

RELEASE ABATEMENT MEASURE (RAM) PLAN

Former Universal Steel & Trading Company Site
297-305 Bridge Street
Salem, Massachusetts 01970
Release Tracking Number 3-11726

October 2015



Prepared for submittal to:

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Waste Site Cleanup
Compliance & Enforcement

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TABLE OF CONTENTS

| | | |
|------------|---|-----------|
| 1.0 | INTRODUCTION..... | 1 |
| 2.0 | NAME OF PERSON CONDUCTING THE RAM (310 CMR 40.0444(1)(a)) | 1 |
| 3.0 | DESCRIPTION OF RELEASE, SITE CONDITIONS, AND SURROUNDING RECEPTORS (310 CMR 40.0444(1)(b)) | 1 |
| 3.1 | SITE DESCRIPTION..... | 1 |
| 3.2 | SURROUNDING RECEPTORS..... | 2 |
| 3.3 | HISTORY OF SITE USAGE..... | 2 |
| 3.4 | REGULATORY STATUS AND HISTORICAL REMEDIAL ACTIVITIES | 3 |
| 4.0 | RELEASE ABATEMENT MEASURE PLAN (310 CMR 40.0444(1)(a)-(i)) | 6 |
| 4.1 | OBJECTIVES (310 CMR 40.0444(1)(c)) | 6 |
| 4.2 | HEALTH AND SAFETY PLAN | 6 |
| 4.3 | SOIL AND GROUNDWATER MANAGEMENT PLAN | 7 |
| 4.4 | PROPOSED SITE REDEVELOPMENT ACTIVITIES | 7 |
| 4.4.1 | Geotechnical Soil Borings | 7 |
| 4.4.2 | Soil Excavation and Disposal | 7 |
| 4.4.3 | Excavation Dewatering and Groundwater Disposal..... | 9 |
| 4.5 | FEDERAL, STATE, AND/OR LOCAL PERMITS (310 CMR 40.0444(1)(f)) | 9 |
| 5.0 | PUBLIC INVOLVEMENT REQUIREMENTS (310 CMR 40.1403)..... | 9 |
| 6.0 | SCHEDULE FOR IMPLEMENTATION (310 CMR 40.0444(1)(c)) | 9 |
| 7.0 | LICENSED SITE PROFESSIONAL OPINION (310 CMR 40.0444(1)(g)) | 10 |

FIGURES

| | |
|----------|---|
| Figure 1 | Site Locus Map |
| Figure 2 | Site/Construction Overlay Plan |
| Figure 3 | MassDEP Site Scoring Map (September 11, 2015) |
| Figure 4 | Architectural Rendering |

APPENDICES

| | |
|------------|---|
| Appendix A | Geotechnical/Environmental Considerations 9-30-15 |
| Appendix B | Technical Memorandum (PCB Fate & Transport) 9-30-15 |
| Appendix C | F.W. Webb Statement of Financial Ability |
| Appendix D | Copies of Public Notification Letters |
| Appendix E | Copy of Letter of Agency |

1.0 INTRODUCTION

On behalf of F.W. Webb Company (F.W. Webb), Alliance Environmental Group, Inc. (AEG) has prepared this Release Abatement Measure (RAM) Plan for the Former Universal Steel & Trading Company Site located at 297-305 Bridge Street in Salem, Massachusetts (hereafter referred to as the "Site"). This RAM Plan was prepared in accordance with Section 310 CMR 40.0444 of the Massachusetts Contingency Plan (MCP) to facilitate proposed construction activities at the Site, which is identified by the Massachusetts Department of Environmental Protection (MassDEP) as Release Tracking Number (RTN) 3-11726.

In January 2015, a Phase III Remedial Action Plan (RAP) and Permanent Solution with Conditions Statement for the Site was submitted to MassDEP by Weston & Sampson, Inc. (W&S) of Peabody, Massachusetts. This submittal was based on the implementation of an Activity & Use Limitation (AUL) encompassing the entire Site property. The AUL, which was filed with the Essex County Registry of Deeds, Southern District, in December 2014, was established to restrict access to residually impacted soil at the Site as discussed in subsequent sections of this report.

2.0 NAME OF PERSON CONDUCTING THE RAM (310 CMR 40.0444(1)(a))

The activities proposed in this RAM Plan are being performed for the following Potentially Responsible Party (PRP):

F.W. Webb Company
Attn: Robert Mucciarone
160 Middlesex Turnpike
Bedford, Massachusetts 01730
(781) 272-6600

3.0 DESCRIPTION OF RELEASE, SITE CONDITIONS, AND SURROUNDING RECEPTORS (310 CMR 40.0444(1)(b))

3.1 Site Description

The Site is located at 297-305 Bridge Street in Salem, Massachusetts, with latitude and longitude coordinates of 42° 31' 22.78" North and 70° 54' 2.78" West. The Universal Transverse Mercator (UTM) coordinates are 4,709,597 meters North and 343,876 meters East. A United States Geological Survey (USGS) Site Locus Map is included as Figure 1.

The Site consists of an approximately 1.2 acre parcel of land located in an area of mixed residential and commercial use. The Site is currently used as a temporary parking lot for a nearby Massachusetts Bay Transportation Authority (MBTA) train station. The City of Salem opened the parking lot in October 2013 following the completion of Site remediation activities as described below. The parking lot consists of a large central-paved area with small landscaped islands and vegetative buffer areas along the perimeter of the Site. Two sediment forebays are also located at the northeast and northwest corners of the Site along Bridge Street. A Site/Construction Overlay Plan is provided as Figure 2.

The Site historically contained several structures, including a two-story warehouse building, two large concrete pads, and several ancillary features such as a truck scale and paved loading areas.

The warehouse building was demolished in 2012, and the remaining Site features were demolished and removed as part of the Site remediation completed in 2013.

The Site is abutted by Bridge Street to the north, across which is an unpaved parking area with railroad tracks beyond. Residential properties border the Site to the south. A F.W. Webb plumbing supply store is located directly adjacent to the Site to the east. To the west is Beckford Street, across which is a parking lot associated with Alpha Auto Sales.

3.2 Surrounding Receptors

Human Receptors: As mentioned above, an AUL was applied to the Site in December 2014. The AUL prohibits the future use of the Site as a residential property. Potential human receptors currently include MBTA employees, construction or other service-related workers, and the general public (as visitors or trespassers). Current and future workers at the Site are considered to include males and females at a minimum age of 16 years; these workers may include women of childbearing age. Customers visiting the subject property, considered as the general public, incorporate all segments of the population including infants, children and adults. Children (ages 1 to 8) and students are only anticipated to access the Site infrequently as visitors.

No sensitive institutions such as schools, hospitals, daycare centers and long-term healthcare facilities were identified within a 500-foot radius of the Site.

Drinking Water Receptors: Based on the MassDEP Site Scoring Map dated September 11, 2015, and provided as Figure 3, the Site is underlain by medium and high-yield aquifers designated as a Non-Potential Drinking Water Source Area. There are no Current or Potential Drinking Water Source Areas located within one-half mile of the Site. Additionally, no private water supply wells are known to be located within 500 feet of the Site.

Environmental Receptors: According to the Site Scoring Map, no Areas of Critical Environmental Concern (ACECs), certified vernal pools, wetlands, or sensitive habitat areas as mapped by the Natural Heritage & Endangered Species Program (NHESP) are located within one-half mile of the Site. Several Protected Open Spaces are located within 500 feet of the Site to the north, south, east and west.

The nearest surface water body is the North River Canal, located approximately 530 feet north of the Site. The North River Canal connects with the North River located on the eastern side of the North Street Bridge. The North River discharges into the Danvers River located approximately one mile to the east. Both the North River and the Danvers River are tidal rivers, and are connected to Beverly Harbor which is located northeast of the Site. It is also noted that the Site is located within the Federal Emergency Management Agency (FEMA) 100-Year Floodplain.

3.3 History of Site Usage

In 1936, the former Universal Steel & Trading Company began operating at the Site as a metal scrap yard. Activities conducted at the Site by the former Universal Steel & Trading Company included processing and sorting of a variety of scrap metals, steam and hot water radiators, metal kitchen equipment, electronics cabinets and metal building demolition debris, and stockpiling of automotive batteries. In June 1994, the property was purchased by Tewksbury

Industries, Inc. (Tewksbury Industries), who continued to operate the facility as a metals recycling business under the name of Universal Steel & Trading Company. In 2012, as a result of tax foreclosure, the City of Salem took ownership of the Site. MassDEP and MassDevelopment subsequently provided funding to demolish the above-grade portions of the existing Site buildings.

3.4 Regulatory Status and Historical Remedial Activities

In November 1993, prior to acquiring the Site property, Tewksbury Industries contracted W&S to conduct a Phase I Initial Site Investigation. As part of the investigation, W&S supervised the installation of soil borings and groundwater monitoring wells at the Site. Based on the analytical results, soil samples collected at a depth of approximately 1.5 feet below ground surface (bgs) contained total petroleum hydrocarbons (TPH), metals (cadmium, lead and mercury) and polychlorinated biphenyls (PCBs) at concentrations above the applicable MCP RCS-1 Reportable Concentrations. The concentrations of TPH and PCBs at several locations also exceeded the associated Upper Concentrations Limits (UCLs). With regard to groundwater, the analytical results indicated that PCBs and vinyl chloride were present at concentrations above the applicable MCP Method 1 GW-2 Groundwater Standards at one location on-Site. Based on the results of the initial investigation, W&S conducted supplemental field activities in July 1994. The supplemental activities included the collection of additional groundwater samples and field testing to evaluate hydrogeologic and groundwater flow characteristics at the Site. The results indicated that volatile organic compounds (VOCs) and PCBs were both below the applicable Method 1 GW-2 Groundwater Standards. However, the detections of TPH, metals, and PCBs in soil in excess of the RCS-1 Reportable Concentrations represented a 120-day MCP reporting condition. On October 7, 1994, W&S submitted a Release Notification Form (RNF) to MassDEP. On December 1, 1994, MassDEP issued a Notice of Responsibility (NOR) to Tewksbury Industries and assigned RTN 3-11726 to the Site.

Based on the results of the Phase I Initial Site Investigation, W&S submitted a RAM Plan to MassDEP in May 1995 to facilitate the removal of a portion of the PCB- and TPH-impacted soil identified at the Site. As part of the RAM, MassDEP requested the collection of additional surficial soil samples for PCB analysis from the four residential properties abutting the Site to the south. A total of five additional soil samples were collected from these residential properties in June 1995. The analytical results indicated that the PCB concentrations were less than 10 milligrams per-kilogram (mg/kg) with the exception of one sample which exhibited a PCB concentration of 32 mg/kg. The presence of PCBs in soil within twelve inches of the ground surface, in excess of 10 mg/kg and within 500 feet of a residential dwelling triggered an Imminent Hazard (IH) condition pursuant to CMR 40.0320(2)(b). MassDEP was notified of the condition on July 6, 1995, and assigned RTN 3-12653 in response.

Following notification of the IH condition, MassDEP requested the installation of a fence between the Site and the four southerly abutting private properties to restrict access. MassDEP also requested that additional assessment be completed as part of Immediate Response Action (IRA) activities in order to evaluate the extent of PCB contamination at the adjacent properties. In July 1995, W&S collected nine soil samples (S-1 through S-9) from the top foot of soil at each selected location. In addition, one sample was collected from a depth of 12 to 18 inches bgs at the location where the maximum PCB concentration of 32 mg/kg was previously detected. Based on the analytical results, PCBs were not present above the laboratory reporting limits in the soil sample collected from 12 to 18 inches bgs. However, PCBs were detected at a

concentration of 62 mg/kg in the shallow sample collected at the property boundary of 92 Federal Street. Tewksbury Industries installed the MassDEP-requested fence in August 1995.

In October 1995, the excavation of PCB-contaminated soil at the southerly abutting properties was completed under the IRA for RTN 3-12653. As a result of the IRA activities, approximately 60 cubic yards of soil were excavated and disposed of off-Site. W&S collected six confirmatory soil samples from the IRA excavation area, and the analytical results indicated that the residual PCB concentrations were all below the applicable MCP Method 1 Soil Standards. In July 1996, RTN 3-12653 was closed via the submittal of an IRA Completion Report and Response Action Outcome (RAO) Statement to MassDEP.

In March and April 2000, Haley & Aldrich, Inc. (H&A) of Burlington, Massachusetts conducted Phase II assessment activities at the Site on behalf of Creditor's Trust, who assumed limited responsibility for conducting response actions at the Site in accordance with a bankruptcy reorganization plan settlement agreement between the Commonwealth of Massachusetts and Tewksbury Industries. The assessment included the installation of additional soil borings and groundwater monitoring wells. The results indicated the presence of arsenic, lead, PCBs, polycyclic aromatic hydrocarbons (PAHs) and hydraulic oil in soil at concentrations above the applicable MCP Method 1 S-1 Soil Standards. The PCB concentrations also exceeded the UCL at three shallow (0-3 feet bgs) sampling locations. TPH levels at two locations and the lead concentration at one location also exceeded the associated UCLs in samples collected from 2-4 feet bgs. Based on the groundwater analytical results, vinyl chloride and PCBs were detected at concentrations above the Method 1 GW-2 and GW-3 Groundwater Standards, respectively.

In November 2004, H&A prepared a Phase II Scope of Work (SOW) outlining additional recommended assessment to be completed at the Site. The proposed scope included additional surficial soil sampling, installation of downgradient monitoring wells, groundwater sampling, and surface water and sediment sampling. H&A completed the additional surficial soil sampling between in December 2004 and January 2005. As part of the investigation, H&A collected a total of 307 soil samples for PCB analysis from 0-3 inches bgs using a 10-foot square grid across the Site. The sampling results indicated that 254 of the 307 soil samples exhibited PCB concentrations above 10 mg/kg. This condition was subsequently addressed via the installation of a perimeter chain link fence to restrict unauthorized access to the Site. H&A also collected 181 soil samples from three of the southerly abutting properties in July 2006, November 2006 and January 2007. PCBs were detected above 10 mg/kg in the samples collected at the 30-32 Beckford Street and 102 Federal Street properties. At the 30-32 Beckford Street property, PCBs were detected in the upper 12 inches of soil in an unpaved area, which represented a new IH condition. MassDEP was notified of the two-hour reporting condition, assigned RTN 3-26449 in response, and retained a contractor to remove the impacted soil from these properties until all endpoint sampling results were below 1.0 mg/kg. In June 2010, RTN 3-26449 was closed via the submittal of a Class A-2 RAO to MassDEP.

In 2011, W&S initiated a Phase II Comprehensive Site Assessment (CSA) at the Site. The Phase II investigation included the advancement of 27 soil borings using a 60-foot square grid and the installation of three groundwater monitoring wells in the shoulder of Bridge Street to the north of the Site. W&S also collected concrete samples from the former building floor slabs and exterior concrete pads for analysis of PCBs. A total of 82 soil samples were submitted for PCB analysis as part of the Phase II CSA. Of these, 29 samples contained PCBs at concentrations at or above 1.0 mg/kg. Select soil samples were also analyzed for extractable petroleum

hydrocarbons (EPH) with target PAHs, volatile petroleum hydrocarbons (VPH), VOCs and Resource Conservation and Recovery Act (RCRA) 8 metals. With the exception of arsenic, cadmium, chromium, lead, and some EPH-related compounds, all contaminant concentrations were below the applicable MCP Method 1 Soil Standards. The groundwater analytical results indicated that all contaminant concentrations were below the Method 1 GW-2 (where applicable) and GW-3 Groundwater Standards, with the exception of cadmium and chlorobenzene in the sample collected from monitoring well HA-1 located in the northeastern portion of the Site. The analysis of the concrete samples from the interior and exterior building slabs indicated that PCBs above 1.0 mg/kg were present at three of the sampling locations.

On June 15, 2011, W&S met with MassDEP and the United States Environmental Protection Agency (USEPA) to review the findings of the ongoing Phase II CSA and discuss potential remedial options for the Site. Based on this discussion and the results of a follow-up meeting on October 5, 2011, W&S evaluated five remedial options as requested by MassDEP and USEPA. These five remedial options focused on the excavation and off-Site disposal of varying quantities of PCB-impacted soil based on the concentrations and/or depths of impacts across the Site.

In November 2011, W&S submitted the Phase II CSA to MassDEP. W&S completed a Method 3 Risk Characterization for the Site to accompany the Phase II CSA submittal. The risk assessment assumed that the property would be redeveloped in the future, but that future residential use would be restricted through the implementation of an AUL. The results of the Method 3 Risk Characterization indicated that while a condition of No Significant Risk (NSR) to public safety existed under current and foreseeable future Site conditions, a condition of NSR to human health did not exist at the Site due to potential for exposure to PCBs in soil.

Following the submittal of the Phase II CSA, a risk-based remedial action alternative (RAA) was developed for the Site. The selected RAA was derived from a combination of previously-discussed options, which included the removal of the top foot of contaminated soil across the entire Site, as well as the targeted excavation and removal of deeper PCB-impacted soils exhibiting concentrations in excess of 50 mg/kg. The risk-based cleanup approach also included the removal of the PCB-impacted concrete slabs and measures to address risk related to the PCB-impacted soil to be left on-Site. These measures included capping the entire Site and placing an AUL on the Site to prevent future residential development and restrict future Site uses with the potential to disturb residual contaminated soils.

The selected RAA for the Site was implemented by a multi-agency team consisting of MassDEP, USEPA, the City of Salem, and MassDevelopment. Implementation of the RAA commenced in December 2012 and was completed in October 2013. The excavation and removal of PCB-impacted soil and concrete was completed as a Removal Action by USEPA under the Emergency Response and Removal Program (ERRP). USEPA and their remediation subcontractor, Environmental Restoration Services LLC (ERS) of Braintree, Massachusetts, initiated the Removal Action in December 2012 and began excavating PCB-impacted soil in January 2013. The excavation of PCB-impacted materials was completed in August 2013. In total, approximately 6,380 cubic yards (9,570 tons) of PCB-impacted soil and concrete were excavated and transported off-Site for appropriate disposal during the Removal Action. PCB-impacted materials were excavated from on-Site as well as from the 92 and 102 Federal Street properties abutting the Site to the south.

On December 17, 2014, W&S filed an AUL for the entire Site property with the Essex County Registry of Deeds, Southern District, in Salem, Massachusetts. The AUL was applied to the Site to restrict certain potential exposure pathways to residually impacted soil and to ensure that future activities associated with Site development and post-development uses would not result in a potential risk to human health. On January 9, 2015, W&S submitted a Phase III RAP and Permanent Solution with Conditions Statement to MassDEP. The report concluded that a condition of NSR had been achieved for the Site in consideration of the recently completed remedial efforts and the implementation of the AUL.

On May 5, 2015, at the request of W&S (on F.W. Webb's behalf), representatives of USEPA, MassDEP, the City of Salem, W&S, AEG, and Green Leaf Construction (Green Leaf) of Leominster, Massachusetts attended a meeting at the USEPA Region One headquarters in Boston, Massachusetts. The meeting was conducted to discuss the proposed Site development activities and was hosted by Ms. Kim Tisa, the USEPA PCB Coordinator. During the meeting, Ms. Tisa raised a concern regarding whether the added weight of proposed new F.W. Webb building components could mobilize PCBs and cause the preferential migration of PCBs in groundwater. Subsequent evaluations performed by AEG and other parties in response to Ms. Tisa's inquiry are discussed below in Sections 4.4.1 and 4.4.2.

4.0 RELEASE ABATEMENT MEASURE PLAN (310 CMR 40.0444(1)(a)-(i))

4.1 Objectives (310 CMR 40.0444(1)(c))

The primary objective of the RAM is to manage potentially impacted soil and groundwater that may be encountered during the planned development of the Site. A proposed Construction Overlay Plan using the existing PCB concentrations remaining at the Site is included as Figure 2. The proposed development activities are associated with the expansion of the F.W. Webb facility abutting the Site to the east. F.W. Webb is negotiating the purchase of the Site property from the City of Salem. Once the Site is purchased, F.W. Webb intends to erect a new plumbing supply store and showroom that will encompass a majority of the Site property. The new facility will replace the existing F.W. Webb store currently located at the easterly abutting parcel. An architectural rendering of the proposed building is included as Figure 4.

4.2 Health and Safety Plan

All proposed activities to be conducted at the Site will be performed in accordance with a Site-specific Health and Safety Plan (HASP). The HASP, which was prepared by qualified individuals sufficiently trained in worker health and safety requirements, will be implemented prior to the commencement of any activity that may disturb residually impacted soil and/or groundwater located beneath the geotextile liner at the Site. The HASP specifies the type of personal protection (i.e. clothing, respirators, etc.), decontamination procedures, engineering controls and environmental monitoring necessary to prevent worker exposures to contaminated media through dermal contact, ingestion and/or inhalation. On-Site workers who may come in contact with the contaminated media should be appropriately trained on the requirements of the HASP, and the plan will be available on-Site throughout the course of the project. The HASP will be modified as needed to account for any observed or documented changes in Site conditions.

4.3 Soil and Groundwater Management Plan

A Soil and Groundwater Management Plan (Soil & GW Plan) was prepared in conjunction with the Site-specific HASP. The purpose of the Soil & GW Plan is to outline the required procedures for the handling, storage, and disposal of potentially impacted media encountered during the proposed construction activities at the Site. Preparation and use of the Soil & GW Plan during subsurface activities is required in accordance with the AUL filed for the Site in December 2014. The Soil & GW Plan also contains provisions for the reuse of excavated soils on-Site as fill material if the material meets the analytical requirements previously established by USEPA. The USEPA-approved analytical results are summarized in the textbox shown below.

- Soil suitable for reuse at the Site = <10 mg/kg (under cap)
- Soil suitable for disposal off-site as non-TSCA waste = 10 to 50 mg/kg
- Soil suitable for disposal off-site as TSCA bulk remediation waste at a TSCA-certified landfill = >50 mg/kg

4.4 Proposed Site Redevelopment Activities

4.4.1 Geotechnical Soil Borings

On September 30, 2015, Geotechnical Services Inc. (GSI) of Boston, Massachusetts completed a Geotechnical/Environmental Considerations opinion letter for the Site to address the concern raised by USEPA regarding whether the added weight of proposed new F.W. Webb building components could mobilize PCBs and cause the preferential migration of PCBs in groundwater. The report, which is included in Appendix A, indicated that the granular fill encountered in the upper zone of the subsurface is considered to be “undocumented fill” and is not adequate for direct or indirect support of building foundations or floor slabs. Underlying the fill material is an apparent weak and compressible deposit of organic silt or silty clay. As such, a total of six geotechnical soil borings is planned to aid in the evaluation of the appropriate building foundation design measures (refer to Figure 2 for approximate soil boring locations). During the advancement of the geotechnical borings, AEG personnel will document visual observations and drill rig blow counts to further characterize subsurface conditions. The borings will be advanced to a minimum depth of 30 feet bgs or to the top of the glacial till layer (if encountered prior to 30 feet bgs).

Pending the results of the planned geotechnical investigation, F.W. Webb is considering utilizing a stone pier system to support the building floor slab. To construct the stone columns, a vibrating unit penetrates the overburden to the selected design depth and the resulting cavity is filled with hard, inert stone that is free of fine particulate material. The interaction between the stone columns and the surrounding soils is developed by the stone infill being introduced and compacted in stages, with each lift of stone being thoroughly compacted. As a result of this process, the stone columns and the confining soils form an integrated foundation support system having low compressibility and improved load bearing capacity.

4.4.2 Soil Excavation and Disposal

Based on the preliminary construction plans for the proposed F.W. Webb plumbing supply store and showroom, the facility warehouse will encompass 15,875 square-feet (ft²) and the

showroom 10,225 ft², for a total building footprint of approximately 26,100 ft². The primary construction activities that will result in the generation of potentially impacted soil will include the following:

- Installation of the F.W. Webb building foundation walls; and
- Installation of the storm water catch basins and associated drainage lines to the south and east of the proposed building location.

On September 30, 2015, AEG prepared a Technical Memorandum for the Site in support of the Geotechnical/Environmental Considerations opinion letter prepared by GSI for the Site in response to the concern raised by USEPA regarding the potential mobilization and preferential migration of PCBs in groundwater. As discussed in the Technical Memorandum, which is included in Appendix B, PCBs are nonpolar, are heavier than water, and have relatively low vapor pressures (10^{-12} to 10^{-4} atmospheres) and Henry's Law constants (between 0.01 and 1). As such, PCBs are only slightly soluble in water. Additionally, when compared to other chemicals, PCBs have very high K_{OW} (octanol/water partition coefficient) values and therefore exhibit a strong affinity to organic carbon. These characteristics inhibit the transport of PCBs from soil to groundwater or surface water, and cause them to bind strongly to soils. AEG therefore does not expect that the preferential migration of PCBs in groundwater will occur as a result of either the construction or the weight of the proposed F.W. Webb building at the Site.

AEG personnel will be on-Site during excavation and trenching activities to document subsurface conditions and to screen excavated soil for PCBs using a field titration kit (CLOR-N-SOIL® PCB Test Kit or similar model). Per USEPA guidance, any excavated soils containing PCBs at levels above 50 mg/kg will need to be disposed of at a Toxic Substances Control Act (TSCA) approved facility. Soils exhibiting PCB concentrations between 10 and 50 mg/kg can be disposed of at a RCRA Subtitle D landfill facility. Since an engineered cap will be in place, including the use of a building vapor barrier, soils containing PCBs at levels below 10 mg/kg can be reused on-Site below the capped areas.

Based on the current design, a total of approximately 1,650 cubic yards (yd³) of soil will be removed as part of the excavation/trenching activities for the F.W. Webb building foundation wall, loading docks and Site utilities. In accordance with the MCP 40.0042(5) and 40.0444(1)(h), F.W. Webb signed a statement of financial ability certifying that they have sufficient financial resources to manage excavated materials in excess of 1,500 cubic yards of soil in the manner and time frames specified in the MCP 310 CMR 40.0030. A copy of the statement of financial ability is provided in Appendix C.

Of the estimated 1,650 yd³ of soil anticipated to be generated, approximately 10 yd³ is expected to require disposal at a TSCA approved facility based on the proposed F.W. Webb layout and information provided by W&S. Approximately 120 yd³ is anticipated to required disposal at a RCRA Subtitle D landfill, and the remaining soils will be reused on-Site or transported to a landfill facility if on-Site reuse is not practicable. Excavated materials will be stockpiled on and covered with a polyethylene liner pending off-Site disposal. If appropriately pre-characterized, excavated soils may also be live-loaded into trucks and/or roll-off containers for same-day transportation and disposal during certain activities.

4.4.3 Excavation Dewatering and Groundwater Disposal

Based on the results of previous environmental investigations, the depth to groundwater at the Site is typically between four and six feet bgs. As such, excavation dewatering will likely be required to facilitate the installation of the Site utilities and certain sections of the building foundation wall.

The volume of groundwater to be generated during station construction activities is not expected to exceed approximately 30,000 gallons. Given the relatively small volume anticipated to be generated, it is recommended that any groundwater infiltrating the excavations and/or trenches be pumped into a fractionation tank to be staged on-Site during construction. The recovered groundwater would be analyzed for the applicable waste disposal parameters and subsequently transported off-Site using vacuum trucks for appropriate disposal/recycling.

4.5 Federal, State, and/or Local Permits (310 CMR 40.0444(1)(f))

A DigSafe utility clearance ticket will be required for all subsurface activities to be performed as part of the building construction. In addition, F.W. Webb or its authorized contractor will obtain the applicable permits and approvals from the City of Salem including, but not necessarily limited to, the following: zoning approvals/permit, building permit, sanitary sewer permit, electrical permits, and exterior signage approvals/permit.

Should the on-Site treatment and local discharge of treated groundwater be selected to facilitate excavation activities below the water table, a National Pollutant Discharge Elimination System (NPDES) permit application will be prepared for submittal to USEPA.

Prior to the disposal of any solid or liquid waste, approvals from the selected disposal facilities will be required. These approvals will be based on facility review of the completed waste profiles and supporting documentation for all media, including laboratory analytical results. The waste materials will be transported using Massachusetts Bills of Lading (BOLs), Material Shipping Record & Logs (MS&R Logs) and/or uniform waste manifests.

No other federal, state or local permits are anticipated to be required to conduct the proposed RAM activities at the Site.

5.0 PUBLIC INVOLVEMENT REQUIREMENTS (310 CMR 40.1403)

In accordance with *Minimum Public Involvement Activities in Response Actions* as outlined in the MCP 310 CMR 40.1403, the Chief Municipal Officer and Board of Health for the City of Salem will be notified that RAM activities are being conducted at the Site. Copies of the letters being sent to these town officials are provided in Appendix D of this report.

6.0 SCHEDULE FOR IMPLEMENTATION (310 CMR 40.0444(1)(c))

AEG proposes the schedule on the following page for the RAM implementation:

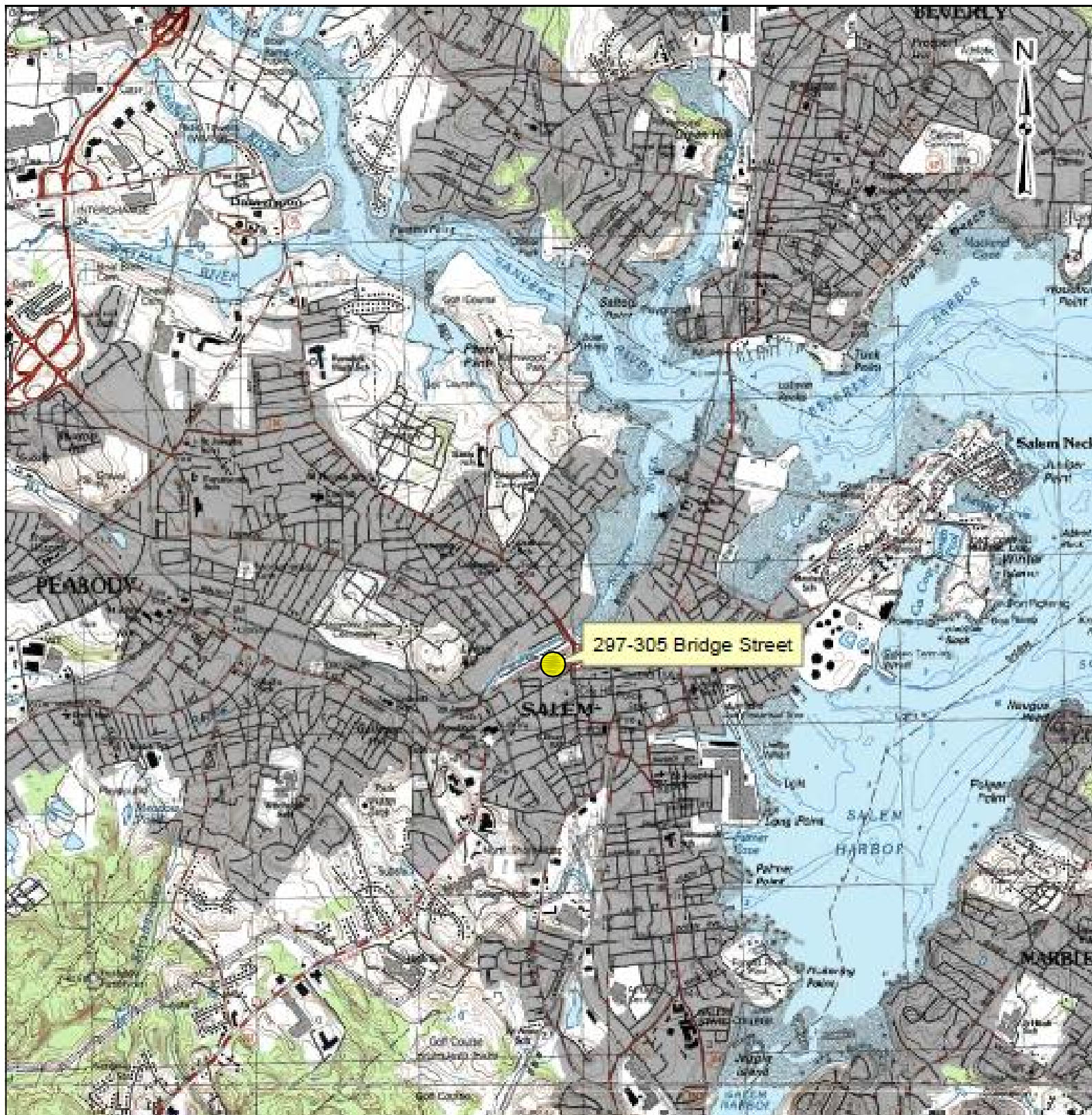
| Activity | Anticipated Completion Date |
|--|-----------------------------|
| Completion of Soil and Groundwater Management Plan | October 2015 |
| Geotechnical Soil Borings | November 2015 |
| RAM Status Report | February 2016 |
| Installation of Building Foundation Components | April 2016 |
| RAM Status Report | August 2016 |
| Above-Grade Building Construction | December 2016 |
| RAM Completion Report | February 2017 |

7.0 LICENSED SITE PROFESSIONAL OPINION (310 CMR 40.0444(1)(g))

This RAM Plan was prepared by AEG in accordance with the applicable requirements specified in the MCP 310 CMR 40.0444, and is based upon investigation activities conducted by AEG personnel as well as information provided by F.W. Webb and W&S.

The Licensed Site Professional of record for the RAM activities at the Site is Felix A. Perriello (LSP No. 8110). The LSP signature and seal is provided in the LSP certification statement on the accompanying BWSC-106 transmittal form.

FIGURES



NOTES:

Approximate
Site Location:



FIGURE 2 - SITE LOCUS MAP
297-305 BRIDGE STREET
SALEM, MA
DERIVED FROM:
WESTON & SAMPSON MASSDEP SARSS PROJECT

Date: 7/27/2015

Drawn by: DTC

Checked by: FAP

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:

FORMER UNIVERSAL STEEL & TRADING COMPANY
297-305 BRIDGE STREET SALEM, MA
3-000011726

NAD83 UTM Meters:

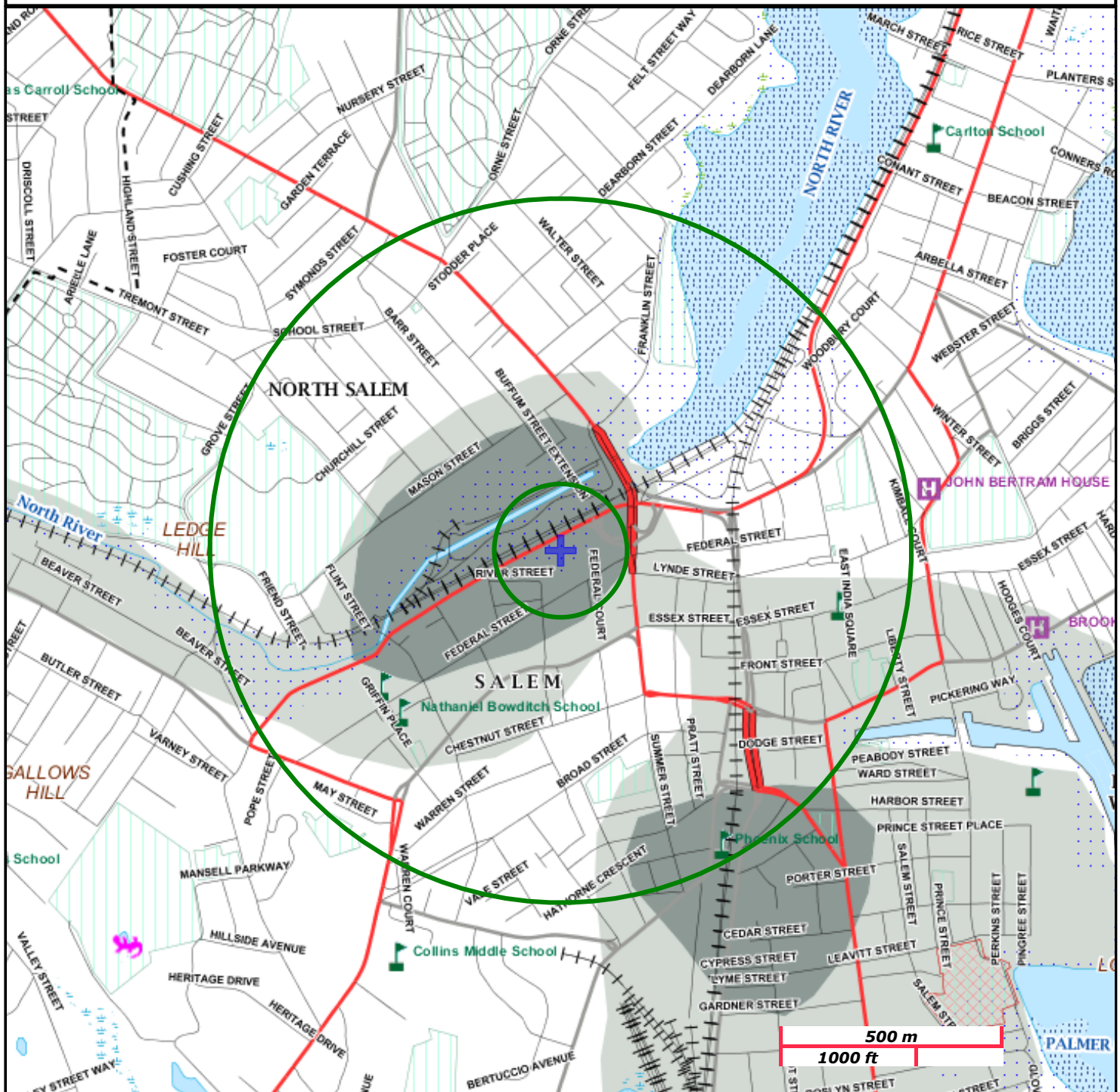
4709597mN, 343876mE (Zone: 19)
September 11, 2015

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<http://www.mass.gov/mgis/>.



MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, I/WPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert, Potential

Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com



F.W. WEBB SALEM
CONCEPT PERSPECTIVE

MARCH 16, 2015



VIEW FROM BRIDGE STREET

Figure 4



APPENDIX A

Geotechnical/Environmental Considerations 9-30-15



▲ Geotechnical Engineering ▲ Environmental Studies ▲ Materials Testing ▲ Construction Monitoring ▲

September 30, 2015

Mr. Andy McBeth
Green Leaf Construction, Inc.
98 Adams Street, Suite 105
Leominster, MA 01453

RE: Geotechnical/Environmental Considerations
FW Webb – Salem, MA

Project No.: 215134

Mr. McBeth:

This letter is in response to concerns which have been raised with respect to the proposed development at the site. It is proposed to construct a single-story warehouse with adjoining two-story showroom at the site. The warehouse will encompass 15,875 ft² and the showroom 10,225 ft² for a total footprint of about 26,000 ft². Due to the presence of PCBs and other contaminants in the subsurface, the site has been subject to contaminated material disposal and regulatory management.


It is our understanding that MADEP has raised the following concern:

4. The new building construction will add weight that may mobilize PCBs in the subsurface and cause preferential migration in groundwater. A geotechnical evaluation will need to be conducted to address this issue.

Due to the presence of soft, organic soils we have recommended that the proposed building be placed on an improved subgrade consisting of stone columns. The stone columns would be vibrated through the weak soils and terminate in stiff clay or glacial till. These elements are generally spaced 10 to 15 feet apart and create stiff, competent subsurface sections for foundation and floor slab support. There is little disturbance to the tributary soils and thus the present state of effective stress would be unaltered. This is because the stone columns would respond to the load while the tributary soils remain dormant.

With respect to the creation of a vertical preferential drainage path, there would be none created because the stone columns would terminate in the relatively impervious stiff clay or glacial till. Essentially, the groundwater regime would remain unaltered with the introduction of the stone columns.

GEOTECHNICAL SERVICES, INC.



Harry K. Wetherbee, P.E.
Principal Engineer

▲ 55 North Stark Highway Weare NH ▲ 603/529/7766 ▲ FAX 603/529/7080

▲ 30 Newbury Street, Boston, MA ▲ 617/861/2617

APPENDIX B

Technical Memorandum (PCB Fate & Transport) 9-30-15

Technical Memorandum

DATE: September 30, 2015

TO: Mr. Andy McBeth
Green Leaf Construction

FROM: Joel Walcott, PE
Felix Perriello, CHMM, CPG, LSP, LEP

PROJECT: 297-305 Bridge Street, Salem, Massachusetts

Alliance Environmental Group, Inc. (AEG) has prepared this Technical Memorandum for the above-referenced location (the Site) in response to a concern raised by Ms. Kim Tisa of the United States Environmental Protection Agency (USEPA) during the May 5, 2015, meeting between Green Leaf Construction, Weston & Sampson, the City of Salem, Massachusetts Department of Environmental Protection (MassDEP), AEG and USEPA. Ms. Tisa inquired as to whether the added weight of the proposed new F.W. Webb Company (F.W. Webb) building at the Site could mobilize polychlorinated biphenyls (PCBs) and cause the preferential migration of PCBs in groundwater.

On September 11, 2015, Geotechnical Services Inc. (GSI) of Boston, Massachusetts prepared an opinion letter entitled “Geotechnical/Environmental Considerations.” The opinion letter indicated that the stone columns to be used to support the proposed building would result in little disturbance to surrounding tributary soils, and that the groundwater regime would remain unaltered by the introduction of these columns and the subsequent building installation. This memorandum, which focuses on the fate and transport of PCBs in the environment, has been prepared to supplement the GSI letter and further address Ms. Tisa’s initial query.

PCBs comprise a class of 209 organic chemicals that were commonly used for various applications from approximately 1929 until 1979, PCB manufacturing, processing, distribution and use was banned in the United States¹. The basic chemical structure of PCBs includes two benzene rings (the biphenyl), and between one and ten chlorine atoms substituted on each of the benzene molecules. PCBs vary in consistency from thin, light-colored liquids to yellow or black waxy solids, and exhibit a range of toxicity levels. The exact fate and transport of PCBs is directly related to the specific structure of the individual PCB compounds. In general, however, PCBs do not readily break down once

¹ <http://www3.epa.gov/epawaste/hazard/tsd/pcbs/pubs/about.htm>

released to the environment and are therefore slow to degrade. They persist because the organisms that naturally degrade such wastes are unable to break the strong bonds made between the chlorine atoms and the biphenyl structure.

PCBs are nonpolar, are heavier than water, and have relatively low vapor pressures (10^{-12} to 10^{-4} atmospheres) and Henry's Law constants (between 0.01 and 1). As such, PCBs are only slightly soluble in water². Additionally, when compared to other chemicals, PCBs have very high K_{OW} (octanol/water partition coefficient) values and therefore exhibit a strong affinity to organic carbon. These characteristics inhibit the transport of PCBs from soil to groundwater or surface water, and cause them to bind strongly to soils. In groundwater, a small portion of PCBs will dissolve and can potentially be transported in suspension, but the majority will bind to organic particles and soils/sediments. The finer the soil or sediment particles, the more easily PCBs are adsorbed.

Based on the above information, and in consideration of the planned building construction methods (i.e., the stone columns), AEG does not expect that the preferential migration of PCBs in groundwater will occur as a result of either the construction or the added weight of the proposed F.W. Webb building at the Site. As indicated in the geotechnical opinion letter provided by GSI, there will be little disturbance to the tributary soils and thus the present state of effective stress would be unaltered due to the fact that the stone columns would respond to the load while the tributary soils remain dormant. In addition, since PCBs exhibit a strong affinity to organic carbon, migration in groundwater will be unlikely.

² Erickson, M.D. (1997). Analytical Chemistry of PCBs. New York: Lewis Publishers

APPENDIX C

F.W. Webb Statement of Financial Ability



100 Jefferson Boulevard
Suite 220
Warwick, RI 02888
401.732.7600
Fax 401.732.7670

September 29, 2015

Mr. Robert Mucciarone
F.W. Webb Company
160 Middlesex Turnpike
Bedford, Massachusetts 01730

RE: Statement of Financial Ability
Former Universal Steel & Trading Company Site
297 – 305 Bridge Street
Salem, Massachusetts 01970
Release Tracking Number 3-11726

Dear Mr. Mucciarone:

In accordance with the requirements of Sections 310 CMR 40.0042(5) and 40.0444(1)(h) of the Massachusetts Contingency Plan (MCP), your signature hereby certifies that F.W. Webb Company has sufficient financial resources to manage excavated materials in excess of 1,500 cubic yards of soil in the manner and time frames specified in the MCP 310 CMR 40.0030 (Management of Remediation Waste).

Very truly yours,
Alliance Environmental Group, Inc.

A handwritten signature in blue ink, appearing to read "F. A. Perriello", is written over a horizontal line.

Felix A. Perriello, CHMM, CPG, LSP, LEP
Principal Scientist

Authorized Signature
Mr. Robert Mucciarone

A handwritten signature in blue ink, appearing to read "Robert Mucciarone", is written over a horizontal line.

Date



APPENDIX D

Copies of Public Notification Letters



100 Jefferson Boulevard
Suite 220
Warwick, RI 02888
401.732.7600
Fax 401.732.7670

October __, 2015

Mr. Larry Ramdin, RS/REHS, CHO, CP-FS
Health Agent
City of Salem Board of Health
120 Washington Street (4th Floor)
Salem, Massachusetts 01970

RE: ***Public Involvement Notification***
Former Universal Steel & Trading Company
297-305 Bridge Street
Salem, Massachusetts 01970
Release Tracking Number 3-11726

Dear Mr. Ramdin:

Pursuant to Section 310 CMR 40.0444 of the Massachusetts Contingency Plan (MCP), we hereby notify you that a Release Abatement Measure (RAM) Plan has been submitted to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced location (the "Site"). The RAM Plan, which is associated with proposed Site construction activities, has been uploaded to the MassDEP online database and can be reviewed using this link: <http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=3-0011726>.

RAM activities (pre-construction soil borings, etc.) will commence in autumn 2015, and the RAM is expected to conclude prior to spring 2017.

Please contact the undersigned at 401-732-7600 if you have any questions regarding this submittal.

Very truly yours,
Alliance Environmental Group, Inc.

Felix A. Perriello, CHMM, CPG, LSP, LEP
Principal Scientist

Joel Walcott, PE
Senior Engineer





100 Jefferson Boulevard
Suite 220
Warwick, RI 02888
401.732.7600
Fax 401.732.7670

October __, 2015

Honorable Kimberley Driscoll
Mayor - City of Salem
Salem City Hall
93 Washington Street
Salem, Massachusetts 01970

RE: ***Public Involvement Notification***
Former Universal Steel & Trading Company Site
297-305 Bridge Street
Salem, Massachusetts 01970
Release Tracking Number 3-11726

Dear Mayor Driscoll:

Pursuant to Section 310 CMR 40.0444 of the Massachusetts Contingency Plan (MCP), we hereby notify you that a Release Abatement Measure (RAM) Plan has been submitted to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced location (the "Site"). The RAM Plan, which is associated with proposed Site construction activities, has been uploaded to the MassDEP online database and can be reviewed using this link: <http://public.dep.state.ma.us/fileviewer/Rtn.aspx?rtn=3-0011726>.

RAM activities (pre-construction soil borings, etc.) will commence in autumn 2015, and the RAM is expected to conclude prior to spring 2017.

Please contact the undersigned at 401-732-7600 if you have any questions regarding this submittal.

Very truly yours,
Alliance Environmental Group, Inc.

Felix A. Perriello, CHMM, CPG, LSP, LEP
Principal Scientist

Joel Walcott, PE
Senior Engineer



APPENDIX E

Copy of Letter of Agency



100 Jefferson Boulevard
Suite 220
Warwick, RI 02888
401.732.7600
Fax 401.732.7670

October __, 2015

Mr. Robert Mucciarone
F.W. Webb Company
160 Middlesex Turnpike
Bedford, Massachusetts 01730

RE: Letter of Agency
Former Universal Steel & Trading Company Site
297 – 305 Bridge Street
Salem, Massachusetts 01970
Release Tracking Number 3-11726

Dear Mr. Mucciarone:

As operator of the above referenced property (hereinafter, "Site") and in accordance with Section 310 CMR 40.0009(2) of the Massachusetts Contingency Plan (MCP), your signature hereby authorizes Alliance Environmental Group, Inc. (AEG) to act as agent for the purposes of notifications, reporting, discussions, and negotiations with the Massachusetts Department of Environmental Protection (MassDEP) regarding releases of oil and/or hazardous materials (OHM) at the Site.

Very truly yours,
Alliance Environmental Group, Inc.

Felix A. Perriello, CHMM, CPG, LSP, LEP
Principal Scientist

Authorization Signature
Mr. Robert Mucciarone

Date

