



Department of  
Environmental  
Conservation

# FINAL STATEMENT OF BASIS CORRECTIVE MEASURES SELECTION

Salerno Plastics

Site No. 510024

EPA ID No. NYR000058404 / DEC ID No. 510024

Plattsburgh, Clinton County

March 2016

PREPARED BY

DIVISION OF ENVIRONMENTAL REMEDIATION

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# **FINAL CORRECTIVE MEASURES AND RESPONSE TO COMMENTS ON THE STATEMENT OF BASIS**

Salerno Plastics  
Plattsburgh, Clinton County  
EPA ID No. NYR000058404 / DEC ID No. 510024  
March 2016

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## **INTRODUCTION**

This document presents the final corrective measures for the Salerno Plastics Facility. The final corrective measures were selected in accordance with 6 NYCRR 373. This decision is based on the Administrative Record for the New York State Department of Environmental Conservation (the Department) for the Salerno Plastics facility (see Exhibit A) and the public's input to the proposed corrective measures presented in the Statement of Basis (SB).

## **PUBLIC PARTICIPATION AND RESPONSE TO COMMENTS**

The public comment period for the SB started on February 19, 2016 and ended on March 21, 2016. All comments and/or requests for public hearing were required to be submitted no later than March 21, 2016.

There were no comments received from the public on the corrective measures proposed in the SB.

## **FINAL CORRECTIVE MEASURES**

The elements of the final corrective measure are as follows:

Based on the results of the investigations at the site, the Interim Corrective Measures (ICM) that have been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives. The elements of the ICM already completed and the institutional controls are listed below:

- 1) In-situ enhanced biodegradation was employed as an ICM to treat chlorinated VOC's in groundwater in the area downgradient from the source area located under and adjacent to the southwest corner of the main building,
- 2) Subsequent groundwater monitoring data indicate that enhanced followed by natural attenuation has occurred as a result of ICM activities, and
- 3) Imposition of an institutional control in the form of an environmental easement for the controlled property which will restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County

DOH. The Department will require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

**Declaration**

The proposed corrective measure(s) is/are protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant, appropriate to the remedial action to the extent practicable, and is/are cost effective. This remedy utilizes permanent solutions and alternative treatment, or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March, 28, 2016

Date

A handwritten signature in dark ink, appearing to read "R. Schick", is centered above the printed name.

Robert W. Schick, P.E., Director  
Division of Environmental Remediation

## FINAL STATEMENT OF BASIS FOR CORRECTIVE MEASURES SELECTION

Salerno Plastics  
Site No. 510024  
EPA ID No. NYR000058404  
14 Gus Lapham Lane  
Plattsburgh, NY 12901

**Facility/Unit Type:** Manufacturing facility/Waste storage  
**Contaminants:** Volatile organic compounds (VOCs)  
**Media:** Groundwater, soil and soil vapor  
**Selected Remedy:** No Further Action (NFA) with Institutional Control (IC)  
**Date:** March 2016

### INTRODUCTION – SUMMARY AND PURPOSE OF THE FINAL PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), presents the final corrective measures for the above referenced site. The final corrective measures were selected in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Parts 373 and 375.

The corrective measures from this final Statement of Basis address contaminated media at the facility including groundwater, soil, sediment and soil vapor. This decision is based on the Administrative Record of the Department for the Salerno Plastics site (see Appendix A) and the public input to the proposed corrective measures presented in the DRAFT Statement of Basis.

### PUBLIC PARTICIPATION AND RESPONSE TO COMMENTS

The Department seeks input from the community on all remedies. A public comment period was held, between February 19 and March 21, 2016, during which time the public was encouraged to submit comments on the

proposed remedy. No comments were received during the public comment period.

### FACILITY DESCRIPTION

**Location:** Salerno Plastics is located at 14 Gus Lapham Lane, three miles west of Plattsburgh New York. The facility is located in the Clinton County Air Industrial Park near the corner of County Route 3 and Military Turnpike.

**Site Features:** The site is roughly 7.9 acres in area, the majority of which includes a factory building surrounded by a paved parking lot. The parking lot is surrounded by a drainage ditch on three sides and Gus Lapham Road to the north. External features include a transformer pad of concrete, a pad for silos and an external AmeriGas tank to the southwest.

**Current Zoning and Land Use:** The site is zoned Industrial. The site is surrounded by similar light industrial facilities to the north, east and west and a lumberyard to the south.

**Past Use of the Site:** The building was constructed in November 1995 by A.C. Divestment Corporation f/k/a Salerno Plastics for the purpose of manufacturing plastic films and bags; typically used for horticulture, salt, chemicals and insulation products. In November

1997 A.C. Divestment Corporation sold the site to Salerno Plastics Corporation.

As part of the operations Salerno stored potentially hazardous waste fluids from their flexographic printing operation in 55 gallon drums in a storage area and in a 2000 gallon hazardous waste underground storage tank. In June 1999 Salerno removed three underground storage tanks, one of which was the hazardous waste tank. During the removal Salerno detected releases of hazardous substances and/or wastes. On July 21, 1999, Salerno submitted an underground storage tanks (UST) closure report for the tanks.

The constituents of concern include organic compounds known to have been stored in the UST and/or suspected to have been released to the subsurface. The compounds detected in June 1999 groundwater samples in the UST area included trichloroethylene, tetrachloroethylene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, p-isopropyltoluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropanol, and n-propanol.

As a result of RCRA violations, an order was issued pursuant to the New York State Department of Environmental Conservation (Department) authority under, inter alia, ECL Articles 19, 27 and 71 and ECL §3-0301. On July 29, 1999 Salerno entered an order on consent with the Department, No. D5-0001-9905, which required cleanup of these wastes and any resultant soil and groundwater contamination in the storage areas. The order also contained provisions for an air compliance plan to control emissions from the flexographic printing line.

**Site Geology and Hydrogeology:** Soils at the site are comprised of approximately three feet of fill, overlying relatively dense natural glacial till deposits. The fill deposits pinch out to the west and southwest towards the existing wood-line. The till is comprised of sandy silts or silty sands with minor proportions of clay and gravel.

Groundwater lies in a thin perched zone of saturation between depths of three and six feet below grade. Groundwater flow is towards the east in the northern portions of the site and southeasterly in the southern

portions of the site. During high water conditions, much of the storm runoff from the site is captured in natural and man-made drainage features along most of the site perimeter.

### **Past Remedial Activities**

In addition to the remedial activities noted above, an Interim Corrective Measure (ICM) has also been completed, as described below:

The source area was identified as the former UST area, including leakage from the distribution pipes, in the western portion of the site (between MW-4 and MW-C in Figure 1). In-situ enhanced biodegradation was employed as an ICM to treat chlorinated VOC's in groundwater in the area downgradient from the source area located under and adjacent to the southwest corner of the main building. The biological breakdown of contaminants through anaerobic reductive dechlorination was enhanced by the placement of Hydrogen Release Compound (HRC<sup>®</sup>) and *Dehalococcoides* bacteria (Bio-Dechlor INOCULUM) via injection into the saturated zone of the overburden aquifer at depths of approximately 3-9ft below grade using direct push drilling methods (May 2003 and June 2005).

Groundwater contamination (remaining after the ICM) has been monitored since 2005. Groundwater was monitored for site related contamination and also for indicators that provided an understanding of the (biological activity) breaking down the contamination. Contamination has decreased to levels specified in the Corrective Measures Work Plan, to levels in groundwater that approximate NYSDEC Division of Water Technical and Operation Series 1.1.1 ambient water quality standards and guidance values.

Reported data indicate that natural processes have addressed the contamination. Periodic groundwater quality monitoring was initially conducted between two to four times a year from 2000-2006, and once per year in 2007-2008, 2010-2012, with the last sampling in May 2015. The number of monitoring wells sampled were reduced over time as contaminants were shown to drop below class GA groundwater standards for contaminants of concern as a result of ICM bioremediation.

Figure 1 shows groundwater sampling locations, and Figure 2 shows historic contaminant concentrations for MW-7, the monitoring well with the historically highest and most persistent VOC's, cis-1,2-dichloroethene and vinyl chloride. As of the last sampling in May 2015, concentrations for cis-1,2-dichloroethene (13 parts per billion (ppb)) and vinyl chloride (3.8 ppb) still exceed Class GA Ambient Water Quality Standards (5 and 2 ppb respectively). These concentrations are on the same order of magnitude as the standards. Accordingly, further sampling was not deemed necessary by the Department. Two wells downgradient from MW-7 (MW-6 and MW-10) were below groundwater standards for VOC's, indicating that there is no off-site migration of contaminated groundwater at this time. No other groundwater wells were sampled in 2015 because previous data indicated VOC's were at or below respective class GA Ambient Water Quality Standards.

Data indicate that enhanced bioremediation followed by natural attenuation has occurred as a result of ICM activities, concentrations for cis-1,2-dichloroethene have decreased from a maximum of 4,000 ppb to 13 ppb, and vinyl chloride from 78 ppb to 3.8 ppb. This represents a 99.7% and 95% reduction in contaminant concentrations, and given that Figure 2 shows an overall decreasing trend since HRC injections, for the primary contaminant cis-1,2-dichloroethene, it is expected to continue to attenuate naturally to levels below Ambient Water Quality Standards.

**ENVIRONMENTAL ASSESSMENT**

Soil investigations conducted in 2000 revealed one sample with acetone at 0.1 part per million (ppm), but no other soil samples had contaminants above SCO's. Maximum groundwater concentrations, that previously

exceeded standards (in ppb), include cis-1,2-dichloroethene (4,000), vinyl chloride (78), trichloroethene (54), trans-1,2-dichloroethene (158), 1,2,4-trimethylbenzene (7.5) and acetone (2,200,000). Interim corrective measures were enacted in 2003 and 2005 using in-situ bioremediation injections of Hydrogen Release Compound (HRC).

Groundwater monitoring for contaminants on the site have been ongoing since 1999, concentrations have decreased substantially and only one well still contains contaminants (cis-1,2-dichloroethene and vinyl chloride) exceeding GW standards. The latest round of groundwater sampling from 2015 indicates continued decreasing concentrations for the aforementioned contaminants (13 ppb and 3.8 ppb, respectively), which are currently only slightly above GW standards for the one on-site well.

A soil vapor intrusion investigation was performed in the on-site building in 2008. Trichloroethene was detected at a low concentration in one of the four sub-slab soil vapor locations and no compounds of concern associated with the UST area were detected in any of the indoor air samples. Following a review of the data, actions to address soil vapor intrusion were not needed at the on-site building.

**HEALTH ASSESSMENT**

People are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by site-related contamination.

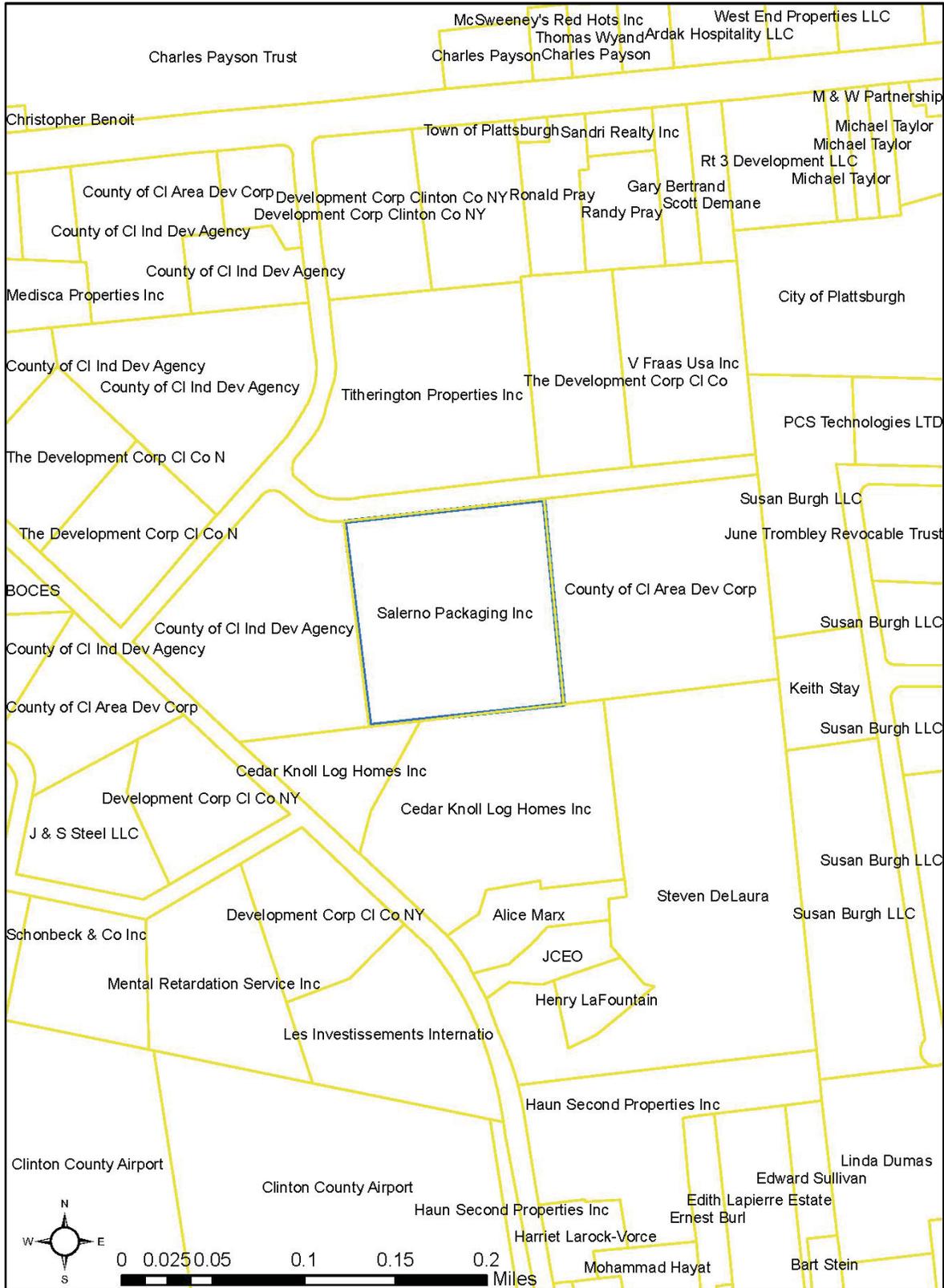
**REMEDIATION OBJECTIVES:**

Remedial Objectives	Remedial Action
<p>RAOs for Public Health Protection</p> <ol style="list-style-type: none"> <li>1) Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.</li> <li>2) Prevent contact with, or inhalation of volatiles, from contaminated groundwater.</li> </ol> <p>RAOs for Environmental Protection</p> <ol style="list-style-type: none"> <li>1) Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.</li> <li>2) Prevent the discharge of contaminants to surface water.</li> <li>3) Remove the source of ground or surface water contamination.</li> </ol>	<p>- An interim corrective measure was enacted in 2003 and 2005. Enhanced bioremediation from HRC injections have decreased concentrations of primary contaminants multiple orders of magnitude which are currently only slightly above groundwater standard for the two remaining contaminants of concern (cis-1,2-dichloroethene and vinyl chloride).</p>

# Site Location



# Property Tax Map Boundaries



**CONTAMINANTS DETECTED AND CLEANUP GOALS FOR THE SALERNO PLASTICS, INC.**

<b>Media</b>	<b>Contaminant</b>	<b>Maximum Concentration (µg/L)<sup>1</sup></b>	<b>Most Recent Concentration (µg/L)<sup>4</sup></b>	<b>Action Level (µg/L)<sup>2</sup></b>	<b>Cleanup Goal (µg/L)</b>
On-site Groundwater 6/1999 – 5/2015	1,2,4-trimethylbenzene	7.5	ND	5	5
	1,3,5-trimethylbenzene	2	ND	5	5
	acetone	2,200,000	ND	50 <sup>^</sup>	50 <sup>^</sup>
	cis-1,2-dichloroethene	4000	13	5	5
	isopropanol	116	NS	NA	NA
	n-propanol	ND	NS	NA	NA
	p-isopropyltoluene	10.5	ND	5	5
	tetrachloroethene	ND	ND	5	5
	trans-1,2-dichloroethene	158	2.6	5	5
	trichloroethene	540	ND	5	5
vinyl chloride	78	3.8	2	2	
<b>Media</b>	<b>Contaminant</b>	<b>Maximum Concentration (µg/m<sup>3</sup>)<sup>1</sup></b>	<b>Most Recent Concentration (µg/m<sup>3</sup>)<sup>4</sup></b>	<b>Action Level (µg/m<sup>3</sup>)<sup>3</sup></b>	<b>Cleanup Goal (µg/m<sup>3</sup>)</b>
On-site Sub-Slab Soil Vapor 4/2008 (only vapor sampling event)	acetone	140	140	NA	NA
	chloromethane	5.8	5.8	NA	NA
	cyclohexane	1.2	1.2	NA	NA
	isopropanol	32	32	NA	NA
	methylene chloride	5.3	5.3	NA	NA
	n-heptane	7.4	7.4	NA	NA
	n-hexane	2.9	2.9	NA	NA
	MEK	12	12	NA	NA
	methyl isobutyl ketone	5	5	NA	NA
	tert-butyl alcohol	72	72	NA	NA
	toluene	5.7	5.7	NA	NA
trichloroethene	3.5	3.5	5	5	

Media	Contaminant	Maximum Concentration (µg/m <sup>3</sup> ) <sup>1</sup>	Most Recent Concentration (µg/m <sup>3</sup> ) <sup>4</sup>	Action Level (µg/m <sup>3</sup> ) <sup>3</sup>	Cleanup Goal (µg/m <sup>3</sup> )
On-site Indoor Air 4/2008 (only vapor sampling event)	1,4-dichlorobenzene	0.64	0.64	NA	NA
	2-methylhexane	23	23	NA	NA
	2-methylpentane	19	19	NA	NA
	3-methylhexane	32	32	NA	NA
	acetone	62	62	NA	NA
	chloromethane	0.53	0.53	NA	NA
	cyclohexane	0.85	0.85	NA	NA
	decane	12	12	NA	NA
	dodecane	8.6	8.6	NA	NA
	ethanol	19	19	NA	NA
	isopropanol	170	170	NA	NA
	n-heptane	19	19	NA	NA
	n-hexane	4.5	4.5	NA	NA
	MEK	1.1	1.1	NA	NA
	octane	7.6	7.6	NA	NA
	propane	160	160	NA	NA
	toluene	1.9	1.9	NA	NA
trichlorofluoromethane	0.21	0.21	NA	NA	
total xylenes	0.79	0.79	NA	NA	
Media	Contaminant	Maximum Concentration (µg/kg) <sup>1</sup>	Most Recent Concentration (µg/kg) <sup>4</sup>	Action Level (µg/kg) <sup>5</sup>	Cleanup Goal (µg/kg)
On-site Soil	acetone	100	100	1,000,000 / 50	1,000,000 / 50
11/1999-	cis-1,2-dichloroethene	9.9	9.9	1,000,000 / 250	1,000,000 / 250
12/2000	MEK (2-butanone)	31	31	1,000,000 / 120	1,000,000 / 120

**Notes:**

1. Maximum observed concentrations are for the highest observed concentration during the entire investigation period beginning in 1999.
2. New York State Ambient Water Quality Standards for class GA waters as referenced in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Water Guidance Values, Table 1.
3. Soil vapor action levels as referenced in Table 3.1 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.
4. Based on most recent sampling event: May 2015 for on-site groundwater; April 2008 for on-site soil vapor and indoor air; and December 2000 for on-site soil.
5. NYSDEC Title 6 Subpart 375-6.8(b). Remedial Program Soil Cleanup Objectives. The first action level value reported is for the Protection of Public Health (Industrial) standard and the second value, reported after the /, is the Protection of Groundwater standard.

NA – not applicable

ND – not detected above laboratory detection limits

NS – not submitted for analysis of this chemical

NYSDOH – New York State Department of Health

NYSDEC – New York State Department of Environmental Conservation

µg/L – micrograms per liter

µg/m<sup>3</sup> – micrograms per meter cubed

^ – guidance value, not a standard, from NYSDEC TOGS 1.1.1

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## SELECTED REMEDY

Based on the results of the investigations at the site, the Interim Corrective Measure that has been performed, and the evaluation presented here, the Department has selected No Further Action with institutional controls as the remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives. The institutional controls are described below:

Imposition of an institutional control in the form of an environmental easement for the controlled property which will restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH. The Department will require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

Soil remedial activities were not required due to low concentrations. Only one COC was above SCO's; acetone for the protection of GW standard. Since acetone only slightly exceeded SCO standards, and was not recently detected in any groundwater wells above Ambient Water Quality Standards for Class GA waters, no soil remedial activities were deemed necessary. The isolated exceedance of acetone in groundwater occurred in 2008 (post-HRC injections), at 2,200 ppm, but since this later decreased to no-detect in wells and the supplier indicated it is a breakdown product from HRC injections, it was not considered to represent a threat to the environment.

A number of VOC's were detected in sub-slab vapor and indoor air samples at low concentrations that did not warrant additional investigation. No compounds of concern associated with the UST area were detected in any of the indoor air samples. Other VOCs detected in indoor air samples are likely related to the various products used and stored in the on-site building for the manufacturing of plastic products.

## WHO TO CONTACT

### Project Related Questions

Jason D Johnson, PhD  
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## PUBLIC PARTICIPATION

### Document Availability

This document summarizes information that can be found in greater detail in the administrative record for the facility. The administrative record contains many reports, including investigations and sampling results which the Department used to select the final corrective measures. A list of all reports is referenced in Exhibit A of this Statement of Basis and the referenced reports were made available for review during the public comment period. A fact sheet was mailed out to the site contact list, to provide relevant stakeholders with necessary contact information, and which identified the document repository. Site-related reports and documents were made available for review by the public at the following document repository:

### **Plattsburgh Public Library**

19 Oak Street  
Plattsburgh, NY 12901-2810  
(518) 563-0921

The public comment period was held February 19 to March 21, 2016. No comments were received during the public comment period. Please contact the Project manager listed below (under WHO TO CONTACT) for document availability.

### KEY WORDS

volatile organic compounds (VOCs), interim corrective measure (ICM), soil cleanup objective (SCO), contaminants of concern (COC), chlorinated volatile organic compounds (CVOC), New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), groundwater (GW), Hydrogen Release Compound (HRC); parts per billion (ppb); institutional control (IC)

### Site-Related Health Questions

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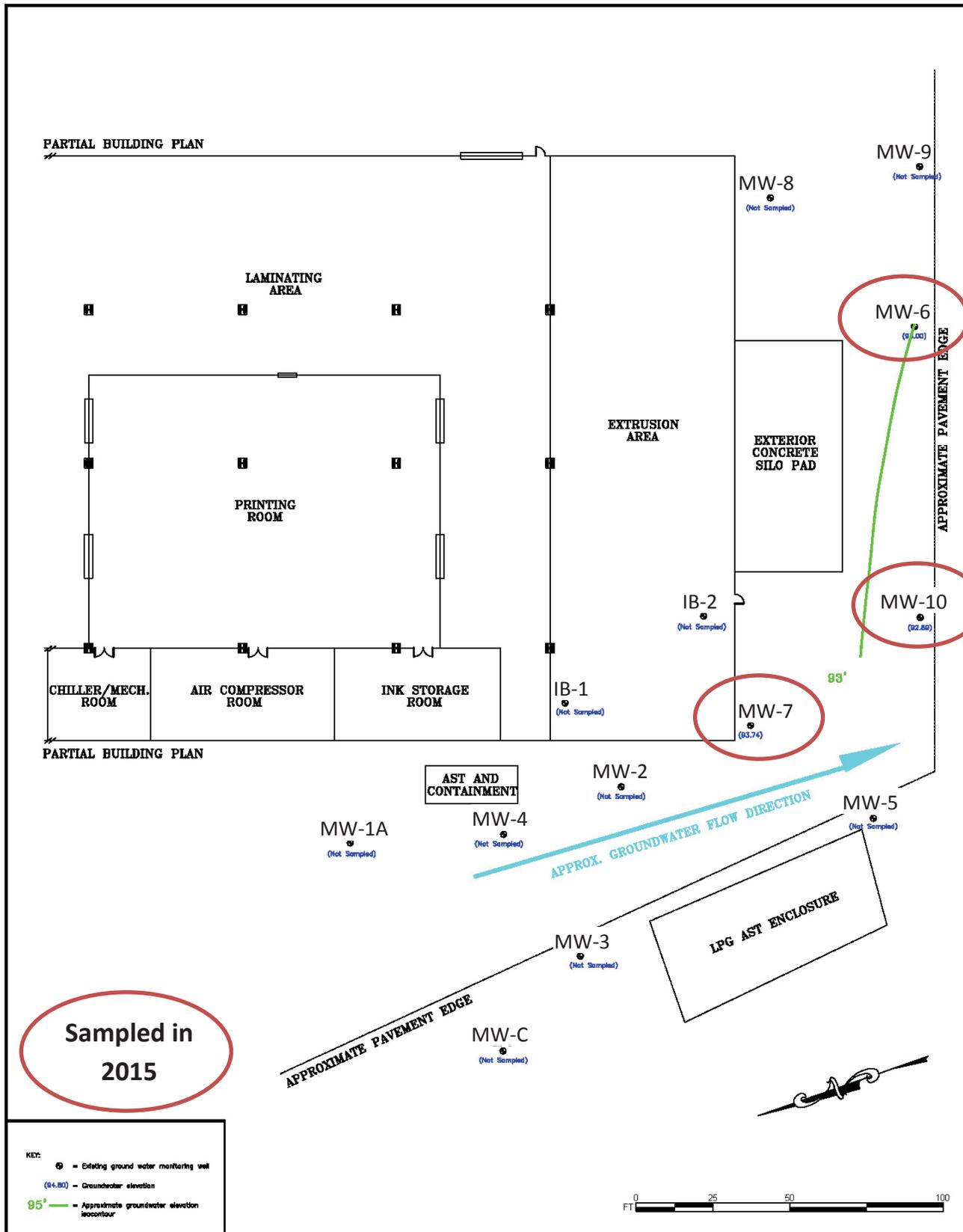


Figure 1. Layout of monitoring wells, including past sampling locations and the 3 wells sampled in 2015.



Exhibit A. List of reports used to prepare this Statement of Basis.

2000. Soil and Groundwater Investigation- January 2000. Submitted by InteGreyted consultants, 1/7/2000.
2000. Soil and Groundwater Investigation- April 2000. Submitted by InteGreyted consultants, 4/28/2000.
2000. Soil and Groundwater Investigation- August 2000. Submitted by InteGreyted consultants, 8/11/2000.
2000. Soil and Groundwater Investigation- December 2000. Submitted by InteGreyted consultants, 1/11/2001.
2001. Quarterly Groundwater Monitoring- February 2001. Submitted by InteGreyted consultants, 3/28/2001.
2002. Corrective Measures Work Plan. Submitted by InteGreyted consultants, 5/14/2002.
2002. Groundwater Monitoring Report- November 2002. Submitted by InteGreyted consultants, 12/16/2002.
2003. Groundwater Monitoring Report- February 2003. Submitted by InteGreyted consultants, 3/4/2003.
2004. Corrective Measures Implementation Summary Report. Submitted by Delta Environmental Consultants, Inc., 10/29/2004.
2005. Groundwater Monitoring Report- January 2005. Submitted by Delta Environmental Consultants, Inc., 2/23/2005.
2005. Supplemental Corrective Measures Work Plan. Submitted by Delta Environmental Consultants, Inc., 2/28/2005.
2005. Groundwater Monitoring Report- July 2005. Submitted by Delta Environmental Consultants, Inc., 8/24/2005.
2005. Groundwater Monitoring Report- October 2005. Submitted by Delta Environmental Consultants, Inc., 12/9/2005.
2006. Groundwater Monitoring Report- January 2006. Submitted by Delta Environmental Consultants, Inc., 3/7/2006.
2007. Supplemental Corrective Measures Summary Report. Submitted by Delta Environmental Consultants, Inc., 2/2/2007.
2007. Annual Groundwater Monitoring Report. Submitted by Delta Environmental Consultants, Inc., 10/26/2007.
2008. Soil Vapor Intrusion Study. Submitted by ATC Associates, Inc., 7/23/2008.
2008. July 2008 Annual Groundwater Monitoring Report. Submitted by ATC Associates, Inc., 11/20/2008.
2010. 2010 Annual Groundwater Monitoring Report. Submitted by ATC Associates, Inc., 11/2/2010.
2011. 2011 Annual Groundwater Monitoring Report. Submitted by ATC Associates, Inc., 7/5/2011.
2012. 2012 Annual Groundwater Monitoring Report. Submitted by ATC Associates Inc., 6/25/2012.
2015. 2015 Annual Groundwater Monitoring Report. Submitted by Cardno 8/10/2015.