



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

February 10, 2011

Thomas E Lederle
Dept of the Army, ACSIM BRAC Division
DAIM-ODB
600 Army Pentagon
Washington, DC 20310-0600

Superfund Records Center
SITE: US Army Materials Tech Lab
BREAK: 8.3
OTHER: SDMS 454689

Re: "Third Five-Year Review Report for US Army Materials Technology Laboratory, Watertown, Massachusetts", dated January 2011

Dear Mr. Lederle:

This office is in receipt of the "Third Five-Year Review Report for US Army Materials Technology Laboratory, Watertown, Massachusetts", dated January 2011. EPA reviewed the report for compliance with the Comprehensive Five-Year Review Guidance (OSWER No. 9355.7-03B-P dated June 2001). The report addresses the three operable units (OUs) at the Site and establishes a protectiveness statement for only one of those operable units, OU 1 zones 1-5. The protectiveness statement is required for OU1 only because hazardous substances, pollutants or contaminants remain at the OU.

Upon review of this report, EPA concurs with the protectiveness statement for OU1. The protectiveness statement establishes that the remedy is protective of human health and the environment in the long term. Land use controls play a key role in EPA's determination that OU 1 is protective. The Army must ensure that those controls remain effective until such time that they are no longer necessary.

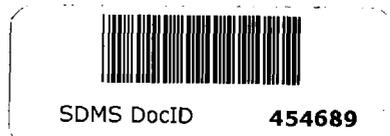
The 2011 Five-Year Review, the third comprehensive Five-Year Review completed at the Former Army Materials Technology Laboratory, was triggered by the second comprehensive Five-Year Review completed in 2006. Consistent with Section 121(c) of CERCLA, the next Five-Year Review must be finalized by February 10, 2016.

If you have any questions with regard to this letter, please contact Christine Williams at (617) 918-1384.

Sincerely,


James T. Owens, Director
Office of Site Remediation and Restoration

cc: Christine Williams
Joanne Dearden, MassDEP
Mark Brodowicz, Calibre





REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

February 7, 2011

Engineering/Planning Division
Geo-Environmental Engineering Branch

U.S. Environmental Protection Agency
ATTN: Ms. Christine A.P. Williams
5 Post Office Square - Suite 100
Mail Code - OSRR 07-3
Boston Massachusetts 02109-3912

Commonwealth of Massachusetts
Department of Environmental Protection
Bureau of Waste Site Clean-up
ATTN: Joanne Dearden
1 Winter Street, 7th Floor
Boston, Massachusetts 02108

Re: Final Third Five-Year Review Report for the
U.S. Army Materials Technology Laboratory, Watertown, Massachusetts

Dear Ms. Williams and Ms. Dearden:

On behalf of the Department of the Army, the U.S. Army Corps of Engineers (USACE) is pleased to provide the enclosed Final Third Five-Year Review Report for the U.S. Army Materials Technology Laboratory (AMTL), Watertown Massachusetts. A hard copy of the subject report, as well as electronic version on CD is provided.

Please contact Mark Brodowicz of CALIBRE at, (317) 525-0982 or Marie Wojtas of USACE at, (978) 318-8788 if there are any questions.

Sincerely,

A handwritten signature in black ink, reading "H. Farrell McMillan".

H. Farrell McMillan, P.E.
Chief, Engineering/Planning Division

Enclosure

Copy Furnished:

CALIBRE: M. Brodowicz (11 copies with CD's)

USACE: Marie Wojtas (1 copy and 1 CD), Ken Heim (1CD)



FW: AMTL Comments
Dearden, Joanne (DEP) to: Christine Williams

02/09/2011 10:49 AM

History: This message has been replied to.

From: Dearden, Joanne (DEP)
Sent: Friday, January 14, 2011 1:51 PM
To: Mark Brodowicz
Subject: RE: AMTL Comments

Sorry...I do not have any comments.

From: Mark Brodowicz [mbrodowicz@aol.com]
Sent: Friday, January 14, 2011 1:32 PM
To: Dearden, Joanne (DEP)
Subject: AMTL Comments
Joanne,

I have not heard from you this week. We have all the comments in and addressed except for MDEP. Any word on your comments? Have a great weekend!

Regards,
Mark Brodowicz
CALIBRE
317-525-0982



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

21 January 2011

DAIM-ODB

U. S. Environmental Protection Agency
ATTN: Ms. Christine P. Williams
1 Congress Street, Suite 1100 (HBT)
Boston, MA 02114-2023

Commonwealth of Massachusetts
Department of Environmental Protection
Bureau of Waste Site Clean-up
ATTN: Joanne Dearden
1 Winter Street, 7th Floor
Boston, MA 02108

**RE: Third Five-Year Review Report (FINAL), U.S. Army Materials Technology
Laboratory Watertown, Massachusetts**

Dear Ms. Williams and Ms. Dearden,

1. Attached please find the Third Five-Year Report (Final) U.S. Army Materials Technology Laboratory (AMTL), Watertown, Massachusetts for Operable Units 1 and 3. The five year review did not identify any significant issues or concerns that require action beyond that required in the Record of Decision (ROD) for Operable Unit 1 (OU1) and Operable Unit 3 (OU3).
2. The five-year review concluded that the remedy for each OU as selected by the respective RODs is protective of human health and the environment. It is recommended that Annual Institutional Control Reports occur every year in accordance with the Institutional Control Memorandum of Agreement (ICMOA) and that a five-year review be performed in 2016.
3. Please do not hesitate to contact me at (703) 545-2488 or Mark Brodowicz of CALIBRE at (317) 525-0982.

Respectfully Submitted,

Thomas E. Lederle
Industrial Branch Chief
ACSIM BRAC Division

Copy Furnished with Enclosure:
Randy Godfrey, USACE New England District
Frank Stearns, Kirkpatrick & Lockhart

Steven Magoon, Watertown Planning Director
Robert E. McGraw, Harvard University
Stanley Citron, AMC
Mario Traficante, MA DCR
Scott Weber, AEC
James Okun, O'Reilly, Talbort & Okun
Ingrid Marchesano, Watertown Administration
Susan Falkoff, Former RAB Co-Chair
Mark Brodowicz, CALIBRE



FINAL

THIRD FIVE-YEAR REVIEW REPORT

**U.S. ARMY MATERIALS
TECHNOLOGY LABORATORY
WATERTOWN, MASSACHUSETTS**

Prepared for:

U.S. Army Installation Support Management Activity
Washington, D.C.

Prepared by:

U.S. Army Corps of Engineers
New England District
Concord, Massachusetts

January 2011

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name (from WasteLAN): U.S. Army Materials Technology Laboratory		
EPA ID (from WasteLAN): MAD213820939		
Region: 1	State: MA	City/County: Watertown/Middlesex County
SITE STATUS		
NPL Status: <input type="checkbox"/> Final <input checked="" type="checkbox"/> Deleted <input type="checkbox"/> Other (specify) The site was completely deleted from the NPL in 2006		
Remediation Status (choose all that apply): <input type="checkbox"/> Under Construction <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Complete		
Multiple OUs? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Construction Completion Data: N/A	
Has site been put into reuse? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
REVIEW STATUS		
Lead Agency: <input type="checkbox"/> EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input checked="" type="checkbox"/> Other Federal Agency: Army		
Author Name: Kenneth Heim		
Author Title: Hydrogeologist	Author Affiliation: U.S. Army Corps of Engineers - CENAE	
Review Period: February 2006 through October 2010		
Date(s) of site inspection: 06/03/2010		
Type of Review: <input checked="" type="checkbox"/> Post SARA <input type="checkbox"/> Pre SARA <input type="checkbox"/> NPL-Removal Only <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State./Tribe-lead <input type="checkbox"/> Regional Discretion		
Review Number: <input type="checkbox"/> 1(first) <input type="checkbox"/> 2 (second) <input checked="" type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering Action: <input type="checkbox"/> Actual RA Onsite Construction at OU <input type="checkbox"/> Actual RA Start at OU <input type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Previous Five-Year Review Report <input type="checkbox"/> Other (specify)		
Triggering action date (from WasteLAN): 03/2006		
Due date (five-years after triggering action date): 03/2011)		

Five-Year Review Summary Form (Continued)

Issues:

The five-year review did not identify any significant issues or concerns that require action beyond that required in the Records of Decision (ROD) for Operable Unit 1 (OU1) Zones 1-4 and Operable Unit 3 (OU3).

Recommendations and Follow-up Actions:

It is recommended that Annual Institutional Control Reports continue to occur in accordance with the Institutional Control Memorandum of Agreement (IC MOA) and that a five-year review be completed in 2016. The Army needs to continue to evaluate the riverbank for erosion during the inspections required by the IC MOA. The cinderblock protection that has been added around the monuments installed at the Watertown Yacht Club need to be maintained to continue to provide protection to the monuments and to keep them visible.

Protectiveness Statement(s):

Because the remedial actions at all OUs are protective, the Site is protective of human health and the environment.

Other Comments:

The Charles River bank stabilization project, completed since the second five-year review, has successfully controlled shoreline erosion at the park; however, some minor erosion was observed along shoreline access paths. This minimal erosion is not considered significant and does not compromise the integrity of the soil cover remediation. However, observation should continue and, if warranted, any significant and compromising erosion should be addressed to maintain the integrity of the cover. Otherwise, the integrity of the two foot soil coverage required by the OU1 ROD and the Explanation of Significant Differences (ESD) remains intact along the riverbanks.

Table of Contents

1.0	INTRODUCTION.....	1-1
1.1	Overview of the Five-year Review.....	1-1
1.1.1	Community Involvement	1-3
1.1.2	AMTL Location.....	1-3
1.2	Roles and Responsibilities	1-3
1.3	Organization of Report.....	1-3
1.4	Next Five-year Review.....	1-3
2.0	OU1 - OUTDOOR AREAS ZONES 1-4 AND OU 3 AREA I.....	2-1
2.1	OU1 and OU3 Introduction.....	2-1
2.2	OU1 and OU3 Introduction and Chronology.....	2-1
2.3	BACKGROUND.....	2-2
2.3.1	Physical Characteristics.....	2-2
2.3.2	Land and Resource Use	2-2
2.3.3	History of Contamination.....	2-2
2.3.4	Initial Response	2-3
2.3.4.1	Groundwater	2-3
2.3.4.2	Surface Water and Sediment	2-3
2.3.4.3	Contaminants of Concern (COCs) for Soil	2-3
2.3.4.4	Cleanup Levels for Soil	2-4
2.3.5	Basis for Taking Action	2-6
2.4	Remedial Actions.....	2-7
2.4.1	Remedy Selection.....	2-7
2.4.2	Remedy Implementation.....	2-7
2.4.3	System Operation/Operation and Maintenance.....	2-7
2.5	Progress since the Last Five-year Review	2-7
2.6	FIVE-YEAR REVIEW PROCESS.....	2-8
2.6.1	Administrative Components	2-8
2.6.2	Community Involvement	2-8
2.6.3	Document Review.....	2-8
2.6.4	Data Review	2-8
2.6.5	Site Inspections	2-8

2.6.6	Interviews	2-8
2.7	TECHNICAL ASSESSMENT	2-9
2.8	ISSUES	2-10
2.9	RECOMMENDATIONS AND FOLLOW UP ACTIONS	2-10
2.10	PROTECTIVENESS STATEMENT	2-10
2.11	NEXT REVIEW	2-10
3.0	Charles River park (OU 1, ZONE 5)	3-1
3.1	Site Introduction	3-1
3.2	SITE INTRODUCTION AND CHRONOLOGY	3-1
3.3	BACKGROUND	3-2
3.3.1	Physical Characteristics	3-2
3.3.2	Land and Resource Use	3-2
3.3.3	History of Contamination	3-2
3.3.4	Initial Response	3-3
3.3.5	Basis for Taking Action	3-4
3.4	REMEDIAL ACTIONS	3-6
3.4.1	Remedy Implementation	3-6
3.4.1.1	Remedy Implementation of Area M	3-6
3.4.1.2	Remedy Implementation of Area N	3-8
3.4.1.3	Remedy Implementation of Area O	3-8
3.4.1.4	Remedy Implementation of Area P	3-8
3.4.1.5	Remedy Implementation of Area Q	3-8
3.4.1.6	Remedy Implementation of Area P/Q	3-9
3.4.1.7	Remedy Implementation of Riverbank Excavations	3-9
3.4.1.7.1	Remedy Implementation of Area M Riverbank	3-10
3.4.1.7.2	Remedy Implementation of Areas P and Q Riverbank	3-10
3.4.2	System Operation/Operation and Maintenance	3-11
3.5	PROGRESS SINCE THE LAST FIVE-YEAR REVIEW	3-11
3.6	FIVE-YEAR REVIEW PROCESS	3-12
3.6.1	Administrative Components	3-12
3.6.2	Community Involvement	3-12
3.6.3	Document Review	3-12

3.6.4	Data Review	3-12
3.6.5	Site Inspections	3-12
3.6.6	Interviews	3-12
3.7	TECHNICAL ASSESSMENT	3-12
3.8	ISSUES	3-14
3.9	RECOMMENDATIONS AND FOLLOWUP ACTIONS	3-14
3.10	PROTECTIVENESS STATEMENT	3-14
3.11	NEXT REVIEW	3-14
4.0	OU2 - CHARLES RIVER	- 15 -1

List of Tables

Table 2-1: Soil Cleanup Levels for Contaminants of Concern at AMTL Site	2-6
Table 3-1: Remedial Investigation COCs for OU1 Zone 5	3-4
Table 3-2: Charles River Park Revised Soil Cleanup Goals for Site Reuse	3-6

List of Appendices

Appendix 1: AMTL and Charles River Park Site Maps
Appendix 2: Public Notice
Appendix 3: Tenants of AMTL
Appendix 4: Chemicals of Concern and Use at AMTL Zones
Appendix 5: List of Documents Reviewed
Appendix 6: Interview Records
Appendix 7: ARAR's Table
Appendix 8: List of Acronyms

List of Attachments

Attachment 1: 2010 Twelfth Annual AUL Inspection Report

1.0 INTRODUCTION

The Department of the Army contracted with the U.S. Army Corps of Engineers, New England District to prepare the third five-year review report covering the period of February 2006 through September 2010 for the U.S. Army Materials Technical Laboratory (AMTL) located in Watertown, Massachusetts.

1.1 Overview of the Five-year Review

This third five-year review report is conducted according to federal regulations, policies, and associated guidance prepared by the US Army for environmental evaluation and restoration of former defense sites, as follows:

- Section 2701, Title 10 United States Code (10 USC 2701) and DODI 4715.7 (Defense Environmental Restoration Program [DERP]);
- Army Regulation 200-1 (Environmental Protection and Enhancement);
- 42 USC 9601 et seq. (CERCLA);
- 40 CFR 300 (NCP);
- Executive Order (EO) 12580 (Superfund implementation);
- The Base Closure and Realignment Act (BRAC) of 1988 (P.L. 100-526, 102 Stat. 2623) (BRAC 88), and the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510, 104 Stat. 1808) (BRAC 91, 93 and 95);
- Community Environmental Response Facilitation Act (CERFA amends CERCLA to identify uncontaminated property pursuant to BRAC; and
- Comprehensive Five-Year Review Guidance, June 2001, EPA 540-R-01-007, OSWER 9355.7-03B-P.

EPA is not responsible for conducting five-year reviews at Federal facility NPL sites. However, EPA's final remedy selection authority at Federal facility NPL sites requires that EPA retain final authority to make protectiveness determinations. Accordingly, EPA will either concur with the protectiveness determinations described, herein, to ensure protection of human health and the environment, consistent with EPA's statutory and regulatory authorities or EPA may provide independent findings.

The purpose of the five-year review process is to determine whether the selected and ongoing remedy at the AMTL site (the site), that was formerly on the National Priorities List (NPL) and has since been delisted, in Watertown Massachusetts, remains protective of human health and the environment. The findings and conclusions of the review are based on review of existing reports and field inspections. The start of the five-year review cycle began upon completion of remedial actions that left hazardous substances, pollutants, or contaminants at the site above levels that allow for unrestricted land use.

The site was placed on the CERCLA NPL in May 1994. A Federal Facilities Agreement (FFA) was signed by the Army and USEPA on 24 April 1995. The FFA outlines the response action requirements under CERCLA and was developed in part to ensure that environmental impacts associated with past activities at the site are thoroughly investigated and remediated as necessary.

The trigger date for the five-year review was determined by the initiation of the first remedial action that left waste in place, OU1, as shown in EPA's WasteLAN database: November 20, 1996. A ROD for OU3 (Area I) was signed on July 28, 1996. For OU1, a ROD was signed September 26, 1996. Both RODs selected the following remedy:

- Excavation of areas with contaminated soil that was above cleanup goals.
- Confirmatory soil sampling within excavations after contaminated soil removal.
- Off-site landfill disposal or reuse of the excavated soil.
- Backfilling of clean fill soil into the excavations.
- Institutional controls with 5-year site reviews.¹

The first five-year review was completed in January 2002. The second five-year review was completed in March 2006. This is the third five-year review of the site and covers the period from February 2006-September 2010. The following bulleted list describes the chronology of the major events at the AMTL site.

- 1992/92 - Army initiates investigation into nature and extent of contamination at AMTL site.
- May 1994 - Site placed on NPL.
- Apr 1995 - Federal Facilities Agreement signed by Army.
- July 1996 - ROD signed for OU3 (Area I) calling for removal and disposal of contaminated materials.
- Aug 1996 - Action at Area I completed.
- Sep 1996 - ROD signed for OU1 to address contaminated soil (groundwater not a concern); following that, excavation of 36.5 acres completed.
- Jan 1998 - First ESD for OU1 ROD Completed.
- Aug 1998 - 36.5 acre parcel transferred from Army to the Watertown Arsenal Redevelopment Corporation and the Town of Watertown.
- Nov 1999 - 36.5 acre remediated parcel was deleted from the National Priorities List (NPL).
- Sep 2001 - Soil excavation in Charles River Park completed.
- Jun 2001 - Second ESD for OU1 completed.
- Mar 2002 - First five-year review completed
- Spring 2003 - Work plan for Charles River ecological risk assessment was completed.
- Summer 2003 - Field work for Charles River ecological risk assessment completed.
- Fall 2004 - Draft ecological risk assessment completed.
- May 2005 - Charles River Park parcel transferred to DCR with ICs.
- Sep 2005 - No Further Action ROD for OU2 signed.
- Sep 2005 - Final closeout report.
- Mar 2006 - Second 5 year review completed.
- Sep 2006 - Work began on re-vegetating the Charles River Park shoreline.
- Nov 2006 - remaining 11 acres were deleted from the NPL.

¹ OU3 did not require any institutional controls due to the fact that after excavation the confirmatory sampling demonstrated that the area could be used for unlimited use and unlimited exposure. OU1 ESD was signed in January of 1998 allowing for a relaxation of the cleanup goals for the rest of the Site to remain protective of future use rather than unlimited use and unlimited exposure. The future use of the Arsenal is recreational, commercial, and industrial. A No Further Action ROD was signed in September 2005 for OU2 (Charles River) because of consistency of the AMTL Site conditions with urban background and the similar potential for ecological risks across sampling reaches in the River. OU3 and OU2 are not evaluated in this Five Year Review because neither ROD left waste in place for unlimited use and at unlimited exposure levels.

1.1.1 Community Involvement

Public notice of this five-year review was published in the Boston Globe (June 25, 2010), Boston Herald (June 24, 2010), and Watertown Tab & Press (June 25, 2010). Any persons with related comments and/or information were asked to contact the Army's Technical Manager, Kenneth Heim, U.S. Army Corps of Engineers - New England District, Engineering/Planning Division, 696 Virginia Road, Concord, MA 01742-2751, (978) 318-8650 or email at kenneth.j.heim@usace.army.mil. No public comments were received by Mr. Heim. A public notice will be sent to the same newspapers announcing that the Third Five-year Review report for the site has been completed and will be available to the public at the site information repository.

1.1.2 AMTL Location

The site consists of 48 acres of land located in Watertown, Massachusetts. The property is bordered by Arsenal Street and a commercial area to the north; commercial and residential properties to the west; Talcott Avenue to the east; and the Charles River to the south. A public park and a yacht club are located on what was formerly an 11-acre easement granted in 1920 by the U.S. Army to the Metropolitan District Commission, predecessor to the Commonwealth of Massachusetts Department of Conservation & Recreation (DCR). The property was transferred to the DCR in May 2005. The western third of the DCR property is permitted for use to the Watertown Yacht Club (WYC) by the DCR. This 11-acre Charles River Park parcel is known as Zone 5. The other 36.5 acres represent the final footprint of the AMTL physical plant; this property was divided into Zones 1, 2, 3, and 4 for the purposes of environmental remediation and re-use.

1.2 Roles and Responsibilities

The U.S. Army Corps of Engineers, New England District has been contracted by the Army to prepare this third five-year review for the site. The Army will review and provide input into this report before it is finalized. The review team includes the U.S. Army Base Realignment and Closure Office (BRACO), U.S. Army Environmental Center (AEC), U.S. Army Corp of Engineers Environmental & Munitions Center of Expertise (CEHNC-CX), EPA, and Massachusetts Department of Environmental Protection (MassDEP). The Army is the lead agency for performing cleanup at the site with regulatory oversight by EPA and MassDEP.

1.3 Organization of Report

Section 1 presents the introduction and description of the five-year review process, description and background of the site, and community awareness. Section 2 covers the Soil and Groundwater OU, OU1 (Zones 1-4) and the Area I OU, OU3 (Area I) since both had common contamination and similar cleanup actions. Due to the high level of public interest regarding the Charles River Park (OU1-Zone 5), the park site is broken out and presented in Section 3. Section 4 covers the Charles River OU, OU2. Additional information is included in each of eight appendices and in an attachment.

1.4 Next Five-year Review

The fourth five-year review for the site should be completed within five-years of the completion of this review and 20 years after the start of the first remedial action that left waste in place.. The anticipated date for completion of the fourth five-year review is 2016. The completion date of this third five-year review presented herein is the date on which USEPA issues its letter to the U.S. Army either concurring with its findings, or documenting reasons for non-concurrence.

2.0 OU1 - OUTDOOR AREAS ZONES 1-4 AND OU 3 AREA I

2.1 OU1 and OU3 Introduction

Refer to Section 1.1 for a description of the purpose of the five-year review. OU1 is comprised of Zones 1 through 5. This section focuses on Zones 1 through 4, and the following Section 3 focuses on Zone 5, which is Charles River Park. Area I of OU3 is found in Zone 3, so it is included in this section.

2.2 OU1 and OU3 Introduction and Chronology

The AMTL facility was established in 1816 by President James Madison, and was originally used for the storage, cleaning, and issuance of small arms. During the mid-1800s, the mission was expanded to include ammunition and pyrotechnics production; materials testing and experimentation with paints, lubricants, and cartridges; and the manufacture of breech loading steel guns and cartridges for field and siege guns. The mission, staff, and facilities continued to expand until World War II, at which time the facility encompassed 131 acres, including 53 buildings and structures, and employed 10,000 people. Arms manufacturing continued until an operational phase down was initiated in 1967.

At the time of the operational phase down, much of the Watertown Arsenal property was transferred to General Services Administration (GSA). In 1968, GSA sold approximately 55 acres to the Town of Watertown. This property was subsequently used for the construction of apartment buildings, the Arsenal Mall, and a public park and playground. The site contained 15 major buildings and 15 associated structures.

In 1960, the Army's first material research nuclear reactor was completed at AMTL. The reactor was used actively in molecular and atomic structure research activities until 1970, when it was deactivated. The research reactor was decommissioned under the jurisdiction of the Nuclear Regulatory Commission in 1992 and the structure was demolished in 1994.

In 1987, the U.S. Army Toxic and Hazardous Material Agency initiated preliminary site studies, the first stage of the facility's closure plan. In late 1993, Congress officially recommended the closure of the facility. On September 29, 1995, the site was closed and reverted to a caretaker status.

The site was placed on the EPA NPL as a Superfund Site in May 1994 and in 1995 the Army signed an Interagency Agreement with the EPA stipulating that site investigations and cleanup actions would follow CERCLA/Superfund Amendments and Reauthorization Act (SARA), under the regulatory guidance of the NCP 40 CFR Part 300.

A Technical Review Committee (TRC) was formed at the time which has subsequently become the Restoration Advisory Board (RAB). In 1994, AMTL was placed on the Base Realignment and Closure (BRAC94) list. In August 1998, 36.5 acres of the 48-acre CERCLA site were transferred from the ownership of United States Army. At that time, the Watertown Arsenal Development Corporation (WADC) acquired 29.44 acres of the site. The Town of Watertown took ownership of 7.21 acres. In March of 2005, the remaining 11 acres of the site were transferred to the Commonwealth of Massachusetts, Department of Conservation and Recreation.

At the time of each transfer, the United States of America, acting by and through the Secretary of the Army, granted the MassDEP a Grant of Environmental Restriction and Easement for each appropriate zone of the AMTL Site. The purpose of this Grant was to provide a mechanism for the creation and enforcement of the necessary land use controls as required by the CERCLA

Records of Decision (RODs) for the site (August and September 1996). The Grant re-designated areas into lots for property transfer and future deed tracking. Environmental Zones 1, 2, and 3 (the parcel that was initially transferred to WADC) were designated Lot 1. Lot 1 was sold to Charles River Business Center Associates (CRBCA) in December 1998. CRBCA sold the Lot 1 property to President and Fellows of Harvard College (Harvard) in May 2001. Environmental Zone 4 (the parcel transferred to the Town of Watertown) was designated as Lot 2. Lots 1, 2, 3 and 4 were deleted from the NPL through the partial deletion process on November 22, 1999 and the site was entirely delisted from the NPL in November 2006.

Annual institutional control reports are required by the MOA that was signed on 7 August 1998 by the EPA, MassDEP and the Army. The purpose of the reports is to document the condition of the institutional controls. The MOA recognizes that these annual reports are the responsibility of the Army. Currently, the Army has an agreement in place with the WADC and the DCR to develop the reports each year for their respective property. Since the last 5 year review, each of 5 annual reports were completed and submitted to the EPA.

2.3 BACKGROUND

This section provides a brief description of important site characteristics, and activities relating to the selected remedy.

2.3.1 Physical Characteristics

The site is relatively flat with slopes generally less than 1 percent. The southern portion of the site slopes 2 to 3 feet downward to the Charles River along its banks. The original land topography has been greatly altered since the turn of the century by construction and demolition fill. The majority of the site was covered by a layer of fill, consisting of sand, gravel, and non-hazardous construction debris. Surface drainage on the site, other than direct infiltration or surface flow to the river, exists as a storm water drainage system off the adjacent roadways.

2.3.2 Land and Resource Use

There is a private drinking well located 2 miles northwest of the property. The municipal drinking water within 4 miles of the site is supplied by surface water sources located to the west of the site and is unaffected by the site. The Charles River is used for various recreational activities such as boating and fishing. As previously stated, the site closed in the fall of 1995. Since its transfer to WADC and CRBCA, the property has been developed for commercial and open space. A list of current tenants of the AMTL property (Lot 1) is included in.

2.3.3 History of Contamination

Because of the complexity of this industrial complex, the site was divided into three areas for investigation. OU1, as specified in the September 1996 ROD, addressed most outdoor soil, except for a small area near building 131, which was included in OU3 to facilitate reuse, and all underlying groundwater. The indoor areas and petroleum-related clean-ups were addressed under the Commonwealth of Massachusetts cleanup authority. Environment Zones 1-5 includes Areas A, B, C, D, E, F, G, H, J, K, L, M, N, O, P, Q, T, metal hot spots based on ecological risk, and lead hot spots (Roy F. Weston, 1998). Zone 1 included Area A2, Zone 2 included Areas A1, A3, B, C, D, E, and G (west side). Area F was initially physically located in Zone 2; however, due to its potential reuse as a residential area, it was moved into Zone 3. Zone 3 included Area F, G (east side), and H. Zone 4 included J1, J2, K1, K2, K3, L1, L2, L3, and L4. Cleanup goals were based on background except for polychlorinated biphenyls (PCBs) and lead, which were based on EPA guidance levels and pesticides which were based on ecological risks.

2.3.4 Initial Response

Remedial investigations of these two operable units were conducted between 1987 and 1995 and concern was identified for groundwater, soil, surface water, and sediment. Only contaminants of concern (COCs) were identified for sediment.

2.3.4.1 Groundwater

With the exception of one well, all up gradient wells (i.e., prior to any influence by AMTL) showed detectable quantities of chlorinated solvents, which indicates an offsite source of the groundwater contamination. The analysis of samples, representative of both up gradient groundwater and of groundwater within the AMTL boundary, indicated that background concentrations were elevated and that the site is not a source of contamination to groundwater. The farthest down gradient onsite wells bordering the Charles River showed the least contamination. Although some onsite groundwater contamination is present in onsite groundwater from up gradient source(s), no actual exposures are anticipated since groundwater is not used as a water supply, and no significant migration of contamination is occurring. The site groundwater is not a potable aquifer, as defined by the Commonwealth of Massachusetts in 310 CMR40. Groundwater does discharge from the site into the Charles River. A model of contaminant contribution via groundwater to the Charles River developed in the Feasibility Study (FS) indicated that no significant mass of contaminants is migrating to the river from the site. Hence, there was no apparent risk to human health or the environment from Site groundwater and No Further Action (NFA) was required in the ROD for OU1 for any groundwater across the AMTL facility.

2.3.4.2 Surface Water and Sediment

Surface water adjacent to AMTL in the Charles River contained arsenic and lead above human health Ambient Water Quality Standards. Sediment was contaminated with low levels of metals and pesticides above EPA Region 1 sediment screening values.

2.3.4.3 Contaminants of Concern (COCs) for Soil

Human Health Risks for OUs 1 and 3 were evaluated for current and future land use. Risks were below levels that usually warrant a response under CERCLA for residential conditions. The maximum cancer risk at any location was 8×10^{-5} for hypothetical residents at OU1, which does not exceed the applicable upper limit of 1×10^{-4} for cancer risks. The maximum reported hazard index was 0.3 for hypothetical residents at OU1, which is below the upper limit of 1 for non-cancer hazards.

The RODs indicate that a decision was made to proceed with remediation in part because concentrations in soil exceeded human health based cleanup goals established by the state in the Massachusetts Contingency Plan (MCP). This is notable in that the EPA and the Army prefer to use EPA risk assessment to determine the need for remediation. Further, the RODs indicate that while the MCP methodology is not applicable under the National Contingency Plan (NCP), MCP standards are ARARs. However, EPA has stated in a memorandum entitled *Role of the Baseline Risk Assessment Superfund Remedy Selection* that, in certain cases, the risk manager may determine that cleanup standards are not sufficiently protective and may therefore warrant remedial action to risk based standards.

Semi-volatile organic compounds (SVOCs), pesticides, PCBs and metals were detected at levels exceeding the Massachusetts Contingency Plan (MCP) S-I/GW-1 standards (the most stringent) at zero to two feet below ground surface (BGS). These detections were scattered and in hot spots, as opposed to site-wide distribution. PCBs were detected at levels above the EPA action level for soil. The analytical results showed that the total uranium activity in all soil was

below the federal standard. In subsurface soil, volatile organic compounds (VOCs), SVOCs, polynuclear aromatic hydrocarbons (PAHs), pesticides, and metals were found at many sampling locations above MCP S-1/GW-I standards at two to eight feet BGS.

As part of an early ecological risk assessment (RA) conducted in 1993, it was determined that terrestrial populations and communities in the area of the installation were not of ecological concern. For this reason, the only exposure endpoints evaluated were for fish inhabiting the Charles River, and for migratory birds visiting the river on a transient basis. Contaminants in groundwater were found to possibly migrate toward the Charles River, but the low level of contamination was not expected to adversely affect aquatic organisms.

Terrestrial ecological risks were revisited in 1995 after the site was placed on the NPL. Most of the AMTL site was determined to offer minimal terrestrial habitat due to its highly developed nature and lack of open space. The only habitat evaluated was for terrestrial vegetation and wildlife at the southeastern corner of the site at Zone 4 and Zone 5 (Charles River Park). Unacceptable ecological risks were identified for exposure to site soil in this limited open space area. The ecological risk assessment identified potential phyto-toxicity, and hazard indices of greater than one for northern short tailed shrew, white footed mouse, American robin, song sparrow, and earthworms. Major risk drivers were metals (primarily arsenic, chromium, lead, nickel and zinc) and pesticides (primarily DDT, DDD, and endrin), and several hazard quotients exceeded 1, 10, and 100.

2.3.4.4 Cleanup Levels for Soil

Preliminary ecological cleanup levels for soil were calculated for the short-tailed shrew and the American robin based on a target hazard index of 10 (*Feasibility Study Report (Outdoor) Army Materials Technology Laboratory, January 1996, Roy F. Weston*). A hazard index of 10 was established as an acceptable goal since clean-up goals based on a hazard index of 1 yielded cleanup levels below background and analytical method detection limits.

Preliminary human health cleanup levels for soil were developed for SVOCs, PCBs, and lead since they were more stringent than the ecological cleanup levels. Cleanup goals for metals in soil (other than lead) were not established because metals on site generally are consistent with expected background levels. Note that metals posing an unacceptable ecological risk were collocated with pesticides that were targeted for remediation, and that the remediation of pesticides reduced ecological risk of metals by greater than 25%.

Concentrations falling below those found in background soil are not viable cleanup goals. EPA does not generally cleanup to levels below background. For cleanup of surface soil of less than one foot BGS, an EPA-approved statistical evaluation of the background soil data set was used to calculate the 90% Upper Confidence Limit (UCL). The UCL calculated for each contaminant represented the contaminant's background level, which were above preliminary risk based goals that were calculated for all of the contaminants of concern at AMTL. For that reason, background rather than risk based human or ecological levels were applied as the cleanup goals for shallow soil with the exception of PCB Aroclor-1260 and DDD. The cleanup level for Aroclor-1260 was based on EPA guidance, and for pesticides it was based on ecological risk (*Feasibility Study Report (Outdoor) Army Materials Technology Laboratory, Roy F. Weston, January 1996*).

OU1 is an area of mixed land use including Zones 1 through 4, and the Charles River Park at Zone 5. OU3 is an area of planned residential land use at Area I, which is within Zone 3. The clean-up goals of the RODs apply to a mix of future land uses at the site, including residential, commercial, and recreational. The cleanup levels for these areas do not differ by land use (see

the exception for OU 3 below), however, the number of COCs does vary according to land use, as follows:

- OU 1
 - Land use at Zone 1 is commercial, with *no* COCs or cleanup goals.
 - Land use at Zone 2 is commercial, with cleanup goals for *five* COCs.
 - Less stringent human health goals for commercial zones 1 and 2 were later set in the first explanation of significant differences dated 1998 for construction workers exposed to subsurface soil below 1 foot.
 - Land use at Zone 3 is residential, with cleanup goals for *nine* COCs.
 - Land use at Zone 4 is public access, with cleanup goals for *twelve* COCs.
 - No ecological concerns (except for Charles River Park, Zone 5).
 - Contamination below buildings was not removed.

- OU 3
 - Cleanup goals for Area I were numerically the same as OU 1 except for pesticides, which differed due to residential (OU 3) versus commercial (OU 1) land use.
 - Cleanup met residential goals to a depth of 15 feet, so there was no need for institutional controls.

Table 2-1: Soil Cleanup Levels for Contaminants of Concern at AMTL Site provides a summary of all surface and subsurface contaminants of concern and the maximum concentrations, cleanup levels, and applicable AMTL zones for cleanup. A cleanup level of 1.5 mg/kg for chlordane applies to a human resident at Zone 3, whereas for Zone 4 and Charles River Park (Zone 5) the goal is set at the slightly lower ecological cleanup level of 1.4 mg/kg.

Table 2-1: Soil Cleanup Levels for Contaminants of Concern at AMTL Site

Soil Contaminant of Concern	Maximum Concentration (mg/kg)	ROD Cleanup Level (mg/kg) (Surface/subsurface soil only)	ESD Cleanup Level (mg/kg) (Subsurface Soil Only)	Zones where cleanup levels pertain
(PAHs)				
Benzo(a)anthracene	32	8.5	1,760	2,3,4
Benzo(a)pyrene	37	2	154	2,3,4
Benzo(b)fluoranthene	15	7.9	1,760	2,3,4
Benzo(k)fluoranthene	24	6.2	17,600	2,3,4
Indeno(1,2,3-cd)pyrene	1.4	3	1,760	2,3,4
Chrysene	34	11.1	176,000	3,4
Dibenzo(a,h)anthracene	3.3	0.27	154	3
(Pesticides)				
DDD	3.5	13.7	No Change	3,4
DDE	6.3	0.14	No Change	3,4
DDT	5.2	0.17	No Change	3,4
Dieldrin	4	0.35	No Change	4
Chlordane	9.4	1.4**	No Change	3,4
(PCB)				
Aroclor-1260	4.9	1	No Change	3,4
(Metals)				
Lead*	1,300	1,000	No Change	2

* Cleanup goals for all other metals were not determined because levels generally were consistent with background levels. Cleanup goal for lead was agreed to in the Remedial Design.

**Cleanup goal for chlordane is 1.4 mg/kg for ecological health, and 1.5 mg/kg for human resident health.

2.3.5 Basis for Taking Action

A ROD for OU3 was signed on July 28, 1996. For the larger OU1, a ROD was signed September 26, 1996. Both RODs selected the following remedy:

- Excavation of areas with contaminated soil that was above cleanup goals.
- Confirmatory soil sampling within excavations after contaminated soil removal.
- Off-site landfill disposal or reuse of the excavated soil.
- Backfilling with clean fill soil into the excavations.
- Institutional controls and five-year site visits (OU3 did not require institutional controls).

Land use controls were necessary following remediation in certain areas unsuitable for unrestricted (i.e., residential) future use, as well as for any contaminated soil beneath buildings. The restrictions control the demolition of buildings with underlying soil contamination that may be above cleanup goals by dictating the proper handling of any contaminated soil (i.e., excavation and disposal). The U.S. Army is required by statute to review sites where contaminated media have been left in place and requiring institutional controls at least once every five years after initiating remedial action, in order to ensure that the remedy remains protective of human health and the environment. Specifically, the reviews are performed to determine if land use restrictions and other controls are consistent with the Grant of

Environmental Restriction and Easement at the site to protect human health and the environment. Institutional controls are not needed at OU3 because all contaminated soil was removed and replaced with clean fill to a depth of 15 feet.

2.4 Remedial Actions

The following section describes selection, implementation, and operation of the remedy.

2.4.1 Remedy Selection

Soil clean-up goals were established in the ROD for different zones at the site based on the intended future use of particular areas (see Section 2.3.4 and Table 2-1).

2.4.2 Remedy Implementation

The actual remedy was modified from the ROD signed in 1996 to that indicated in the first of two ESDs prepared in 1998. The first of two ESDs was prepared to modify certain cleanup goals for soil at OU1. The second ESD was prepared in 2001 specifically for the Charles River Park as discussed in Section 3.1. During remediation and soil removal activities, the Army and regulators determined that a construction worker excavation scenario was a more realistic and appropriate exposure scenario for soil at a depth greater than one foot BGS. The construction and commercial worker exposure scenarios differ, in that more intense exposures could be encountered while performing periodic subsurface utility work. The baseline risk assessment did not include the construction worker exposure scenario, so additional post-ROD risk assessment work was performed to determine the appropriate extent of the ongoing remedial actions.

The modified cleanup levels were applied to subsurface soil below 1 foot BGS at Areas B, E, G, J, and L in Zones 1, 2 and 4. The risk estimates for the construction worker did not warrant further removal of subsurface soil. Confirmation samples indicated that the soil below one foot met the revised cleanup goals, so the existing excavations were considered to be complete and ready to backfill with clean material. The addition of one foot of clean soil met the cleanup goals for exposures to surface soil. In addition, the cleanup goals for the construction worker exposure scenario was determined to be appropriate for the subsurface soil at the public areas at Zone 4 because the "open space" user would not be excavating below one foot.

Final remedial action for the northern zone of the site was started on November 20, 1996 and completed on July 27, 1998. All soil was disposed of off-site in accordance with state and federal requirements. Institutional controls were implemented during the transfer. Remedial action in OU3 (Area I) started on August 26, 1996 and was completed on January 10, 1997. All soil was disposed of off-site in accordance with state and federal requirements. As previously noted, institutional goals were not necessary at OU3 since the clean replacement fill was protective of residential exposure to soil.

2.4.3 System Operation/Operation and Maintenance

There is no system in place that requires operation or maintenance in Zones 1-4.

2.5 Progress since the Last Five-year Review

Annual IC inspections have continued in OU1 (Zones 1-4) since the last five-year review, with the eighth, ninth, tenth, eleventh and twelfth on file. Most of the buildings are now tenant (99% leased) occupied.

Since the last five-year review, the application for Seventh Amendment to the Grant has been approved to remove most of the restrictions from the Building 312 Area and removal of this area from the Commercial Re-use Area. The Seventh Amendment to the Grant was for the grassy area in front of the Arsenal Center for the Arts (ACA) and was the one referenced in the 7th Grant Amendment. This Grant Amendment was mentioned in the previous 5-year review as being recently requested. The amendment was requested to allow patrons of the museum to congregate in front of the building following an event in the museum. This amendment was accepted and there have been no additional amendments since.

2.6 FIVE-YEAR REVIEW PROCESS

This section indicates the status of the major components of the five-year review within this report.

2.6.1 Administrative Components

Refer to Section 1.1.

2.6.2 Community Involvement

Refer to Section 1.1.

2.6.3 Document Review

Documents reviewed are referenced in Appendix 5.

2.6.4 Data Review

The ROD for OU1 and OU3, and the ESDs for the commercial areas and Charles River Park do not require long term monitoring or other ongoing data collection.

2.6.5 Site Inspections

The Site inspection for this third five-year review was conducted simultaneously with the 2010 annual inspection on June 3, 2010 by Mark Brodowicz of CALIBRE (acting Base Environmental Coordinator Technical Assistant and Army Representative). For AMTL, Rob Weikel, of the Beal Companies and Site manager for Harvard, was present. In attendance were the following:

- Kenneth Heim, USACE
- Mark Brodowicz, Calibre
- Robert Weikel, Beal Company Inc.
- Ken Gendron, Tighe and Bond
- Christine Williams, USEPA
- Joanne Dearden, MassDEP
- Robert Davis, USACE
- Lawrence Cain, USACE

The 2010 Site Inspection Report can be found in Attachment 1.

2.6.6 Interviews

Rob Weikel of the Beal Companies and site manager for Harvard was interviewed regarding OUs 1, 2, and 3. Robert Lowell, the Environmental Section Chief at the MA DCR, was interviewed to provide comment and perspective on the Charles River Park area. Finally, Jim

Boudreault from the Charles River Yacht Club was interviewed to provide insight into operations at the club. The interviews were all conducted to fulfill the requirements of the five-year review process and are documented in Appendix 6. No other interviews were conducted.

2.7 TECHNICAL ASSESSMENT

As previously noted the Charles River Park (OU1-Zone 5) site is broken out and presented in Section 3.

Questions A: *Is the Remedy functioning as intended by the decision documents?*

Yes. The remedy for OU1 Zones 1-4 is functioning as intended by the ROD published on September 26, 1996 and the first ESD published on January 12, 1998. The remedy for OU3 Area I is functioning as intended by the ROD published July 28, 1996. Depending on locations specified in the land use plan, the Army has concluded that the remedy corresponds to the highest and best use, which is either commercial or residential. The land use (commercial or residential) has not changed and the areas remain protective of human health and the environment”

Question B: *Are the exposure assumptions, toxicity data, cleanup values, and Remedial Action Objectives (RAOs) used at the time of the remedy selection still valid?*

Yes. The human health and ecological risk assessments for the site resulted in development of risk based goals that by statute comply with CERCLA. The risk based concentrations remain as impractical goals because they are lower than the background concentrations. Since background levels were used for soil cleanup goals less than 1 foot at this portion of the site, any changes to exposure assumption, toxicity data or cleanup values since the last five-year review will not have any affect. Although risk assessment parameters were subject to change during the review period, local background conditions are unlikely to have changed.

Toxicity data for the contaminants of concern were reviewed during this review to determine if any revisions have occurred since the first ESD was issued in 1998.

The cleanup levels for PAHs were based on human carcinogenicity. Current toxicity values for the COCs were checked using the EPA Integrated Risk Management System (IRIS), a peer reviewed toxicity database. The toxicity values for these carcinogenic PAHs have not changed since the remedy was selected.

However, methods to evaluate exposures to carcinogenic PAHs have changed since the time of the ROD. Because numerous carcinogenic PAHs also are mutagenic, cancer risk estimates for children could be increased up to 3 fold. This would result in higher risks from PAHs over a lifetime due to increased risk of exposure when the receptor is less than 16 years old (child resident and adolescent trespasser). This would not change the RAOs for PAHs because: 1) the selected remedy is based on attaining local background concentrations, and; 2) the remedy is based on preventing exposure to PAHs by means of a 2 foot soil and asphalt cover.

The cleanup goals for pesticides were based on ecological toxicity. EPA issued updated avian and mammalian toxicity reference values for DDT and its metabolites, including DDD, in April 2007. EPA also updated toxicity reference values for dieldrin in April 2007. Toxicity

² *Ecological Soil Screening Levels for DDT and Metabolites*, OSWER Directive 9285.7-57, U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response, 1200 Pennsylvania Avenue, N.W. Washington, DC 20460.

reference values for chlordane have not been updated by USEPA. Although the toxicity reference values have changed, the remedy remains fundamentally protective since removal actions already have occurred and clean backfill remains in place.

The cleanup level for Aroclor-1260 is based on an EPA policy goal that has not changed but that is currently being reassessed by the EPA. Furthermore, the non-cancer and cancer toxicity values for PCBs have not changed since the remedy was selected.

The cleanup goal for lead is based on a consensus value developed during the remedial design, and that has not changed. The cleanup goals remain valid today.

Question C: *Has any other information come to light that could call into question the protectiveness of the remedy?*

No. There has been no other information that has come to light to question the protectiveness of the remedy.

Technical Assessment Summary

Based on the data reviewed and the site information, the remedy is functioning as intended in the ROD. There have been no changes in Applicable or Relevant and Appropriate Requirements (ARARs), to-be-considered (TBCs), screening levels, or toxicity criteria for the Contaminants of Concern (COCs), and there have been no changes to the standardized risk assessment methodology that affect the protectiveness of the remedy.

2.8 ISSUES

This five-year review did not identify any significant issues or concerns that require action beyond that specified in the RODs for OU1 (Zones 1-4) and OU3.

2.9 RECOMMENDATIONS AND FOLLOW UP ACTIONS

This five-year review concludes that the remedy for OU1 and OU3 selected by the respective RODs appear to be providing sufficient protection of human health and the environment. It is recommended that Annual Institutional Control Reports occur every year in accordance with the IC MOA until the next five-year review, at which time the frequency may be changed. All areas that have any land use restrictions and still have some contamination that results in the prohibition of unrestricted use are the subject of future statutory reviews.

2.10 PROTECTIVENESS STATEMENT

Based on the documents review, data review and analysis, site inspection, and an assessment of the remedy protectiveness, the remedy and current institutional controls for the OU1, Zones 1-4 and OU3 are considered protective of human health and the environment in the long term.

2.11 NEXT REVIEW

The next five-year review for OU1 and OU3 should be performed within five-years of the completion of this review. The completion date is the date on which EPA issues its letter to the U.S. Army either concurring with its findings or documenting reasons for non-concurrence.

³ *Ecological Soil Screening Levels for Dieldrin, Interim Final*, OSWER Directive 9285.7-56, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460, March 2005, Revised April 2007.

3.0 CHARLES RIVER PARK (OU 1, ZONE 5)

3.1 Site Introduction

Refer to Section 1.1 for a description of the purpose of the five-year review.

3.2 SITE INTRODUCTION AND CHRONOLOGY

Refer to Section 1.1 for a description of the site.

In 1920, the Army granted a permanent Right-of-Way (ROW) for the Charles River Park parcel to the Commonwealth of Massachusetts. Through the grant, the Commonwealth assumed responsibility for the care, management, and police jurisdiction over the property. The Charles River Park parcel was transferred to the Commonwealth of Massachusetts DCR (formally the Metropolitan District Commission, MDC) in May of 2005.

The remedial action work at the site was performed between November 1996 and December 1997 in response to the ROD for the Soil and Groundwater OU, signed under CERCLA. In particular, remedial work in the Charles River Park parcel commenced in May 1997, but was suspended in August 1997 pending a decision by the Army to re-evaluate the cleanup goals for Charles River Park.

The first ESD for outdoor soil remediation was signed by the Army and the EPA in January 1998. This ESD established construction cleanup values to be used at depths of greater than 1 foot at Zones 1, 2 and 4. During remediation excavation activities it was realized that in the commercial zones, (Zones 1 and 2) a more realistic and appropriate exposure scenario for soils at a depth greater than 1 foot BGS would be that of a construction worker. Because the Baseline Risk Assessment did not include the construction worker exposure scenario, additional risk assessment work was performed. The construction worker exposure scenario recognizes that periodic maintenance and/or installation of subsurface utilities/structures will be required in the future. In general, the construction worker exposure scenario differs from the commercial exposure scenario by evaluating risks from contaminated soils below one foot from ground surface using an exposure duration that mimics the potential need to perform periodic subsurface utility work. The top one foot of soil meets the appropriate risk-based clean-up goals for the zone. In addition, the construction worker exposure scenario is recognized as an appropriate risk scenario for the public benefit reuse areas (Zone 4) because the "open space" user will not be excavating below one foot and will be protected by the one foot of soil meeting its risk-based clean-up goals.

Additional risk assessment work was performed to estimate the carcinogenic risks and non-cancer hazard indices from exposure to PAHs in soil for a construction worker who may be performing building construction, excavation and/or other similar types of activities in Zones 1, 2, and 4 at MTL. The construction worker exposure scenario was evaluated for soils using PAHs because the nature and extent of soil contamination encountered at MTL primarily consisted of PAHs. Furthermore, revised risk-based soil clean-up goals were developed for the PAHs of concern based on the construction worker exposure scenario.

In September 1999, Foster Wheeler Environmental Corporation completed the *Feasibility Study Addendum*, in which several different excavation and capping alternatives for Areas M and P/Q were identified, as well as the re-evaluation of PAH cleanup levels originally identified in the ROD.

The second ESD specific for the Charles River Park was signed by the Army and the EPA in June 2001. The MassDEP provided a letter of concurrence on this ESD. The ESD established construction worker cleanup values for PAHs to be used at depths greater than two feet BGS at the Charles River Park. The construction worker values were the same as those developed for use on the former AMTL reuse parcels of the site. Foster Wheeler Environmental Corporation completed the second phase of the remedial action on Areas M, P, Q, and the Riverbank Areas in the fall of 2001 in accordance with the June 2001 ESD. Site restoration monitoring and maintenance activities of Area P and Q riverbanks continued annually from 2002 through 2004 until completion of the three year program. In April 2005, goose netting was placed in the terrace wetland Area P riverbank to prevent the geese from eating the herbaceous plants that were planted in the spring of 2004 that replaced several of the original plants placed by the Army in 2002.

The second five-year review completed in March 2006 indicated that erosion along the Charles River adjacent to Charles River Park could lead to exposure of contaminated material that was left in place under the clean replacement fill placed during soil remediation and subsequent site restoration and that this issue should be addressed to prevent potential future exposure and reduce risk. In September of 2006, work began on a shoreline stabilization project to stabilize the entire reach by treating those remaining sections of eroded riverbank and to provide habitat enhancements at the Charles River Park.

3.3 BACKGROUND

3.3.1 Physical Characteristics

See Section 2.3.1.

3.3.2 Land and Resource Use

Charles River Park consists of approximately 11 acres of land and is bounded between North Beacon Street to the north, the Charles River to the south, the WYC to the west, and the North Beacon Street/Charles River Road intersection to the east. A public park, a yacht club, and North Beacon Street are located on what was the 11 acre easement granted by the U.S. Army to the Commonwealth of Massachusetts OCR and transferred to the DCR in May 2005. The western third of the DCR property is permitted to the WYC by the DCR. This 11-acre parcel is known as Zone 5. Remediation locations, as defined in the September 1996 ROD, include Areas M, N, O, P, and Q. Area M is located within the property occupied by the WYC. The reuse alternative selected for Charles River Park was public/open space access. In Areas M, N, O, P, and Q, soil cleanup goals were established for PAHs based on human health risk and pesticides based on ecological risk.

3.3.3 History of Contamination

The Charles River Park has had no role in the site's mission related activities since the Army granted the ROW to the MDC in 1920. However, some portion of the property was used for employee parking to accommodate increased personnel stationed at the site during World War II. As part of the Remedial Investigation field activities at the site in 1991 and 1992, Weston collected surface soil samples and installed borings to various depths throughout the site. The

overall areas targeted for remediation were delineated in the site Feasibility Study using the Remedial Investigation data.

3.3.4 Initial Response

Using information gathered during the RI/FS, remedial action objectives were identified for cleanup of the AMTL Site (see Table 3-1).

As the table indicates, the cleanup of the Charles River Park parcel included delineation and remediation of soil contaminated with PAHs, pesticides, and metals having concentrations above acceptable risk levels to human and ecological receptors. The selected remedy was soil excavation and off-site disposal/reuse (Alternative S6) (Roy F. Weston, September 1996). This remedy included the following:

- Excavation of areas with contaminated soil that were above cleanup goals.
- Confirmatory soil sampling within excavations after contaminated soil removal.
- Off-site landfill disposal or reuse of the excavated soil.
- Backfilling of clean fill soil into the excavations.
- Institutional controls with five-year site reviews.

ICs for this portion of the site include restrictions to prevent the use of the area for residential-related activities, as well as to limit activities related to potentially contaminated soil under buildings, and to ensure that at least two feet of clean fill remains in place in remediated areas. To the extent required by law, EPA and the U.S. Army will review the site at least once every five-years after the initiation of remedial action at the site for the areas where any hazardous contaminants remain to ensure that the restrictions continue to protect human health and the environment. Specifically, the reviews will be performed to determine if restrictions are effective and that the remedy remains protective of human health and the environment.

Table 3-1: Remedial Investigation COCs for OU1 Zone 5

Sample ID	Sample Depth (feet BGS)	Contaminant(s) Detected During RI	Measured Concentration (mg/kg)	Risk Based Soil Cleanup Goal (mg/kg)	Cleanup Goal Basis
Area M					
Boring GRSB-11	0-2	Benzo(a)anthracene	>12	8.5	Human Health
		Benzo(a) pyrene	>6.2	2	Human Health
		Benzo(b)fluoranthene	14.8	7.9	Human Health
		Benzo(k)fluoranthene	24.7	3.2	Human Health
		Chrysene	>12	11.1	Human Health
		Dieldrin	0.44	0.35	Ecological
		Lead	1,330	1,000	Ecological
Area N					
Boring GRSB-19	0-2	Chlordane	1.7	1.4	Ecological
		DDT	0.188	0.17	Ecological
Area O					
Boring 17SUB02	1.5-2.5	Benzo(a)anthracene	31.5	8.5	Human Health
		Benzo(a) pyrene	36.5	2	Human Health
		Benzo(b)fluoranthene	15.4	7.9	Human Health
		Benzo(k)fluoranthene	23.6	6.2	Human Health
		Chrysene	33.9	11.1	Human Health
		Dibenz(a,h)anthracene	3.34	0.27	Human Health
		Indeno(1,2,3-cd)pyrene	10.4	3	Human Health
Area P					
Boring 17SB-2	0-2	Benzo(a)pyrene	8.41	2	Human Health
		Indeo(1,2,3-cd)pyrene	8.22	3	Human Health
Area Q					
Boring 17SB-3	0-2	Benzo(a)pyrene	3.14	2	Human Health
		Indeno(1,2,3-cd)pyrene	4.51	3	Human Health
		DDE	6.33	0.14	Ecological
		DDT	3.83	0.17	Ecological
Note: mg/kg = milligrams per kilogram					

Charles River Park is located in Zone 5 of the larger OU1, and the cleanup goals are focused on open space land use. The cleanup goals for the Contaminants of Concern (COCs) generally correspond to background except for pesticides, which is based on ecological effects. Note that Aroclor-1260 was not a COC for Charles River Park as it was elsewhere at OU 1. The cleanup goals for open land use are the same as for the other land uses. The number of COCs does vary according for open space, as follows:

- Land use at Charles River Park is open space with public access, with cleanup goals for twelve COCs.
 - Ecological goals were used for the pesticides; human health goals are used for the remainder.
 - Less stringent human health goals for Charles River Park were later set in the second Explanation of Significant Differences dated 2001 for construction workers exposed to subsurface soil below 2 feet.

3.3.5 Basis for Taking Action

It was originally agreed by EPA and the Army on 10 June 1997 that the maximum excavation depth for excavation in Charles River Park would be 4 feet BGS or to groundwater if it was

encountered first. This maximum excavation depth was limited because: 1) potential future building in Charles River Park is expected to be limited due to open space future use and existing environmental regulations (e.g., Massachusetts River Protection Act); 2) groundwater is located at a shallow depth (generally around 4 ft. BGS.); 3) groundwater was not a CERCLA media of concern; 4) the 4 foot depth provides a definitive limit; and 5) the 4 foot depth is protective of human health and the environment for the intended reuse.

The original cleanup goals in the ROD were developed based on the future mixed use for the entire site, including residential, commercial, and recreational scenarios. For human health, risk based goals were calculated to comply with CERCLA as well as the MCP. However, the risk based goals were lower than background concentrations.

Background concentrations were determined using soil data collected from numerous points off site from the AMTL property and from points near or along the northern property boundary (Arsenal Street). Since the Army and EPA do not typically require cleanup below background as a matter of policy, the actual site cleanup goals were set at the background levels rather than the risk based cleanup goals indicated in Table 3-1.

During the remediation excavation activities at the main part of the Watertown installation, it was realized that for the commercial and open space zones, the most appropriate cleanup values for soil greater than 1 foot BGS would be those developed for the construction worker scenario. Public access exposures are typically limited to interaction with the surface soil and possible minimal intrusive activity in the soil to a maximum depth of one foot (e.g., from incidental digging by children, dirt bikes, picnicking). The construction worker scenario is based on the potential need to perform periodic subsurface work.

In June 2001 the second ESD was signed revising the depth of the excavation for Charles River Park Areas M, P, and Q to 2 rather than 4 feet. Areas N and O were remediated in accordance with the ROD. Table 3-2 lists the revised cleanup levels per the ESDs. The differences between the ROD and the ESD goals for PAHs are based on the duration of time a construction worker is exposed to the soil.

Table 3-2: Charles River Park Revised Soil Cleanup Goals for Site Reuse

Chemical	Cleanup Goal (mg/kg)	
	ROD	ESD
PAHs		
Benzo(a)anthracene	8.5	1,760
Benzo(a)pyrene	2	154
Benzo(b)fluoranthene	7.9	1,760
Benzo(k)fluoranthene	6.2	17,600
Chrysene	11.1	176,000
Dibenzo(a,h)anthracene	0.27	154
Indeno(1,2,3-cd)pyrene	3	1,760
Pesticides		
Chlordane	1.4	No Change
DDD	13.7	No Change
DDE	0.14	No Change
DDT	0.17	No Change
Dieldrin	0.35	No Change

For the Charles River Park, the ROD specified human health based cleanup levels for PAHs in shallow soil at the zero to two foot interval. For deeper soil below two feet, the ESD provided human health based cleanup levels. The cleanup levels for pesticides specified in the ROD for the upper two feet of soil were based on the ecological risk assessment (*Feasibility Study Report (Outdoor) Army Materials Technology Laboratory, Weston, January 1996*). The pesticide cleanup goals were not revised in the ESD.

3.4 REMEDIAL ACTIONS

3.4.1 Remedy Implementation

The initial phase of the remedial action in Charles River Park was conducted in 1997. Upon completion of the soil removal at each area, the excavation was filled with an equal volume of clean fill brought in from an outside source. The landscaping in the excavated area and other areas affected by excavation activities was generally restored to pre-excavation conditions. Trees were replaced as agreed upon in the April 24, 1997 meeting between USACE-NAE, WESTON, the Watertown Conservation Commission (WCC), AMTL Staff, MDC (now DCR), and the WYC. Sidewalks, roadways, and parking areas were also restored to pre-excavation conditions.

3.4.1.1 Remedy Implementation of Area M

Area M was initially excavated around soil boring GRSB-11 to dimensions of 25 ft × 25 ft × 3 feet (L×W×D) to remove soil contaminated with PAHs, pesticides, and lead. Excavation at Area M began on May 12, 1997. Some of the soil samples from the excavation bottom (3 ft BGS) exceeded applicable PAH cleanup goals. As a result, it was decided by Army that the entire excavation footprint should be excavated to 4 ft BGS prior to backfill. This excavation was completed on June 12, 1997.

During the excavation at Area M, several samples from the excavation sidewalls exceeded PAH cleanup goals. As a result, a program of soil borings was initiated in lieu of continued excavation in an attempt to define the lateral extent of contaminated area(s). Soil borings were performed at Area M in an attempt to define the contaminated area without substantial

disturbance to WYC operations. These 24 soil boring locations were performed on June 10th and 13th 1997. Laboratory analytical results generally showed PAHs in excess of soil cleanup goals approximately 75 to 100 ft from the excavation sidewalls, with the exception of the North Beacon Street embankment to the north, which was below the PAH cleanup goals

From the initial excavation, three expansions were performed at Area M and a total of approximately 382 tons of soil was removed. The final excavation depth at Area M was four feet BGS with a maximum length and width of 55 ft and 40 ft, respectively.

Based on these findings, work at Area M was suspended pending reevaluation of the ROD. Once the revised cleanup levels per the second ESD were agreed to by the Army and EPA, Foster Wheeler Environmental Corporation resumed remedial activities in July 2001 at Area M. The remainder of the area was then excavated to a total depth of two feet BGS. The area was then backfilled and covered with a layer of asphalt.

Ultimately, the total soil removal from Area M, including that removed according to the original ROD and that removed according to the second ESD, was 3,077 cubic yards (5,325 tons). All confirmation soil sample concentrations were below the revised PAH, and the lead and pesticide cleanup goals.

3.4.1.2 Remedy Implementation of Area N

Area N was initially excavated around soil boring GRSB-19 to dimensions of 10 ft × 10 ft × 3 ft (L×W×D) to remove pesticide contaminated soil, which were the only Contaminants of Concern (COC) at Area N. Excavation at Area N occurred between 14 May and 30 June 1997. During the excavations at Area N, one large oak tree was removed from the excavation area. Two excavation expansions were performed at Area N and approximately 133 tons of soil was removed. The final excavation dimensions at Area N were 30 ft x 33 ft x 3 ft (L×W×D). The northeast corner of the excavation was excavated to 4 feet BGS. All confirmation soil sample concentrations were below the pesticide cleanup goals. No further remediation was required.

Area N restoration was performed on 30 June and July 1, 1997 using common borrow material as a base under 0.5 ft of loam. Trees were planted in June 1998 according to the restoration plan agreed upon between USACE-NAE and the WCC.

3.4.1.3 Remedy Implementation of Area O

Area O was initially excavated around soil sample 17SUB02 to dimensions of 10 ft × 10 ft × 3 ft (L×W×D) to remove PAH-contaminated soil, which were the only COCs at Area O. Excavation at Area O occurred between 14 May and 11 June 1997. During the excavation at Area O, one red oak tree was removed from the excavated area. Two excavation expansions were performed at Area O and approximately 86 tons of soil was removed. The final excavation dimensions at Area O were 23 ft × 10 ft × 3 ft (L×W×D). All confirmation soil sample concentrations were below ROD PAH cleanup goals. No further remediation was required. Area O restoration was performed on 30 June and 1 July 1997 using common borrow material as a base under 0.5 ft of loam. Three-quarter inch diameter stone was placed around the outfall of a drain pipe located just to the north of the excavation area. This stone was placed to prevent erosion during heavy drainage events. Trees were planted in June 1998 according to the restoration plan agreed upon by the USACE-NAE and the WCC.

3.4.1.4 Remedy Implementation of Area P

Area P was initially excavated around soil boring 17SB- 2 to dimensions of 25 ft × 25 ft × 3 ft (L×W×D) to remove PAH-contaminated soil, which were the only COCs at Area P. Excavation at Area P occurred between May 1 and 18 July 1997. Three excavation expansions were performed at Area P and approximately 2,730 tons of soil was removed. Final dimensions of the Area P excavation at its longest and widest points were 135 ft and 115 ft, respectively. The final excavation depth at Area P ranged from 3 to 4 ft BGS. Some confirmation sample results from the Area P excavation sidewalls still exceeded the PAH cleanup goals established in the September 1996 ROD. Work at Area P was temporarily suspended at this time. Remedial activities recommenced at Area P in September 2000. All confirmation soil sample concentrations were below the ESD PAH cleanup goals. The ESD was ultimately signed in May 2001. Because of the pre-historical significance of the Charles River Park parcel, archaeological oversight of the excavation activities was conducted in Area P during the remedial work. Excavation activities at Area P were monitored and documented by The Public Archaeology Laboratory, Inc. (PAL) of Pawtucket, Rhode Island. No items of historical significance were found during excavation activities in Area P.

3.4.1.5 Remedy Implementation of Area Q

Area Q was initially excavated around soil boring 17SB-3 to dimension of 25 ft x 25 x 3 ft (L x W x D) to remove PAH- and pesticide-contaminated soil. The initial Excavation at Area Q occurred between 14 May and 30 June 1997. Two expansions were subsequently performed at Area Q

and approximately 1,030 tons of non-Resource Conservation and Recovery Act (RCRA) soil and 117 tons of RCRA soil were removed, where the soils were determined to RCRA if TCLP analysis resulted in a hazardous waste classification. Final dimensions of the Area Q excavation at its longest and widest points were 125 ft and 66 ft, respectively. The final excavation depth at Area Q was 4- ft BGS. Confirmation sample results from the Area Q excavation sidewalls exceeded the PAH cleanup goals established in the September 1996 ROD. So work in Area Q was temporarily suspended in June 1997. Area Q restoration was performed between 30 July and 9 September 1997 using common borrow material as a base under 0.5 ft. of loam. The fence surrounding the Area Q excavation area remained in-place until 23 October 1997 when the new grass was deemed established. During the excavation at Area Q, several trees including four small pines, one large pine, and two small boxwood trees were removed from the excavation area. No replacement of trees was required in Area Q.

Remaining contamination associated with Area Q was excavated between September and November 2000 during remediation of the combined Area P/Q. Because of the historical significance of the Charles River Park parcel, archaeological oversight of the excavation activities were conducted in Area Q. Excavation activities at Area Q were monitored and documented by PAL. No items of historical significance were found during excavation activities in Area Q.

3.4.1.6 Remedy Implementation of Area P/Q

Area P/Q was designated as the area between the Area P and Area Q excavations. A total of 7,556 cubic yards of soil was removed from Area P/Q during September through November 2000. For the Charles River Park, the ROD PAH cleanup levels applied to soil in the 0 to 2 foot depth interval. For soil below 2 ft, the ESD PAH cleanup levels governed. The excavation of Area P/Q was completed in a continuous fashion, starting at the western end and proceeding to the east. Once the excavation reached a depth of two feet, confirmatory soil samples were collected from the excavation bottom and exterior sidewalls. A total of 100 samples were collected from this area (66 floor samples and 34 sidewall samples). The laboratory analytical results were compared to the appropriate cleanup goals to determine if further excavation was required. All 100 confirmatory soil sample results were below the established criteria; therefore, additional excavation was not necessary. Upon completion of the soil removal, the excavated area was filled with an equal volume of clean fill brought in from an outside source and was restored to pre-excavation conditions. A geo-textile marker fabric was also installed at the base of the 2 ft BGS excavation prior to clean backfilling to serve as a future warning to construction/utility workers in the event that excavation is needed.

3.4.1.7 Remedy Implementation of Riverbank Excavations

In support of the riverbank remediation in Area P/Q that occurred in the fall of 2000 and in Area M in July 2001, two separate riverbank sampling programs were completed in Areas P/Q and M. The first sampling event was conducted between 31 July and 3 August 2000 in accordance with the EPA-approved *Final Sampling and Analysis Plan Addendum*, dated August 2000. This event involved the collection of soil samples at ten sampling locations along the approximate 10 ft wide riverbank strip in Area P/Q (samples RB1-S01 through RB1-S12). All of the samples were collected from 0 to 2 ft (BGS) and were analyzed for PAHs and pesticides. The second riverbank sampling event occurred in January 2001 to supplement the original August 2000 riverbank data. The sampling was conducted between January 3rd and 4th, 2001 in accordance with the EPA-approved *Sampling and Analysis Plan Addendum*, dated December 2000. This event involved the collection of soil samples at twenty sampling locations along the approximate 10 ft wide riverbank strip in Area P/Q from depths between 0 and 2 ft BGS and 2 to 4 ft BGS.

Samples were collected from 2 to 4 ft BGS at the same ten locations as the August sampling event (RB-B1 through RB-B10) as well as from multiple depths at ten new locations (RB-B11 through RB-B20). The samples collected from 0 to 2 ft BGS were analyzed for PAHs and pesticides, while the samples from 2 to 4 ft BGS were analyzed for PAHs only. The ROD cleanup levels for pesticides applied only to the upper two feet of soil based on the ecological risk assessment. The results of both of these sampling events were used as the basis for determining the extent of riverbank excavation required.

The results for Area M riverbank showed that the ROD cleanup levels for some PAH compounds were exceeded in the upper two ft of soil in two locations (RB1-S11 and RB1-S12) at the west end of Area M riverbank. In Area P riverbank, the ROD cleanup level for one pesticide compound (DDT) was exceeded in the upper two feet of soil in two locations (RB-B19 and RB-B20). In Area Q riverbank, ROD cleanup levels for some PAH compounds were exceeded in two locations (RB-B10 and RB-EH1).

No exceedances of ESD criteria were identified in any of the riverbank samples. Since no ESD criteria were exceeded, all riverbank excavations were terminated at 2 ft BGS and followed by confirmatory sampling. The Areas P, Q, and M riverbank excavations can be seen in. Following completion of the excavation in each area, confirmatory soil samples were collected from the excavation bottom and exterior sidewalls of any excavation that was not backfilled with two feet of cover. All confirmation sample concentrations were below the PAH and pesticide ROD and ESD cleanup goals and were taken at representative locations of all areas where excavation was required.

3.4.1.7.1 Remedy Implementation of Area M Riverbank

The estimated riverbank area that required excavation was approximately 1,100 square feet. The Area M riverbank was limited by the Charles River along the southern edge, the existing parking lot to the north (Area M), the limit of Area M to the west, and the boat ramp to the east. Excavation to the north was terminated at the edge of the existing pavement, as the paved area was remediated as part of Area M excavation in July 2001. A 2 ft excavation depth was reached and 75 cubic yards (cy) of soil (112 tons) was removed. Excavation along the Area M Riverbank was performed using a small backhoe and by hand in places to avoid damage or impacts to existing utilities. The electrical lines servicing the docks in this area were de-energized prior to the start of work. Since the excavations are to be only 2 ft deep, the slope of this excavation was not shored. The excavation sides were sloped as necessary to prevent sidewall collapse. Confirmation sampling determined that ROD and ESD cleanup goals were met.

3.4.1.7.2 Remedy Implementation of Areas P and Q Riverbank

For the Area P Riverbank, the estimated area that required excavation was approximately 1,400 square feet. Using sample locations B-19 and B-20, the area was defined by the existing fence to the north (Area P/Q), half the distance between B-19/B-20 and B-4 to the south, half the distance between B-19 and B-18 to the west, and half the distance between B-20 and B-5 to the east. The southern extent of the excavation remained in the upland portion of the riverbank. A 2 ft excavation depth was reached and 140 cy of soil (210 tons) were removed. For the Area Q Riverbank, the estimated area that required excavation was approximately 1,820 square feet. Using the sample locations B-10 and B-11, the area was defined by the existing fence to the north (Area P/Q), the Charles River to the south, half the distance between B-10 and B-9 to the west, and half the distance between B-11 and B-12 to the east. The original excavation length of this riverbank was 150 ft, but after a field review, excavation was stopped prior to the root system of one large tree along the riverbank. The final length of excavation was 120 ft. A 2-ft

excavation depth was reached and 127 cy of soil (191 tons) were removed. Confirmation sampling determined that ROD and ESD cleanup goals were met.

3.4.2 System Operation/Operation and Maintenance

The remedy required the Army to perform periodic inspections of the restorations at Area P and Area Q during the three-year monitoring and maintenance plan program that concluded in 2004. The Army placed goose netting in 2005 along the immediate riverbank to assist in the development of the Area P terrace wetland by preventing overgrazing by the large resident population of Canada geese, which would destroy the new plantings.

3.5 PROGRESS SINCE THE LAST FIVE-YEAR REVIEW

All site restoration work was completed by the first five-year review (2001) including the riverbank restoration work at Areas P and Q, conducted in May 2001 at Area Q and in October 2001 at Area P. An annual monitoring and maintenance plan program at Riverbank Areas P and Q was conducted between 2002 and 2004. Annual IC inspections started in this area in 2004 continue in accordance with the IC MOA signed by the Army, EPA and MassDEP in October 2003. The Park was transferred to the DCR in May of 2005.

The "Second Five-Year Review Report (2002-2006) for the US Army Materials Technology Laboratory, Watertown, Massachusetts, NPL" was completed in March 2006 (Calibre 2006). This report concluded that the remedy at the Charles River Park parcel, which is an area with contaminated soil remaining in the subsurface, is protective of human health and the environment in the short-term because there is no evidence of exposure. However, in order for the remedy to remain protective in the long-term, stabilization of the river bank was needed to eliminate erosion into the Charles River. Consequently, the Charles River Enhanced Shoreline Stabilization Project (CRESSP) was constructed to stabilize the riverbank and prevent any erosion into the Charles River to ensure that the remedial actions previously conducted at the Charles River Park remain protective of human health and the environment in the long-term. In addition to its primary purpose of stabilizing the riverbank, the CRESSP also enhanced the wildlife habitat by planting a variety of conservation seed mixes, woody plants such as elderberry and silky dogwood and river birch and silver maple trees.

In general, the work included the clearing of brush, installation of boulders, riprap and coir fascine as a slope toe, placement of fill materials, geotextile fabric, topsoil, conservation seed mix, select trees and shrub plantings to stabilize portions of the riverbank (USACE, 2006 a; USACE, 2006b). Work began on September 19, 2006 and the project was substantially complete by October 26, 2006. Work began with the setup of temporary facilities and controls followed by the installation of the turbidity barrier in the river, the clearing of brush in Treatment Zone 1 and the removal of sumac growth in Treatment Zones 3 (northern portion) and 4. Work then proceeded within Treatment Zone 1 with the placement of boulders at the toe of slope and partial placement of the fill material. Riprap material was then placed at Treatment Zone 2 (north). Once the fill materials were completed in Zones 1 and 3 (north) the work generally proceeded from north to the south across Zones 4 and 3. Following the placement of the compost amended topsoil the entire site was hydro-seeded.

To document the progression and success of the riverbank stabilization and habitat enhancements, a 3-year operational and maintenance monitoring plan was required. The monitoring plan was designed to document vegetation establishment and survival, structural stability of the stabilization treatments, and invasive species colonization. Annual monitoring commenced following completion of construction activities.

The first year O&M Plan Report (Watermark and USACE, 2007) summarized the findings and work conducted during each of four quarterly monitoring periods. The visits identified specific problems associated with restoration and the steps taken to remediate the unexpected deficiencies, address invasive plant issues, monitor stabilization and erosion, and perform general maintenance. The same was true for the second year O&M Report (USACE, 2008) and the third year O&M Report (USACE, 2009). The findings reported in the third and final O&M report indicated that the bank stabilization and re-vegetation of the shoreline habitats was effective.

3.6 FIVE-YEAR REVIEW PROCESS

3.6.1 Administrative Components

Refer to Section 1.1.

3.6.2 Community Involvement

Refer to Section 1.1.

3.6.3 Document Review

Documents Reviewed are referenced in Appendix 5.

3.6.4 Data Review

The OU1 ROD and ESD do not require data collection. The Army will evaluate the riverbank for erosion on an annual basis. IC's required by the Grant MOA have been implemented and are inspected on an annual basis in accordance with the IC MOA. Minor violations have occurred and have been resolved. See Sections 3.8 and 3.9 below.

3.6.5 Site Inspections

See Section 2.6.5.

3.6.6 Interviews

See Section 2.6.6.

3.7 TECHNICAL ASSESSMENT

Questions A: *Is the Remedy functioning as intended by the decision documents?*

Yes. The remedy is functioning as intended by the 1996 ROD and 2001 ESD (institutional controls). The Army has concluded that the remedy complies with the highest and best use, which is recreational.

Question B: *Are the exposure assumptions, toxicity data, cleanup values, and RAO's used at the time of the remedy selection still valid?*

Yes. The human health and ecological risk assessments for the site resulted in development of risk based goals that by statute comply with CERCLA. The risk based concentrations remain as impractical goals because they are lower than the background concentrations. Since background levels were used for soil cleanup goals less than 1 foot at this portion of the site, any changes to exposure assumption, toxicity data or cleanup values since the last five-year review will not have any affect. Although risk assessment parameters were subject to change during the review period, local background conditions are unlikely to have changed.

Toxicity data for the contaminants of concern were reviewed during this review to determine if any revisions have occurred since the ESD was issued.

The cleanup levels for PAHs were based on human carcinogenicity. Current toxicity values for the COCs were checked using the USEPA Integrated Risk Management System (IRIS), a peer reviewed toxicity database. The toxicity values for these carcinogenic PAHs have not changed since the remedy was selected.

However, methods to evaluate exposures to carcinogenic PAHs have changed since the time of the ROD. Because numerous carcinogenic PAHs also are mutagenic, cancer risk estimates for children could be increased up to 3 fold. This would result in higher risks from PAHs over a lifetime due to increased risk of exposure when the receptor is less than 16 years old (child resident and adolescent trespasser). This would not change the RAOs for PAHs because: 1) the selected remedy is based on attaining local background concentrations, and; 2) the remedy is based on preventing exposure to PAHs by means of a 2 foot soil cover.

The cleanup goals for pesticides were based on ecological toxicity. USEPA issued updated avian and mammalian toxicity reference values for DDT and its metabolites in April 2007. USEPA also updated toxicity reference values for dieldrin in April 2007. Toxicity reference values for chlordane have not been updated by USEPA. Although the toxicity reference values have changed, the remedy remains fundamentally protective since removal actions already have occurred and clean backfill remains in place.

The cleanup goal for lead is based on a consensus value developed during the remedial design, and that has not changed. The cleanup goals remain valid today.

Question C: *Has any other information come to light that could call into question the protectiveness of the remedy*

No. The bank stabilization project completed in 2006 has addressed the concerns identified in the second five-year review that shoreline erosion could lead to exposure of contaminated material. Continuing operations and maintenance and annual inspections have indicated that the remedy selected for the Charles River Park is protective and no other information has come to light to question the protectiveness of the remedy.

Technical Assessment Summary

Based on the data reviewed and the site information, the remedy is functioning as intended in the ROD. There have been no changes in ARARs, TBCs, screening levels, or toxicity criteria for the COCs, and there have been no changes to the standardized risk assessment methodology that affect the protectiveness of the remedy.

⁴ *Ecological Soil Screening Levels for DDT and Metabolites*, OSWER Directive 9285.7-57, U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response, 1200 Pennsylvania Avenue, N.W. Washington, DC 20460.

⁵ *Ecological Soil Screening Levels for Dieldrin, Interim Final*, OSWER Directive 9285.7-56, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460, March 2005, Revised April 2007.

3.8 ISSUES

During the interviews, mention was made that minor bank erosion may be continuing along the shoreline of Charles River Park, where the bank stabilization project was completed in recent years. The observed erosion only exposes the edges of the buried geomembrane and does not affect the protectiveness of the remediation strategy. This minor erosion should continue to be observed to ensure that substantive erosion of the geomembrane does not occur. This is not an issue that effects protectiveness at this time.

3.9 RECOMMENDATIONS AND FOLLOWUP ACTIONS

It is recommended that Annual IC Reports continue to occur every year in accordance with the IC MOA and that the next five-year review is scheduled for all areas that have any land use restrictions and still have some contamination that results in restricted use. The Army needs to continue inspections of the Charles River shoreline to identify erosion during the IC inspections so as to maintain the shoreline and the integrity of the stabilization project. Finally, the cinder block walls installed at the WYC since the second five-year review need to continue to be maintained to ensure the markers within the Yacht Club area can be seen and located.

3.10 PROTECTIVENESS STATEMENT

Based on the document review, data review and analysis, site inspection, and an assessment of the remedy protectiveness, the remedy and current institutional controls for the Charles River Park (OU1, Zone 5) are considered protective of human health and the environment in the long term because there is no evidence that there is current exposure.

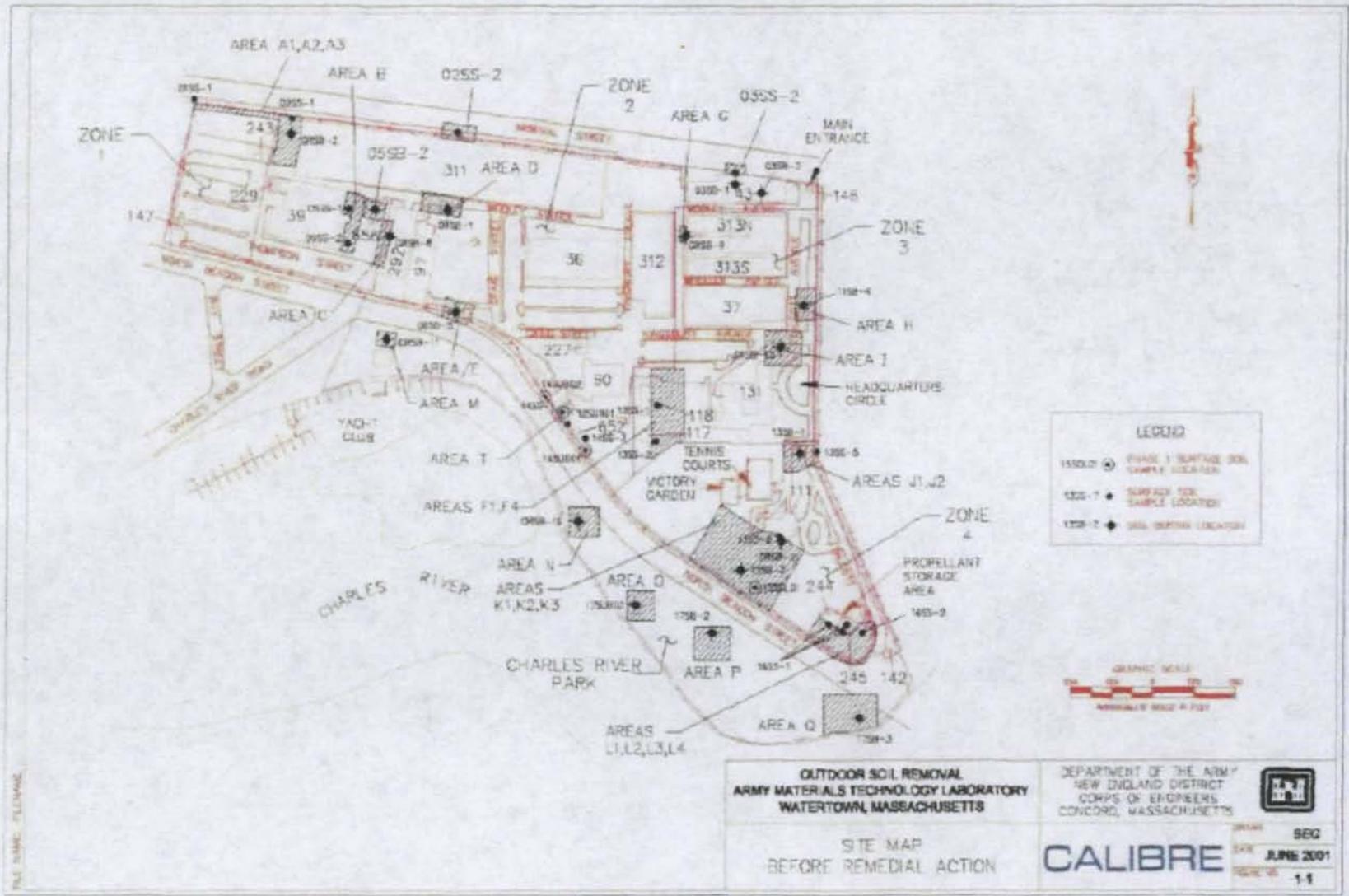
3.11 NEXT REVIEW

The next five-year review for AMTL, including the Charles River Park, should be performed within five-years of the completion of this review. The completion date is the date on which EPA issues its letter to the U.S. Army either concurring with its findings or documenting reasons for non-concurrence.

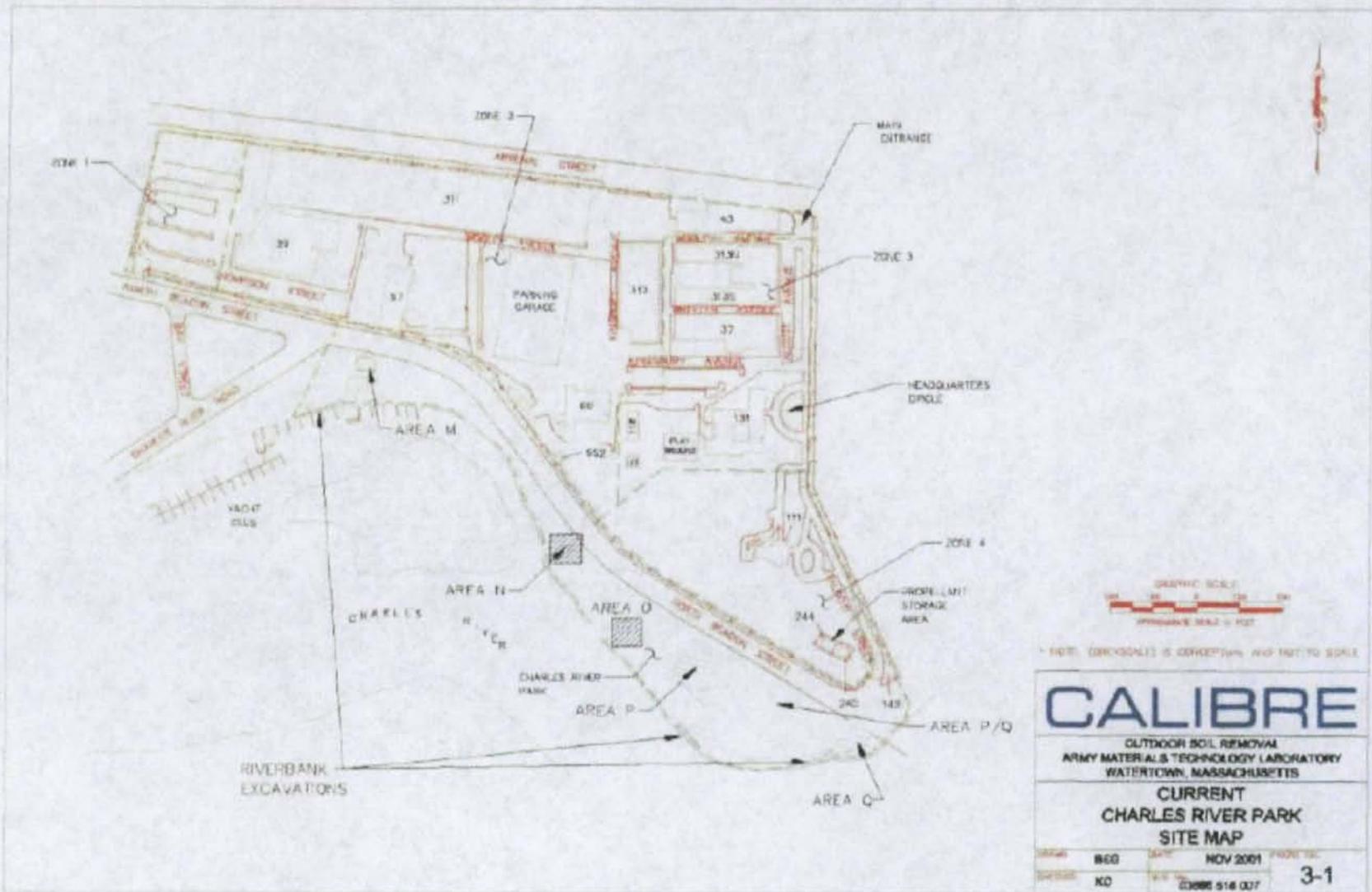
4.0 OU2 - CHARLES RIVER

A No Further Action (NFA) ROD was signed in September 2005 for this OU because of consistency of the AMTL Site conditions with urban background and the similar potential for ecological risks across sampling reaches. Therefore, the Charles River OU had not been in the past and continues to not be evaluated during the ongoing five-year review evaluations. The second five-year review report (Calibre, 2006) should be referenced for more information on OU2.

Appendix 1:
AMTL and Charles River Park Site Maps



FILE NAME: PLEWAB



CALIBRE

OUTDOOR SOIL REMOVAL
 ARMY MATERIALS TECHNOLOGY LABORATORY
 WATERTOWN, MASSACHUSETTS

CURRENT CHARLES RIVER PARK SITE MAP

DATE	NOV 2001	PROJECT	
DRAWN	NO	SCALE	3-1
NO	NOV 2001	PROJECT	
NO	NOV 2001	PROJECT	

Appendix 2:
Public Notice

Army Announces start of Five-Year Review of Army Materials Technology Laboratory, Charles River Park and Charles River in Watertown, MA

The U.S. Army is starting the third Five-Year Review of the selected cleanup actions that were implemented at the former Army Materials Technology Laboratory (AMTL) and associated Charles River Park. The purpose of the Five-Year Review is to determine if the cleanup actions implemented at AMTL and Charles River Park are still protective of human health and the environment. AMTL was divided into five zones based upon intended future reuse. Selected cleanups for each zone were addressed by the level and type of contamination. All zones had either polynuclear aromatic hydrocarbons (PAH), metals (such as lead, nickel, or chromium) or pesticides (DDE or DDT). All cleanup goals were achieved. Additional institutional controls were implemented and remain today as part of the cleanup actions.

The public is invited to provide any information regarding these sites that it deems relevant to the review process. Public input will be accepted through September 30, 2010 and should be directed to the U.S. Army's point of contact listed below. The Five-Year is scheduled for completion on November 30, 2010. Upon completion, the report will be placed in the Information Repository, and another public notice will be issued to present findings of the review.

Additional AMTL and the Charles River Park environmental cleanup information is available at the following Information Repository:

Watertown Free Public Library
Main Library
30 Common Street
Watertown, MA 02472
(617) 972-6436

For further information or to submit written comments, please contact:
Kenneth Heim
Army Technical Manager
U.S. Army Corps of Engineers - New England District
Engineering/Planning Division
696 Virginia Road
Concord, MA 01742-2751
(978) 318-8650
Email: kenneth.j.heim@usace.army.mil

Appendix 3:
Tenants of AMTL

Property	Address	Floor	Name	Area (ft ²)
60	1 Kingsbury		A123	10,993
312	321 Arsenal	3	A123	9,894
313	100 Talcott Ave.	2E	A123	3,506
311	311 Arsenal	4-W	Allen & Gerritsen, Inc.	24,347
311	311 Arsenal	4	Alzheimer's Association	12,000
311	311 Arsenal	1	Assocs. In Dermatology	2,500
311	311 Arsenal	2N,E 3E	Athenahealth	112,616
97	400 N. Beacon		Athenahealth	21,000
312	321 Arsenal	4	Boston Bread, L.L.C.	4,500
311	311 Arsenal	2&3	BR+A	56,929
37	200 Talcott		Bright Horizons	42,950
131	400 Talcott	1	Bright Horizons	4,876
131	400 Talcott	1	Bright Horizons	8,624
131	400 Talcott	GL	Bright Horizons Day Care	11,000
131	400 Talcott	GL	Bright Horizons Day Care	897
118	2 Kingsbury	2	Carlson Software, Inc.	2,579
313	100 Talcott	1	Communispace	16,674
313	100 Talcott	2	Communispace	18,099
312	321 Arsenal	1ST FL	Enterprise Mobile	8,107
39	300 N. Beacon		HBSPC	93,688
39	300 N. Beacon		HBSPC	19,000
313	100 Talcott	1	HDS Architecture	3,310
131	400 Talcott	2	Innosight	8,000
43	343 Arsenal	2	La Casa de Pedro/	6,466
311	311 Arsenal	4	Liaison International	24,000
117	3 Kingsbury	1	Management Office	1,680
311	311 Arsenal	2	McGarr	2,500
311	311 Arsenal	1	Mobile Messenger	7,153
43	343 Arsenal	1	Molecular, Inc.	28,579
311	311 Arsenal	1-W	Netage Solutions	8,375
311	311 Arsenal	1-W	Pharmetrics, Inc.	26,897
311	311 Arsenal	4E	Scholastic	11,464
313	100 Talcott	1	Scholastic	16,535
313	100 Talcott	2W	SEIU Local 509	10,440
312	321 Arsenal	2	Snowbound Software	9,980
311	311 Arsenal	1-W	Syniverse	8,375
311	311 Arsenal	1E	TSI Watertown, Inc. Boston Sports Club	57,926
131	400 Talcott	2	Vacant	9,600
311	311 Arsenal	3R	Vacant	18,000
118	2 Kingsbury	2	Vacant	1,345
312	321 Arsenal	1	Watertown Art Center	10,000
118	2 Kingsbury	3	Watertown Eye Assoc.	1,104
312	321 Arsenal	2	Watertown Savings	2,858
131	400 Talcott	1	YPO	2,902

Appendix 4:
Chemicals of Concern and Use at AMTL Zones

Zone	Site/Area	Samples	Contaminants	Cleanup Goals (mg/kg)	Cleanup Goals Achieved	Land Reuse Expectation	Land Reuse Current	Notes
1 and 2	A (Subareas A1, A2, A3)	Boring GRSB-2	Indeno(1,2,3-cd)pyrene	3.0	Yes to ROD cleanup goals	Commercial	Area is Commercial	Lot 1 Under Grant, Commercial Reuse
		Surface Soil 01SS-1	Benzo(a)pyrene					
		Surface Soil 02SS-1		2.0				
2	B (Subareas B1, B2)	Surface Soil 05SS-1	Benzo(a)anthracene	8.5	Yes to construction worker risk based cleanup goals and ROD cleanup goals to a depth of 1' BGS	Commercial with Deed Restrictions	Area is zoned Commercial with deed restrictions; is currently a paved driveway	Lot 1 under Grant, was re-excavated by O'Neill
		Surface Soil 02SS-1	Benzo(a)pyrene	2.0				
			Benzo(b)fluoranthene	7.9				
			Benzo(k)fluoranthene	6.2				
			Indeno(1,2,3-cd)pyrene	3.0				
2	C	Boring GRSB-6	Benzo(a)pyrene	2.0	Yes to ROD Cleanup Goals	Commercial	Commercial	Lot 1 under Grant
2	D	Boring 06SB-1	Indeno(1,2,3-cd)pyrene	3.0	Yes to ROD Cleanup Goals	Commercial	Commercial	Lot 1 under Grant
			Benzo(a)pyrene	2.0				
2	E	Boring 06SB-5	Indeno(1,2,3-cd)pyrene	3.0	Yes to Construction worker risk based cleanup goals and ROD cleanup goals to a depth of 1' BGS	Commercial with Deed Restrictions	Commercial with Deed Restrictions	Lot 1 under Grant, Grant violations have occurred at Area E
			Benzo(a)pyrene	2.0				
2	Metals Hot Spot Areas	Surface Soil 14SS-3	Chromium	Ecological Risk Reduction greater than 25%	Yes to ROD Cleanup Goals	Commercial	Commercial	Lot 1 under grant
			Nickel					
		Subsurface Soil 14SUB01	Nickel					
			Zinc					
		Subsurface Soil 14SUB02	Chromium					
2	Lead Hot Spots Areas	Surface Soil 02SS-2	Lead	1,000	Yes to ROD Cleanup Goals	Commercial	Commercial	Lot 1 under grant
		Surface Soil 03SS-2	Lead	1,000				
		Boring 05SB-2	Lead	1,000				
3	F (Subareas F1, F2)	Surface Soil 13SS-1	Indeno(1,2,3-cd)pyrene	3.0	Yes to ROD Cleanup Goals	Unrestricted	Commercial	Lot 1 under grant
			Benzo(a)pyrene	2.0				
		Surface Soil 13SS-2	Chlorodane	1.4				
			DDE	0.1				
			DDT	0.2				
3	G	Boring GRSB-9	Indeno(1,2,3-cd)pyrene	3.0	Yes to Construction worker risk based cleanup goals and ROD cleanup goals to a depth of 1' BGS	Commercial with Deed Restrictions	Area is zoned commercial with deed restrictions; is currently under asphalt paving	Lot 1 under Grant, out of compliance with Grant due to permanent reduction in grade
			Benzo(a)pyrene	2.0				
3	H	Boring 11SB-4	Benzo(a)pyrene	2.0	Yes to ROD Cleanup Goals	Unrestricted	Commercial	Lot 1 under Grant
			Dibenz(a,h)anthracene	0.27				

Zone	Site/Area	Samples	Contaminants	Cleanup Goals (mg/kg)	Cleanup Goals Achieved	Land Reuse Expectation	Land Reuse Current	Notes
3	I	Boring GRSB-15	Benzo(a)anthracene	8.5	Yes to ROD Cleanup Goals	Unrestricted	Commercial	Lot 1 under grant
			Benzo(a)pyrene	2.0				
			Benzo(b)fluoranthene	7.9				
			Benzo(k)fluoranthene	8.2				
			Chrysene	11.1				
			Indeno(1,2,3-cd)pyrene	3.0				
			Chlorodane	1.5				
			DDD	0.3				
			DDE	0.4				
			DDT	0.6				
			Dieldrin	0.1				
4	J (Subareas J1, J2)	Boring 13SB-1	Chlorodane	1.4	Yes to ROD Cleanup Goals	Open Space	Open space	Lot 2 under Grant
			DDE	0.14				
		Surface Soil 13SS-5	DDT	0.17				
			Arochlor 1280	1.0				
4	K (Subareas K1, K2, K3)		Chlorodane	1.4	Yes to ROD Cleanup Goals	Open Space	Open Space	Lot 2 under Grant
			DDE	0.14				
		Boring GRSB-21	DDT	0.17				
		Surface Soil 13SS-8	Arsenic	16.9				
		Boring 15SB-2	Lead	291				
Surface Soil 15SOL01	Nickel	33.8						
4	L (Subareas L1, L2, L3, L4)		Chlorodane	1.4	Yes-L1, L2, L3 were cleaned up to ROD cleanup goals. Area L4 was cleaned up to construction worker risk based cleanup goals and ROD cleanup goals to 1' BGS	Open space with deed restrictions	Open space with deed restrictions. L4 is partially under paving and landscape area	Lot 2 under Grant
		Surface Soil 16SS-1	Chromium	26.8				
		Surface Soil 16SS-2	Nickel	33.8				
			Zinc	157				
			DDE	0.14				
			DDT	0.17				
2	T (Subareas T1, T2)		Chlorodane	Ecological Risk Reduction greater than 25%	Yes to ROD Cleanup Goals	Open Space	Open Space	Lot 1 under Grant
		Surface Soil 14SS-1	DDT					
		12SUB01	Nickel					
			Zinc					
5	M		Benzo(a)anthracene	8.5	Yes to ROD Cleanup Goals. Construction worker values applied at depths >2' BGS	Open Space	Open Space/Yacht Club	Remediation field work is complete. Closeout report and implementation of Institutional Controls pending
			Benzo(a)pyrene	2.0				
			Benzo(b)fluoranthene	7.9				
			Benzo(k)fluoranthene	6.2				
			Chrysene	11.1				
			Dieldrin	0.4				
			Lead	1,000				

Zone	Site/Area	Samples	Contaminants	Cleanup Goals (mg/kg)	Cleanup Goals Achieved	Land Reuse Expectation	Land Reuse Current	Notes																																																			
5	N		Chlorodane	1.4	Yes to ROD Cleanup Goals	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of Institutional Controls																																																			
			DDT	0.17					5	O		Benzo(a)anthracene	8.5	Yes to ROD Cleanup Goals	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of Institutional Controls pending		Benzo(a)pyrene	2.0		Benzo(b)fluoranthene	7.9		Benzo(k)fluoranthene	6.2		Chrysene	11.1		Dibenz(a,h)anthracene	0.3		Indeno(1,2,3-cd)pyrene	3.0	5	P		Benzo(a)pyrene	2.0	Yes to ROD Cleanup Goals, Construction worker values applied at depths >2' BGS	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of institutional controls		Indeno(1,2,3-cd)pyrene	3.0	5	Q		Benzo(a)	2.0	Yes to ROD Cleanup Goals, Construction Worker values applied at depths >2' BGS	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of institutional controls		Indeno(1,2,3-cd)pyrene	3.0
5	O		Benzo(a)anthracene	8.5	Yes to ROD Cleanup Goals	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of Institutional Controls pending																																																			
			Benzo(a)pyrene	2.0																																																							
			Benzo(b)fluoranthene	7.9																																																							
			Benzo(k)fluoranthene	6.2																																																							
			Chrysene	11.1																																																							
			Dibenz(a,h)anthracene	0.3																																																							
	Indeno(1,2,3-cd)pyrene	3.0																																																									
5	P		Benzo(a)pyrene	2.0	Yes to ROD Cleanup Goals, Construction worker values applied at depths >2' BGS	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of institutional controls																																																			
			Indeno(1,2,3-cd)pyrene	3.0					5	Q		Benzo(a)	2.0	Yes to ROD Cleanup Goals, Construction Worker values applied at depths >2' BGS	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of institutional controls		Indeno(1,2,3-cd)pyrene	3.0		DDE	0.14		DDT	0.17																																	
5	Q		Benzo(a)	2.0	Yes to ROD Cleanup Goals, Construction Worker values applied at depths >2' BGS	Open Space	Open Space	Remediation field work is complete. Closeout report and implementation of institutional controls																																																			
			Indeno(1,2,3-cd)pyrene	3.0																																																							
			DDE	0.14																																																							
			DDT	0.17																																																							

Appendix 5:
List of Documents Reviewed

Army Corps of Engineers, New England District, Revised Final Five-Year Review Report Army Materials Technology Laboratory, Watertown, MA, March 2002.

Calibre, 2006. Second Five-Year Review Report, U.S. Army Materials Technology Laboratory, Watertown, Massachusetts. Prepared for: US Army Installation Support Management Activity Washington, D.C. Prepared by: CALIBRE Alexandria, Virginia March 1, 2006

CPI Environmental Services, "Application for Sixth Amendment of the Grant of Environmental Restriction and Easement at the Former Army Materials Technology Laboratory, Watertown, Massachusetts", Prepared for Watertown Arsenal Development Corporation and the President and Fellow of Harvard University, November 2004.

CPI Environmental Services, "Application for Seventh Amendment of the Grant of Environmental Restriction and Easement at the Former Army Materials Technology Laboratory, Watertown, Massachusetts", Prepared for Watertown Arsenal Development Corporation and the President and Fellow of Harvard University, April 5, 2005.

CPI Environmental Services, "Second Revised Response Action Outcome Statement, Former Army Materials Technology Laboratory, 395 Arsenal Street, Watertown, Massachusetts", Prepared for the President and Fellows of Harvard University and Watertown Arsenal Development Corporation, March 2005. The Second Amendment to the Activity and Use Limitation (AUL) for 3-17606 is included within this document.

Department of the Army, Headquarters, U.S. Army Materiel Command letter from Stanley R. Citron to John Beling, USEPA and Andy Cohen, Commonwealth of Massachusetts Executive Office of Environmental Affairs Department of Environmental Protection dated 5 July 2001.

Department of the Army, Institutional Control Memorandum of Agreement, Memorandum of Agreement Among the US Army, the US Environmental Protection Agency and the Massachusetts Department of Environmental Protection, Subject: The Charles River Park NPL Site Institutional Controls, 1998.

EG& G Idaho Inc., Preliminary Assessment Site Inspection, March 1988.

EG& G Idaho Inc., USAMTL Remedial Investigation (Volume I and II), September 1989.

ENSR, Screening Level Ecological Risk Assessment, Charles River Operable Unit, Army Materials Technology Laboratory, Watertown, Massachusetts, April 2002.

ENSR, Final Baseline Ecological Risk Assessment, Charles River Operable Unit, Army Materials Technology Laboratory, Watertown, Massachusetts, February 2005.

ENSR, Final Record Of Decision, Operable Unit 2 Charles River Operable Unit, Army Materials Technology Laboratory, Watertown, Massachusetts, September 2005.

ENSR, Real Estate Transfer Package, Army Materials Technology Laboratory, Watertown, Massachusetts, September 1998. (AMTL)

ENSR, Real Estate Transfer Package, Army Materials Technology Laboratory, Watertown, Massachusetts, September 2005 (GRP)

Foster Wheeler Environmental Corporation, Draft Final Feasibility Study Addendum Report for the Charles River Park of the Army Research Laboratory - Watertown, Water) own, Massachusetts, February 2000.

Foster Wheeler Environmental Corporation, Final Remedial Action Report for the Charles River Park Parcel Soil and Groundwater Operable Unit of the Army Materials Technology Laboratory, Watertown, Massachusetts, March 2002.

Kirkpatrick & Lockhart LLP Army Materials Technology Laboratory Institutional Control Checklist First Annual Report, August 2002 (Fourth)

Kirkpatrick & Lockhart LLP Army Materials Technology Laboratory Institutional Control Checklist First Annual Report, August 2003 (Fifth)

Kirkpatrick & Lockhart LLP Army Materials Technology Laboratory Institutional Control Checklist Second Annual Report, August 2004 (Sixth)

McPhail and Associates, First Annual Institutional Control Inspection Report of Charles River Park Parcel, May 31, 2005

McPhail and Associates, Seventh Annual Institutional Control Inspection Report of Army Materials Technology Laboratory and Charles River Park Parcel, October, 2006 (Seventh)

Plexus Scientific Corporation, Final Supplemental Phase 2 Remedial Investigation Charles River, Prepared for the US Army Environmental Center, March 1998.

Roy F. Weston Inc, Phase I Remedial Investigation Report, April 1991.

Roy F. Weston Inc, Final Phase II Remedial Investigation Report (Volume I through V), May 1994.

Roy F. Weston Inc, Baseline Risk Assessment Environmental Evaluation, December 1993.

Roy F. Weston Inc, Final Phase II Remedial Investigation Report (Volume I through III), December 1993.

Roy F. Weston Inc, Final Terrestrial Risk Assessment, August 1995.

Roy F. Weston Inc, Final Feasibility Study Report (Outdoor) (Volume I and II), January 1996.

Roy F. Weston Inc, Draft Addendum to Human Health Evaluation, February 1996.

Roy F. Weston, Inc., Final Record of Decision Soils and Groundwater Operable Unit Army Materials Technology Laboratory, Prepared for the U.S. Army Environmental Center, September 1996.

Roy F. Weston, Inc., Final Record of Decision Area I Army Materials Technology Laboratory, Prepared for the U.S. Army Environmental Center, August 1996.

Roy F. Weston, Inc., Task Work Plan Addendum Outdoor Soil Remediation Army Research Laboratory - Watertown, Watertown, Massachusetts, Prepared for the U.S. Army Environmental Center, October 1996.

Roy F. Weston, Inc., Final Remediation Action Completion Report for Outdoor Soils Remediation – Building 131 Army Research Laboratory - Watertown, Watertown, Massachusetts, December 1996.

Roy F. Weston, Inc., Supplemental Risk Assessment for Polycyclic Aromatic Hydrocarbons in Soil Samples, Army Research Laboratory, Watertown, Massachusetts, May 28, 1997.

Roy F. Weston, Inc., Explanation of Significant Difference (ESD), For Remedial Action at Operable Unit 1, Soil and Groundwater, Army Materials Technology Laboratory, Watertown, Massachusetts, January 1998.

Roy F. Weston, Inc., Final Remedial Action Report: Zones 1-4 Outdoor Soil Removal Army Materials Technology Laboratory, Watertown, Massachusetts, Prepared for the US Army Corps of Engineers, New England District, May 1998.

Roy F. Weston, Inc., Final Remedial Action Report for Charles River Park Army Materials Technology Laboratory, Watertown, Massachusetts, Prepared for the US Army Corps of Engineers, New England District, April 1999.

Roy F. Weston, Inc., Explanation of Significant Difference (ESD), Charles River Park Area, Outdoor Soil Remediation Unit, Army Materials Technology Laboratory, Watertown, Massachusetts, 14 May 2001.

USACE 2006a. Charles River Enhanced Shoreline Stabilization Project Specifications and Plans, U.S. Army Materials Technology Laboratory, Watertown, Massachusetts. Contract No. W912WJ-06-C-0011. Prepared and Issued by U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742. September 2006.

USACE 2006b. Construction Completion Report Charles River Enhanced Shoreline Stabilization Project, Watertown, MA. USACE Contract No. W912WJ-06-C-0011 Prepared by Watermark, 175 Cabot Street, Lowell, MA 01854, with Technical Assistance from the U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742. December 2006.

USACE 2008. Year 2 Operation & Maintenance Plan Report, Charles River Enhanced Shoreline Stabilization Project, Watertown, MA. United States Army Materials Technology Laboratory, Watertown, MA. Prepared by U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742. August 2008.

USACE 2009. Year 3 Final Operation & Maintenance Plan (OM&P) Report, Charles River Enhanced Shoreline Stabilization Project, Watertown, MA. United States Army Materials Technology Laboratory, Watertown, MA. Prepared by U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742. September 2009.

Watermark and USACE 2007. Year 1 Operation & Maintenance Plan Report, Charles River Enhanced Shoreline Stabilization Project, Watertown, MA. United States Army Materials Technology Laboratory, Watertown, MA. Prepared by Watermark, 175 Cabot Street, Lowell,

MA 01854, with Technical Assistance from the U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742. November 2007.

Appendix 6:
Interview Records

INTERVIEW RECORD		
Site Name: U.S. Army Materials Technology Laboratory, Watertown, Massachusetts		EPA ID No.: MAD213820939
Subject: Third five-year review for OU12		Time: Date: 6/3/2010
Type: Telephone <input checked="" type="checkbox"/> Site Visit Call	Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit: BEAL Offices, Watertown, MA		
Contact Made By:		
Name: Kenneth Heim	Title: Hydrogeologist	Organization: USACE-New England District
Individual Contacted:		
Name: Rob Weikel	Title: Manager	Organization: The BEAL Companies
Telephone No.: 617-918-7293	Street Address: 3 Kingsbury Avenue	
Fax No.:	City, State, Zip: Watertown, MA	
Summary of Conversation:		
<p>Mr. Weikel was interviewed because he is the contracted site manager for the owner of AMTL, Harvard University, which is where OU1 (Zones 1-4) and OU3 is located. Since he is present at AMTL during working hours Monday through Friday, he would have the opportunity to observe trespasser or other unexpected activity at OU1 and OU3. His input during the interview is summarized as follows:</p>		
<p><u>OU1</u></p> <ul style="list-style-type: none"> • He has observed areas restricted to residential are in compliance (see Site Inspection Report for individual buildings). • He has observed no excavation, drilling or otherwise disturbance of the soils below building foundations or slabs (see Site Inspection Report for individual buildings). • He has only observed that the site is in compliance with the Soil Management Plan (see Site Inspection Report for individual buildings). 		
<p><u>OU3</u></p> <ul style="list-style-type: none"> • He has observed no excavation, drilling or otherwise disturbance of the soils below building foundations or slabs (see Site Inspection Report for individual buildings). • He has only observed that the site is in compliance with the Soil Management Plan (see Site Inspection Report for individual buildings). 		
<p><u>General Comments</u></p> <ul style="list-style-type: none"> • He has no concerns or suggestions OU1 or OU3. 		

INTERVIEW RECORD

Site Name: U.S. Army Materials Technology Laboratory, Watertown, Massachusetts		EPA ID No.: MAD213820939	
Subject: Third Five-Year Review for OU1 - Zone 5		Time:	Date: 8/20/2010
Type: Telephone <input checked="" type="checkbox"/> Site Visit Call	Incoming <input checked="" type="checkbox"/> Outgoing		
Location of Visit: Charles River Park, Watertown, MA			
Contact Made By:			
Name: Kenneth Heim		Title: Hydrogeologist	Organization: USACE-New England District
Individual Contacted:			
Name: Robert Lowell		Title: Environmental Section Chief	Organization: MA Dept. of Conservation and Recreation
Telephone No.: 617-626-1340 Fax No.: 617-626-1370		Street Address: 251 Causeway St., Suite 600 City, State, Zip: Boston, MA	
Summary of Conversation:			
<p>Mr. Lowell was interviewed because the DCR owns the Charles River Park and he represents the DCR and which is where OU1 (Zone 5) is located. Mr. Lowell is knowledgeable of the history of the cleanup and remediation of the park and of the stabilization project that was completed. Additionally, Mr. Lowell is knowledgeable about the current uses of the park. His input during the interview is summarized as follows:</p>			
<u>OU1 Charles River Park</u>			
<ul style="list-style-type: none">• Mr. Lowell had no concerns regarding erosion within the interior of the park and indicated that the stabilization project had addressed the problem of exposure of the geo-membrane within the park.• He was satisfied with the design of the bank stabilization and the planting of tiers of different types of vegetation along the shoreline to optimize shoreline protection.• He expressed concern that some of the fishing and wildlife access paths from the park to the Charles River shoreline have seen minor erosion to the point that the protective geo-membrane is exposed. Mr. Lowell indicated that these areas of erosion should be addressed to minimize any risk of exposure to contaminated sediments.• Mr. Lowell indicated that the park sees a relatively minor public use and generally has no permitted events.			
<u>General Comments</u>			
<ul style="list-style-type: none">• Mr. Lowell suggested that the minor erosion at the shoreline of some of the river access trails be addressed to minimize exposure of the protective soil barrier along the shoreline.			

INTERVIEW RECORD		
Site Name: U.S. Army Materials Technology Laboratory, Watertown, Massachusetts		EPA ID No.: MAD213820939
Subject: Third Five-Year Review for OU1-2		Time: 11:40 am Date: 8/6/2010
Type: <input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Site Visit	<input type="checkbox"/> Call
Location of Visit:		Incoming <input checked="" type="checkbox"/> Outgoing
Contact Made By:		
Name: Kenneth Heim	Title: Hydrogeologist	Organization: USACE-New England District
Individual Contacted:		
Name: Jim Boudreault	Title: Steward	Organization: Watertown Yacht Club
Telephone No.: 617-924-9848 Fax No.:	Street Address: 45 Charles River Road City, State, Zip: Watertown, MA 02471	
Summary of Conversation:		
<p>Mr. Boudreault was interviewed because he is the Watertown Yacht Club Steward and the only full time employee of the Club. As such, he is responsible for the day to day operations at the Club and has a thorough understanding of the Club property, which is where OU2 is located. His input during the interview is summarized as follows:</p> <p><u>OU2</u></p> <ul style="list-style-type: none"> • During his seven year tenure as WYC steward, he has not observed any residential use of the site. • He has not observed any daycare use of the site. • He has observed school activities at the site other than in the form of a single day, annual visit by students from the Perkins School. This annual trip has occurred for several decades. • He has not observed any excavation or drilling at the WYC site with the exception of river sediment excavation that occurred during the summer of 2009 to facilitate providing general maintenance to the rail car system. All procedures and protocols were followed and permits were acquired and Mr. Boudreault knew of no problems with the execution of the maintenance activities. The rail car system is the equipment that the WYC uses to get boats into the water and remove boats from the water. This system has been in place for 50 years without significant maintenance prior to 2009. <p><u>General Comments</u></p> <ul style="list-style-type: none"> • He has no concerns or suggestions regarding OU2. 		

**Appendix 7:
ARAR's Table**

Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirement	Status
CHEMICAL SPECIFIC				
Soil	FEDERAL-EPA Risk Reference Doses (RfDs)	RfDs are dose levels developed based on the noncarcinogenic effects and are used to develop Hazard Indices. A Hazard Index of less than or equal to 1 is considered acceptable.	EPA RfDs have been used to characterize risks caused by exposure to contaminants in soil. Excavation and off-site disposal or reuse of contaminated soils will minimize risks.	TBC
Soil	FEDERAL-EPA Carcinogen Assessment Group Potency Factors	Potency Factors are developed by EPA from Health Effects Assessments or evaluation by the Carcinogenic Assessment Group and are used to develop excess cancer risks. A range of $< 10^{-4}$ to 10^{-6} is considered acceptable.	EPA Carcinogenic Potency Factors have been used to compute the individual incremental cancer risk resulting from exposure to site contamination in soil. Excavation and off-site disposal or reuse of contaminated soils will minimize risks.	TBC
Soil	FEDERAL-Guidance on Remedial Actions for Superfund Sites with PCB Contamination, OSWER Directive No. 9355.4-01 (8/90)	Describes the recommended approach for evaluating and remediating sites with PCB contamination.	This guidance has been used in establish a cleanup goal for PCBs at the site. Excavation and off-site disposal or reuse of contaminated soils will attain the cleanup goals.	TBC
LOCATION SPECIFIC				
Soil	FEDERAL-16 USC 470 et seq., National Historic Preservation Act and 7 CFR Part 650	Requires that action be taken to preserve historic properties. Planning action is required to minimize the harm to national historic landmarks.	MTL is a historic district and the Command Quarters is on the National Register of Historic Places. Army will consult with State Historiton's Office to ensure that actions that may cause structural damage to any building will be minimized.	Applicable
Soil	FEDERAL-16 USC469A-1. Arthaeuigical and Historic Preservation Act	Provides for the preservation of historical and archaeological artifacts that might be lost from alterations of the terrain. The Act requires data recovery and preservation activities be conducted if any project may cause irreparable loss or destruction to scientific, prehistoric, or archaeological data.	Actions involving intrusive work (e.g., excavation and construction) will require involvement of archaeologists and regulatory agencies if artifacts are found. Two known historic sites and one suspected prehistoric site are present at the MTL site	Applicable

Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirement	Status
Soil	FEDERAL-Executive Order 11988 (Protection of Floodplains) 40 CFR 6, Appendix A	Requires that any action within a flood plain be conducted so as to avoid adverse effects, minimize harm, and restore natural and beneficial values.	Part of the River Park is a designated floodplain. Any excavation or other activities will be conducted to minimize harm, and all areas disturbed will be restored.	Applicable
Soil	STATE-Massachusetts Historical Commission Regulations (950 CMR 70-71)	Establishes regulations to minimize or mitigate adverse effects to properties listed in the State Register of Historic Places. MTL is listed in the State Register. The regulations contain standards that protect the public's interest in preserving historic and archaeological properties as early as possible in the planning process of any project.	Requirements include notification to the Massachusetts Historical Commission (MHC). MHC will make a determination as to whether the actions planned will have an adverse impact. If so, the MHC and party responsible for the action will consult to determine ways to minimize adverse impacts.	Applicable
ACTION SPECIFIC				
Soil, Hazardous Waste	FEDERAL-Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846	This guidance document sets forth the methods for conducting TCLP testing.	The guidance will be used when testing soils at the site to determine whether they constitute hazardous waste. Any soils that are found to be hazardous will be disposed of in a licensed facility.	TBC
Soil, Hazardous Waste	STATE-310 CMR 30.300, Hazardous Waste Generator Requirements	Establishes requirements for generators of hazardous wastes.	Any generation of hazardous waste will comply with these requirements	Applicable
Soil, Hazardous Waste	STATE-310 CMR 30.640, Waste Piles	Establishes requirements for waste piles containing hazardous waste.	Any piles of hazardous excavated soil will comply with these requirements	Relevant and Appropriate, Applicable for any soil classified as hazardous waste.
Soil, Hazardous Waste	STATE-310 CMR 30.680, Use and Management of Containers	Establishes requirements for the management of containers, such as drums, that would hold field-generated hazardous waste.	Any hazardous waste containers would comply with these requirements.	Relevant and Appropriate, Applicable for any soil classified as hazardous waste.

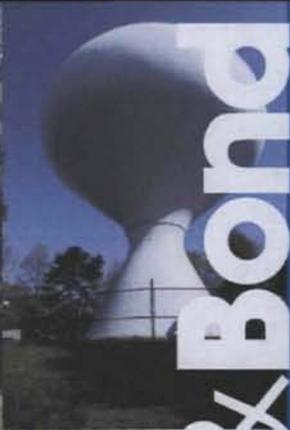
Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirement	Status
Soil	STATE-310 CMR 19, Solid Waste Management	Establishes requirements for the treatment, storage, and disposal of nonhazardous solid waste. Has additional rules for the management of Special Waste, which is defined as solid waste that is nonhazardous for which special management controls are necessary to protect adverse impacts.	Nonhazardous excavated soil or treatment residues will be handled in accordance with substantive requirements. If soils or residues meet the definition of Special Waste, management will be in compliance with these requirements.	Relevant and Appropriate
Air	FEDERAL-CAA 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPs)	Sets air emission standards for 189 designated hazardous air pollutants (HAPs) from designated source activities.	Sampling at MTL has indicated the presence of several HAPs in soils. Since site remediation is a designated source category (but in this case is unlikely to be a major source), NESHAPs are relevant and appropriate and all remedial activities will be designed to meet Maximum Achievable Control Technology (MACT).	Relevant and Appropriate
Air	STATE-310 CMR 7, Air Pollution Control Regulations	Establishes requirements for attaining ambient air quality standards by setting emission limitations, design specifications, and permitting. Watertown is in an attainment area for lead, nitrous oxide, sulfur dioxide, and particulate matter, and is in a nonattainment area for ozone and carbon monoxide. Pertinent sections of the regulation include Visible Emissions (310 CMR 7.06); Dust, Odor, Construction, and Demolition (310 CMR 7.09); Noise (310 CMR 7.10); and Volatile Organic Compounds (310 CMR 7.18).	Remedial activities will be conducted so as to incorporate Reasonably Available Control Technology (RACT) for emissions of lead, nitrous oxide, sulfur dioxide, and particulate matter and to achieve Lowest Achievable Emission Rate (LAER) for VOCs and carbon monoxide.	Applicable (310 CMR 7.06, 7.09, and 7.10) Relevant and Appropriate (310 CMR 7.18)
Air	STATE-DAQC Policy 90-001, Allowable Sound Emissions	This policy considers sound emissions to be in violation of 310 CMR 7.10 if the source increases the broadband sound level by more than 10 dB(A) above ambient, or produces a "pure tone" condition as measured at both the property line and at the nearest inhabited residence.	Remedial activities will be conducted so as not to exceed the policy's allowable noise levels.	TBC

Appendix 8:
List of Acronyms

ACA	Arsenal Center for the Arts
AEC	Army Environmental Center
AMTL	U.S. Army Material Technology Laboratory
ARAR	Applicable or Relevant and Appropriate Requirements
BERA	Baseline Ecological Risk Assessment
BGS	Below Ground Surface
BRAC	Base Realignment and Closure
BRACO	Base Realignment and Closure Office
CENAE	U.S. Army Corp of Engineers New England District
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
COC	Contaminants of Concern
COPCs	Contaminates of Potential Concern
CRBCA	Charles River Business Center Associates
CRESSP	Charles River Enhanced Shoreline Stabilization Project
DCR	Department of Conservation and Recreation
DDD	Dichloroethylidene
DDE	Dichlorodiphenyldichloroethene
DDT	Dichlorodiphenyltrichloroethane
DERP	Defense Environmental Restoration Program
EPA	Environmental Protection Agency
ESD	Explanation of Significant Differences
FFA	Federal Facilities Agreement
FS	Feasibility Study
GPS	Global Positioning System
GSA	General Services Administration
Harvard	Harvard College
HI	Hazard Indices
IC	Institutional Control
IRIS	Integrated Risk Information System
kg	Kilograms
MassDEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
MDC	Metropolitan District Commission
mg	Milligrams
MOA	Memorandum of Agreement
NAE	New England District
NCP	National Contingency Plan
NFA	No Further Action
NPL	National Priorities List
OU	Operable Unit
PAHS	Polycyclic Aromatic Hydrocarbons
PAL	Public Archaeology Laboratory, Inc.
PCBs	Polychlorinated Biphenyls
RA	Risk Assessment
RAB	Restoration Advisory Board
RAO	Remedial Action Objectives
RCRA	Resource Conservation Recovery Act
RI	Remedial Investigation

ROD	Record of Decision
ROW	Right-of-Way
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
Site	U.S. Army Material Technology Laboratory
SVOCs	Semivolatile Organic Compounds
TBC	To-Be-Considered
TEF	Toxicity Equivalency Factor
TRC	Technical Review Committee
UCL	Upper Confidence Limit
USACE	US Army Corps of Engineers
VOCs	Volatile Organic Compounds
WADC	Watertown Arsenal Development Corporation
WCC	Watertown Conservation Commission
WOE	Weight of Evidence
WYC	Watertown Yacht Club

Attachment 1:
2010 Twelfth Annual AUL Inspection Report



Tighe & Bond

Army Materials Technology
Laboratory & Charles River
Park Parcel

Watertown, Massachusetts

2010 Twelfth Annual AUL Inspection Report

Prepared For:

**Calibre
Indianapolis, Indiana**

September 2010

32-3761/3777
September 8, 2010

Tighe & Bond

www.tighebond.com

Franklin G. Stearns, Esq. Kirkpatrick & Lockhart, LLP 75 State Street Boston, MA 02109-1808	Mario Traficante, Project Manager Commonwealth of Massachusetts Department of Conservation and Recreation DCR Engineering and Planning, 7th Floor 251 Causeway Street Boston, MA 02114
Mr. Mark Brodowicz Calibre, Inc. 624 Matthews Mint Hill Road Suite 208 Matthews, NC 28105	Thomas Lederls Dept of the Army NC3/Taylor Buildings DAIM-BD/RM 5000 (Office 5062) 2530 Crystal Drive Arlington, VA 22202

RE: Summary of Environmental Consultation Services
Army Materials Technology Laboratory and Charles River Park Parcel -Watertown, MA
Twelfth Annual Review of 1998 and 2004 Grants of Environmental Restriction and Easement

Gentlemen,

In accordance with our discussions and your authorization to proceed, Tighe & Bond has provided environmental consultation services relative the above referenced project. Specifically, Tighe & Bond has (1) reviewed available documentation, (2) interviewed specific individuals deemed sufficiently familiar with conditions on portions of the Army Materials Technology Laboratory (AMTL) and Charles River Park Parcel (CRPP) properties (hereinafter, collectively referred to as the "subject site"), (3) conducted a visual inspection of the subject site, (4) conducted a photographic document of current site conditions which represent a change from previously-observed conditions, and (5) prepared this summary letter report. Herein is a summary of work performed.

PURPOSE AND SCOPE

The purpose of the work has been to assist our Clients, namely (i) the Town of Watertown, (ii) the Department of the Army (the Army) as "Responsible Agency", and (iii) the Commonwealth of Massachusetts Department of Conservation and Recreation (DCR) in their obligation to provide the Massachusetts Department of Environmental Protection (DEP) and



the United States Environmental Protection Agency (USEPA) with the results of an "Annual Review", documenting certain tasks required by Institutional Controls (IC) that apply to the subject sites.

This Memorandum concerns the contents and scope of two (2) Grants of Environmental Restriction (the "Grants"), placed on the AMTL (1998) and CRPP (2004) portions of the subject sites on the basis of the findings of past environmental risk characterizations. Tighe & Bond has performed the tasks outlined above to assist Town of Watertown, the Army, and DCR with this obligation.

This letter report is intended to provide the Town of Watertown, the Army, and DCR with a summary of tasks performed by Tighe & Bond as noted above. This submittal is anticipated to be made part of the Twelfth Annual Report to be prepared by the Army.

BACKGROUND

The subject site has been the focus of investigation and remedial efforts by the Army (the "Grantor" of this Grant) with the concurrence of the USEPA and the DEP. In accordance with a 1996 Final Record of Decision (ROD) and 1998 and 2001 amendments to the ROD (collectively, the "Soil ROD"), the Army conducted certain remediation, including the removal of up to three feet of material in specific areas of the site. As part of the final risk assessment of conditions on the site, restrictions to soil access were implemented, in order that a condition of "no significant risk" is maintained over time. The Grant provides this implementation, serving as an institutional use, access, guidance and control document to current and future land users. In order to ensure that the requirements of the Grant, specifically, the restricted uses, permitted uses, temporary reduction in surface grades and excavation of soils, excavation below foundations and slabs, increases in grade, soil sampling maintenance obligations, soil storage, soil management, and conditional exceptions, are adhered to, the Grantor is obligated to arrange for an "Annual Inspection" of the site. This inspection includes a visual inspection of the site, and interviews of individuals deemed sufficiently familiar with activities during the inspection period as to convey information pertinent to an assessment of those activities and compliance with the Grants.

This report has been prepared by Tighe & Bond who is sufficiently familiar with pertinent aspects of the Massachusetts Contingency Plan (MCP 310 CMR 40.0000), the concepts as presented in the Grant inspection process, and with this inspection process and the expectations and requirements of the regulatory agencies.

ATTACHMENTS

The following attachments are referenced as part of this submittal. These attachments provide supporting documentation for the observations and conclusions presented in this report. It is anticipated that these attachments will be made part of the Twelfth Annual Inspection Report package.

- 1 Individual Inspection Reports, summarizing Tighe & Bond's field notes and the interviews of key persons, prepared by Kenneth J. Gendron, for Tighe & Bond. These Inspection Reports were prepared during the June 3, 2010 field inspections. During field inspections, a representative of the Department of the Army (Mark Brodowicz), a representative from the United States Environmental Protection Agency (EPA) (Christine Williams), a representative of the Massachusetts Department of



Environmental Protection (DEP, Joanne Dearden), three representatives from the United States Army Corps of Engineers – New England District (Kenneth Heim, Robert Davis and Larry Cain) and one representative of Beal & Company, Inc. (Robert Weikel, Jr.) accompanied Tighe & Bond on the field inspection of both the Lot #1 and Lot #2 portions of the AMTL, as well as the CRPP.

- 2 Building Permit records obtained from the Town of Watertown Building Department, for work performed at the AMTL.
- 3 Aerial photographs identifying AUL boundaries (Figure 1) and monuments surveyed with GPS (Figure 2).
- 4 Boating Permit obtained from the Watertown Yacht Club authorizing the use of the parcel for maintaining a boathouse/sailing pavilion, piers, and other related facilities.

CONTRIBUTING PERSONNEL

With respect to the AMTL, the following personnel contributed to materials reviewed, or were interviewed by Tighe & Bond during the course of the execution of the above referenced tasks:

Mario Traficante, Project Manager, DCR, Department of Engineering and Planning. Mr. Traficante is Tighe & Bond's principal contact with respect to coordination of the Annual Inspection of the CRPP. A representative from Mr. Traficante's office did not accompany Tighe & Bond during this year's site inspection.

Rob Weikel, The Beal Companies (Beal), Property Manager of the Site for Harvard. Beal has provided property management services since Harvard's purchase of the AMTL portion of the subject site in January 2001, and is considered familiar with ongoing property use on the AMTL portion relevant to the Annual Inspection.

Jim Boudreault, Steward, Watertown Yacht Club (WYC). Mr. Boudreault accompanied Tighe & Bond and others during the initial inspection of the WYC portion of the site for the 2010 Annual inspection.

With respect to the subject site in its entirety, the following personnel contributed to materials reviewed, or were interviewed by Mr. Gendron during the course of the execution of the above referenced tasks.

Mark Brodowicz, Calibre Corporation is the representative of the Department of the Army (Army) with respect to BRAC coordination of activities on the both portions of the subject site. Mr. Brodowicz will be compiling all materials, including this report and attachments, into the Army's 2010 Annual Inspection report.

SUMMARY OF ANNUAL INSPECTION TASKS

Review of Available Documentation

As part of previous and current Annual Reviews since July 1999, Tighe & Bond has reviewed available and applicable documentation. Specifically, documentation reviewed has included the two original Grants, seven "Amendments" to the Materials Testing Laboratories Grant, Site Plans, Conditional Exceptions, material management documentation (Area "B"), and Town of Watertown permit documents.



As part of the 2010 Annual Review, Tighe & Bond has received and/or discussed specific current documentation provided by others as follows:

- 1 "Grant Amendment (Sixth) Approval Subject to Conditions, Former Army Materials Technology Laboratory (AMTL), Watertown, Massachusetts, DEP Site No. 3-0455.
- 2 Institutional Control Memorandum of Agreement; Memorandum of Agreement Among the US Army, The US Environmental Protection Agency, and the Massachusetts Department of Environmental Protection; Subject: The Charles River Park NPL Site Institutional Controls"
- 3 Building Permit records obtained from the Town of Watertown Public Works Department, for work performed at the AMTL. No records for CRPP.
- 4 Occupancy List, AMTL portion of the subject site.

According to the Second Revised Response Action Outcome (RAO), following risk assessment, there are no longer use restrictions on the interior space within Building 312. The amended does requires that certain building components remain encapsulated. Collectively, these documents memorialize response actions (de-leading of surfaces and encapsulation) and subsequent re-assessment of risk associated with exposures at Building 312.

The filing of these Amendments has allowed the Arsenal Center for the Arts to be developed in Building 312. Re-development of this building was complete at the time of Tighe & Bond's 2010 inspection. During the inspection, it was observed that the encapsulation was intact and being respected.

"Area" Inspection Reports

"Area" inspections are documented on attached "INSPECTION REPORTS", and were prepared on the basis of interview information, and observations made at the Site by Tighe & Bond and others on June 3, 2010. Inspection reports document relevant details of the Grant, subsequent Amendments, and Activity and Uses Limitations (AULs), as these institutional controls pertain to each area. Status quo and changes in each area are discussed.

Benchmark Maintenance

A GPS survey was conducted at each benchmark location at the WYC, AMTL, CRPP and Town of Watertown sites and a digital record for each location was created in 2006. Further, DCR has installed off-set stakes for marks located at the fringe areas of the WYC Open Area, to further aid in locating these marks during future inspections. These data are presented on the aerial photograph (Figure 2).

During the 2009 Annual Inspection a benchmark in "Area G" and a benchmark in "Area B" were identified as damaged and require repairs. Both benchmarks were noted as being repaired during the 2010 Annual Inspection, and did not require re-surveying. A newly damaged monument was identified in "Area B" in 2010. This damage has also been subsequently repaired, and the monument re-surveyed since our 2010 visit. A photograph showing the repairs in included in Appendix D.

Photograph Record

For the 2010 Annual Review, no "new" conditions were noted during the course of the inspection.

Summary of Permitted Uses and Activities

For both the AMTL and CRPP portions of the subject site, according to Town of Watertown, Beal, DCR, WYC, United States Army Corp of Engineers (USACE), and Watertown DPW personnel, none of the excavation-related permitted activities, including temporary reduction in surface grades, excavation of soils, excavation below the foundations and slabs, sampling of soils, or permanent increase in grade have occurred on any area of the subject site, for the 2010 Annual Review.

Summary of Obligations and Conditions

With regards to the soil management protocol on both the AMTL and CRPP portions of the subject site, inclusive of soil sampling and management and disposal obligations, and notices to the Grantee regarding these actions, as noted above, none of the "permitted activities" have occurred on any area of the site during this annual inspection period. As such, these obligations and conditions do not apply to site activities documented in the 2010 Annual Review.

With regards to benchmark maintenance issues on both the AMTL and CRPP portions of the subject site, according to Town of Watertown, DCR, WYC, and USACE personnel, the benchmarks have been maintained as originally installed during the inspection period. As no increases in grade in benchmark areas has been conducted, no repositioning, and no reinstallation of benchmarks has occurred during the inspection period of the 2010 Annual Review. During the 2009 Annual Inspection a benchmark in "Area G" and a benchmark in "Area B" were identified as damaged and require repairs. Both benchmarks were noted as being repaired during the 2010 Annual Inspection, and did not require re-surveying. A newly damaged monument was identified in "Area B" in 2010. This damage has also been subsequently repaired and re-surveyed since our 2010 visit. A photograph showing the repairs is included in Appendix D.

With regards to the temporary on-site storage of soil, as noted above, none of the "permitted activities", including excavation, soil disturbance, or generation of soil, have occurred on any area of the site during this annual period. As such, these obligations and conditions do not apply to site activities documented in this report.

With respect to soil management, as none of the "permitted activities", including excavation or soil disturbance have occurred on any area of the site during this 2010 Annual Review period. As such, these obligations and conditions do not apply to site activities documented in this report.

Conditional Exceptions from Restricted Uses and Activities

For both the AMTL and CRPP portions of the subject site, according to Beal, DCR and USACE personnel, no application for any "Conditional Exceptions" from restricted uses or activities have been made during the inspection period for the 2010 Annual Review.

Applicability

With respect to the CRPP portion of the subject site, according to the DEP and USACE personnel, no response actions exempt from the "Restricted Uses and Activities" section of the grant were undertaken during the inspection period for the 2010 Annual Review.

Emergency Excavation

According to the DCR, USACE, DEP, WYC, and Watertown DPW personnel, no emergency excavations for utility repair, related structures, or other emergency responses occurred in the restricted areas of site during the inspection period for the 2010 Annual Review.

FINAL OBSERVATIONS

Based on our understanding of the Grant, Amendments, and available documentation, as well as information obtained during the interviews of personnel noted above, and the visual inspection of the Site, Tighe & Bond has identified no current use activities and/or conditions which would suggest that activities prohibited under the Grant and Amendments have/are occurring at the Site.

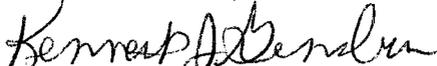
Additionally, an unidentified groundwater monitoring well was discovered at the tree line on the AMTL property in the vicinity of the Bunkers. This well is being addressed as part of the 5-year review process.

Bank reconstruction activities along the shoreline that had occurred in September and October 2006 had been completed at the time of the 2009 Annual Inspection period. The previous reconstruction activities consisted of the addition of rip-rap along the water's edge, the re-contouring of portions of the shoreline, the addition of native vegetation, and the removal of invasive vegetation within the rehabilitated areas. Additionally, to prevent soil erosion from surface water run-off, shallow drainage trenches consisting of parallel rows of trap rock were installed just beneath the soil surface. During the reconstruction activities, no excavation, drilling or otherwise disturbance of the soils located two feet or more below surface grade, as defined in subparagraph 2.G., occurred. Moreover, no reduction in grade occurred during the 2010 Annual Inspection period. Please see the Individual Inspection Report for the Charles River Park Open Area for more information.

We trust the above and attached will prove sufficient in your efforts to comply with the requirements of the IC Memorandum of Understanding. Should you have any questions or require additional information, please contact the undersigned.

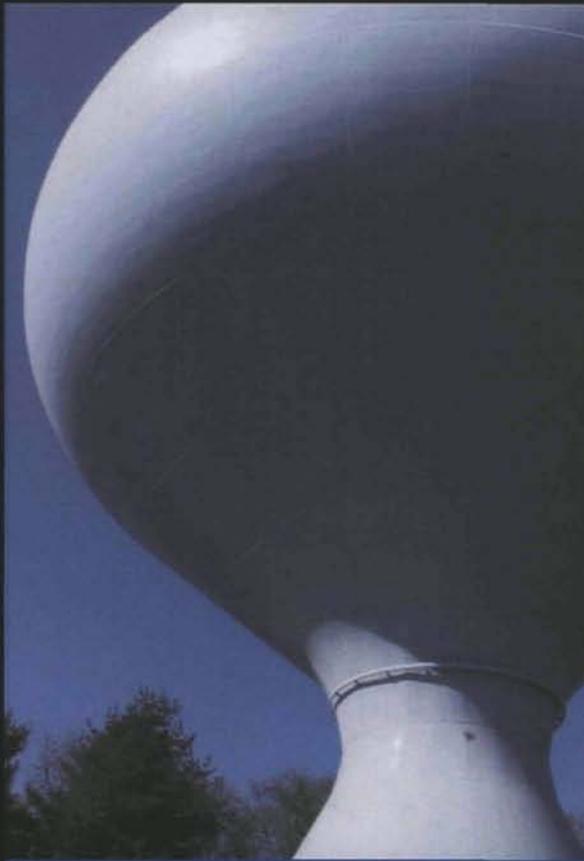
Very truly yours,

TIGHE & BOND, INC.


Kenneth J. Gendron, P.G., LSP
Senior Hydrogeologist

- Enclosures: A - Individual Inspection Reports
B - Town of Watertown Building Permits and Boating Permit
C - Figures
D - Photographs





Tighe & Bond

APPENDIX A

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 2

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: Lot 2

No changes have occurred since the June 2009 Eleventh Annual inspection.

No representatives of the Town of Watertown, owner of "Lot 2" of the AMTL portion of the subject site subject to the 1998 Grant of Environmental Restriction accompanied Tighe & Bond during the Inspection of this date. Mr. Brodowicz (Army), Christine Williams (EPA), Kenneth Heim, Larry Cain, and Robert Davis (USACE - NAE), Robert Weikel Jr. (Beal), and Joanne Dearden of the DEP accompanied Tighe & Bond during the inspection. Mr. Brodowicz is knowledgeable relative to Site History, Past and Present Use, and Response Actions which have occurred prior to, and subsequent to the implementation of the Grant in 1998. Based on Tighe & Bond's knowledge of these issues, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

General, Conditions and Observations

Levels of recreational activity on a property are classified in the Massachusetts Contingency Plan (MCP) by the frequency of use, and the intensity of use (310 CMR 40.0933 (4)). The frequency and intensity of recreational use are considered to be 'Low' for Lot 2. According to the Town of Watertown DPW personnel, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: Commercial Reuse Area

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

General Conditions and Observations

According to the Town of Watertown DPW personnel, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 2

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #142, Guard Shack

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE accompanied Tighe & Bond on this inspection. No representatives of The Town of Watertown, owner of "Lot 2" of the AMTL portion of the subject site subject to the 1998 Grant of Environmental Restriction accompanied Tighe & Bond during the inspection of this date. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, or school uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

No excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs was observed.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils was observed.

General Conditions and Observations

Building #142, the Guard Shack, has been rehabilitated. According to the Town of Watertown, no occupancy of this structure occurs. No evidence of hazardous substances in the building or area immediately surrounding the building impacting the general environment was observed. According to Town of Watertown, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 2

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: "Area L4"

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE accompanied Tighe & Bond on this Inspection. No representatives of The Town of Watertown, owner of "Lot 2" of the AMTL portion of the subject site subject to the 1998 Grant of Environmental Restriction accompanied Tighe & Bond during the inspection of this date. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No reduction of the grade below the surface grade, as defined in subparagraph 2.C. of the Grant was observed.

No movement of soils located at a depth of one (1) foot or more below the surface grade, as defined in subparagraph 2.C. of the Grant, above that depth, unless disposed of off-Site in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant was observed.

General Conditions and Observations

Area "L4" has and remains within an "access" area to Lot #2. The area is principally beneath asphalt paving (access road) leading from the intersection of Beacon Street and Charles River Road, to the Lot #2 portion of the Site. A gate continues to limit access from the above noted public ways to the Site. Access to the rest of Lot #2 is not limited. According to Mr. Weikel and Mr. Brodowicz, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 2

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #244/245, Bunkers

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE accompanied Tighe & Bond on this inspection. No representatives of The Town of Watertown, owner of "Lot 2" of the AMTL portion of the subject site subject to the 1998 Grant of Environmental Restriction accompanied Tighe & Bond during the inspection of this date. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, or school uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

No excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs was observed.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils was observed.

General Conditions and Observations

Buildings #244/245, Bunkers, were observed in their original state during the inspection. The doors are securely locked. No occupancy occurs. No evidence of hazardous substances in the building and the areas immediately surrounding the bunkers impacting the general environment were observed. According to Town of Watertown, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area. Additionally, an un-identified groundwater monitoring well was discovered at the tree line in this area near the fence. This well is being addressed as part of the 5-year review process.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 2

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #111, Commander's Mansion

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE accompanied Tighe & Bond on this Inspection. No representatives of The Town of Watertown, owner of "Lot 2" of the AMTL portion of the subject site subject to the 1998 Grant of Environmental Restriction accompanied Tighe & Bond during the inspection of this date. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, or school uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

No excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs was observed.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils was observed.

General Conditions and Observations

Building #111, the Commander's Mansion, has been rehabilitated for use. Interior surfaces (walls, ceilings, trim, and floors) have been refinished and/or replaced. The heating system was also updated. The Town of Watertown, which utilizes the property for social activities and historic tours, occupies the property. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed. No soil was removed from the site in conjunction with the renovations or patio construction. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #131, Former Arsenal Administrative Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No excavation, drilling, or disturbance of the soils under the building foundation and slabs (utility installations) were reported to have occurred since the last Annual Inspection. Restrictions to perforations of the slab have been lifted in the Amendments to the Grant.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils were reported or observed. Again, restrictions to contact with subslab/subfoundation soils have been removed under Grant Amendments.

General Conditions and Observations

Building #131, a former Army administrative building, has been rehabilitated and continues to be utilized as an office use and daycare center (basement). According to Beal, the building was partially occupied or leased at the time of this inspection. Interior improvements have been completed, and the heating system has also been updated. The property occupancy is limited to commercial (office) and day care uses. Office and day care space has been completed in basement spaces of the building. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed. An outside playground associated with the day care center is located immediately west of the building. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #117, Former Base Housing

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs was reported or observed.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils was observed.

General Conditions and Observations

Building #117, a former Base Housing building, has been rehabilitated for office use. Interior surfaces (walls, ceilings, trim, and floors) have been refinished and/or replaced. The heating system has also been updated. The property is occupied by Beal as office space at this time. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #118, Former Base Housing

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

With the exception of sampling points during assessment of soils beneath the basement floor prior to the 1999 inspection, no excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs has occurred. As a result of this testing, soils beneath the building were found to comply with the ROD requirements, and access to these soils is no longer restricted.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils was observed.

General Conditions and Observations

Building #118, a former Base Housing building, has been rehabilitated for office use. Interior surfaces (walls, ceilings, trim, and floors) have been refinished and/or replaced. The heating system is original, and contains asbestos materials (pipe wrap, insulation materials). No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: Ken Gendron

SUBJECT BUILDING/AREA: #60, Former Power Plant Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

No excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs was observed. Special concrete coatings on portions of the slab where past PCB abatement occurred remain in place.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would, or would likely result in human contact with the underlying soils was observed.

General Conditions and Observations

Building #60, a former Power Plant building, has been rehabilitated for commercial use. The building was fully occupied by a battery research business for commercial purposes. No evidence of hazardous substances in the area immediately surrounding the building impacting the general environment was observed.

No excavation has reportedly occurred in this area since August 2000. Based on observations made during the 2001 inspection, landscaping and paving activities did not appear to have impacted soils at 12 feet below surface grade (BSG) in the Activity and Use Limitation (AUL) area.

INSPECTION REPORT

SUBJECT BUILDING/AREA: #60, Former Power Plant Building

Page 2

An AUL Instrument, as defined in the Massachusetts Contingency Plan (310 CMR 40.0000), to institutionalize restrictions to soils in the area of Building 60 was modified in 1999. The initial AUL filing for this building identified an area surrounding the smokestack at the power plant, and was prepared to restrict access to all soils (surface to infinite depth). The 1999 modification allowed access to soils without restriction for the first 4.0 feet BSG in this same area. As documented in previous annual inspection reports, contaminated soils remain in this area at 12.0 feet BSG.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #652, Former Pump House

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

No excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs was observed.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would, or would likely result in human contact with the underlying soils was observed.

General Conditions and Observations

Building #652, a former Pump House (water), was observed in an un-restored and secured state during the inspection. The building was not occupied at the time of the inspection. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed. Equipment once contained within the structure had been removed. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: "Area E"

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

Tighe & Bond observed no readily apparent reduction of the grade below the surface grade, as defined in subparagraph 2.C. of the Grant was observed. No apparent movement of soils, located at a depth of one foot or more below the surface grade, as defined in subparagraph 2.C. of the Grant, above that depth, unless disposed of off-Site in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant was observed.

General Conditions and Observations

Numerous changes and subsequent activity including communications between relevant entities have occurred with respect to Area E, and have been documented in past Inspection Reports. In the current inspection period, no changes to grade were observed.

According to relevant documentation, "Area E", a soil excavation exclusion area, was the site of extensive landscaping and soil disturbance activities between 1999 and 2000. The area remains unchanged since the 2001 inspection, and is maintained as a grassy open space with rock wall and gravel walk way elements. It was noted in 2001 that lighting was installed and existing walls were repaired to reduce the effects of erosion on the protective soil cover.

Changes in this area with respect to area grade, benchmark construction, and benchmark location were documented in the Seventh Amendment to the Grant. According to Beal, no disturbance of underlying soils has occurred during the current inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #97 - Former Research Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant were observed.

Excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs are allowed in this building as a "permitted activity" with notice to DEP. This work must be completed within a 6-month time frame, and only as allowed based on certain assumptions in the risk characterization of the AMTL portion of the subject site. A copy of correspondence associated with this special exemption and notice is attached to the First Annual Report for reference purposes. All other restrictions of the Grant apply.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils was observed.

INSPECTION REPORT

SUBJECT BUILDING/AREA: #97 – Former Research Building

Page 2

General Conditions and Observations

Building #97, a former Army research building, has been rehabilitated for use. The building was occupied with commercial (offices) tenants at the time of the inspection. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed.

Excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs was observed in 1999. According to the owners at the time (the developer), the work was completed within the allowed 6-month time frame. According to Beal, no disturbance of underlying soils has occurred during the current inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: "Area B"

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No reduction of the grade below the surface grade, as defined in subparagraph 2.C. of the Grant was observed. No movement of soils, located at a depth of one foot or more below the surface grade, as defined in subparagraph 2.C. of the Grant, above that depth, was observed. Work as documented in previous inspection Reports was completed in accordance to an Amendment to the Grant.

General Conditions and Observations

The "Area B" excavation exclusion area has not been significantly altered via excavation and re-grading since the August 2000 inspection. Work conducted in 1998 and 1999 was performed under a Grant Amendment. Soils generated as a result of work were managed under the Soil Management Plan in Paragraph 4 of the Grant, under a DEP Material Shipping Record or "MSR".

Currently, "Area B" consists of a small area of contaminated soils located behind, and adjacent to a concrete retaining wall in the loading dock area of Building #39. Restrictions, which applied to the original Area B piece, now apply to this relatively smaller area. Area B is paved, and is utilized as the loading dock approach area and sidewalk area for Building #39.

The Fourth Amendment to the Grant relative to this work was filed on August 3, 2000.

INSPECTION REPORT

SUBJECT BUILDING/AREA: "Area B"

Page 2

As discussed in the 2002 Annual Review the DEP, CRBCA, and the Army discussed replacement of two scraped benchmarks, which were observed to remain largely intact and in place. These benchmarks were subsequently replaced with similar markers and set flush with respect to surrounding concrete and asphalt pavement. The elevations of the replacement benchmarks have been established. The Seventh Amendment documented the changes in elevation and construction of these benchmarks. According to Beal, no disturbance of underlying soils has occurred during the current inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

During the 2009 Annual Inspection, one of the monuments in "Area B" had been damaged. This monument was noted as being repaired during the 2010 Annual Inspection, and did not require re-surveying. Additionally, new damage to one monument was identified in 2010 and subsequently repaired and re-surveyed. A photograph showing the repairs is included in Appendix D.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #39, Harvard Publishing Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 year of age), and/or recreational uses or activities were observed.

No excavation, drilling, or other disturbance of the soils under the building foundation and slabs (utility installations) was observed at the time of the inspection. According to the LSP-of-Record for the AMTL portion of the subject site (Bruce Hoskins of CPI), soil disturbance occurred and were completed in 1999. Restrictions to perforations of the slab were lifted in an Amendment to the Grant at that time, based on additional risk assessment.

General Conditions and Observations

Building #39, a former Army research building, has been rehabilitated for office use (Harvard Publishing). As noted in previous inspection reports, the construction is complete. Interior surfaces (walls, ceilings, trim, and floors) have been refinished and/or replaced. The heating system has been updated. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed. The building is occupied for commercial purposes. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #311, Former Milling Shed Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant, were observed.

Restrictions regarding excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs were removed in an earlier Grant Amendment.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would, or would likely result in human contact with the underlying soils was observed. Again, all soil contact restrictions with respect to commercial redevelopment of this building area were removed in an earlier Grant Amendment.

General Conditions and Observations

At the time of the inspection, it was noted that the reparations to the cork paneling in the lobby of the building have been completed. During the June 2009 annual inspection, it was reported that the paneling was detaching from portions of the wall and was replaced with a brick façade. No soil was removed from the site in conjunction with these renovations.

During the inspection, it was noted that a 530 KW solar array, consisting of 1,680 3 feet by 5 feet panels had been constructed on the roof of the building. No soil was removed from the site in conjunction with the construction of the solar array. Photographs of the arrays are included in Appendix D.

INSPECTION REPORT

SUBJECT BUILDING/AREA: #311, Former Milling Shed Building

Page 2

Building #311, the former Milling Shed Building, has been documented as being rehabilitated for future commercial use (office space) in previous reports. The building was occupied for commercial purposes at the time of the inspection. According to Beal, the building is leased or occupied. Renovation of the health club located on the first floor of the eastern end of the building, as well as the construction of a pool associated with the athletic club has been completed. The concrete base of the pool is at the original surface grade and no soil excavation was performed in conjunction with the construction of the pool.

As noted in previous inspection reports, the concrete slab was perforated in several locations in 1999 for the purpose of utility and structural installations in the building and building area. These perforations were conducted at a time when certain restrictions to access to soils underlying the building were specified in the Grant.

These perforations were not observed in subsequent annual inspections. According to previous owners (CWCA), the perforations were filled and sealed over.

At this time, all commercial use restrictions have been removed from future use of Building #311. A "First Amendment to the Activity and Use Limitation" for Release Tracking Number (RTN) 3-17606 was recorded in August 2004. The Second Amendment to the AUL is also known as the Seventh Amendment to the Grant of Environmental Restriction and Easement and Grant Integration, the overall document governing future use of the MTL property. The Sixth Amendment to the Grant was accepted by regulators in May 2005. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #312, Former Research Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No transportation, disposal, or deposition of soils from within this parcel to areas outside of this parcel, unless in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant, were observed.

Excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs are allowed in this building as a "permitted activity" with notice to DEP. This work must be completed within a 6-month time frame, as is allowed based on certain assumptions in the risk characterization of the AMTL portion of the subject site. A copy of correspondence associated with this special exemption and notice is attached to the First Annual Report for reference purposes. All other restrictions of the Grant apply.

General Conditions and Observations

At the time of the 2010 Annual Inspection, the renovation of Building #312, a former Research Building (firing range, crane bay) was completed, and it was occupied with commercial tenants. In addition to the commercial uses observed in previous Inspection Reports (bank, restaurant), the crane bay has been redeveloped as the Arsenal Center for the Arts, that is a performing and visual arts center. A grassy lawn area located to the east of Building #312 does not appear to be used by children.

Harvard and the Town of Watertown have prepared and submitted the Second Amendment to the AUL and Second Revised Response Action Outcome Statement for RTN 3-17606 pertaining to the Building # 312 renovation. RTN 3-17606 was assigned to response actions at the AMTL portion of the subject site as they pertain to exposures in building interiors, and the reasonably foreseeable occupancy of those buildings.

INSPECTION REPORT

SUBJECT BUILDING/AREA: #312, Former Research Building

Page 2

According to the Second Revised RAO, following risk assessment, there are no longer use restrictions on the interior space within this building. The amended AUL does require that certain building components remain encapsulated. Collectively, the Second Revised RAO and the amended AUL memorialize response actions (de-leading of surfaces and encapsulation) and subsequent re-assessment of risk associated with exposures at Building 312. The filing of these Amendments allowed the Arsenal Center for the Arts to be developed in Building 312. During the inspection it was observed that the encapsulation was intact and being respected.

The Town of Watertown and Harvard filed with DEP an Application for 7th Amendment to the Grant (dated April 5, 2005) proposing to remove from the Commercial Reuse Area Building 312 and the Plaza Area between Building 312 and Arsenal Street for the annual inspection process. At the time of this inspection DEP and EPA are in the process of providing comments to Town of Watertown on this Grant Amendment Application. Until such time as this or another Grant Amendment affecting Building 312 and the Plaza Area is accepted, the Restricted Uses and Activities contained in Section 2.A. of the Grant remain in effect. During this inspection, no prohibited uses or activities were observed.

During the current inspection, no drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would, or would likely result in human contact with the underlying soils was observed. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #313-C, Former Arsenal Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

Excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs (utility installations) was completed in 1999. Restrictions to perforations of the slab were lifted in the Amendments to the Grant, for western areas of the building. Restrictions remain for an area in the building's eastern end, where PCB contamination in sub-slab soils remains.

Drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would, or would likely result in human contact with the underlying soils was observed in the building's western half. Again, restrictions to contact with sub-slab/sub-foundation soils have been removed under Grant Amendments for this area only.

General Conditions and Observations

As noted in previous inspection reports, Building #313-C (central wing), a former Arsenal Building, has been rehabilitated for office use. The building is currently occupied. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed.

As noted above, via soil testing results, Amendments to the Grant lifted restrictions to soil access for western portions of this building. The western portion of the building has been razed. This area was landscaped during 1999-2000. Soil access restrictions remain for the area beneath the current building footprint. Visual inspection revealed no evidence of soil disturbance in this area at the time of the 2010 inspection.

During inspection of the PCB restriction area, no evidence of disturbance of the slab was noted. Interior floor surfaces (carpet/tile) were intact. According to Beal, no disturbance of underlying soils has occurred during the inspection period.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #313-S, Former Arsenal Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs (utility installations) was observed. Restrictions to perforations of the slab remain for this building, due to the presence of PCBs in soils beneath the slab. A "conditional exception" was granted during the 1999/2000 period, for the installation of a footing. CRBCA reported in 2000 that no PCB-contaminated material was generated as a result of this work.

General Conditions and Observations

Building #313-S (south wing), a former Arsenal Building, has been rehabilitated for office use. As noted in previous inspection reports, construction is observed to be complete. The building is currently occupied. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed. Inspection of the Conditional Exception area revealed an intact concrete slab, and no evidence of perforation or exposure to underlying soils.

No drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would, or would likely result in human contact with the underlying soils was observed. According to Beal, no disturbance of underlying soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: "Area G"

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this Inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, school (for children under 18 year of age), hotel, motel, community center (for children under 18 years of age), and/or recreational uses or activities uses were observed.

No reduction of the grade below the surface grade, as defined in subparagraph 2.C. of the Grant, or movement of soils, located at a depth of one (1) foot or more below the surface grade, as defined in subparagraph 2.C. of the Grant, above that depth, unless disposed of off-Site in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant is permitted.

General Conditions and Observations

"Area G", an excavation exclusion area, was substantially or significantly disturbed (fill placement raised preexisting grade) in 1999. The area was utilized as an access point for equipment, labor, and material associated with demolition/renovation work being conducted on nearby buildings (313-C specifically). Other than the temporary placement of clean demolition debris as a temporary construction "ramp" to facilitate work on Building #313-C during this period, no alteration to the area was observed or reported.

At the time of the August 2000 inspection, Area G appeared to have been restored to its relative previous grade and landscaping/sidewalk/pavement have been installed in the area. Subsequent grade verification by Dunn-McKenzie in February 2001 however, documented lower grades in the area of two benchmarks, than those documented as status quo in 1999. CRBCA reported during interviews for the 2001 Third Annual report that DEP was currently evaluating the need to submit an Amendment to the Grant documenting the

INSPECTION REPORT
SUBJECT BUILDING AREA: "Area G"
Page 2

change (lower) in elevation of benchmarks in this area. As discussed in the Third Annual Review report, an evaluation of existing conditions by the LSP of record suggested that risk and soil management goals of the Grant are intact. Nonetheless, regulators have determined that activities at Excavation Area "G" had violated the Grant. An assessment of the nature of these activities and the current conditions in the area by the LSP of Record (Mr. Hoskins) suggested that no significant risks were present. The Fifth Amendment documented the changes in elevation of the area and benchmarks, construction of these benchmarks, and established annual inspection guidelines to ensure benchmark integrity.

For the current inspection Report period, no reduction of the grade below the surface grade, as defined in subparagraph 2.C. of the Grant was observed. No movement of soils, located at a depth of one (1) foot or more below the surface grade, as defined in subparagraph 2.C. of the Grant, above that depth, unless disposed of off-Site in compliance with the Soil Management Protocol set forth in Paragraph 4 of the Grant was observed.

During the 2009 Annual Inspection, one of the monuments in "Area G" had been damaged by plowing activities. It was noted that this monument had been repaired during the 2010 Annual Inspection. It was not necessary for this monument to be re-surveyed after the 2009 or 2010 repairs had been made. According to Beal, no disturbance of pavement or soils has occurred during the inspection period. Visual inspection revealed no evidence of soil disturbance in this area.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: 1

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: #37, Former Arsenal Building

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, and Rob Weikel of the Beal Companies, manager of Lot 2 for Harvard accompanied Tighe & Bond on this inspection. Mr. Weikel is knowledgeable of site conditions and the day to day site use since Harvard's purchase of "Lot #1" of the AMTL portion of the subject site in 2001. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

Excavation, drilling, or otherwise disturbing the soils under the building foundation and slabs (utility installations) observed in 1999 no longer exist. Restrictions to perforations of the slab were lifted in the Amendments to the Grant, as a result of soil testing.

General Conditions and Observations

Building #37, a former Arsenal Building, has been rehabilitated for office use. As discussed in previous inspection reports, construction appeared to be essentially complete by the 2000 inspection. The building is currently occupied by a day care corporate office. No evidence of hazardous substances in the building and area immediately surrounding the building impacting the general environment were observed.

According to Beal, no drilling or other disturbance of the building foundations and slabs which would compromise their integrity in a manner that would or would likely result in human contact with the underlying soils was observed. Based on the current status, a report for Building #37 will no longer appear as part of the Annual Review.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: Charles River Park Parcel

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: Charles River Park Open Area

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, accompanied Tighe & Bond on this Inspection. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, or school activities, except those activities incidental to recreational park activities are to occur.

No reduction in grade, as defined in subparagraph 2.G is permitted.

No excavation, drilling or otherwise disturbing the soils located two (2) feet or more below surface grade, as defined in subparagraph 2.G., infra is permitted.

All benchmarks installed on the Park Parcel are to be maintained in accordance with the provisions of the Grant. The benchmarks are to remain visible and accessible.

General Conditions and Observations

Bank reconstruction activities along the shoreline occurred in September and October 2006. The reconstruction activities consisted of the addition of rip-rap along the water's edge, the re-contouring of portions of the shoreline, the addition of native vegetation, and the removal of invasive vegetation within the rehabilitated areas. Additionally, to prevent soil erosion from surface water run-off, shallow drainage trenches consisting of parallel rows of trap rock emplaced just beneath the soil surface were installed. During the reconstruction activities, no excavation, drilling or otherwise disturbance of the soils located two (2) feet or more below surface grade, as defined in subparagraph 2.G., occurred. Moreover, no reduction in grade occurred during the 2010 Annual Inspection period.

The open park area appears to have been used for passive, non-intensive purposes. On the Charles River Park Open Area, according USACE personnel, no residential, daycare, or school activities, except those activities incidental to recreational park activities have occurred during the 2010 Annual Inspection period.

All benchmarks were observed to be maintained in accordance with the provisions of the Grant. The benchmarks were visible and accessible.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: Charles River Park Parcel

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: Charles River Park Wooded Area

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, accompanied Tighe & Bond on this inspection. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, or school activities, except those activities incidental to recreational park activities are permitted.

General Conditions and Observations

The Charles River Park Wooded Area appears as it did in the 2009 Annual Inspection. The wooded area appears to have been used for passive, non-intensive purposes. No evidence of un-permitted use was evident during the course of the inspection.

On the Charles River Park Wooded Area, according to USACE personnel, no residential, daycare, or school activities, except those activities incidental to recreational park activities have occurred for the 2010 Annual Inspection period.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: Charles River Parcel

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: Watertown Yacht Club Open Area

No changes have occurred since the June 2009 Eleventh Annual inspection.

Jim Boudreault of the Watertown Yacht Club who is the current owner of the River Parcel, Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, accompanied Tighe & Bond on this Inspection. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, or school activities, except those activities incidental to recreational park activities are permitted.

No reduction in grade, as defined in subparagraph 2.G is permitted.

No permits are to be obtained for construction or maintenance purposes, which involved soil disturbance or excavation.

No excavation, drilling or otherwise disturbing the soils located two (2) feet or more below surface grade, as defined in subparagraph 2.G., infra. is permitted.

With respect to existing structures, no residential, daycare, or school activities, except those activities incidental to recreational park activities are permitted. No disturbance of building foundations and slabs in a manner which would likely result in human contact with underlying soils is permitted. Finally, no excavation, drilling or otherwise disturbing of the soil underlying the building foundations and slabs is permitted.

All benchmarks installed on the Park Parcel are to be maintained in accordance with the provisions of the Grant. The benchmarks are to remain visible and accessible.

General Conditions and Observations

The Watertown Yacht Club Open Area appears as it did in the 2009 Annual Inspection. The area appears to have been used for passive, non-intensive purposes. No evidence of unpermitted use or soil disturbance was evident during the course of our inspection.

Two groundwater monitoring wells were identified in the paved lot of the Watertown Yacht Club were identified during the 2009 Annual Inspection. According to information obtained

INSPECTION REPORT

SUBJECT BUILDING/AREA: Watertown Yacht Club Open Area

Page 2

during our inspections, the wells were installed as part of the underground storage tank (UST) removal program.

It is reported that the boat launch rail bed was to be upgraded in July and August of 2009. Regulatory permits were approved, and the project was completed prior to the June 2010 site visit. Since any soil disturbance took place less than two feet below surface grade, and outside the AUL area the upgrade did not constitute a violation of the AUL.

According to DCR, USACE, and the WYC representative, no residential, daycare, or school activities, except those activities incidental to recreational park activities have occurred during the 2010 Annual Inspection period. According to the WYC representative, no activities which resulted in reduction in grade, floor perforations, or the disturbance of soils on the WYC Open Area have occurred during the 2010 Annual Inspection period.

With respect to structures, according to WYC personnel, no residential, daycare, or school activities, except those activities incidental to recreational park activities have occurred during the inspection period. No disturbance of building foundations and slabs in a manner which would likely result in human contact with underlying soils has occurred as of the date of the inspection. Finally, no excavation, drilling or otherwise disturbing of the soil underlying the building foundations and slabs has occurred. Benchmarks were accessible and visible.

The Boating Permit obtained from the Watertown Yacht Club authorizing the use of the parcel for maintaining a boathouse/sailing pavilion, piers, and other related facilities is attached.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: Charles River Park Parcel

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: North Beacon Street Area

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, accompanied Tighe & Bond on this Inspection. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

Specific Grant Restrictions

No residential, daycare, or school activities, except those activities incidental to recreational park activities are permitted,

No disturbance of the roadway or sidewalk pavement which would compromise their integrity which could result in human contact with the underlying soils is permitted.

No excavation, drilling or otherwise disturbing the soil underlying the roadway or sidewalks.

General Conditions and Observations

The North Beacon Street Area appears as it did in the 2009 Annual Inspection. No evidence of un-permitted use was evident during the course of our inspection.

According to USACE, and Watertown DPW personnel, no residential, daycare, or school activities, except those activities incidental to recreational park activities have occurred for the 2010 Annual Inspection period. No disturbance of the roadway or sidewalk pavement which would compromise their integrity which could result in human contact with the underlying soils has occurred.

INSPECTION REPORT

Army Materials Technology Laboratory - Twelfth Annual Report

DATE: 6/3/2010

WEATHER: 81F, Clear

LOT#: Charles River Park Parcel

INSPECTOR: K. Gendron, T&B

SUBJECT BUILDING/AREA: North Beacon Street Wooded Area

No changes have occurred since the June 2009 Eleventh Annual inspection.

Mark Brodowicz representing the U.S. Army, former owner of the entire Arsenal property subject to the Grant of Environmental Restriction, Christine Williams of the US EPA, Joanne Dearden of the DEP, Kenneth Heim, Larry Cain and Robert Davis of the USACE-NAE, accompanied Tighe & Bond on this Inspection. Mr. Brodowicz is generally knowledgeable of matters pertaining to Site History, Past and Present Use, and Response Actions which have occurred prior to and subsequent to the implementation of the Grant of Environmental Restriction and Easement for the AMTL portion of the subject site in 1998. Based on Tighe & Bond's knowledge of these issues through the inspection/interview process, and the information provided by these individuals, to the extent that they have knowledge, the inspection focused on pertinent issues since the 2009 inspection.

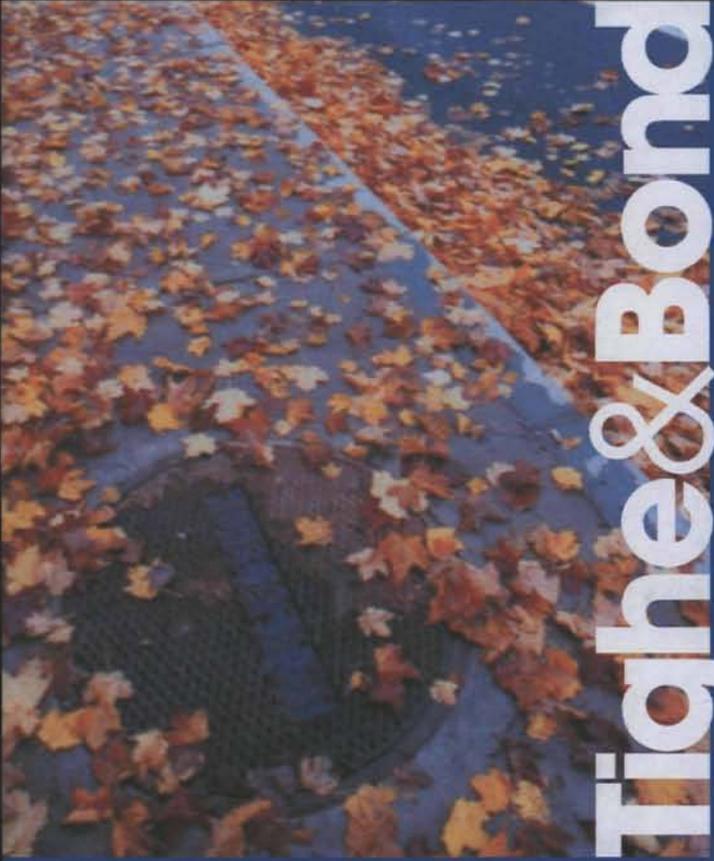
Specific Grant Restrictions

No residential, daycare, or school activities, except those activities incidental to recreational park activities are permitted.

General Conditions and Observations

The North Beacon Street Wooded Area appears as it did in the 2009 Annual Inspection. No evidence of un-permitted use was evident during the course of our inspection.

According to USACE, and Watertown DPW personnel, no residential, daycare, or school activities, except those activities incidental to recreational park activities have occurred for the 2010 Annual Inspection period.



Tighe & Bond

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARRIATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A.

Permit No. 0001-10

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480
Watertown, MA 1/5/2010 0:00:00

D.P.W.

Non-excavating permit required before
any vehicle drives over curbs,
grass plots or sidewalks

PERMIT TO BUILD

Steven Georgopoulos

THIS IS TO CERTIFY THAT

2nd Fl: demo of office walls, ceilings and construct new demising wall for SEIU-Local-509

has permission to erect a

395 ARSENAL ST aka 100 Talcott Ave - Bldg #313

on lot No. Street and No.

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 7th Edition.

Inspector of Buildings.

Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING

ROUGH _____
FINISH _____

PLUMBING

ROUGH _____
FINISH _____

EXCAVATION-

FRAME - _____
FINAL - _____

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0026-10

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480
Watertown, MA

1/21/2010 0:00:00

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

Commodore Builders

THIS IS TO CERTIFY THAT

2nd Fl: build-out of offices for SEIU Local 509 tenancy-see notes on field set of drawings

has permission to erect a

Sign-off at completion by E. of Record

395 ARSENAL ST aka 100 Talcott Ave - Bldg #313

on lot No.

Street and No.

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 7th Edition.

Inspector of Buildings.

Ken Thompson

Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	<i>2/25/10 OK/JP</i>
FINISH	<i>4/23/10 OK/JP</i>

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	
FRAME -	_____
FINAL -	_____

Permit No. 0099-10

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480
Watertown, MA

3/16/2010 0:00:00

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

Louis Chaves

THIS IS TO CERTIFY THAT

Repairs to concrete steps from garage/basement to first floor

has permission to erect a

617 Arsenal Street

on lot No. Street and No.

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 7th Edition.

Inspector of Buildings.

T. E. Thompson
Pen Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	_____
FRAME -	_____
FINAL -	_____

Permit No. 0079-10

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS
(617) 972-6480
Watertown, MA

3/2/2010 0:00:00

D.P.W.
Non-excavating permit required before
any vehicle drives over curbs,
grass plots or sidewalks

PERMIT TO BUILD

Michael Quirion - Sajo Construction Co

THIS IS TO CERTIFY THAT Interior remodel of exist. Space C0 - 6 for new tenant 'SPRING Shoe'

has permission to erect a

485 ARSENAL ST

on lot No. Street and No.

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 7th Edition.

**OCCUPANCY
PERMIT
REQUIRED**

**SEPARATE
ELECTRICAL & PLUMBING
PERMIT REQUIRED**

Inspector of Buildings
Ken Thompson
Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	_____
FRAME -	_____
FINAL -	_____

Permit No. 0038-10

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480 1/28/2010 0:00:00
Watertown, MA

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

Michael Quirion

THIS IS TO CERTIFY THAT 1st Fl: interior fit-out of Space C-11 for new tenant ALDO Outlet

has permission to erect a 485 ARSENAL ST-Space C11 First Floor

on lot No. Street and No.

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit. Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 7th Edition.

SEPARATE
ELECTRICAL & PLUMBING
PERMIT REQUIRED

SEPARATE
ELECTRICAL & PLUMBING

Inspector of Buildings.

Ken Thompson

Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	_____
FRAME -	_____
FINAL -	_____

Permit No. 0011-10

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480 1/8/2010 0:00:00
Watertown, MA

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

Joe Stappan

copy all to Joe Stappan

THIS IS TO CERTIFY THAT

HARVARD VANGUARD 1st Fl renovations to dermatology suite adding Handicap bathroom, new nurses station. Need Const. control letter @ completion

has permission to erect a

485 ARSENAL ST - Harvard Vanguard Medical

on lot No.

Street and No.

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 7th Edition.

Inspector of Buildings.

Ken Thompson

Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

Joe Stappan

	ELECTRIC WIRING
ROUGH	<i>2/2/10 OK/MS</i>
FINISH	<i>3/5/10 OK/MS</i>

	PLUMBING
ROUGH	<i>2/11/2010 RLOK/O</i>
FINISH	<i>3/10/2010 finish OK/O</i>

	EXCAVATION-
FRAME -	<i>[Signature]</i>
FINAL -	<i>[Signature]</i>

No. 5836 P. 3
WATERTOWN ZONING BLDG ELEC PLUMB
AUG. 1. 2000 10:22AM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 595

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS
(617) 972-6480
Watertown, MA

D.P.W.
Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks.

11-18-04

PERMIT TO BUILD

THIS IS TO CERTIFY THAT Jonathan Austin

has permission to erect a Tenant improvement of approx. 3500 sf 2nd floor

on lot No. _____ Street and No. 100 TALCOTT AVE (INNOSIGHT)

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

X.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING
ROUGH _____

PLUMBING
ROUGH _____

EXCAVATION-
FRAME _____

CERTIFICATE OF OCCUPANCY

100 TALCOTT AVE.

Date issued: 1/27/05
Issued to: Innosight
Known as: Innosight
Purpose of: Business offices

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0045

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA

1-31-06

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

Shawmut Construction

has permission to erect a Tenant improvements to south wing including demolition and
TOM SNEIDER PRODS 100 TALCOTT addition of interior partitions; new
on lot No. 311 Street and No. ARSENAL ST 135 4th FL. 135 kitchenette
providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.
Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed
No Insulating to be Done until approved by the Inspectors
No Footings / foundations to be poured until excavation has been inspected
No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	_____
FRAME -	_____
FINAL -	_____

No. 5836 P. 9
WATER TOWN ZONING BLDG ELEC PLMBG
AUG. 1. 2006 10:25AM

Permit No. 0082

OCCUPANCY PERMIT
Watertown, Massachusetts

DATE 4/8/06

In compliance with Section 9.02 of the Zoning By-Law Tom Snyder Productions

has been granted a permit to occupy the premises 100 Talcott Ave

known as Tom Snyder Productions

For the purpose of Offices

1st fl. _____

2nd fl. _____

3rd fl. _____

4th fl. _____

5th fl. _____

BOARD OF APPEALS # _____

K.E. Thompson
Inspector of Buildings



OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE MEDIATION PROGRAM OR GUARANTY FUND UNDER MGL c. 152A

Permit No. 0498

Town of Watertown

D.P.W.



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA

9-13-05

Non-excavating permit requires before any vehicle drives over curbs, grass plots or sidewalks.

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

John Hutchins, Coastal Const. Corp.

has permission to erect a Expand office area into former tenant space approx. 6500 sf

on lot No. _____ Street and No. 200 TALCOTT AVE.

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

X.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	
FRAME -	_____
FINAL -	_____

No. 5836 P. 2

WATERTOWN ZONING BLDG ELEC PLMBG

AUG. 1. 2006 10:52AM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0531

Town of Watertown

D.P.W.

OFFICE OF INSPECTOR OF BUILDINGS Non-excavating permit required
(617) 972-6480 before any vehicle drives over
Watertown, MA 9-23-05 curbs, grass plots or sidewalks...



PERMIT TO BUILD

THIS IS TO CERTIFY THAT Donald Clifford, Party World

has permission to erect a Erect tent for private function

on lot No. _____ Street and No. 321 Arsenal St. Art Center

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

R.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	_____
FRAME -	_____
FINAL -	_____

No. 5836 P. 14

WATER TOWN ZONING BLDG ELEC PLMBG

AUG. 1. 2000 10:54AM



TOWN OF WATERTOWN
 Department of Community Development & Planning
 Building Inspections Division
 149 Main St.
 Watertown, MA 02472
 Tel: 617-972-6480 - Fax: 617-926-7778

SIGN PERMIT

DATE: 5/31/06

In conformity with the provision of the Zoning By-Law and the Building Law, permission is hereby granted to:

SIGN-A-RAMA

Location: 395 ARSENAL ST. #312

To Maintain:

Size: 2'2" x 18'

Sign to Read:

ARSENAL CENTER FOR THE ARTS

Permit Fee: N/A

K.E. Thompson
 Ken Thompson, Inspector of Buildings

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A.

Permit No. 0564

Town of Watertown

D.P.W.

OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA

9-30-05

Non-excavating permit required before any vehicle drives curbs, grass plots or sidewalks



PERMIT TO BUILD

THIS IS TO CERTIFY THAT

Acme Waterproofing

has permission to erect a

Window flashing

on lot No.

Street and No. 395 Arsenal St. #39

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

X.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION	
FRAME	_____
FINAL	_____

No. 5836 P. 20

WATERTOWN ZONING BLDG ELEC PLMBG

AUG. 1. 2006 10:24AM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 312

Town of Watertown

D.P.W.

OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA 6-29-05

Non-excavating permit
before any vehicle drives
cure, grass, pots or stones



PERMIT TO BUILD

THIS IS TO CERTIFY THAT Curtis Whitney

has permission to erect a Bathroom renovations 2nd floor

on lot No. _____ Street and No. 43 GRANDVIEW AVE

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed
No Insulating to be Done until approved by the Inspectors
No Footings / foundations to be poured until excavation has been inspected
No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION	_____
FRAME	_____
FINAL	_____

No. 5836 P. 21
WATERTOWN ZONING BLDG ELEC PLMBG
AUG. 1. 2000 10:22AM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0323

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA

6-20-06

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

Peter Boyajian

has permission to erect a

Rebuild 1st/2nd story front porches 17' x 8'

on lot No.

Street and No.

23-25 ALDEN RD

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING

ROUGH _____

FINISH _____

PLUMBING

ROUGH _____

FINISH _____

EXCAVATION-

FRAME - _____

FINAL - _____

No. 5836 P. 19

WATERTOWN ZONING BLDG ELEC PLMBG

AUG. 1. 2006 10:54AM

Permit No. 0081



OCCUPANCY PERMIT
Watertown, Massachusetts

DATE 4-7-06

In compliance with Section 9.02 of the Zoning By-Law Soun 2 Nuts

has been granted a permit to occupy the premises 311 Arsenal St. 4th Fl

known as Soun 2 Nuts

For the purpose of Offices

1st fl. _____

2nd fl. _____

3rd fl. _____

4th fl. _____

5th fl. _____

K.E. Thompson

Inspector of Buildings

BOARD OF APPEALS # _____

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0056

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA

2-8-06

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

Louis Pasqualucci & Son, Inc.

has permission to erect a Interior renovations 2nd floor

on lot No. Street and No. 311 ARSENAL ST (MCGARR SERVICE)

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION	_____
FRAME	_____
FINAL	_____

No. 0056 P. 11

WATERTOWN ZONING BLDG ELEC PLMBG

AUG. 1. 2006 10:53AM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE H...
IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0687

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS
(617) 972-6480
Watertown, MA 12-1-05
D.P.W. Non-excavating permit required before any vehicle drives on curbs, grass plots or sidewalks.

PERMIT TO BUILD

THIS IS TO CERTIFY THAT Storow Co., Inc.

has permission to erect a Build out 2100 sf. for new medical offices (Dermatology).

on lot No. _____ Street and No. 311 ARSENAL ST. 1st Fl

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed
No Insulating to be Done until approved by the Inspectors
No Footings / foundations to be poured until excavation has been inspected
No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION:	
FRAME -	_____
FINAL -	_____

No. 5836 P. 12
WATERTOWN ZONING BLDG ELEC PLMBG
AUG. 1. 2006 10:53AM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0046

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA

1-31-06

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

Columbia Const.

has permission to erect a Interior renovations 2nd floor - ATHENA HEALTH

on lot No. Street and No. 311 ARSENAL ST, 2nd Fl

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	_____
FRAME -	_____
FINAL -	_____

No. 5836 P. 13

WATERTOWN ZONING BLDG ELEC PLMBG

AUG. 1. 2006 10:54AM



TOWN OF WATERTOWN
Department of Community Development & Planning
Building-Inspections Division
149 Main St.
Watertown, MA 02472
Tel: 617-972-6480 - Fax: 617-926-7778

SIGN PERMIT

DATE: June 16, 2005

In conformity with the provision of the Zoning By-Law and the Building Law,
permission is hereby granted to:

ADVANCED SIGNING

Location: 311 ARSENAL ST.

To Maintain:

Size: 45" x 220"

Sign to Read:

(Logo) ATHENA HEALTH

Permit Fee: \$290.

K.E. Thompson

Ken Thompson, Inspector of Buildings



TOWN OF WATERTOWN

Department of Community Development & Planning

Building Inspections Division

149 Main St.

Watertown, MA 02472

Tel: 617-972-6480 - Fax: 617-926-7778

SIGN PERMIT

DATE: 8/23/05

In conformity with the provision of the Zoning By-Law and the Building Law, permission is hereby granted to:

Batten Bros, Inc.

Location: 311 ARSENAL ST.

To Maintain:

Size: 20" x 170"

Sign to Read:

BSC BOSTON SPORTS CLUB

Permit Fee: \$325.

K.E. Thompson

Ken Thompson, Inspector of Buildings

Permit No. 0052

OCCUPANCY PERMIT
Watertown, Massachusetts

DATE 11-18-05



In compliance with Section 9.02 of the Zoning By-Law Fred Boccelli for
Boston Sports Club

has been granted a permit to occupy the premises 311 Arsenal St.

known as Boston Sports Club

For the purpose of Health & Fitness Center

1st fl. _____

2nd fl. _____

3rd fl. _____

4th fl. _____

5th fl. _____

K.E. Thompson

Inspector of Buildings

BOARD OF APPEALS # _____

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

No. 0476 P. 2

Permit No. 0678

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA

December 7, 2007

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

Chapman Construction

has permission to erect a

Interior fitout of 18,000 sq. ft. for Communitospace; construct two mezzanines

on lot No.

Street and No.

100 TALCOTT AVE. Bldg #313 2nd Fl

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION	
FRAME	_____
FINAL	_____

WATERTOWN ZONING BLDG ELEC PLMBG

NOV. 14, 2008 2:09PM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ALLOCATION PROGRAM OR GUARANTY FUND UNDER MGL c. 14

Permit No. 0051

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS
(617) 972-6480
Watertown, MA

February 13, 2007

D.P.W.
Non-excavating permit required before
any vehicle drives over curbs,
grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT Chapman Construction

has permission to erect a Fit-up approx. 10,000 sf of existing office space for new tenant 3rd floor

on lot No. _____ Street and No. 321 ARSENAL ST. 123 Systems

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit. Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson
Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION	
FRAME -	_____
FINAL -	_____

No. 0476 P. 3

WATERTOWN ZONING BLDG ELEC PLUMB

JUN 14 2006 2:00PM

Town of Watertown

OFFICE OF INSPECTOR OF BUILDINGS
(617) 972-6480
Watertown, MA

OCTOBER 31, 2006

D.P.W.

Non-excavating permit required before
any vehicle drives over curbs,
grass plots or sidewalks

PERMIT TO BUILD



COLUMBIA CONSTRUCTION COMPANY

THIS IS TO CERTIFY THAT

WATER TOWN ZONING BLDG ELEC PLMBG

is permission to erect a INTERIOR RENOVATIONS - 2 RMS 1ST FL, 2 RMS 2ND FL, 1 RM 3RD FL -
ATHENA HEALTH TENANT
lot No. _____ Street and No. 311 ARSENAL STREET

Providing that the person accepting this permit shall in every respect conform to the terms of the application on file in
his office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of
Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.
Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson

Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed
No Insulating to be Done until approved by the Inspectors
No Footings / foundations to be poured until excavation has been inspected
No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING

PLUMBING
ROUGH _____
FINISH _____

EXCAVATION
FRAME _____
FINAL _____

JUL 14, 2006 2:10PM

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE INSURANCE REGISTRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0697

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480
Watertown, MA

December 7, 2006

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

Chapman Construction

THIS IS TO CERTIFY THAT

has permission to erect a Install 22 skylights; repairs to slate roof

on lot No. Street and No. 321 ARSENAL ST

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson
Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION	
FRAME	_____
FINAL	_____

No. 0476 - P. 7
WATERTOWN ZONING BLDG ELEC PLMBG
JUL 14 2008 2:10PM



TOWN OF WATERTOWN
Department of Community Development and Planning
FACILITIES INSPECTION DIVISION

Administration Building
149 Main Street
Watertown, Massachusetts 02472-4410
(617) 972-6480 • Fax (617) 926-7778

Ken Thompson
Inspector of Buildings

SIGN PERMIT

Date: 12/05/06

In conformity with the provisions of the Zoning Ordinance and the Massachusetts State Building Code, permission is hereby granted to:

BACK BAY SIGN CO.

To erect sign at: (Location): 321 ARSENAL ST.

Sign Size: 2 @ 2'8" X 16' - ARSENAL CENTER FOR THE ARTS

3. 2' X 16' - WATERTOWN CHILDRENS' THEATRE

4. 2' X 16' - NEW REPERTORY THEATRE

Sign to Read: _____

Permit Fee: \$N/A

Ken Thompson,
Inspector of Buildings



TOWN OF WATERTOWN
Facilities Inspectional Division
149 Main Street
Watertown, MA 02472

(617) 972-6490
FAX (617) 926-7778

Ken Thompson,
Inspector of Buildings

SIGN PERMIT

Date: 11/9/06

In conformity with the provisions of the Zoning Ordinance and the Massachusetts State Building Code, permission is hereby granted to:

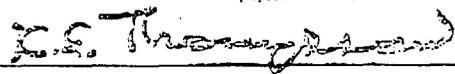
Hazel Wood Hopkins Sign Permit Consultants

To erect sign at: (Location): 311 Arsenal St a.k.a. 1 Kingsbury Ave/

Sign Size: 67-5/8" x 77-3/4"

Sign to Read: A 123 SYSTEMS

Permit Fee: \$160.00


Ken Thompson,
Inspector of Buildings

Permit No. 0476



OCCUPANCY PERMIT
Watertown, Massachusetts

DATE 7-1-08

In compliance with Section 9.02 of the Zoning By-Law Channon Construction Design

84 Winchester St., Newton, MA 02461

has been granted a permit to occupy the premises 100 Walcott Avt., Bldg. 618, 2nd Fl

known as Communispace

For the purpose of Office Space - Two mezzanines

1st fl. _____

2nd fl. _____

3rd fl. _____

4th fl. _____

5th fl. _____

BOARD OF APPEALS # _____

R.E. Thompson
Inspector of Buildings

SESSORS *[Signature]*



Permit No. _____

OCCUPANCY PERMIT Watertown, Massachusetts

DATE 8/25/08

In compliance with Section 9.02 of the Zoning By-Law Rekha Mistri

27 Standish Rd., Beverly, MA 02151

has been granted a permit to occupy the premises 257 Arsenal St.

known as Arsenal Lobby Shop

For the purpose of Convenience Store

1st fl. _____

2nd fl. _____

3rd fl. _____

4th fl. _____

5th fl. _____

BOARD OF APPEALS # _____

EE Thompson
Inspector of Buildings

1 17 19 11 01

ZONING

Permit No. 0173



OCCUPANCY PERMIT
Watertown, Massachusetts

DATE 8/25/07

In compliance with Section 9.02 of the Zoning By-Law The Arsenal Center for the Arts
321 Arsenal St., #310, Watertown, MA

has been granted a permit to occupy the premises 321 ARSENAL ST.

known as The Arsenal Center for the Arts

For the purpose of 380 seat Proscenium Theatre

1st fl. _____

2nd fl. _____

3rd fl. _____

4th fl. _____

5th fl. _____

BOARD OF APPEALS # _____

[Handwritten signature]
Inspector of Buildings

[Handwritten initials] *[Handwritten initials]*

OWNERS PULLING THEIR OWN PERMIT OR DEALING WITH UNREGISTERED CONTRACTORS FOR APPLICABLE HOME IMPROVEMENT WORK DO NOT HAVE ACCESS TO THE ARBITRATION PROGRAM OR GUARANTY FUND UNDER MGL c. 142A

Permit No. 0511

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

September 11, 2006

Watertown, MA

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

Chapman Const

has permission to erect a

Interior fitup for new tenant

on lot No.

Street and No.

100 TALCOTT AVE

Cambridge, MA

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

K.E. Thompson

Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING

ROUGH

FINISH

PLUMBING

ROUGH

FINISH

EXCAVATION

FRAME

FINAL

No. 0487 P. 3

WATERTOWN ZONING BLDG ELEC PLMBG

Jul. 15. 2008 9:25AM

Permit No. 0051-08

Town of Watertown



OFFICE OF INSPECTOR OF BUILDINGS

(617) 972-6480

Watertown, MA February 14, 2008

D.P.W.

Non-excavating permit required before any vehicle drives over curbs, grass plots or sidewalks

PERMIT TO BUILD

THIS IS TO CERTIFY THAT

J. Calnan & Associates

has permission to erect a

Minor interior alterations to 1st floor office space for I PROSPECT

on lot No.

Street and No. 311 ARSENAL ST 1st Fl

providing that the person accepting this permit shall in every respect conform to the terms of the application on file in this office, and to the provisions of the Statutes and Ordinances relating to the construction of Buildings in the Town of Watertown. Any Violation of any of the terms above noted shall cause an immediate revocation of this permit.

Under the Acts of 1972 Chapter 802 applicant shall comply to the Commonwealth of MA State Building Code, 6th Edition.

Inspector of Buildings.

Ken Thompson
Ken Thompson

This Card Must Be Displayed in a Conspicuous Place on The Premises and Not Torn down or Removed

No Insulating to be Done until approved by the Inspectors

No Footings / foundations to be poured until excavation has been inspected

No new building to be occupied until the occupancy permit has been issued

ELECTRIC WIRING	
ROUGH	_____
FINISH	_____

PLUMBING	
ROUGH	_____
FINISH	_____

EXCAVATION-	_____
FRAME -	_____
FINAL -	_____

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION

BOATING PERMIT

Pursuant to Section 33 of Chapter 92 of the Massachusetts General Laws, Chapter 404 of the Acts of 1907 and Chapter 524 of the Acts of 1909, and all acts in addition thereto or in amendment thereof, permission is hereby granted by the Commonwealth of Massachusetts acting through its Department of Conservation and Recreation, ("DCR"), to the Watertown Yacht Club, Inc. ("Permittee"), a corporation duly organized and existing under the laws of the Commonwealth of Massachusetts with a usual place of business in the Town of Watertown, in the County of Middlesex and the Commonwealth of Massachusetts, to use and occupy for the purposes of a boating program, a parcel of land situated in said Town, County and Commonwealth, as shown on a plan entitled "Site Plan of Land in Watertown, Mass., Leased by: Watertown Yacht Club," scale: 1"=20', dated January 29, 1976, prepared by Schofield Brothers, Inc., Registered Land Surveyors, 1071 Worcester Road, Framingham, Mass., Plan Accession Number 49186X, on file with Department of Conservation and Recreation.

The Permittee shall have the right to maintain upon said Premises a boathouse or sailing pavilion, piers, and other related facilities (but excluding moorings, floats or rafts held by bottom-anchor, and ramps associated thereto, that comprise an annual permit activity consistent with 310 CMR 9.07(1) and (2)) in accordance with such general and specific terms and conditions and plans and specifications, as set forth by said DCR, which terms and conditions are attached hereto and plans and specifications are referenced herein, both of which are incorporated herein and are intended to be consistent with Chapter 91 of the General Laws. The DCR may authorize, or may require, modification to the plans and specifications and this Permit to maintain consistency with the provisions of Chapter 91. The Permittee shall be required to comply with the requirements of Chapter 91 of the General Laws and the provisions of 310 CMR 9.00, and the licensing provisions therein. If the Permittee has not been issued a valid license under the provisions of Chapter 91 and 310 CMR 9.00 or filed an application in accordance with those provisions, the Permittee is required to file a waterways permit application with the Department of Environmental Protection within 180 days of the effective date of this permit. The Permittee expressly understands that moorings, floats or rafts held by bottom-anchor, and ramps associated thereto, that comprise an annual permit activity under 310 CMR 9.07(1) and (2), located within the Charles River Basin are not permitted under this Boating Permit and shall be separately addressed for permitting by DCR pursuant to its authority under section 75 and other applicable sections of Chapter 92 of the General Laws, and in accordance with 310 CMR 9.00, pursuant to a fair and equitable assignment procedures to be implemented by DCR.

The effective date of this Permit shall be January 1st of the calendar year during which this Permit is issued by and signed on behalf of DCR by the duly authorized Commissioner of the DCR, regardless of the actual date of execution by both parties shown below. The Permit Term is five (5) years from the effective date of the Permit. This Permit shall continue in force and effect and upon the same terms and conditions unless terminated by the DCR in accordance with the Terms and Conditions as attached hereto and incorporated herein.

The Permittee shall pay to the DCR the sum of:

\$ 8,000 for this Permit for calendar year 2005.
\$ 11,000 for this Permit for calendar year 2006.
\$ 15,000 for this Permit for calendar year 2007.
\$ 15,000 for this Permit for calendar year 2008.
\$ 15,000 for this Permit for calendar year 2009.

Such sum for calendar year 2005 shall be paid immediately upon execution of this Permit; and such sum for each calendar year thereafter shall be due and paid on or before the beginning, January 1st, of that applicable calendar year. Payment shall be made by check, payable to the "Commonwealth of Massachusetts," and submitted to the DCR Office of Finance, 251 Causeway Street, Suite 600, Boston, MA 02114. This sum does not include winter boat storage fees, as applicable, which shall be separately assessed at \$5.00 per lineal foot of boat and payment of which is required as a condition of this Permit.

The DCR will be establishing a Working Group to advise DCR regarding public access, public benefits and stewardship of the public lands in and adjacent to the purposes permitted under the Permit. The Permittee shall submit a description of its current public access, public participation program and public benefit or service to the EOEPA Office of Public Private Partnerships, as described in paragraph 6 of the Terms and Conditions. The DCR's Working Group will consist of representatives of the Executive Office of Environmental Affairs, the Department of Environmental Protection, DCR, interested Legislators, and other community members selected by the DCR that are interested in boating related issues. The Working Group will advise and make recommendations to DCR regarding improvements to public access, public benefits and stewardship of the public lands in and around the purposes permitted under this Permit. Following consideration of the recommendations of the Working Group, the DCR will establish specific requirements and objectives that will be incorporated into the terms and conditions of this Permit and compliance with these requirements will become an obligation of the Permittee under the Permit.

The Permittee acknowledges having received and reviewed a copy of the "Grant of Environmental Restriction and Easement" ("Grant"), granted by the United States of America to the Massachusetts Department of Environmental Protection, recorded in the Middlesex South District Registry of Deeds in Book 43851, Page 336, a copy of which is enclosed herewith. The Permittee understands and agrees to abide by and follow all requirements of the Grant as part of its use and occupancy and purposes under the Permit. The terms of the Grant are hereby incorporated into the Permit in its entirety however it applies to the uses and activities on the Premises by the Permittee, and the Permittee shall be financially responsible for any professional services it requires to comply with the Grant. Any violation of the Grant by the Permittee shall be cause for immediate termination of the Permit. The Permittee shall rectify and be financially responsible for any violations resulting from its acts or omissions, including but not limited to those which result in any enforcement action being taken by the Environmental Protection Agency, the Department of Environmental Protection, or the United States Army. The Permittee shall keep a detailed maintenance log, which will be presented on an annual basis to DCR, to aid in annual reporting requirements pursuant to the Grant. The Permittee shall cooperate fully with any requests for information or access to the Premises during operating hours for the purposes of satisfying annual reporting requirements. The Permittee understands and agrees that upon the completion of the anticipated sale of the foundation slab of the Watertown Yacht Club clubhouse and garage to the United States Army, these structures will become part of the real property and will be attached to the land in perpetuity. The Permittee shall be held responsible if any of its acts or omissions cause significant

damage to or the removal of the clubhouse and garage foundations resulting in exposure of the soils beneath these structures.

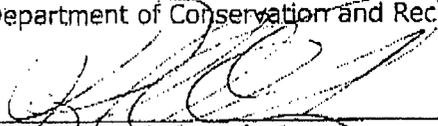
This Permit is granted subject to the Terms and Conditions, any additional terms and conditions, any plans and specifications attached to and incorporated herein, and all other applicable federal, state and municipal laws and ordinances. This Permit is subject to revocation by DCR pursuant to paragraph 17 of the attached Terms and Conditions. The Permittee hereby agrees that neither this Permit nor any documents related hereto will be recorded in the Registry of Deeds, inasmuch as this document does not grant the Permittee any title or interest in and to the land of DCR, but only the right of non-exclusive access for the purposes as hereinabove stated.

By his or her signature, the duly authorized signatory of the Permittee, as below, hereby agrees to accept and be bound by all of the terms and conditions of this Permit, including those attached and incorporated to said Permit and further certifies under the pain and penalties of perjury and pursuant to Section 49A of Chapter 62C of the Massachusetts General Laws, if applicable, that said Permittee has complied with all the laws of the Commonwealth relating to taxes.

IN WITNESS WHEREOF the Commonwealth of Massachusetts, acting by and through its said Department of Conservation and Recreation, has caused these presents to be executed in duplicate and hereunto sets its hands and seal, without however, incurring any personal liability by reason of the execution hereof or of anything herein contained, and the Watertown Yacht Club, Inc., has caused its corporate seal to be hereto affixed and these presents to be executed in duplicate in its name and on its behalf by Ralph B. Levy, its Secretary, hereunto duly authorized, on the dates set forth below.

COMMONWEALTH OF MASSACHUSETTS
Department of Conservation and Recreation,

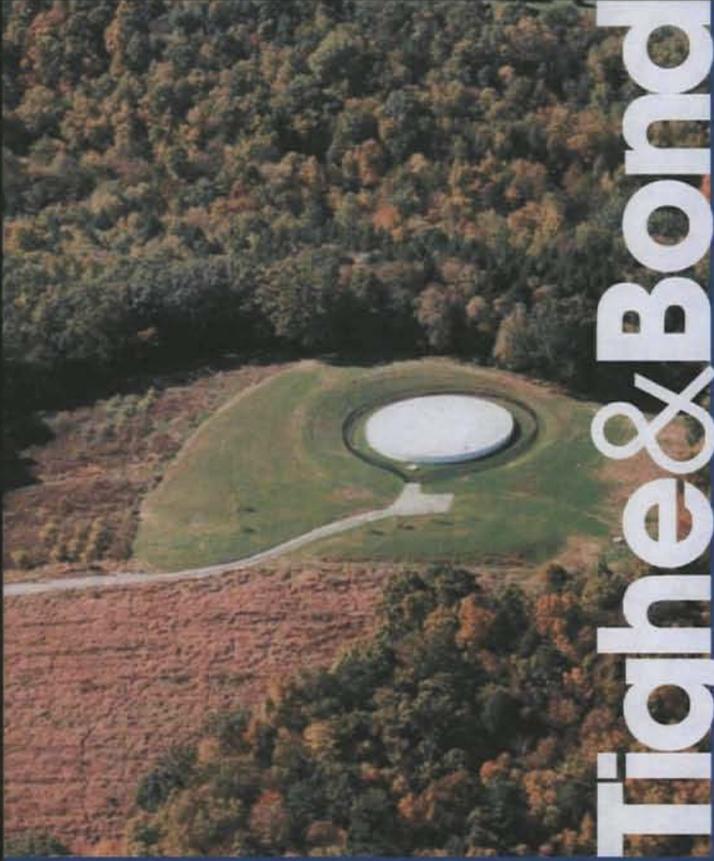
Watertown Yacht Club, Inc.


~~Katherine F. Abbott~~, Richard K. Sullivan, Jr.
Commissioner

By: Ralph B. Levy
Title: Secretary

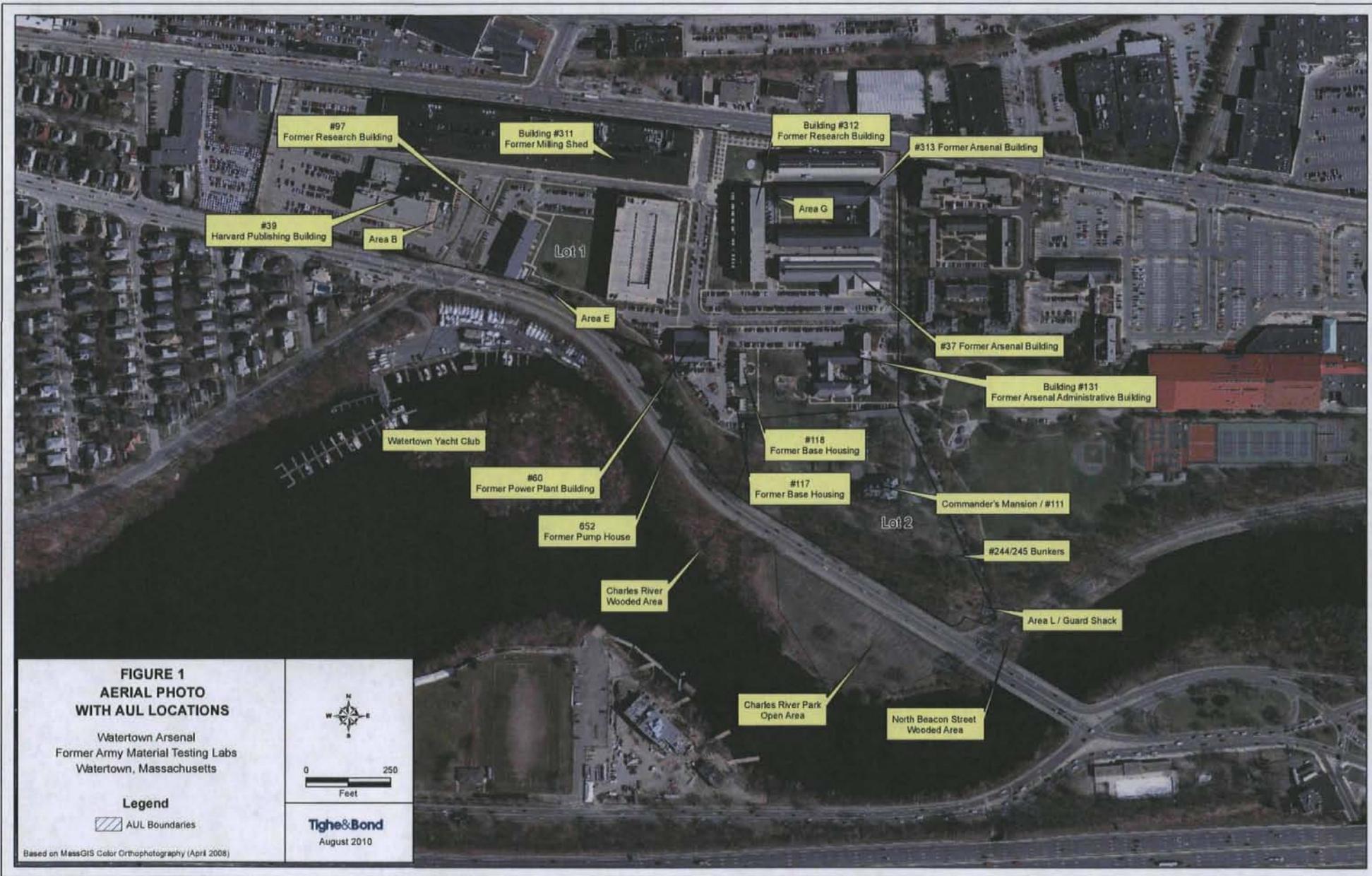
Date: 11/27/07

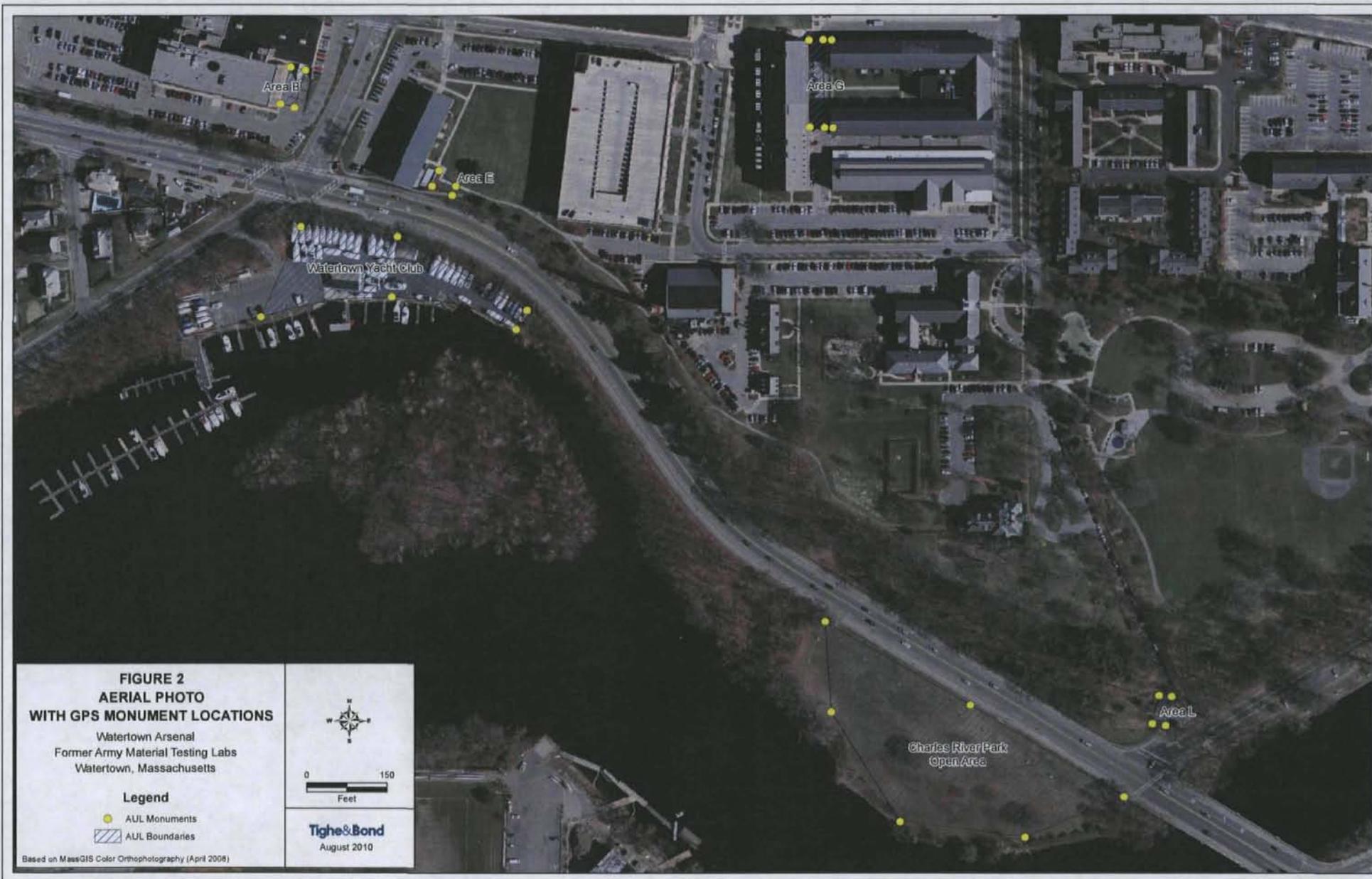
Date: 11/13/07

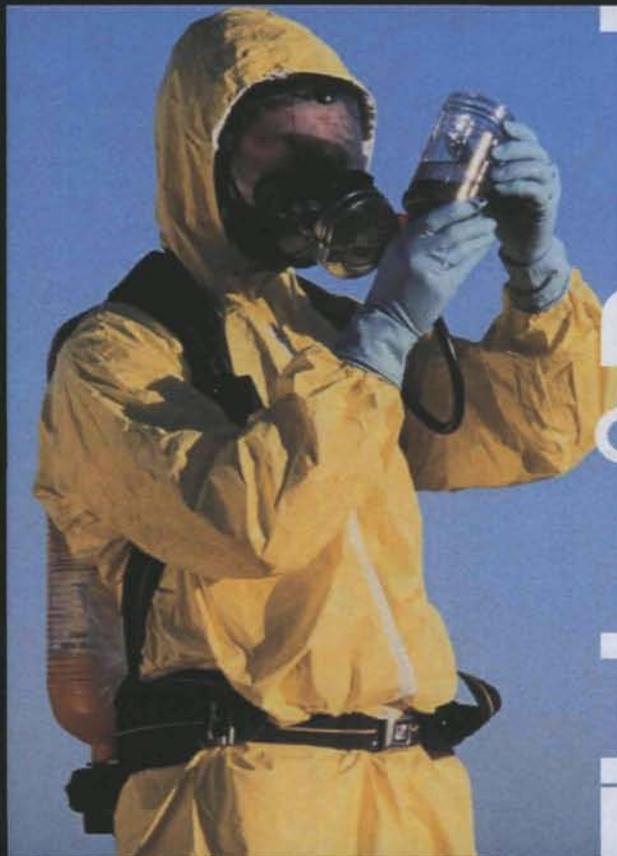


Tighe & Bond

APPENDIX C







Tighe & Bond

APPENDIX E



Replaced monument in "Area B"



Solar array panels installed on the roof of Building #311