

Current Human Exposures Under Control
Environmental Indicator (EI) RCRAInfo Code CA725
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DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo Code CA725
Current Human Exposures Under Control

Facility Name: Ashland Inc.
Facility Address: 130 South St., Rensselaer, New York
Facility EPA ID #: NYD046877775

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EIs) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EIs developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no unacceptable human exposures to contamination (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all contamination subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI is for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determination status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

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Site Background

The Ashland site is located at 130 South Street in the City of Rensselaer, Rensselaer County, New York, north of the intersection of South Street with State Route 9/US Highway 20 (Columbia Turnpike). The main portion of the site, located on the west side of South Street, has an areal extent of approximately 4.8 acres. The site has most recently been used by Ashland for a chemical distribution facility; however these operations were discontinued in 2001. The site is now vacant and is enclosed by a six-foot high chain-link fence. All related buildings and other structures have been removed from the site. A small parcel of land associated with the site and formerly used as a parking lot is located on the east side of South Street. The main site area is bordered by CSX Transportation, Inc. property and rail lines to the west, undeveloped land to the north, South Street to the east, and Columbia Turnpike to the south. Commercial and light industrial properties are located west of the CSX rail lines and residential properties are located east of the site across South Street.

The site is located on the edge of the Hudson River floodplain. The northeast end of the site is within the 100-year floodplain. A small unnamed creek enters the east central part of the site, crosses the site in a buried culvert, then discharges into an open ditch at a headwall just inside the northern site boundary.

The commercial history of the site began in 1892 when a slaughterhouse occupied the southern portion of the site. Chemical-related industry began in 1909 when Empire Size and Chemical Corporation acquired the site and continued through successive owners (Hercules Powder Co. and Eastern Chemical Corp.) until Ashland purchased the property in 1969. Ashland operated a chemical distribution facility at the site until 2001. In 1984, Ashland entered into a Consent Agreement/Consent Order with USEPA (Docket No. II RCRA-83-0253) to conduct environmental investigations at the site.

EI DETERMINATION

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

If yes - check here and continue with #2 below.

If no - reevaluate existing data, or

If data are not available skip to #6 and enter "IN" (more information needed) status code.

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **contaminated**¹ above appropriately protective risk-based levels (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	YES	NO	?	Rationale/Key Contaminants
Groundwater	✓			BTEX, PCE, TCE, 1,2-DCE, 1,1-DCA, 1,1,1-TCA, and VC. See discussion below.
Air (indoors)		✓		Investigations completed 2007 & 2008. No impacts on site or off site.
Surface Soil (i.e., <2 ft)		✓		Sampling completed 2003. No exceedances of NYS restricted-use standards.
Surface Water		✓		Unnamed on-site stream isolated from site groundwater by concrete culvert.
Sediment		✓		Sediment from surface soils and surface water not significantly impacted. See rationales for these media above.
Subsurface Soil (i.e., >2 ft)	✓			Toluene and xylene. See discussion below.
Air (outdoors)		✓		Evaluated in 2005 Human Health Risk Assessment. No significant risk.

_____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate levels and referencing sufficient supporting documentation demonstrating that these levels are not known or reasonably expected to be exceeded.

_____ ✓ If yes (for any media) - continue after identifying key contaminants in each contaminated medium, citing appropriate levels (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Groundwater

Groundwater contaminant concentrations exceed New York State standards for Class GA groundwater. Key contaminants are listed in the table below. References: (1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series, Section 1.1.1, *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (June 1998 and Addenda); (2) Ashland Inc., *Revised Draft RCRA Facility Investigation Report* (March 2009) and references therein; (3) Ashland Inc., quarterly Progress Reports for the Rensselaer facility (various dates).

¹"Contamination" and "contaminated" describe media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based levels (for the media, that identify risks within the acceptable risk range).

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Key Contaminant	Standard for Class GA groundwater (µg/L)	Max. Detected* (µg/L)	Location
1,1,1-TCA	5	20	MW-1
1,1-DCA	5	160	PZ-5
cis-1,2-DCE	5	5900	PZ-1
trans-1,2-DCE	5	84	PZ-1
PCE	5	48	MW-1
TCE	5	1100	MW-1
Vinyl chloride	2	2900	PZ-1
Benzene	1	34	MW-15
Toluene	5	260	PZ-1
Ethylbenzene	5	51	PZ-1
Xylenes (total)	5	230	PZ-1

* Since 2007

Subsurface soil

Subsurface soil contaminant concentrations exceed New York State standards for restricted use soils. Key contaminants are listed in the table below. References: (1) NYCRR Subpart 375-6 *Remedial Program Soil Cleanup Objectives* (SCO); (2) Ashland Inc., *Revised Draft RCRA Facility Investigation Report* (March 2009) and references therein.

Key Contaminant	SCO for Restricted Use – Industrial (mg/Kg)	Max. Detected* (mg/Kg)	Location
Toluene	1000	4600	SSB-13
Xylenes (total)	1000	2300	SSB-13

* All sampling conducted in 2003

3. Are there **complete pathways** between contamination and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Contaminated Media	Potential Human Receptors (Under Current Conditions)						
	Residents	Workers	Daycare	Construction	Trespassers	Recreation	Food*
Groundwater	NO	NO	NO	NO	—	—	NO
Air (indoors)	—	—	—	—	—	—	—
Surface Soil (<2 ft)	—	—	—	—	—	—	—
Surface Water	—	—	—	—	—	—	—
Sediment	—	—	—	—	—	—	—
Subsurface Soil (>2 ft)	—	—	—	NO	—	—	NO
Air (outdoors)	—	—	—	—	—	—	—

* Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike out specific Media, including Human Receptors spaces, for Media which are not contaminated as identified in #2 above.
2. Enter "yes" or "no" for potential completeness under each Contaminated Media – Human Receptor combination (pathway).

(Note: In order to focus the evaluation to the most probable combinations some potential Contaminated Media - Human Receptor combinations (pathways) do not have check spaces ("—"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.)

- If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- If yes (pathways are complete for any Contaminated Media - Human Receptor combination) - continue after providing supporting explanation.
- If unknown (for any Contaminated Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

Groundwater exposures

Residents – There is not a complete exposure pathway from contaminated groundwater to residents. Groundwater contamination is limited to the on-site property and to a small off-site area downgradient (west) of the site. The area of off-site groundwater contamination is an active railroad right-of-way. Downgradient of the site plume are industrial and commercial lots and a US Highway. There are no known residential-use groundwater wells in the vicinity of the groundwater contamination. Groundwater beneath the site is not used for any purpose and all nearby residences and commercial properties are served by municipal water.

Workers – There is not a complete exposure pathway from contaminated groundwater to workers. There are no workers on the site. Site buildings have been demolished and the site is a vacant lot and no longer in use.

Daycare – There is not a complete exposure pathway from contaminated groundwater to daycare facilities. There are no daycare facilities on the site or in the vicinity of the groundwater contamination plume.

Construction – There is not a complete exposure pathway from contaminated groundwater to construction workers. No construction activities are occurring or expected to occur on the site. Ashland has an obligation under its 3008(h) order to notify EPA of any construction activities on the site.

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Food – There is not a complete exposure pathway from contaminated groundwater to receptors through food consumption. Groundwater beneath the site or within the boundaries of the contaminant plume is not used for any purpose including food production or preparation.

Subsurface soil exposures

Construction – There is not a complete exposure pathway from contaminated subsurface soils to construction workers. No construction activities are occurring or expected to occur on the site. Ashland has an obligation under its 3008(h) order to notify EPA of any construction activities on the site.

Food – There is not a complete exposure pathway from contaminated subsurface soils to receptors through food consumption. Site soils are not used for food production.

References: (1) Ashland Inc., *Revised Draft RCRA Facility Investigation Report* (March 2009) and references therein; (2) Ashland Inc., quarterly Progress Reports for the Rensselaer facility (various dates); (3) Ashland Inc., *Human Health Risk Assessment, Former Ashland Distribution Facility, Rensselaer, New York* (September, 2005); (4) USEPA, *Administrative Order on Consent, Docket No. II RCRA-92-3008(h)-0201*.

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **significant**² (i.e., potentially unacceptable because exposures can be reasonably expected to be: (1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable levels (used to identify the contamination); or (2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable levels) could result in greater than acceptable risks)?

_____ If no (exposures cannot be reasonably expected to be significant (i.e., potentially unacceptable) for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to contamination (identified in #3) are not expected to be significant.

_____ If yes (exposures could be reasonably expected to be significant (i.e., potentially unacceptable) for any complete exposure pathway) - continue after providing a description (of each potentially unacceptable exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to contamination (identified in #3) are not expected to be significant.

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s): Not Applicable.

² If there is any question on whether the identified exposures are significant (i.e., potentially unacceptable) consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the significant **exposures** (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all significant exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all significant exposures to contamination are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be unacceptable) - continue and enter "NO" status code after providing a description of each potentially unacceptable exposure.

_____ If unknown (for any potentially unacceptable exposure) - continue and enter "IN" status code

Rationale and Reference(s): Not Applicable.

6. Check the appropriate RCRAInfo status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain supervisor (or appropriate manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI determination, **current human exposures are expected to be under control at the Ashland Inc. facility, EPA ID # NYD046877775, located at 130 South St., Rensselaer, New York** under current and reasonably expected conditions. This determination will be reevaluated when the Agency/State becomes aware of significant changes at the facility.

_____ NO - Current human exposures are NOT under control.

_____ IN - More information is needed to make a determination.

Completed by: Alex C. Czuhanic Date: 3/5/10
Alex Czuhanic
Engineering Geologist

Supervisor: Denise M. Radtke Date: 3/16/10
Denise Radtke
Engineering Geologist 3

Director: Robert J. Phaneuf Date: 3/16/10
Robert J. Phaneuf, P.E. - Acting Director
Bureau of Hazardous Waste and Radiation Management
Division of Solid and Hazardous Materials
New York State Department of Environmental Conservation

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Locations where references may be found:

New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials
625 Broadway 9th Floor
Albany, New York 12233-7258

US Environmental Protection Agency, Region 2
RCRA Program Branch
290 Broadway
New York, New York 10007-1866

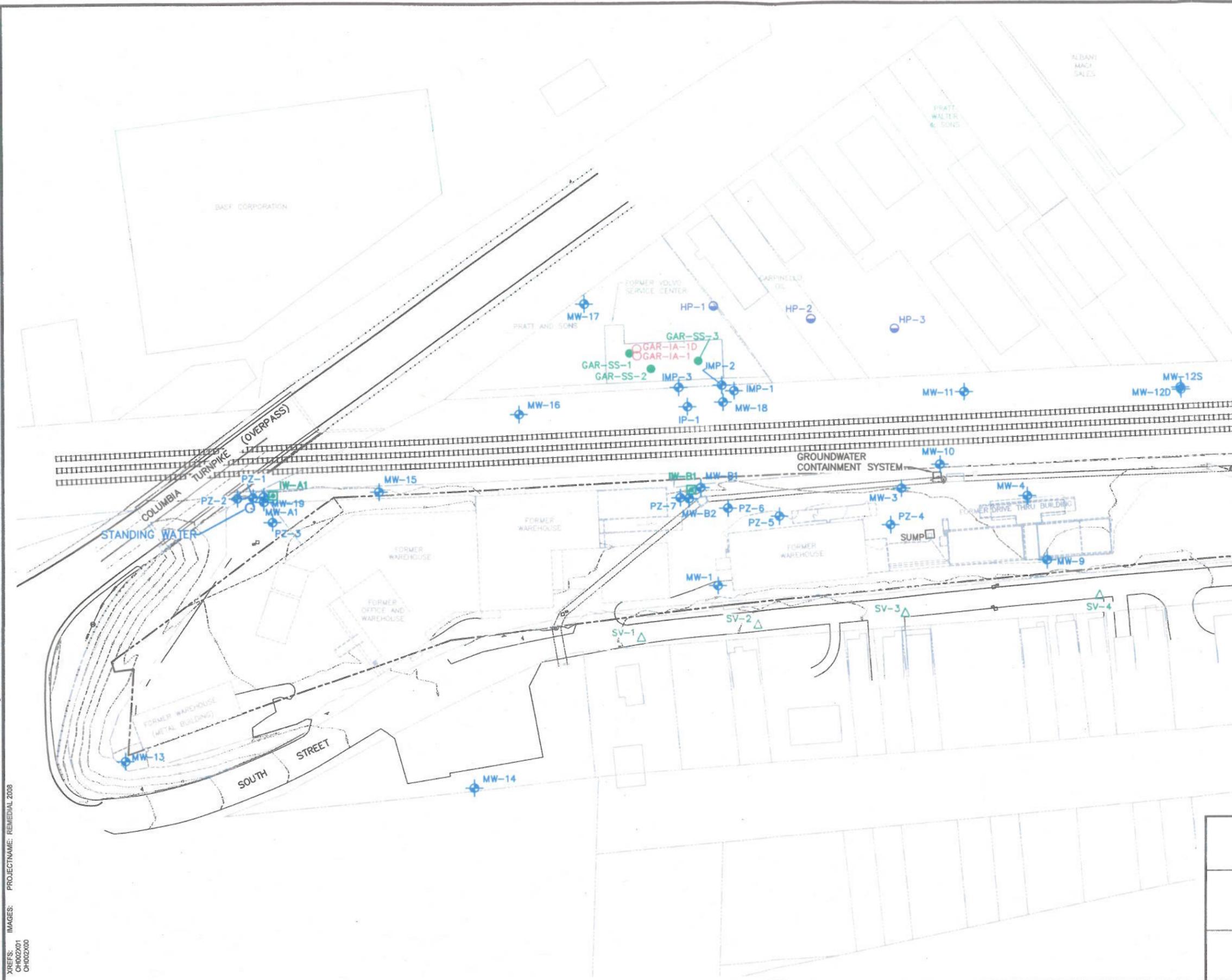
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FINAL NOTE: The Human Exposures EI is a qualitative screening of exposures and the determinations within this document should not be used as the sole basis for restricting the scope of more detailed (e.g., site-specific) assessments of risk.

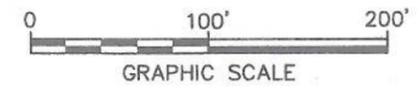
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- LEGEND:**
- MW-1/PZ-1/GP-18/IMP-1/IP-1
 - ◆ PERMANENT GROUNDWATER SAMPLING LOCATION
 - SUB-SLAB AIR SAMPLE LOCATION
 - INDOOR AIR SAMPLE LOCATION
 - HP-3 ● TEMPORARY GROUNDWATER SAMPLING LOCATION
 - SV-3 ▲ SOIL VAPOR SAMPLE LOCATION
 - IW-B1 ■ INJECTION WELL LOCATION
 - SURFACE CONTOUR
 - ||||| RAILROAD TRACK
 - ==== CULVERTED STREAM PIPE
 - PROPERTY LINE
 - FORMER BUILDINGS AND STRUCTURES

NOTE:

1. LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THE ASSOCIATES PE-LS, PLLC (OCTOBER 2008). REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (EAST ZONE). VERTICAL REFERENCE TO NGVD 1929. OTHER PROPERTY LINE MAP FEATURES SHOWN ARE FROM RENNELAER COUNTY TAX MAPPING AND BUILDINGS SHOWN ARE FROM NEW YORK STATE CLEARING-HOUSE AERIAL PHOTOGRAPHY.



ASHLAND INC. FACILITY RENSELAER, NEW YORK REVISED DRAFT RFI REPORT	
SITE PLAN	
	FIGURE 1