed in accordance with 310 CMR 40.0860 and with consideration of the guidance presented in MassDEP's document *Conducting Feasibility Assessments Under the MCP* (Policy #WSC-04-160).

5.2.1 Feasibility of Approaching Background

MassDEP has expressed a position that for a limited number of pollutants, remedial actions to achieve or approach background are almost always feasible, i.e., the cost of conducting a remedial action would be modest and exceeded by the benefit or risk reduction.

As documented in MassDEP's guidance document, MassDEP considers it categorically feasible to remove small quantities of petroleum-contaminated soil. Specifically, for the purposes of achieving Presumptive Certainty pursuant to this policy, it is DEP's position that it is feasible to achieve background at a site where a condition of no significant risk has been reached, the remaining contamination is limited to 20 cubic yards or less of soil contaminated solely by petroleum products, and where such soil:

- is located less than three feet below the ground surface;
- is not covered by pavement or a permanent structure;
- is not located within a sensitive environment (e.g., wetlands); and
- is not located in an area where removal activities will substantially interrupt public service or threaten public safety.

However, for certain types of pollutants in certain types of environmental settings, remedial actions to achieve or approach background may be considered to be categorically infeasible. Such is the case when the incremental cost of conducting a remedial action would be substantial and almost always disproportionate to the incremental benefit or risk reduction.

At Walsh Field, the proposed remedy is to remediate soils to achieve a condition of no significant risk to human health, not to background. Approximately 1,400 square feet of

surface area will be removed and replaced. The cost of remediating the remaining S-1 soils on the approximately 780,000 square-foot Walsh Field in an attempt to achieve or approach background is disproportionate to the cost necessary to achieve a condition of No Significant Risk.

In accordance with MassDEP guidance (Policy #WSC-04-160), achieving or approaching background can be deemed categorically infeasible for persistent contaminants in soil located in areas with lower exposure potential (i.e., S-2 and S-3 soil categories). The contaminants of concern at Walsh Field are considered persistent contaminants. Remediating soils below three feet is not the proposed remedy at this Site; these soils will be contained by the physical barrier of three feet of soil cover.

In accordance with MassDEP guidance, for those co-located non-persistent COCs that are present below risk based standards, but at levels higher than would be the case if the disposal site was not present, it is unnecessary to evaluate the feasibility of achieving or approaching background where persistent contaminants are present.

5.2.2 Reducing Contaminants at or below Upper Concentration Limits

A comparison of soil EPCs to MCP Upper Concentration Limits (UCLs) was completed as part of the risk characterization for Walsh Field. No soil EPC exceeds its respective MCP UCL at Walsh Field.

5.2.3 Critical Exposure Pathways

There are no critical exposure pathways at Walsh Field.

TRC

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July 29, 2009

TRC Reference Number: 115058.0000

Marianne B. De Souza
Health Department
1213 Purchase Street
First Floor
New Bedford, MA 02740

RE: Interim Phase III Remedial Action Plan
Parker Street Waste Site – Soils at the Walsh Field Athletic Complex;
New Bedford, Massachusetts;
MassDEP RTN 4-15685

Dear Ms. De Souza:

On behalf of the City of New Bedford, Massachusetts, and pursuant to 310 CMR 40.1403(3)(e) of the Massachusetts Contingency Plan (MCP), TRC Environmental Corporation (TRC) has prepared this letter to inform you of the submittal of an Interim Phase III Remedial Action Plan pertaining to soil contamination at the Parker Street Waste Site in New Bedford, Massachusetts. This submittal will be made to the Massachusetts Department of Environmental Protection (MassDEP) by July 30, 2009. The attachment presents a copy of Section 5 that outlines the selection of the remedial action alternative.

A copy of this document can be obtained from David Fredette in the Department of Environmental Stewardship. If you have any questions concerning this letter please contact me at (978) 656-3565.

Sincerely,
TRC Environmental Corporation

David M. Sullivan, CHMM, LSP
Sr. Project Manager

Cc: David Fredette, New Bedford Department of Environmental Stewardship

5.0 SELECTION OF REMEDIAL ACTION ALTERNATIVE

The selected remedial action alternative, Feasibility Evaluation, the assessment of the feasibility of approaching background, the ability to achieve no significant risk, and the elimination of substantial hazards is present below.

5.1 Proposed Remedial Action Alternative

To mitigate the current and future risks associated with Walsh Field soil, which will result in a Class A Response Action Outcome, soils will be remediated by removing the WFB-4 hot spot, by removing the soils that contribute to the Method 1/Method 2 S-1 soil standard exceedances, and by placing an AUL on the property to prevent potential exposure to impacted soils greater than three feet below ground surface.

The risk characterization completed as part of the Interim Phase II CSA report indicated the following:

- No Imminent Hazard condition is known to exist at Walsh Field.
- A Stage I Environmental Risk Characterization indicated no significant soil exposure pathways exist at Walsh Field and groundwater data indicate a condition of no significant risk to environmental receptors.
- Soil Exposure Point Concentrations exceed applicable MCP Method 1/Method 2 S-1/GW-2 and S-1/GW-3 soil cleanup standards for current and future Walsh Field conditions.
- A condition of No Significant Risk does not exist for soil contamination at Walsh Field under current and future use scenarios.

For each of the identified exposure points at Walsh Field, the following soil contaminants exceed applicable MCP Method 1/Method 2 soil cleanup standards and are identified as Contaminant of Concern (COCs):

Current Site Conditions

- WF-1: lead
- WF-2: benzo(a)pyrene, cadmium, lead
- WF-3: cadmium, lead
- WF-4: arsenic, cadmium, lead
- WF-5: arsenic, lead
- WFB-4 hot spot: dibenzofuran, acenaphthylene, carcinogenic PAHs, DRO

Future Site Conditions

- Walsh Field: arsenic, cadmium, lead

- WFB-4 hot spot: dibenzofuran, acenaphthylene, carcinogenic PAHs, DRO

The Walsh Field investigation focused on the nature and extent of soil contamination in the 0 to 1 foot below ground surface horizon, 1 to 3 feet below ground surface horizon, and greater than 3 feet below ground surface horizon.

The 0 to 1 foot horizon is considered to be representative of contamination located at or near the ground surface that is directly accessible, has a high potential for contact by people, and is representative of current exposures.

The 1 to 3 feet horizon is considered to be representative of contamination that is below the ground surface, not immediately accessible and has a lower potential for contact by people (potential for contact by maintenance or construction personnel when performing activities that require digging below the ground surface exists).

Potentially contaminated soil at the Site is present within the 0 to 3 feet depth interval as well as the 3 to 15 feet depth interval. In accordance with 310 CMR 40.0933(4)(c)(2), soil contamination within the top three feet is considered *accessible*, consistent with 310 CMR 40.0933(4)(c)(2), and soil within the 3 to 15 feet interval is considered *potentially accessible*.

To mitigate the current and future risks associated with Walsh Field soil, which will result in a Class A Response Action Outcome, soils will be remediated by removing the WFB-4 hot spot, by removing the soils that contribute to the Method 1/Method 2 S-1 soil standard exceedances, and by placing an AUL on the property to prevent potential exposure to impacted soils greater than three feet below ground surface.

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