

**OPERATION AND MAINTENANCE PLAN
NORWOOD PCB SUPERFUND SITE
NORWOOD, MASSACHUSETTS**

PREPARED ON BEHALF OF:

The Norwood PCB Superfund Site Remediation Trust
Norwood, Massachusetts

AMENDED:

June 2010
To Reflect Site Redevelopment by
JDN Real Estate – Norwood, LLC

PREPARED BY:

GZA GeoEnvironmental, Inc.
Norwood, Massachusetts

June 2010
File No. 18605.00

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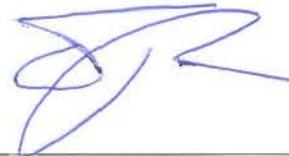


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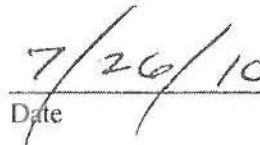


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1.00 INTRODUCTION



In November 2004, GZA GeoEnvironmental Inc. (GZA) prepared an Operation and Maintenance (O&M) Plan (that was subsequently approved by the United States Environmental Protection Agency (EPA)), for the PCB Superfund Site (the "Site") in Norwood, Massachusetts. That Plan described certain O&M activities to be performed at the Site in its new current state of "interior redevelopment" (i.e., following completion of revised construction prior to the completion of substantial redevelopment. This Operation and Maintenance (O&M) Plan has been prepared for the revised Site to reflect conditions following recent substantial completion of redevelopment activities. For the purposes of this Plan, O&M activities are defined as those activities that are required to meet the requirements of the Statement of Work (SOW) and maintain the effectiveness of the Settling Defendants' Remedial Action (RA) performed at the Norwood PCB Superfund Site (the Site) in accordance with sections IV F 1 and 3 of the SOW.

Section IV of the SOW requires that the Settling Defendants cooperate with both the EPA and future or current owners of the Hurley property to permit the productive redevelopment of the Site; however, the Settling Defendants are not required to pay for, implement, or maintain any changes to the remedial activities made to accommodate proposed redevelopment. To address the remedial action requirements of the SOW, GZA initially submitted draft site design plans to EPA on February 10, 1997. Following the submittal of these plans, on July 1, 1997, GZA, but not the Settling Defendants, entered into a construction agreement with 921, Inc. to perform certain additional Site construction activities, including: regrading of the Cap and Cover areas, grading and filling of the non-Cap/non-Cover areas, installation of underground electrical utilities, installation of retaining walls, installation of drainage structures and detention basins, and asphalt paving (outside of the cap area). These changes to initial draft site design plans are presented in a Drawing prepared by Toomey-Munson and Associates (TMA) dated March 18, 1997 with revisions through May 1998, and were incorporated into the final site design plans dated April, 1997.

Due to potential changes in the redevelopment of the Site, 921, Inc. directed GZA not to pave non-Cap areas (including the Cover areas). Subsequent to GZA's substantial completion of the remedy work, 921, Inc. paved portions of the eastern non-Cap/non-Cover area to enhance vehicle parking and storage operations, and satisfy the Massachusetts Department of Environmental Protection's (Mass DEP) Stormwater Management Policy requirements. Pavement was extended to the drainage structures located on the eastern side of the property and temporary berms were installed. This work was designed by TMA and approved by the EPA and is documented in the plan entitled "Plan for Proposed Pavement and Berm Installation, revised 8/14/00" prepared by TMA. This work was completed in August, 2000 and was inspected by USACE and, according to EPA, found to be acceptable.

Under the SOW, the Settling Defendants are responsible for remedy O&M requirements; all other O&M requirements are the responsibility of others. We have, therefore, identified which items are the Settling Defendants responsibility and which are the responsibility of others.



2.00 BACKGROUND

2.10 SITE LOCATION AND DESCRIPTION

The Norwood PCB Superfund Site (the Site), as defined by the 1989 Record of Decision (ROD) which was subsequently amended on May 17, 1996, encompasses approximately 26 acres in an industrial/commercial area in Norwood, Massachusetts. The Site extends north to Meadow Brook, east to U.S. Route 1 and the Dean Street Access Road, south to Dean Street, and west to Pellana Road, and includes the portion of Meadow Brook located between the Hurley Property¹ and the Dean Street culvert. The Site consists of several parcels of land including the Hurley property, residential properties to the north of the Hurley property, several properties on Kerry Place (excluding Lots 12 and 13), and adjacent parking areas and fields.

The Hurley property (referred to as the “Property” or “on-Property”) comprises approximately 8.6 acres of the Norwood PCB Superfund Site. The Property, formerly occupied by the Grant Gear building and adjacent paved parking areas, was used from the 1940’s through 1979 to manufacture electronic equipment and from 1979 to 1994 to manufacture gears.

Investigations performed on Site between 1983 and 1996 indicated elevated levels of polychlorinated biphenyls (PCBs) in several media on the Site. They are as follows:

- Surficial soils on-Property;
- Subsurface soils on-Property;
- Sediments in the adjacent Meadow Brook; and
- Portions of the former Grant Gear building.

In addition, the investigations identified a localized area on the west side of the Property contaminated with 1,2,4-trichlorobenzene (1,2,4-TCB) in the saturated zone soils. The identified PCB and 1,2,4-TCB contamination was addressed under the RA performed on Site.

In May of 2008, construction began for retail development on the property and was substantially completed in November of 2008. The development consists of a one-story retail building in the northern portion of the property, and a one-story retail building in the eastern portion of the property. Two one-story restaurants in the southern portion of

¹ The subject property, formerly owned by John Hurley, has been sold since work began at the Site; however, for consistency with previously submitted reports, we will continue to refer to the subject property as the Hurley property.



the Site (on the former Reardon property) are proposed, but have not yet been constructed. Figure 1 shows a plan view of the new buildings, Cap areas and monitoring well locations. The retail buildings are located in the Cover and non-Cap/Cover areas. The restaurants are proposed to be located in the non-Cap/Cover area. The Cap area and portions of the Cover and non-Cap/Cover areas have been paved for parking. Landscaping for the Cover area utilizes an essentially impermeable root barrier and drainage system which will restrict vegetation roots from contacting the Cover area material and drain water from within the landscaped area to the storm drain system. The Cap in place prior to construction was not altered or breached. New pavement placed over the Cap is separated from the Cap with a marker barrier and drainage layer. This work is described in more detail in the EPA-approved Work Plan for Redevelopment, dated November 2006 (along with Supplemental Submittal #1 dated January 2008, and Supplemental Submittal #2 dated March 2008).

2.20 REMEDIAL ACTION

The amended ROD for the Site (dated May 17, 1996) requires performance of the following activities to mitigate risk associated with the identified contamination in soil, sediment and building materials:

- Demolition of the Grant Gear building with on-Site and off-Site disposal and recycling of building materials (completed January 1997).
- Removal of certain contaminated sediments from Meadow Brook and the Dean Street culvert, with excavated sediments consolidated on-Property (completed August 1997).
- Excavation and on-Property consolidation of certain contaminated soils from the Site (completed December 1997).
- Capping and covering certain on-Property areas. An asphalt cap (the “Cap”)² has been placed over certain areas containing PCB-impacted soils and building materials, and a cover (the “Cover”) has been placed over areas excavated during the soil phase of the RA. As specified in the SOW, the Cap consists of a geotextile marker layer overlain by six inches of crushed stone overlain by 4.5 inches of an asphalt binder course overlain by 1.5 inches of an asphalt wearing course. The Slab cap consists of the former Grant Gear building concrete slab overlain by 2.5 inches (or more) of asphalt binder and 1.5 inches (or more) of asphalt wearing course; crushed stone may or may not be present between the slab and the asphalt. The cap surface recently had new pavement, drainage layer, and marker barrier placed over it, as described in Section 2.10. The Cover consists of a geotextile marker layer overlain by 12 inches of crushed stone except as modified by buildings, landscaping, and pavement.

² Another type of cap, a slab cap (the “Slab Cap”) was placed over portions of the former Grant Gear Building slab in areas where contaminated fill was not placed. For the purposes of this document, the term “Cap” refers to either Cap or Slab Cap areas, unless specifically noted.

- Closure of an on-Property underground storage tank (UST). A second UST identified during the RA was also closed.



GZA commenced remedial activities on the Hurley property in late 1996. The first phase of the RA included demolition of the Grant Gear building, consolidation and containment of selected contaminated building materials within the subsurface boiler room and placement of a structural cap over the boiler room. This phase also included stockpiling of certain materials for eventual placement beneath the asphalt Cap and Cover areas to be constructed during the Soil/Brook Remediation phase of the RA at the Site. A significant portion of the Soil/Brook Remediation phase of work was conducted in 1997. The activities completed during the 1997 phase of the Soil/Brook Remediation work included excavation of Meadow Brook sediments to the grades established in the Army Corps of Engineers' (ACOE) brook restoration plans and specifications dated March 1996, excavation of on-Property PCB-impacted soils, and consolidation of excavated materials on-Property. Construction of the asphalt Cap and dense grade Cover was completed during the summer of 1998 and concluded the construction portion of the RA. Punch list items were completed between July 30, 1998 and May 2, 2002. As previously discussed, at 921, Inc.'s direction and with EPA's approval, certain Redevelopment activities, including the installation of a Cape Cod berm, and the installation of asphalt paving in Cover and non-Cap/non-Cover areas were not performed by GZA. In order to satisfy the MADEP's Stormwater Management Policy requirements, some redevelopment activities were subsequently performed by the Site owner – a portion of the asphalted area was extended to tie into nearby catch basins and berms were installed. The design for this work was prepared by TMA and was reviewed and approved by the USEPA. The work was completed in August, 2000 and was inspected by the USACE and, according to USEPA, found to be acceptable.

More recently, as described in Section 2.10, redevelopment activities including the construction of two buildings and regrading have now been substantially completed at the Property.

2.30 PURPOSE

The purpose of this O&M Plan is to outline the actions which will be taken to maintain the long-term effectiveness of the RA. This O&M Plan presents a description of Cap inspection and maintenance activities, potential operational problems, the operational safety plan, necessary equipment, record keeping procedures and a monitoring well maintenance program. The O&M program has been designed to provide assurance that the completed RA continues to achieve the Performance Standards established in Section IV of the SOW.

2.40 RESPONSIBLE ENTITIES

This O&M Plan specifies activities to be performed during the O&M phase of the remedial action by different entities. These entities are:



- The Settling Dependents who have the overall responsibility for implementation of the O&M requirements under the SOW. However, as indicated above, they are not required to pay for, implement or monitor any changes to the remedial activities made to accommodate proposed redevelopment. GZA has been contracted to perform certain O&M responsibilities of the Settling Defendants under the SOW.
- The Property Owner; currently 921, Inc, who has agreed to certain O&M responsibilities as described in the communications contained in Appendix B.
- The Property Manager who performs certain operations associated with the redevelopment for the Property Owner.

3.00 CAP/COVER/SLAB CAP INSPECTION AND MAINTENANCE

As outlined in the SOW, the purpose of the Cap and Cover at the Norwood PCB Superfund Site is to limit direct exposure to contaminated³ material on-Site.

The following Cap and Cover inspection and maintenance program has been developed to monitor and maintain the Cap's effectiveness in achieving the Performance Standards. This program includes inspection of the asphalt over Cap and Slab Cap areas. Maintenance of areas outside of the Cap and Cover is not required to ensure the protectiveness of the RA. Therefore, O&M of paved and non-paved areas outside of the Cap and Cover areas is not addressed and will not be performed.

3.10 "COMPLETED REDEVELOPMENT" REQUIREMENTS

As indicated above, the Property Owner recently substantially completed the redevelopment features identified in the EPA-approved Work Plan for Redevelopment. Figure 1 presents the Redevelopment Plan dated November 2008, which documents the new construction, paving, and new monitoring well locations. Specifically, these activities included paving in the Cap/Cover areas, eliminating the temporary Cape Cod berms that were installed between the Cover areas and the Cap, and the addition of two, one-story retail buildings in non-Cap/non-Cover and Cover areas of the property.

³ As used in this report, "contaminated" refers to material with PCB concentrations exceeding the site-specific clean-up goals. "Uncontaminated" refers to material with PCB concentrations below the site-specific clean-up goals.

The following sections describe O&M activities for the Cap and Cover now that the redevelopment has been completed.

3.10.1 Routine Inspection



Semi-annual visual inspection of the Cap and Cover will be conducted in the spring and fall following seven day prior notice to EPA. The configuration of the Cap and Cover is shown in Figure 1. The inspections will include a walkover of the Cap and Cover, and visual observation of the condition of 1) the asphalt that has been placed over the Cap and 2) the asphalt and building slabs that have been placed over the Cover, with particular attention to differential settlement, asphalt or slab cracking, and asphalt surface appearance, specifically observation of potholes or breaches with visual evidence of breakthrough to the marker barrier/drainage layer, which would then require further evaluation as described in Section 3.10.2 and potentially repairs in accordance with the minimum standards described in Section 3.10.3. If the results of visual inspection indicate significant differential settlement may have occurred in one or more areas of the Cap or Cover, this settlement will be assessed either through the use of a straight edge or level and rod, depending on the areal extent of the settlement. Irregularities and/or settlement warranting physical measurement will be documented on a master plan and in the maintenance log and the Property Owner will be notified, who will be responsible for making any required repairs. The visible floors and foundation walls of the buildings will be visually inspected to assess for evidence of differential settlement.

The asphalt berms and granite curbing will be inspected to confirm they are redirecting drainage to drainage structures.

3.10.2 Normal Maintenance

Care must be taken to limit damage to the Cap and Cover. Only normal vehicle traffic (i.e., over the road and/or rubber-tired vehicles) is permitted on the Cap area. Traffic, equipment, or materials which may result in localized penetration or deformation of the Cap is not permitted.

We understand that snow plowing will continue to be performed by the Property Owner as part of ongoing operations at the Property. During snow plowing of Cap and Cover areas, surface features, such as monitoring well vaults, granite curbing, or edges of asphalt, should be flagged and protected by the Property Owner. To the extent feasible, snow plow blades must be adjusted to eliminate grounding of the blade edge and damage to the subsurface structures and the asphalt. Damaged subsurface structures or asphalt areas should be repaired by the Property Owner in the manner described in Section 3.10.3⁴.

⁴ During the semi-annual inspections, if damage to the Cap or Cover attributable to snow plowing is identified, the condition will be reported to the EPA and Property Owner (who will be responsible for making the required repairs).



Normal cracking in the asphalt above the Cap is expected to occur with time⁵. Routine “hairline” cracks will not require sealing or repair. Deeper cracks, which penetrate into the new asphalt portion above the Cap will be documented and brought to the attention of the Property Owner, who will perform, or have the Property Manager perform, repairs in accordance with the minimum standards described in Section 3.10.3. Cracks which are not repaired by the Property Owner (or, on his behalf, by the Property Manager) and which have the potential to extend into the underlying Cap shall be repaired by GZA in accordance with the procedures in Section 3.10.3.

3.10.3 Crack Repair Procedures

Any cracks identified via the visual inspection described in section 3.10.1 and 3.10.2 would be further evaluated and repaired, if necessary, following the following procedures:

- Individual cracks less than ¼ inch in width or less than twelve inches in length will not require sealing or repair;
- A network of cracks less than ¼ inch in width will be swept or cleaned using high pressure air and sealed using a standard asphalt-emulsion crack sealant in accordance with the manufacturer’s recommended procedure for application;
- Cracks between ¼ and 1 inch in width and greater than twelve inches in length will be swept or cleaned using high pressure air and sealed by applying a hot modified asphalt into the cracks; and
- Cracks larger than one inch in width will be repaired in accordance with Section 3.10.4.

3.10.4 Potential Operational Problems

During the life of the remedial action, settlement may occur in the Cap and/or Cover. Uniform settlement over relatively large areas should not affect the integrity of the Cap and Cover and will, therefore, not be addressed. Localized settlement which results in significant cracking, sinkholes, or abrupt changes in grade will be addressed. In the event of such significant differential settlement of the Cap, portions of the Cap which have settled will be cut and hot patched. This will be completed by removing (either by milling to a depth of competent asphalt or sawcutting through the full depth of asphalt and excavating the damaged section) the top layer of the asphalt to a square encompassing the depression, applying a surface tack coat to the edges of the affected area, and replacing the asphalt to match adjacent grades. Hot patch materials will conform to the Massachusetts Highway Department's Standard Specifications for Highways and Bridges. If significant settlement occurs in a localized portion of the Cap, asphalt and drainage layer over the Cap may be completely removed from the affected area, and the area and repaired with like materials. In the event of significant differential

⁵ Normal wear of the asphalt in the Cover area is also expected. However, since the asphalt in these areas is not part of the Cover, it will not be maintained as part of this Plan.

Cover settlement, the affected portion of the Cover will be filled to grade with dense graded crushed stone if not in a building area. If a significant differential settlement occurs in a building foundation, the Property Owner will be notified who (or, on his behalf, the Property Manager) will perform the necessary repairs.



Significant settling of the Cap or Cover in the vicinity of monitoring wells or drainage structures will be corrected⁶. Settlement of greater than 0.5 inches will be repaired by either raising the grade in the vicinity of the well (via an asphalt patch) or by lowering or raising the well box (with appropriate adjustment to the PVC riser pipe) or drainage structure.

3.10.5 Equipment

The following equipment is required for routine inspection and maintenance at the Site:

- Flat steel ruler;
- O&M log/record Site plan;
- Laser level and rod;
- Surveyor's tape;
- Camera;
- Appropriate health and safety personal protective equipment, as discussed in the Health and Site Safety Plan; and
- O&M Checklist for Completed Redevelopment (see Appendix C).

3.10.6 Recordkeeping

An inspection/maintenance log and record Site plan will be maintained for the Site during the operation and maintenance period. Information, including field observations, conditions and maintenance activities performed, will be recorded in the log.

3.10.7 Notification

GZA will notify EPA as well as the Property Owner of significant planned Cap/Cover maintenance activities at least seven days prior to performing them.

4.00 GROUNDWATER MONITORING

The SOW for the Site requires that groundwater monitoring be conducted to assess the protectiveness and performance of the RA and to demonstrate conformance and compliance with the Performance Standards. The Performance Standards for soil and sediment under the RA are for attaining threshold concentrations of PCBs and 1,2,4-TCB

⁶ Monitoring wells are the only flush-mounted structures in the Cap area.



in these media at the Site. Thus, the focus of the Performance Standards is to mitigate identified concentrations of PCBs in soil and sediment and 1,2,4-TCB in soil.

To monitor the effectiveness of the RA in limiting movement of PCBs to Meadow Brook in the groundwater, a groundwater, surface water and sediment monitoring program to observe PCB levels in different areas of the Site and, as requested by the EPA, to monitor for certain VOCs, is being performed. This monitoring program is described in more detail in the Environmental Monitoring Plan (EMP) for the Site.

5.00 MONITORING WELL MAINTENANCE PROGRAM

Maintenance on wells to be monitored as part of the O&M activities will consist of the following activities:

- Repair or replacement of the protective casings and covers exhibiting normal long-term wear;
- Preparation and painting of above-grade protective casings;
- Repair or replacement of normal asphalt erosion or degradation around each well; and
- Maintenance of permanent well labeling.

For wells that are furnished with flush-mounted road boxes, PVC end caps or expanding plugs will be placed in each riser to limit the surface runoff entering the wells.

In the event that wells are to be abandoned or replaced, decommissioning will be performed. Up to six of the monitoring wells which will be monitored as part of this O&M Plan will be decommissioned upon their elimination from the sampling program and approval for decommissioning by EPA and MassDEP. Refer to Section 2.20 of the EMP for the list of wells to be monitored as part of the O&M Plan. Well decommissioning will consist of pressure grouting the wells and filling the roadboxes with grout (grouted roadboxes will remain in place). Well decommissioning will be performed in accordance with the Commonwealth of Massachusetts Department of Environmental Protection *Standard References for Monitoring Wells, Section 4.6, Decommissioning of Monitoring Wells*, dated January 1991.

The following monitoring well maintenance activities should be performed by the Property Owner (or, on his behalf, by the Property Manager) during operations:

- Damage to wells or roadboxes as a result of non-routine vehicle traffic or snow plowing shall be repaired.
- When vehicles are parked on the Site, regular inspections should be performed to confirm that leaking vehicle fluids do not enter monitoring wells.



- If snow plowing is performed, plowed snow should not be stockpiled on top of monitoring wells or in areas which limit access to the monitoring wells.
- Access to monitoring wells for the purposes of performing sampling activities should not be restricted.

6.00 STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE

In order to maintain the effectiveness of the on-Property stormwater management system, the following maintenance and inspection procedures have been compiled. The procedures have been developed in accordance with the Massachusetts Department of Environmental Protection Stormwater Management Policy (MassDEP Policy).

6.10 OVERVIEW OF STORMWATER MANAGEMENT POLICY

The MassDEP Policy sets forth nine performance standards which establish guidelines for stormwater management in Massachusetts. The Policy imposes conditions on both the water quality and quantity problems by establishing a level of required controls through the use of Best Management Practices (BMPs). Summaries of the performance standards are as follows:

1. Do not discharge untreated stormwater directly to wetlands or waters of the Commonwealth;
2. Mitigate post-development peak rates of runoff so that they do not exceed pre-development peak discharge rates;
3. Minimize loss of annual recharge to groundwater (due to creation of impervious surfaces) through use of infiltration measures;
4. Include stormwater management systems that will remove up to 80 percent of the average annual load of total suspended solids (TSS);
5. Use specific BMPs for source reduction for projects with higher pollutant loads;
6. Use approved BMPs for use near critical areas (i.e. public water supplies), designed to treat 1.0 inch of runoff from impervious surfaces;
7. Meet the stormwater performance standards for the redevelopment of previously developed sites;
8. Implement erosion and control measures as part of construction phase; and
9. Implement an operations and maintenance plan.



The DEP presumes that projects meeting the Stormwater Management Standards satisfy regulatory requirements and thus are protective of the environment. When one or more of the Standards cannot be met, an applicant may demonstrate that an equivalent level of environmental protection will be provided.

The intent of the performance standards is to minimize potential stormwater impacts based on two key criteria: the physical site characteristics (e.g. pavement, buildings, grassed areas, detention basins, etc.) and the intended site use (e.g. high traffic areas, vehicle storage lots, re-fueling operations). Based on these criteria, appropriate Best Management Practices (BMPs) can be selected to address both the water quality and quantity issues for each of the three site conditions.

6.20 “POST REDEVELOPMENT” INSPECTION AND MAINTENANCE PROCEDURES

Redevelopment has been substantially completed, as discussed in Section 2.10. The following maintenance items were developed for the current condition at the Site:

- The detention basin and drainage system will be inspected by GZA semi-annually to confirm that the system is operating as intended.
- At least twice a year, unwanted vegetation as well as accumulated trash and debris shall be removed from the detention pond areas by the Property Owner. At least twice a year the upper-stage side slopes, embankment, and emergency spillway shall be mowed by the Property Owner. Erosion of the loam and seeded areas of the detention basin, if present, will be repaired by the Property Owner. Erosion of the Rip Rap areas of the detention basin, if present, will be repaired by GZA. Sediment shall be removed from the basin by the Property Owner (or, on his behalf, the Property Manager) as necessary, and at least once every 10 years.
- If snow plowing is performed, the following requirements apply to the entity responsible for the plowing.
 - Plowed snow shall be placed in pervious areas to allow it to slowly infiltrate;
 - Sediments shall be removed from snow storage areas every spring;
 - Ponding in snow storage areas shall be eliminated. If ponding is the result or cause of localized settlement, appropriate grade adjustments shall be made.
- Only limited sanding shall be employed for ice control on the Cap and Cover. Excessive sanding or salt shall not be employed. At least once per year, in the early spring (following the winter thaw), the areas of the Cap and Cover which were sanded during the prior winter shall be thoroughly swept by the Property Owner (or, on his behalf, the Property Manager) to remove any sand.



- Additional maintenance activities, as agreed to by 921, Inc., in a letter to USEPA dated 12/17/98 (a copy is provided in B) should continue to be performed, as necessary.
- Catch basins shall be inspected semi-annually by GZA and cleaned, as necessary, by the Property Owner (or on his behalf, the Property Manager). All sediments and hydrocarbons should be properly handled and disposed of in accordance with local, state and federal guidelines and regulations.


7.00 OPERATIONAL SAFETY PLAN

A Health and Safety Plan (HASP) has been developed for the Operation and Maintenance and the Environmental Monitoring portions of the Remedial Action for the Site. The HASP establishes health and safety procedures for personnel who will perform activities on-Site associated with these tasks. The health and safety procedures required during O&M activities include use of Level D personal protective equipment.

8.00 REPORTING

An annual report describing monitoring and operation and maintenance activities conducted during the previous year at the Site under this plan will be prepared and submitted to EPA, MassDEP and the Property Owner. The annual reports will include before and after photographs of significant required restoration work (i.e., Cap/Cover repairs) should such work become necessary. The monitoring portion of the report will include a presentation of the data collected for that year, a tabulation of the data, a comparison of the current data with previously collected data and a discussion of the data and observed trends. The operation and maintenance portion of the report will include a summary of observations made during visual inspections of the Cap/Cover and a discussion of any corrective action taken.

9.00 REFERENCES

- 
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- U.S. EPA (1989a). *Declaration of Record of Decision, Remedial Alternative Selection* (September 29, 1989); and *ROD Decision Summary, Norwood PCB Superfund Site, Norwood, Massachusetts*. September 28, 1989. U.S. EPA, Region I.
- GZA (2003) *Final Submittal, Remedial Construction Report, Soil Brook Remediation Phase, Norwood PCB Superfund Site, Norwood, Massachusetts*. File No. 14076.80. September 2003.
- GZA (2009) *Revised Environmental Monitoring Work Plan, Norwood PCB Superfund Site, Norwood, Massachusetts*. File No. 18605.00. March 2009.

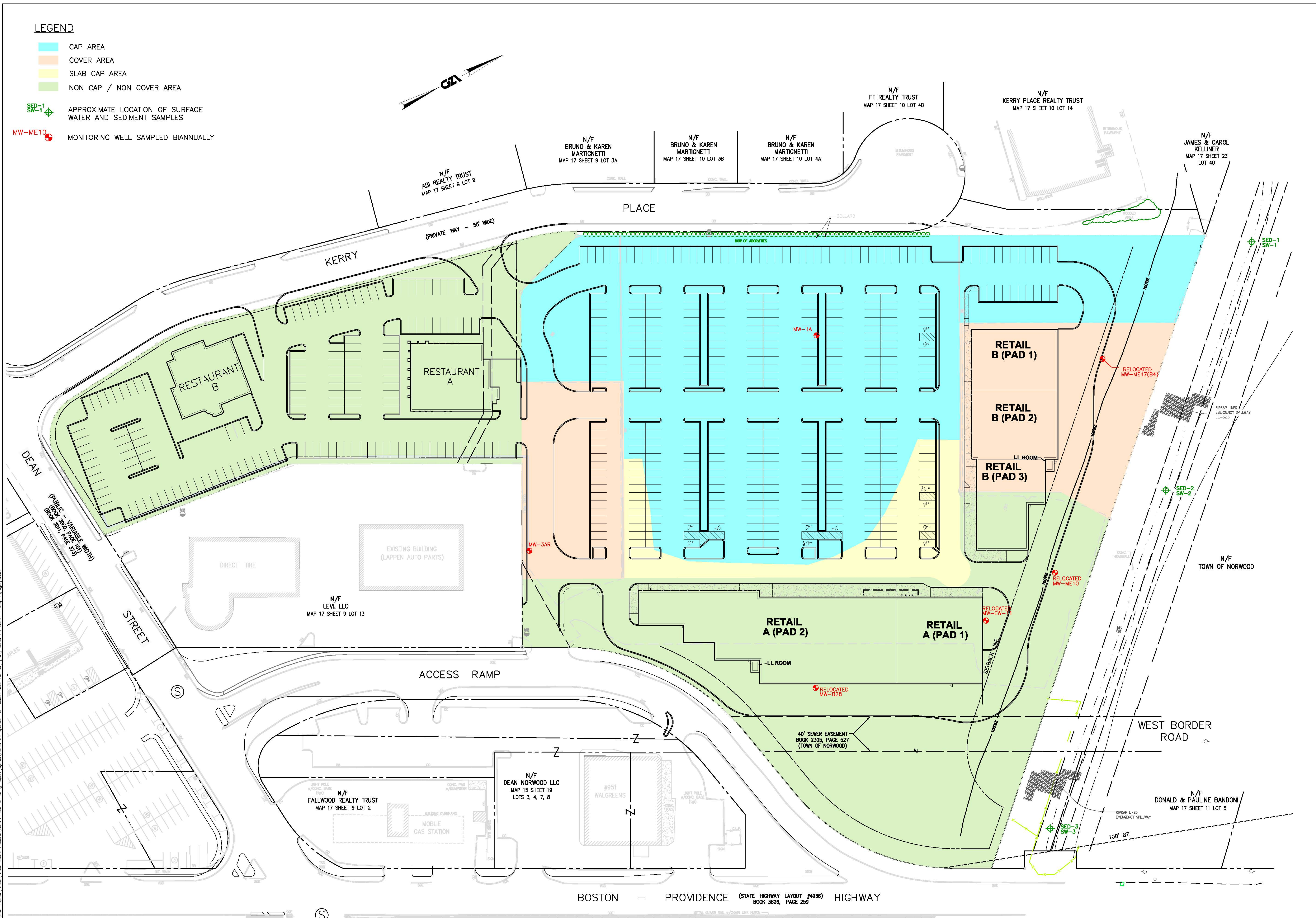
FIGURE

LEGEND

- CAP AREA
- COVER AREA
- SLAB CAP AREA
- NON CAP / NON COVER AREA

SW-1 APPROXIMATE LOCATION OF SURFACE WATER AND SEDIMENT SAMPLES

MW-ME10 MONITORING WELL SAMPLED BIANNUALLY



NOTES:
 1. THIS BASE MAP WAS DEVELOPED FROM PLANS PROVIDED BY VHB ENTITLED "LAYOUT AND MATERIALS PLAN", DATED OCTOBER 2005.

"THIS DRAWING HAS BEEN PROVIDED IN ELECTRONIC FORM. CLIENT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, GZA DEPARTMENTAL, INC. ("GZA") MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORITY ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS SHALL BE THE ONLY RECORDED COPIES OF GZA'S WORK PRODUCT."
 "ANY USE OF THIS DOCUMENT PRODUCED FROM MAGNETIC MEDIA WITHOUT VERIFICATION OR ADAPTATION BY GZA FOR THE SPECIFIC USE INTENDED WILL BE THE USER'S SOLE RESPONSIBILITY AND WITHOUT RISK OR LIABILITY TO GZA DEPARTMENTAL, INC. BY ACCEPTING THIS DOCUMENT IN MAGNETIC MEDIA FORMAT, CLIENT AGREES TO INDEMNIFY AND HOLD HARMLESS GZA DEPARTMENTAL, INC. FROM ALL CLAIMS FOR DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING FROM THE USE OR MISUSE OF THIS ELECTRONIC DOCUMENT."

SCALE: 1" = 40 FEET			PROJ MGR: MMS DESIGNED BY: MMS OPERATOR: GAS/OCO CHECKER:	DATE: 03-11-2009	REV. NO. 1 DESCRIPTION: POST REDEVELOPMENT	BY: GZA DATE: 03-11-2009	
NORWOOD PCB SUPERFUND SITE OPERATION AND MAINTENANCE PLAN NORWOOD, MASSACHUSETTS				CAP / COVER LAYOUT PLAN			
PROJECT NO. 18605.00				FIGURE NO. 1			

APPENDIX A

**“SV-1 – AS-BUILT EXISTING CONDITIONS PLAN OF LAND”
PREPARED BY VANASSE HANGEN BRUSTLIN, INC.**



Vanasse Hangen Brustlin, Inc.

Transportation
Land Development
Environmental Services

101 Walnut Street, P.O. Box 9151
Watertown, Massachusetts 02471-9151
617 924 1770 • FAX 617 924 2286

Legend

- ⊙ DRAIN MANHOLE
- ⊙ CATCH BASIN
- ⊙ SEWER MANHOLE
- ⊙ ELECTRIC MANHOLE
- ⊙ TELEPHONE MANHOLE
- ⊙ MANHOLE
- ⊙ HANDHOLE
- ⊙ WATER GATE
- ⊙ FIRE HYDRANT
- ⊙ GAS GATE
- ⊙ STREET SIGN
- ⊙ LIGHT POLE
- ⊙ UTILITY POLE
- ⊙ GUY WIRE
- ⊙ GUY POLE
- ⊙ ROOF DRAIN
- ⊙ CLEAN OUT
- ⊙ COULD NOT OPEN
- ⊙ NO PIPES VISIBLE
- ⊙ FIRST FLOOR ELEVATION
- ⊙ MONITORING WELL
- ⊙ EDGE OF PAVEMENT
- ⊙ CONCRETE CURB
- ⊙ VERTICAL GRANITE CURB
- ⊙ SLOPED GRANITE EDGE
- ⊙ BITUMINOUS BERM
- ⊙ GUARD RAIL
- ⊙ CHAIN LINK FENCE
- ⊙ DRAINAGE LINE
- ⊙ SEWER LINE
- ⊙ OVERHEAD WIRE
- ⊙ UNDERGROUND ELECTRIC
- ⊙ TELEPHONE LINE
- ⊙ GAS LINE
- ⊙ WATER LINE
- ⊙ STONEWALL
- ⊙ TREELINE
- ⊙ 100'-FT BUFFER ZONE
- ⊙ 100'-FT RIVERFRONT AREA
- ⊙ 200'-FT RIVERFRONT AREA
- ⊙ LIMIT MEAN ANNUAL HIGH WATER
- ⊙ LIMIT OF BANK
- ⊙ VEGETATED WETLAND BOUNDARY

No.	Revision	Date	Appr.

Designed by	Drawn by	Checked by	
CAD checked by	Approved by		
Scale 1"=40'	Date December 25, 2009		

The Shoppes at Elmway Farms

Norwood, Massachusetts

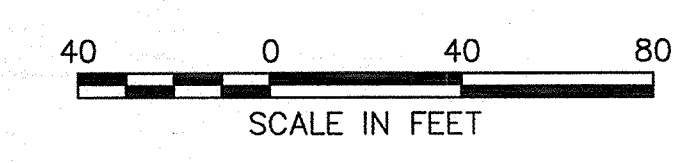
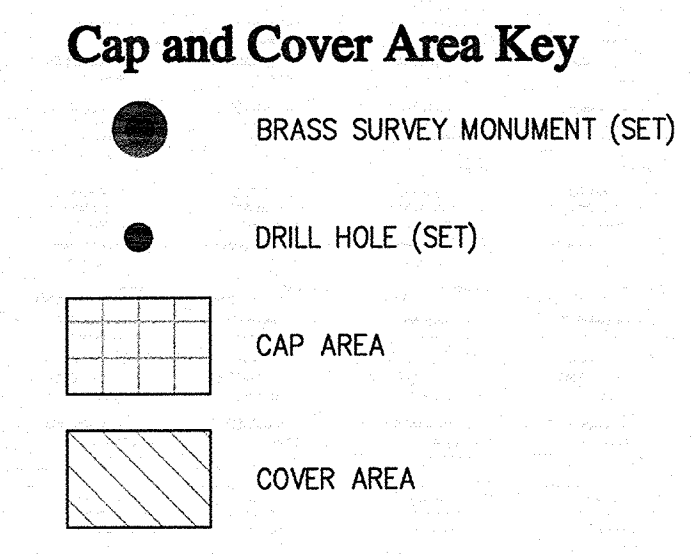
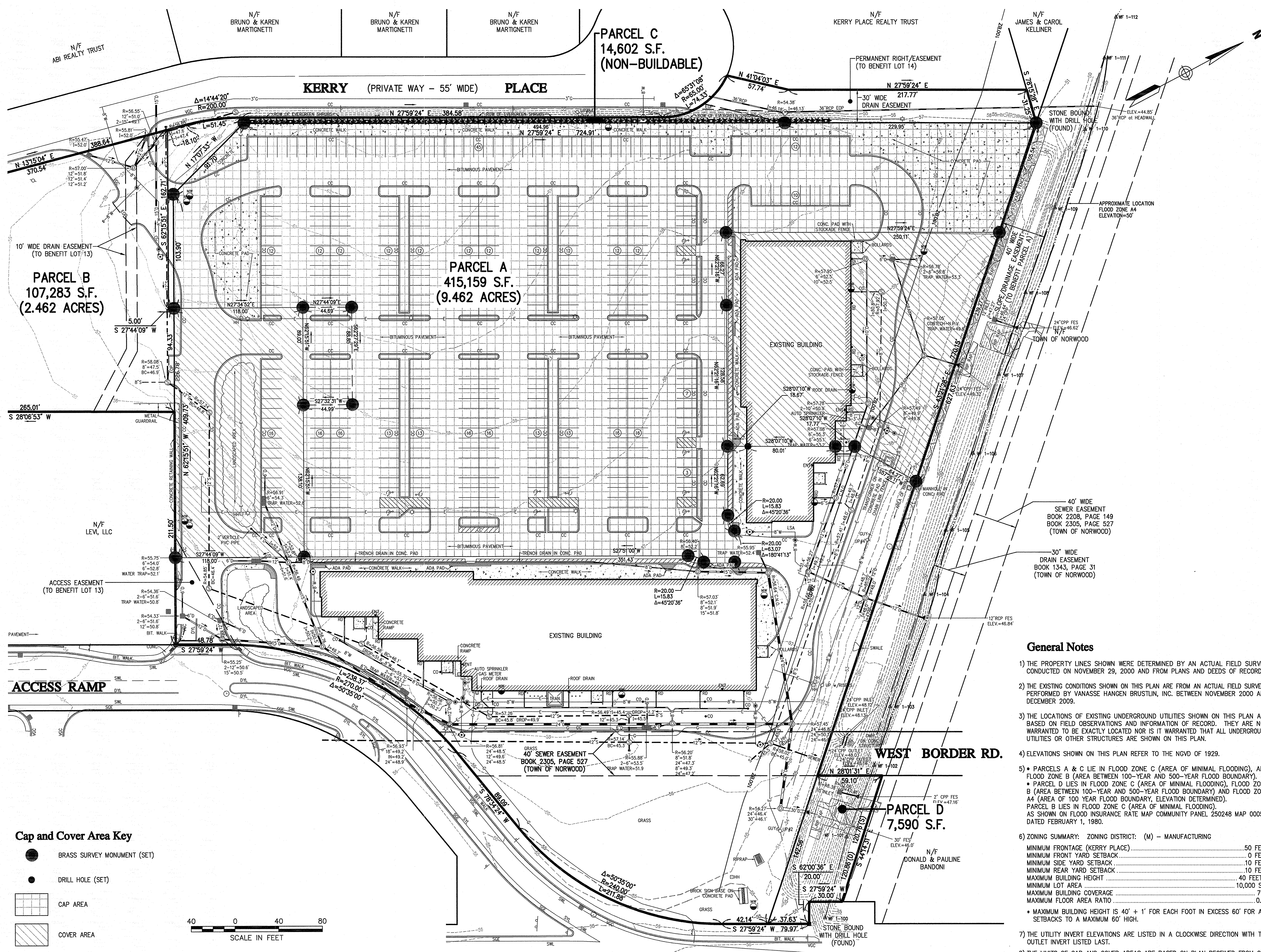
As-Built Existing Conditions Plan of Land



Sv-1

Sheet 1 of 1
Project Number 07058.02

12/29/2009
M:\work\07058.02\cod\plan\0705802AB_Dec09.dwg



General Notes

- 1) THE PROPERTY LINES SHOWN WERE DETERMINED BY AN ACTUAL FIELD SURVEY CONDUCTED ON NOVEMBER 29, 2000 AND FROM PLANS AND DEEDS OF RECORD.
- 2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE FROM AN ACTUAL FIELD SURVEYS PERFORMED BY VANASSE HANGEN BRUSTLIN, INC. BETWEEN NOVEMBER 2000 AND DECEMBER 2009.
- 3) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.
- 4) ELEVATIONS SHOWN ON THIS PLAN REFER TO THE NGVD OF 1929.
- 5) PARCELS A & C LIE IN FLOOD ZONE C (AREA OF MINIMAL FLOODING), AND FLOOD ZONE B (AREA BETWEEN 100-YEAR AND 500-YEAR FLOOD BOUNDARY). PARCEL D LIES IN FLOOD ZONE C (AREA OF MINIMAL FLOODING), FLOOD ZONE B (AREA BETWEEN 100-YEAR AND 500-YEAR FLOOD BOUNDARY) AND FLOOD ZONE A4 (AREA OF 100 YEAR FLOOD BOUNDARY, ELEVATION DETERMINED). PARCEL B LIES IN FLOOD ZONE C (AREA OF MINIMAL FLOODING). AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY PANEL 250248 MAP 00058, DATED FEBRUARY 1, 1980.
- 6) ZONING SUMMARY: ZONING DISTRICT: (M) - MANUFACTURING
 MINIMUM FRONTAGE (KERRY PLACE) 50 FEET
 MINIMUM FRONT YARD SETBACK 0 FEET
 MINIMUM SIDE YARD SETBACK 10 FEET
 MINIMUM REAR YARD SETBACK 10 FEET
 MAXIMUM BUILDING HEIGHT 40 FEET *
 MINIMUM LOT AREA 10,000 S.F.
 MAXIMUM BUILDING COVERAGE 70%
 MAXIMUM FLOOR AREA RATIO 0.67
 * MAXIMUM BUILDING HEIGHT IS 4' + 1' FOR EACH FOOT IN EXCESS 60' FOR ALL SETBACKS TO A MAXIMUM 60' HIGH.
- 7) THE UTILITY INVERT ELEVATIONS ARE LISTED IN A CLOCKWISE DIRECTION WITH THE OUTLET INVERT LISTED LAST.
- 8) THE LIMITS OF CAP AND COVER AREAS ARE BASED ON PLAN RECEIVED FROM GZA GEOENVIRONMENTAL, INC., ENTITLED, "EXISTING CONDITIONS PLAN," DATED JANUARY 8, 2008.

APPENDIX B

8/31/98 LETTER FROM USEPA TO 921, INC.
12/17/98 LETTER FROM 921, INC. TO USEPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

August 31, 1998

Mr. Joseph Laham
921, Inc.
700 Providence Highway
Norwood, MA 02062

RE: Redevelopment Activities at the Norwood PCB Superfund Site

Dear Joe:

The purpose of this letter is to follow up on agreements reached during our July 23, 1998 meeting in which EPA, MADEP, USACE, GZA, and 921, Inc. discussed the consequences of 921, Inc. directing GZA not to fine grade and pave non-cap areas of the Site. This decision was made by 921, Inc. presumably to facilitate redevelopment plans with Target Stores. In addition, several other items shown on government-approved construction drawings (specifically Sheet 11A, which include both remedial and redevelopment components) were identified as not being within the redevelopment contract between 921, Inc. and GZA, and thus would not be performed by GZA.

Although EPA and MADEP want to encourage Site redevelopment, our main priority is to ensure that the remedy is protective of human health and the environment during all phases of redevelopment. As a result of certain areas of the Site not being paved, we are concerned about proper drainage and erosion control up until the Site is finally redeveloped and all drainage structures are operational. In addition, we want assurances that all remedy-related items on government-approved construction drawings will be completed, if not by GZA during remediation, then by 921, Inc. during redevelopment. As agreed at the July 23, 1998 meeting, you will be providing me with a "letter of commitment" confirming and documenting 921, Inc.'s commitment to completing the following activities:

Activities to be completed by 921, Inc. to ensure the remedy is protective:

- installing and maintaining proper erosion control (particularly at the Site entrance, between Lappen's and the Reardon property, and along the dense-graded slope bordering the far end Kerry Place) to prevent off-Site migration
- maintaining asphalt curb and dense grade berm along the detention basin to prevent surface water from entering the detention basin and Meadow Brook without going through drainage structures
- ensuring proper access to the detention basin for maintenance purposes (trespassing on the Kelleher property is not acceptable)

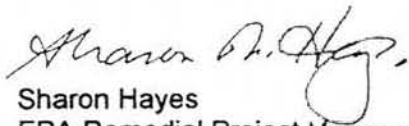
Remedy-related activities to be completed by 921, Inc. according to government-approved construction drawings:

- installing cape cod berm
- planting 6' arborvities or similar at 6' on-center along Kerry Place
- ensuring proper fire hydrant protection in the groundwater treatment plant area
- ensuring proper decommissioning of the fire supply extension along the Dean Street access ramp

These items are also discussed in GZA's FCR #31 which is attached.

Please submit your "letter of commitment" along with an estimated completion date for each item as soon as possible. I may be reached at (617) 573-5709 if you have any questions.

Sincerely,



Sharon Hayes
EPA Remedial Project Manager
Office of Site Remediation and Restoration

cc: Gregg Wilson, Esq.
Antoinette Powell, Esq.
Jay Naparstek, MADEP
Chris Turek, USACE
Patrick Sheehan, GZA

KUTCHIN & RUFO, P.C.
COUNSELLORS AT LAW
175 FEDERAL STREET
BOSTON, MASSACHUSETTS 02110-2210

OF COUNSEL
GREGG J. WILSON, P.C.

DIRECT LINE: (617) 338-6644
FACSIMILE: (617) 338-6622
greggwilson@worldnet.att.net

December 17, 1998

VIA FACSIMILE (617) 918-1291
Ms. Sharon Hayes
Environmental Protection Agency
90 Canal Street
Boston, MA 02114

Re: Response to August 31, 1998 Letter

Dear Ms. Hayes:

At Joseph Laham's direction, I am responding to your August 31, 1998 letter. The letter lists "activities to be completed by 921, Inc. to ensure the remedy is protective." The status of each is as follows:

Activity: "installing and maintaining proper erosion control (particularly at the Site entrance, between Lappen's and the Reardon property, and along the dense-graded slope bordering the far end Kerry Place) to prevent off-Site migration."

Status: Completed. 921, Inc. will continue to monitor the effectiveness of the erosion control to maintain compliance.

Activity: "maintaining asphalt curb and dense grade berm along the detention basin to prevent surface water from entering the detention basin and Meadow Brook without going through drainage structures."

Status: Completed. 921, Inc. will continue to monitor the effectiveness of the surface water control to maintain compliance.

Activity: "ensuring proper access to the detention basin for maintenance purposes (trespassing on the Kelleher property is not acceptable)."

Status: Adequate access has been established. However, if necessary the ramp will be modified, if future site layout requires, in order to maintain access on our property. 921, Inc. continues to negotiate with the owners of the Kelleher property to obtain access over that parcel if needed.

Ms. Sharon Hayes
December 17, 1998
Page 2

Activity: "installing cape cod berm"
"planting 6' arborvities or similar at 6' on-center
along Kerry Place"
"ensuring proper fire hydrant protection in the
groundwater treatment plant area"

Status: 921, Inc. is reviewing these activities with Dayton
Hudson Corporation to determine whether the activities will be
modified to accommodate the development of the site. In any
event, landscaping will be included.

Activity: "Ensuring proper decommissioning of the fire supply
extension along the Dean Street access ramp."

Status: 921, Inc. is coordinating with the Norwood DPW to
decommission the fire supply.

In reference to your recent inquiry about the use of the property
for the storage of motor vehicles, please be advised that vehicles are
presently being stored on the property, as was the practice prior to
the commencement of the remedy. The storage of vehicles maintains the
status of the property under the Town of Norwood zoning by-laws. I
checked the Agreement and Covenant Not to Sue and there is no
prohibition against such storage. However, please be assured that
vehicles will not block access to the groundwater treatment plant at
any time. In addition, vehicles will not be stored on cap or cover
areas at this time.

Please contact me or Mr. Laham if you have any questions.

Sincerely yours,

GREGG J. WILSON, P.C.

By: 

GJW:smj

cc: Joseph Laham, Jr.
Antoinette Powell, Esq.
Jay Naparstek, MADEP
Chris Turek, USACE
Patrick Sheehan/GZA

APPENDIX C
O&M CHECKLIST

**OPERATION AND MAINTENANCE CHECKLIST
INTERIM REDEVELOPMENT**

**Norwood PCB Superfund Site
Providence Highway
Norwood, Massachusetts**

For year _____

	Spring	Fall
Date EPA/ owner notified (at least 7 days prior to field activities)		
Date(s) of field activities		
Name(s) of field personnel		
Equipment		
Sample equipment		
Asphalt crack sealant		
Flat steel ruler or equiv.		
Laser level, rod & survey tape		
Non-selective herbicide		
Camera		
Site Plan		
PPE and safety equipment		
Cap Surface Cover observations		
Cracking Note on plan cracks longer than 12 inches and wider than ¼ inch		
Drainage Layer/Marker Barrier Note on Plan where the drainage layer or marker barrier is visible		
Differential settlement		
Appearance		
Other		

Cap repairs performed Note locations on plan		
Cover observations		
Foundation wall/slab differential settlement Note on Plan		
Pavement Cracking Note on plan cracks longer than 12 inches and wider than ¼ inch		
Other		
Structure observations		
Monitoring wells		
Settlement		
Drainage structures		
Settlement		
Debris buildup		
Structure maintenance		
Debris removal (quantity)		
Detention basin observations		
Amount of growth		
Condition of rip-rap		
Degree of debris buildup		
Detention basin maintenance		
Other observations		
Lead field staff signature		