



3855 North Ocoee Street, Suite 200
Cleveland, TN 37312

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April 22, 2011

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

Re: Property-Specific Remedial Action Report
Newhall Street Neighborhood
979-981 Winchester Avenue, Block R
Hamden, Connecticut 06517

Dear Mr. Bowe:

Enclosed please find the Property-Specific Remedial Action Report (RAR) prepared for the property located at 979-981 Winchester Avenue 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 Environmental Protection (CTDEP).

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 made were pursuant to the approved Generic RAP and/or with CTDEP oversight and approval. Olin hereby submits this Property-Specific RAR for CTDEP approval.

Please contact me at (423) 336-4540 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: Mr. Darius James – 981 Winchester Avenue, Hamden, Connecticut 06517
Curt Richards – Olin
Carrie Hunt – Olin
Nelson Walter – MACTEC
Robert Bell – CTDEP
Ray Frigon – CTDEP
Richard Pearce – Newhall Street Neighborhood Community Liaison
Robert Labulis – Town of Hamden Building Department

**PROPERTY-SPECIFIC REMEDIAL ACTION REPORT
979-981 WINCHESTER AVENUE**

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

Prepared for:

Olin Corporation
Cleveland, Tennessee

Prepared by:



MACTEC Engineering and Consulting, Inc.
1090 Elm Street, Suite 201
Rocky Hill, Connecticut 06067

April 22, 2011

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MACTEC Project No.: 6107110004-55

A handwritten electronic signature in black ink, reading "Nelson Walter", positioned to the right of the MACTEC logo.

MACTEC Electronic Signature

Nelson Walter, P.E.
Project Manager

A handwritten electronic signature in black ink, reading "Rod Pendleton", positioned to the right of the MACTEC logo.

MACTEC Electronic Signature

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

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.

Nelson Walter, Project Manager



MACTEC Engineering and Consulting, Inc.

TABLE OF CONTENTS

1.0	INTRODUCTION	1-1
1.1	REGULATORY STATUS	1-1
1.2	DESCRIPTION OF REMEDY PROCESS	1-1
2.0	PROPERTY-SPECIFIC CONSTRUCTION ACTIVITIES	2-1
3.0	REFERENCES	3-1

FIGURES

Figure 2-1 Post-Construction Conditions

TABLES

Table 2-1 Excavation Confirmation XRF Sampling Results

ATTACHMENTS

Attachment A Photographs

LIST OF ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
CTDEP	Connecticut Department of Environmental Protection
MACTEC	MACTEC Engineering and Consulting, Inc.
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 MACTEC Engineering and Consulting, Inc. (MACTEC) on behalf of Olin Corporation (Olin) for the property located at 979-981 Winchester Avenue in Hamden, Connecticut. This Property-Specific RAR was prepared based on information obtained during remediation activities conducted at the property during the 2010 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 Environmental Protection (CTDEP). 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 979-981 Winchester Avenue.

1.1 REGULATORY STATUS

In April 2003, the CTDEP issued a Consent Order to Olin, the Town of Hamden, South Central Connecticut Regional Water Authority, and the State Board of Education (CTDEP, 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 CTDEP (CTDEP, 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) (MACTEC, 2008), was approved by the CTDEP 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 CTDEP. The Final Design - Generic RAP and other plans are available at the Town of Hamden Miller Public Library located at 290 Dixwell Avenue, and on the CTDEP website at: <http://www.newhallinfo.org>.

The Final Design-General RAP requires that prior to implementing the approved remedial solution, a Property-Specific RAP be prepared for each property owner and submitted to the CTDEP for approval. The purpose of the Property-Specific RAP is 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 2010 construction season, Olin completed the excavation of fill material to a depth of 4 feet bgs, backfill, and restoration of the property in accordance with the Final Design - Generic RAP and the Property-Specific RAP. Based on observations made during construction activities, there is no fill present on the property at depths greater than 4 feet bgs. Figure 2-1 shows the areas where excavation occurred on the property and the locations of excavation confirmation samples. Excavation confirmation samples were collected in accordance with Section 3.2.3 – Confirmatory Sampling, of the Final Design - Generic RAP, including adherence to the sampling frequency requirements. X-ray fluorescence (XRF) excavation confirmation sampling results are presented in Table 2-1. As indicated in Table 2-1, all confirmation sampling results indicate total lead concentrations less than the criteria of 400 mg/kg approved by CTDEP in the Final Design - Generic RAP.

The following is a description of changes from the Property-Specific RAP that were necessitated because of field conditions:

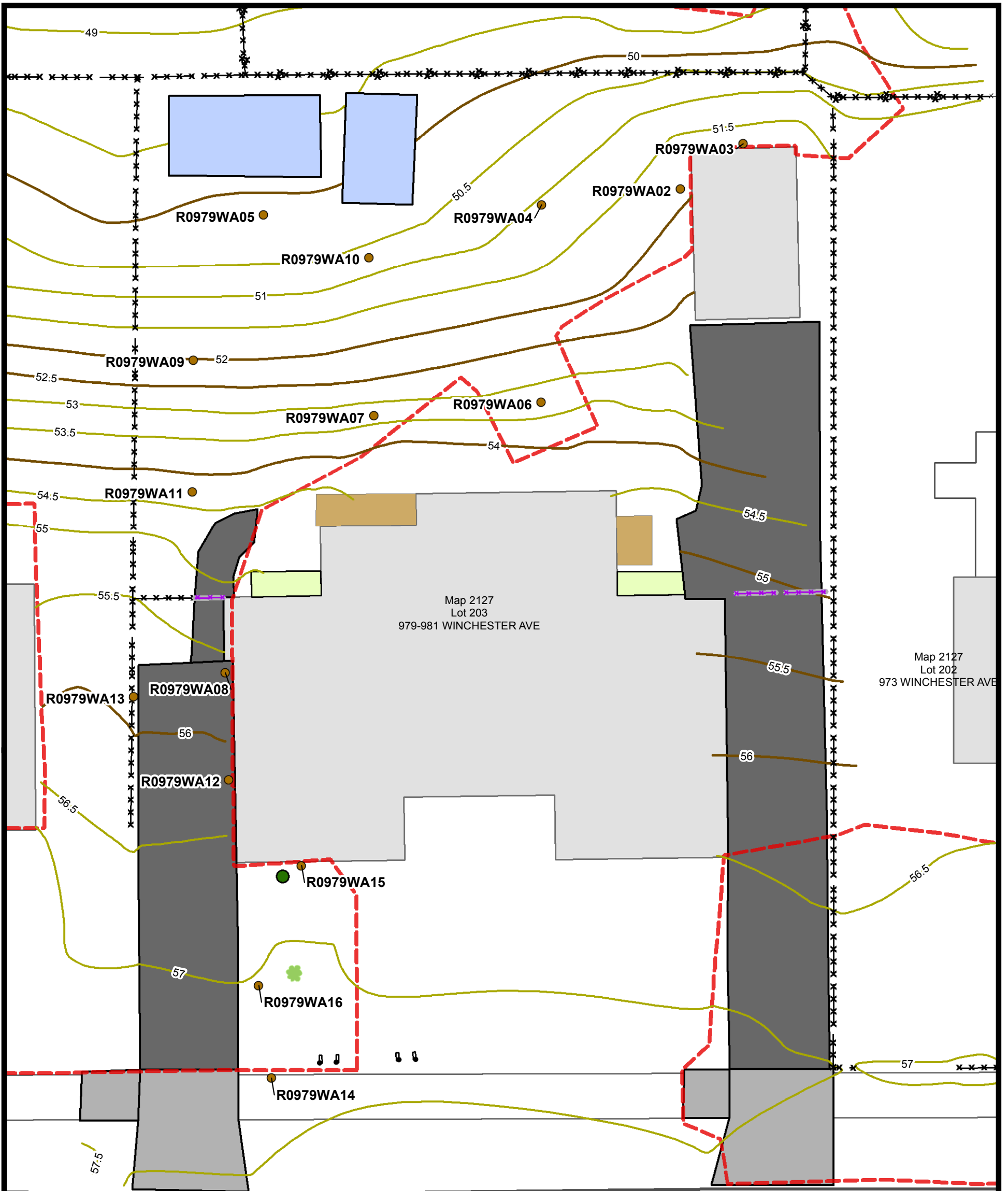
- Additional fill material was located on the property outside of the originally expected areas presented in the Property-Specific RAP and the Final Design - Generic RAP.

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

3.0 REFERENCES

- CTDEP, 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 Environmental Protection, April 16, 2003.
- CTDEP, 2007. Remedy Selection Plan, Newhall Street, Neighborhood Remediation Project. State of Connecticut Department of Environmental Protection, October 2007
- MACTEC, 2008. Final Design - Generic Remedial Action Plan, Non-Public Properties, Newhall Street Neighborhood, Hamden, Connecticut. MACTEC Engineering and Consulting, Inc., August 19, 2008.
- MACTEC, 2009. Property-Specific Remedial Action Plan, 116 Morse Street, Non-Public Properties, Newhall Street Neighborhood, Hamden, Connecticut. MACTEC Engineering and Consulting, Inc., June 29, 2009.

FIGURES



Map 2127
Lot 203
979-981 WINCHESTER AVE

Map 2127
Lot 202
973 WINCHESTER AVE

Legend

- Excavation Confirmation Sample
- Limits of Excavation
- Final Elevation Contour (2-ft interval)
- Final Elevation Contour (0.5-ft interval)
- New Shrub
- ✻ New Tree
- ✻✻✻ New Fence
- New Fence Gate
- New Ballards
- New-Shed
- New Asphalt Driveway/Sidewalk
- New Concrete Driveway/Sidewalk

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



Prepared/Date: BRP 02/21/11
Checked/Date: ETB 02/21/11

TABLES

**TABLE 2-1
EXCAVATION CONFIRMATION XRF SAMPLING RESULTS**

**979-981 WINCHESTER AVENUE
NEWHALL STREET NEIGHBORHOOD
HAMDEN, CONNECTICUT**

Location ID	Location Type	Field Sample ID	Sample Date	Top Depth (ft,bgs)	Bottom Depth (ft,bgs)	Parameter	Result	Final Qualifier	Unit of Measure
R0979WA02	PES	R0979WA-SON0201EX	20-Sep-10	1	1	Lead	162		MG/KG
R0979WA03	PES	R0979WA-SON0301EX	20-Sep-10	1	1	Lead	104		MG/KG
R0979WA04	PEB	R0979WA-SON0401EX	20-Sep-10	1	1	Lead	50	U	MG/KG
R0979WA05	PEB	R0979WA-SON0502EX	20-Sep-10	2	2	Lead	50	U	MG/KG
R0979WA06	PES	R0979WA-SON0601EX	21-Sep-10	1	1	Lead	261		MG/KG
R0979WA07	PES	R0979WA-SON0701EX	21-Sep-10	1	1	Lead	72		MG/KG
R0979WA08	PES	R0979WA-SON0801EX	21-Sep-10	1	1	Lead	86		MG/KG
R0979WA09	PEB	R0979WA-SON0903EX	21-Sep-10	3	3	Lead	71		MG/KG
R0979WA10	PEB	R0979WA-SON1003EX	21-Sep-10	3	3	Lead	50	U	MG/KG
R0979WA11	PEB	R0979WA-SON1103EX	21-Sep-10	3	3	Lead	263		MG/KG
R0979WA12	PES	R0979WA-SON1201EX	22-Sep-10	1	1	Lead	50	U	MG/KG
R0979WA13	PEB	R0979WA-SON1301EX	22-Sep-10	1	1	Lead	187		MG/KG
R0979WA14	PES	R0979WA-SON1402EX	22-Sep-10	2	2	Lead	50	U	MG/KG
R0979WA15	PES	R0979WA-SON1501EX	22-Sep-10	1	1	Lead	94		MG/KG
R0979WA16	PEB	R0979WA-SON1601EX	22-Sep-10	1	1	Lead	51		MG/KG
R0979WA16	PEB	R0979WA-SON1601EX	22-Sep-10	1	1	Lead	59		MG/KG

Notes: bgs - below ground surface

ft - feet

KG - kilograms

MG - milligrams

PEB - sample from bottom of excavation

PES - sample from perimeter of excavation

U - not detected at a concentration above the reporting limit

XRF - x-ray fluorescence

ATTACHMENT A

PHOTOGRAPHS



View looking west at extent of excavation in back yards of 979-981 and 985 Winchester Avenue.



View looking south at excavation continuing across front yards of 979-981 and 985 Winchester Avenue.



View looking southwest at backyard of 979-981 Winchester Avenue following placement of backfill.



View looking southeast at fully restored backyard.



View looking east at newly installed driveway along north boundary of 979-981 Winchester Avenue.



View looking east at newly installed driveway along south boundary of 979-981 Winchester Avenue.