



3855 North Ocoee Street, Suite 200  
Cleveland, TN 37312

SENT BY FEDERAL EXPRESS

October 5, 2012

Mr. Patrick Bowe  
Director  
Remediation Division  
Bureau of Water Protection and Land Reuse  
State of Connecticut Department of Energy and Environmental Protection  
79 Elm Street  
Hartford, CT 06106

Re: Property-Specific Remedial Action Report  
Newhall Street Neighborhood  
130 Bryden Terrace, Block F  
Hamden, Connecticut 06517

Dear Mr. Bowe:

Enclosed please find the Property-Specific Remedial Action Report (RAR) prepared for the property located at 130 Bryden Terrace in Hamden, Connecticut. The Property-Specific RAR summarizes the remediation and restoration activities conducted at the property as required by Consent Order No. SRD-128. Remediation and restoration of this property are complete and were implemented in compliance with the Remedy Selection Plan, the Generic RAP, and the Property-Specific Remedial Action Plan (RAP) approved by the Connecticut Department of Energy and Environmental Protection (DEEP).

Section 2.0 of the enclosed report documents property-specific construction activities, as well as any adjustments to the Property-Specific RAP that were required due to the extent of fill encountered or other field conditions. Please note that any field adjustments were made pursuant to the approved Generic RAP and/or with DEEP oversight and approval. Olin hereby submits this Property-Specific RAR for DEEP approval. As noted below and as required by the Remedy Selection Plan, a copy of the enclosed report has also been provided to the property owner.

Please contact me at (800) 295-6141 if you have any questions regarding this matter.

Sincerely,  
OLIN CORPORATION

A handwritten signature in black ink, appearing to read "David M. Share".

David M. Share  
Director, Environmental Remediation

cc: David Smith – 130 Bryden Terrace, Hamden, CT 06517  
Curt Richards – Olin  
Carrie Hunt – Olin  
Nelson Walter – AMEC  
Robert Bell – DEEP  
Ray Frigon – DEEP  
Richard Pearce – Newhall Street Neighborhood Community Liaison  
Robert Labulis – Town of Hamden Building Department

**PROPERTY-SPECIFIC REMEDIAL ACTION REPORT  
130 BRYDEN TERRACE**

**NON-PUBLIC PROPERTIES  
NEWHALL STREET NEIGHBORHOOD  
HAMDEN, CONNECTICUT**

*Prepared for:*



**Olin Corporation**  
3855 North Ocoee Street, Suite 200  
Cleveland, TN 37312

*Prepared by:*



**AMEC Environment & Infrastructure, Inc.**  
1090 Elm Street, Suite 201  
Rocky Hill, Connecticut 06067

**October 5, 2012**

**AMEC Project Number: 6107120004.115**

**PROPERTY-SPECIFIC REMEDIAL ACTION REPORT  
130 BRYDEN TERRACE**

**NON-PUBLIC PROPERTIES  
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**AMEC Project Number: 6107120004.115**

A handwritten signature in black ink that reads "Nelson Walter".

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Nelson Walter, P.E.  
Project Manager

A handwritten signature in black ink that reads "J. Rod Pendleton".

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Rod Pendleton, P.G  
Principal Scientist

## DOCUMENT CERTIFICATION

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law.

David M. Share, Director, Environmental Remediation

  
\_\_\_\_\_  
Chief Executive Officer (or duly authorized representative)  
Olin Corporation

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Nelson Walter, Project Manager



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AMEC Environment & Infrastructure, Inc.

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Figure 2-1 Post-Construction Conditions

## ATTACHMENTS

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A Photographs

## ACRONYMS AND ABBREVIATION

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AMEC	AMEC Environment & Infrastructure, Inc.
bgs	below ground surface
DEEP	Connecticut Department of Energy and Environmental Protection
mg/kg	milligrams per kilogram
NPP	Non-Public Properties
Olin	Olin Corporation
RAP	Remedial Action Plan
RAR	Remedial Action Report
RSP	Remedy Selection Plan
XRF	X-ray fluorescence

## 1.0 INTRODUCTION

This Property-Specific Remedial Action Report (RAR) was prepared by AMEC Environment & Infrastructure, Inc. (AMEC) on behalf of Olin Corporation (Olin) for the property located at 130 Bryden Terrace in Hamden, Connecticut. This Property-Specific RAR was prepared based on information obtained during remediation activities conducted at the property during the 2012 construction season. This document provides information about the remediation activities completed for the property, which are required by Consent Order SRD-128 entered into by Olin, the Town of Hamden, the Regional Water Authority, the State Board of Education, and the State of Connecticut Department of Energy and Environmental Protection (DEEP). The Consent Order requires Olin to excavate and remove fill material up to 4 feet below ground surface (bgs) from approximately 230 residential properties within the Consent Order boundary.

Section 1 of this report provides a summary of site history and a general description of the remedy process for the Newhall Street Neighborhood. Section 2 of this report describes the construction activities conducted at 130 Bryden Terrace.

### 1.1 Regulatory Status

In April 2003, the DEEP issued a Consent Order to Olin, the Town of Hamden, South Central Connecticut Regional Water Authority, and the State Board of Education (DEEP, 2003). The Consent Order requires Olin to investigate and remediate the Non-Public Properties (NPP) within the Consent Order boundary of the Newhall Street Neighborhood.

### 1.2 Description of Remedy Process

In October 2007, a Final Remedy Selection Plan (RSP) was approved and issued by the Commissioner of the DEEP (DEEP, 2007). The remedy for the NPP within the Consent Order boundary is summarized below:

- Excavation of fill within the top 4 feet;
- Disposition of excavated material at authorized off-site facilities;
- Backfilling of excavated areas with clean soil; and
- Restoration of existing features including landscaping, patios, fencing, driveways, etc. that are disturbed during construction activities.

The Final Design - Generic Remedial Action Plan (RAP) (AMEC, 2008), was approved by the DEEP and serves as the basis for remedial action activities within the NPP. The Final Design - Generic RAP details remedial construction activities including excavation of fill to a depth of up to four feet, backfilling excavations, disposition of fill and debris, and restoration of disturbed areas. Detailed plans and specifications regarding the remediation are contained in the Generic RAP and other project plans which have been approved by the DEEP. The Final Design - Generic



Olin Corporation  
Newhall Street Neighborhood Site, Hamden, Connecticut  
Property-Specific Remedial Action Report – 130 Bryden Terrace

RAP and other plans are available at the Town of Hamden Miller Public Library located at 290 Dixwell Avenue, and on the DEEP website at: <http://www.newhallinfo.org>.

Prior to implementing the approved remedial solution, a Property-Specific RAP was prepared for each property owner and submitted to the DEEP for approval. The purpose of the Property-Specific RAP was to provide the homeowner with information regarding the planned construction activities, temporary relocation requirements (if necessary), access provisions, an estimated time table to complete the planned work, and a description of plans to restore the property to existing conditions.

## 2.0 PROPERTY-SPECIFIC CONSTRUCTION ACTIVITIES

During the 2012 construction season, Olin completed the excavation, backfill, and restoration of the property in accordance with the Final Design - Generic RAP and the Property-Specific RAP. As shown on Figure 2-1, excavation extended across the entire property to a depth of four feet and it was not necessary to leave soil wedges in place around any structures. Because the excavation was limited to four feet bgs based on the requirements of the Final Design – Generic RAP, no post-excavation soil samples were collected from this property.

The following is a description of changes from the Property-Specific RAP that were necessitated because of field conditions and/or details regarding the marker barrier installed following excavation activities:

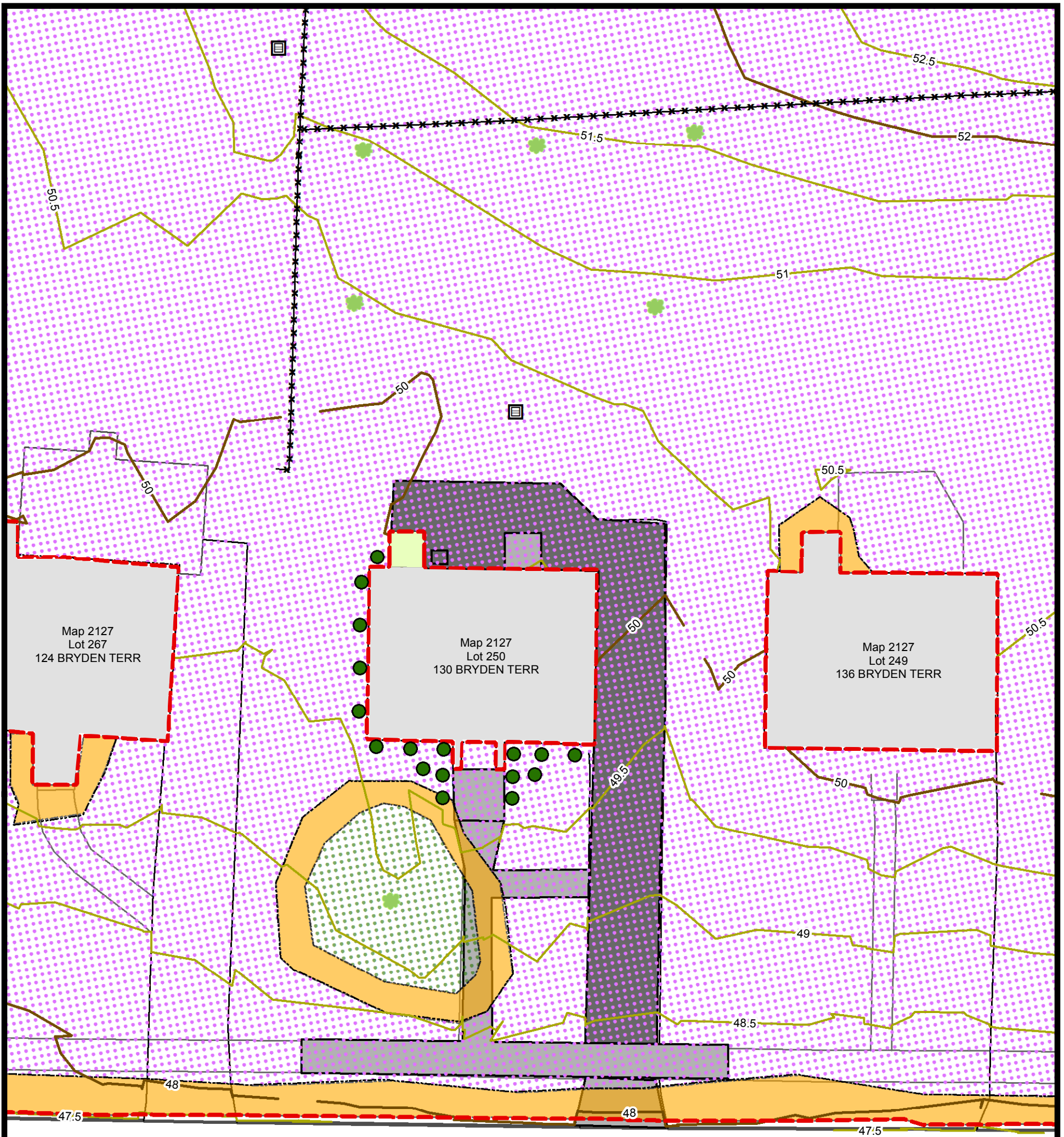
- Throughout the entire property, fill material was present at depths greater than 4 feet below ground surface (bgs). This fill material was left in place, covered by an orange geotextile fabric, and backfilled with clean soil in accordance with the Final Design - Generic RAP. Figure 2-1 shows the approximate area of geotextile fabric identifying the presence of fill at a depth greater than 4 feet bgs.
- The property owner requested that a tree within the expected excavation area be retained. After confirming that the tree met the criteria established in the Tree Sampling Plan which was approved by the DEEP in November 2009, the tree was retained. In accordance with the Tree Sampling Plan, the top six inches of soil were removed, and the remaining fill material within the drip line was left in place. Orange geotextile fabric was placed around the perimeter of the remaining fill. The location of this tree is shown on Figure 2-1.
- As part of efforts to improve drainage following excavation and backfill activities, a drywell was installed in a low-lying portion of the yard. The approximate location of this feature is shown on Figure 2-1.

Photographs of construction activities and the restored property are presented in Attachment A.

### **3.0 REFERENCES**

- DEEP, 2003. Order No. SRD-128, State Of Connecticut vs. Town Of Hamden, South Central Connecticut Regional Water Authority, State Board Of Education, and Olin Corporation. State of Connecticut Department of Energy and Environmental Protection, April 16, 2003.
- DEEP, 2007. Remedy Selection Plan, Newhall Street, Neighborhood Remediation Project. State of Connecticut Department of Energy and Environmental Protection, October 2007
- AMEC, 2008. Final Design - Generic Remedial Action Plan, Non-Public Properties, Newhall Street Neighborhood, Hamden, Connecticut. AMEC Environment & Infrastructure, Inc., August 19, 2008.

## FIGURES

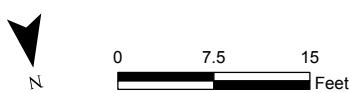


**Bryden Terrace**

**Legend**

- |  |   |                                       |                               |
|--|---|---------------------------------------|-------------------------------|
| Approximate Extent of Marker Barrier Covering Fill < 4 ft bgs Remaining on Property        | Limits of Excavation                      | New/Existing Tree                     | New Drywell                   |
| Approximate Extent of Orange Marker Barrier Covering Fill > 4 ft bgs Remaining on Property | Final Elevation Contour (2-ft interval)   | New Shrub                             | Basement Hatch                |
| With DEEP approval, removed soil to a depth of 6 inches to avoid disrupting tree roots.    | Final Elevation Contour (0.5-ft interval) | New Fence                             | New Asphalt Driveway/Sidewalk |
|  |   | New Concrete Driveway/Sidewalk/Stairs |                               |

Note: All grass areas disturbed by excavation were restored with sod and/or seed/mulch.



Prepared/Date: BRP 08/30/12  
Checked/Date: DRP 08/30/12

**ATTACHMENT A**  
**PHOTOGRAPHS**



**View facing south at the marker barrier surrounding the tree that was retained in accordance with the Tree Sampling Plan**



**View looking north at excavated front of the house prior to marker barrier being installed.**



**View looking north at excavated back yard.**



**View looking south at restored front yard.**





**View looking north at restored back yard.**



**View looking south at restored side and back yard.**