

August 3, 2023

Ms. Nicole L. Hinze New York State Department of Environmental Conservation Region 5 Office Headquarters 1115 NYS Rt. 86, P.O. Box 296, Ray Brook, New York 12977-0296

RE: SECOND ADDENDUM TO REMEDIAL INVESTIGATION WORK PLAN Rickett's Dry Cleaners – Site # 546058
2017-2019 DOUBLEDAY AVENUE, BALLSTON SPA, NEW YORK (HRP # DEC1002.P3)

Dear Ms. Hinze:

On February 27, 2020, HRP Associates, Inc. (HRP) was authorized to complete this New York State Department of Environmental Conservation (NYSDEC) Work Assignment (WA) No. 2 (D009808-02) for Remedial Investigation/Feasibility Study (RI/FS) at the Rickett's Dry Cleaners Site, located at 2017-2019 Doubleday Avenue, Ballston Spa, New York (the Site). The Site is depicted on **Figure 1**.

HRP completed the initial phase of the investigation in accordance with the RI Work Plan dated July 15, 2020. During this initial phase of RI work, the source area of Site contamination, suspected to exist beneath the former dry-cleaning building, was not accessible due to the building's dilapidated condition and the presence of friable asbestos. In March 2022, demolition of the Site buildings was completed, allowing for additional investigation within the building footprint. Source area investigations were completed May through June 2022 and in accordance with the RI Work Plan Addendum dated May 17, 2022. Based on our analysis of the data collected during the RI investigation to date, further delineation is required to define the areal and vertical extent of contamination emanating from the site.

The purpose of this letter is to outline the proposed additional RI work. The work is to be completed in general accordance with the RI Work Plan, including the site-specific field activities plan (FAP), Health and Safety Plan (HASP), Quality Assurance Project Plan (QAPP), as well as HRP's generic FAP, HASP, and QAPP.

Based on our analysis of Site data collected to date, field observations made during and following the completion of source area investigation sampling in May 2022, and discussions with NYSDEC, HRP proposes additional investigation tasks be completed as outlined below. Analytical results and conceptual site models are presented on **Figures 2, 2A, and 2B**.

Proposed investigation locations are depicted on **Figure 3**. Sample types and locations are summarized on **Table 1** and sample Quality Assurance/Quality Control (QA/QC) details (analyses, containers, hold times etc.) are summarized on **Table 2**.

## **Investigation, Environmental Sampling, and Implementation**

HRP proposes the following field activities be completed in general accordance with the RI Work Plan dated July 15, 2020:

- Call in Underground Utility Clearance through NYS Code Rule 753/Dig Safe System.
- Complete a new Ground Penetrating Radar (GPR) survey to locate utilities and/or obstructions in the ground that may affect the locations of soil borings and/or monitoring well.
- Collect surface water samples from up to nine locations, including four samples from off-site downgradient drainage swales, four previously sampled surface water seep locations (S-2, S-3, S-5, and S-6), and one downgradient, off-site location. Up to 12 surface water samples (9 site samples, 1 duplicate, 1 matrix spike [MS], one matrix spike duplicate [MSD]) should be analyzed for total compound list (TCL) volatile organic compounds (VOCs) +10 by Method 8260 and Per- and polyfluoroalkyl substances (PFAS) analyte list compounds by EPA Method 537 Modified. Proposed surface water sample locations are depicted on Figure 3.
- Collect up to seven sediment (4 site samples, 1 duplicate, 1 MS, 1 MSD) to be analyzed for TCL VOCs +10 by Method 8260 and PFAS analyte list compounds by EPA Method 537 Modified. The sediment/sludge samples should be collected from the drainage ditch located southeast of the Site and on a downgradient off-site property towards the southeast of the Site. Proposed sediment/sludge sample locations are depicted on Figure 3.
- Collect up to six sludge samples (3 site samples, 1 duplicate, 1 MS, 1 MSD) to be analyzed for TCL VOCs +10 by Method 8260 and PFAS analyte list compounds by EPA Method 537 Modified. The sediment/sludge samples should be collected from the drainage ditch located southeast of the Site and on a downgradient off-site property towards the southeast of the Site. Proposed sediment/sludge sample locations are depicted on Figure 3.
- Install up to 27 total on-site and off-site soil borings (B-1 to B-27). Soil borings should be installed to a depth of 15 ft bg. Soil borings will be installed to collect data points to better delineate identified source areas and constrain limits of the identified contaminant plume. Soil boring justification summary is shown on the table below. Proposed soil boring locations are depicted on **Figure 3** and **Table 3**.



- Proposed Soil Borings B-1 to B-23: Collect up to 81 soil samples (69 Site samples, 4 duplicates, 4 MS, and 4 MSD) for analysis of TCL VOCs +10 via EPA method 8260 and PFAS analyte list compounds via EPA Method 537 Modified. These soil samples will be collected from soil borings located around the PFAS source area (B-2 to B-9), the area adjacent to SS-1 (B-10 and B-11), upgradient of HRP-MW-26 (B-12 to B-15), HRP-PES-5 (B-16 to B-19), and proposed monitoring well installation locations (B-1/HRP-MW-29, B-20/HRP-MW-30, B-21/HRP-MW-31 B-22/HRP-MW-32 and B-23/HRP-MW-33).
- Proposed Soil Borings B-24 to B-27: Up to 15 soil samples (12 Site samples, 1 duplicate, 1 MS, 1 MSD) will be collected for analysis of TCL SVOCs +20 via EPA Method 8270. These soil samples will be collected from the area surrounding SB-1 in the former car wash area. If evidence of contamination (visual, olfactory, elevated PID reading, etc.) is encountered in borings located near the former car wash area, up to 15 soil samples (12 Site samples, 1 duplicate, 1 MS, 1 MSD) will be collected for analysis of TCL VOCs +10 via EPA method 8260.
- Install up to five permanent overburden groundwater monitoring wells. Three wells are to be installed off-site and downgradient, one well is to be installed upgradient on the northwestern corner of the Site, and one well is to be installed on the western portion of the Site. The wells should be constructed of 2-inch PVC with PVC slotted screens and screened across the water table with an appropriately sized sand pack. The wells should be installed using flush-mounted protective casings and locking covers or a locking protective steel stick-up as appropriate. Proposed monitoring well locations are depicted on Figure 3. Final locations will be determined in the field based on results of the GPR survey.
- Develop the five monitoring wells a minimum of 24 hours after installation. Each well should be developed by pumping and surging until the field parameters stabilize for a minimum of three consecutive readings of 10 percent variability or less. Field parameters should include temperature, pH and specific conductance. In addition, the turbidity of the groundwater must achieve a reading of 50 Nephelometric Turbidity Units (NTUs) or less during the field parameter readings. All groundwater obtained during well development and sampling should be disposed of in accordance with DER-10.
- Collect groundwater samples from the 5 newly installed monitoring wells for laboratory analysis. Groundwater samples should be collected in general accordance with low-flow groundwater sampling procedures. It is recommended that a total of 10 groundwater samples (5 site samples, 1 duplicate, 1 MS, 1 MSD, 1 trip blank and 1 field blank) be analyzed for TCL VOCs +10 by Method 8260 and PFAS via EPA Draft Method 537 Modified.
- A soil vapor intrusion (SVI) investigation will be re-attempted at a nearby off-site property.



- The sub-slab SVI investigation will be completed with NYSDOH's *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006* and will include collection of sub-slab soil vapor samples and air samples and the completion of a NYSDOH Indoor Air Quality and Building Inventory.
- Sub-slab soil vapor points will be installed by advancing a ¼-inch drill bit immediately below the slab (anticipated one foot or less) using a handheld electric hammer drill. Sub-slab soil vapor points will be installed, leak tested, and sampled in accordance with NYSDOH's Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.
- SVI air and sub-slab soil vapor samples will be collected using 6-liter summa canisters fitted with 24-hour regulators and analyzed for VOCs via EPA Method TO-15.
- Up to four air samples (1 sub-slab, 1 indoor air, 1 outdoor air, 1 duplicate) will be analyzed for VOCs via EPA Method TO-15. Duplicate soil vapor samples will be collected at a frequency of one per 20 samples. Ambient outdoor air samples will be collected at a frequency of one sample per day.
- Paired sub-slab soil vapor/indoor air locations will be determined in the field at the time
  of the building inspection. Locations will be selected in accordance with Section 2.6.2
  of the NYSDOH's *Guidance for Evaluating Soil Vapor Intrusion in the State of New York,* October 2006. Paired samples will be installed and collected in central locations away
  from building footing foundations and if possible, biased towards the Site/source of soil
  vapor impacts. Other factors which may impact SVI sample locations include presence
  of flooring (tile or wood flooring), building operations/traffic, and chemical storage
  solutions.

#### **Decontamination Procedures**

Non-dedicated sampling equipment will be subject to decontamination procedures prior to each sample collected to reduce the potential for cross-contamination, as described in the July 2020 RI Work Plan and the Generic FAP.

#### **Disposal of Investigation Derived Waste**

Investigation derived waste (IDW) shall be handled and disposed of in general accordance with the July 2020 RI Work Plan and the Generic FAP. Representative samples of cuttings and spoils may have to be analyzed to determine classification, treatment, and disposal of IDW.

#### **Analytical Data Quality Evaluation**

As per the July 2020 RI Work Plan, all laboratory analysis will be completed by an Environmental Laboratory Approval Program (ELAP) laboratory selected by NYSDEC. The selected laboratory will provide data deliverables in formats acceptable to the NYSDEC and data validator (NY ASP B and



NYSDEC EQuIS formats). All laboratory data will be reviewed by a third-party data validator according to the requirements referenced in the July 2020 RI Work Plan and HRP's Generic QAPP.

# **Site Survey**

Upon completion of investigation filed work, a survey will be conducted to properly locate additional sample locations (including soil borings, monitoring wells, surface water samples, and sediment samples). The sample locations will be surveyed by a New York State licensed land surveyor as per the July 2020 RI Work Plan and will be added to the existing Site base map. The elevations of all monitoring well casings will be established to within an accuracy of plus or minus 0.01 feet based on an arbitrary local vertical benchmark. A notch will be etched in all interior casings, or a permanent black mark, to provide a reference point for all future groundwater elevation measurements.

## Remedial Investigation Report, Feasibility Study and Alternatives Analysis

Following the completion of additional RI field work HRP will complete a Remedial Investigation Report (RIR), Feasibility Study (FS), and Alternatives Analysis (AA) as per the July 2020 RI Work Plan.

HRP has the responsibility of the overall management of this project and will respond to any NYSDEC requests. A proposed project schedule, key milestones, key project personnel, and project-specific subcontractors follow.

### **Project Schedule and Key Milestones**

The proposed project schedule for this work assignment is outlined below. Key milestones are identified to monitor work progress. The following milestones will be applicable for this project:

		Est. Start Date
Milestone 1:	Collection of Surface Water and Sediment/Sludge Samples	August 2023
Milestone 2:	Subsurface Soil Sampling	August 2023
Milestone 3:	Installation and Sampling of Monitoring Wells	August 2023
Milestone 4:	Removal of Investigation Derived Waste	Fall 2023
Milestone 5:	Soil Vapor Intrusion Investigation	Winter 2023
Milestone 6:	Complete Data Validation	February 2024
Milestone 7:	RIR	April 2024
Milestone 8:	Feasibility Study and Alternatives Analysis	Spring 2024

The field work associated with soil and groundwater sampling (Milestones 1 through 3) will begin within 1-2 weeks of NYSDEC review and approval of all site-specific plans, contingent upon availability of subcontractors. Soil and groundwater samples will be submitted for laboratory analysis within 24 hours of field collection, and laboratory results can generally be expected within 10 days of submission. Any investigation derived waste generated from the Site during the RI will be scheduled with the contractor to be removed within one week of the completion of Milestone 3, sampling of the monitoring wells. The timeframe of pickup and removal of this waste (Milestone



4) will be determined by the contractor upon scheduling. Data validation (Milestone 5) will begin upon receipt of the first set of laboratory results and will continue to be submitted for validation as the results are received from the laboratory. Data validation is expected within a four-week timeframe. The RIR (Milestone 7) will be submitted as a draft report within 60 days after HRP receives the last round of analytical data from the laboratory. A second draft RIR will be submitted, if needed, within two weeks after the data validation company has reviewed the final analytical submitted for the investigation. A final version of the RIR will be submitted within two weeks after the DEC Project Manager's comments on both draft reports are received by HRP.

## **Key Project Personnel**

A list of the project personnel of the prime consultant and subcontractors responsible for performance of the investigation has been submitted to the NYSDEC for approval. Primary project staffs are listed below:

Personnel	Company	Title for this Work Assignment	Responsibility		
Mark Wright PG, CSP (Senior Project Manager)	HRP Associates, Inc. (Prime Consultant)	Project Manager	Overall management of the WA		
Bryan Sherman, ASP (Project Manager)	HRP Associates, Inc.	Office Health & Safety Manager	Approval of HASP and responsible for overall health and safety issues with the WA		
Michael Varni (Project Manager)	HRP Associates, Inc.	Corporate QA/QC Officer	Responsible for QA/QC on the WA		
Christopher Sbarra (Senior Project Consultant)	HRP Associates, Inc.	Field Manager and Site Health & Safety Officer	Responsible for the on-site sampling and investigative tasks		

#### Subcontractors for this project will include:

- Survey Susan M. Anacker Professional Land Surveyor, PLLC
- GPR American Geophysics, Inc.
- Drilling LaBella Associates, Inc.
- Laboratory NYSDEC Call-Out Laboratory
- Data Validation Environmental Data Services
- Investigation Derived Waste Disposal US Ecology

If you have any questions or require additional information, please feel free to contact HRP at (518) 877-7101.



Ms. Nicole L. Hinze, NYSDEC August 3, 2023 Page 7

Sincerely, HRP Associates, Inc.

Ellett Jackson

Elliott Jackson Project Consultant

Mark Wright

Mark E. Wright, P.G., CSP Senior Project Manager

Attachments: Tables and Figures



# **TABLES**



#### Table 1 Sampling Summary Remedial Investigation

#### Rickett's Dry Cleaners NYSDEC Site # 546058 2017-2019 Doubleday Avenue Ballston Spa, New York

Activity/ Matrix	Number of Sample Locations	Proposed Sample Locations	Number of Samples to be Collected	Analyses
Surface Water Sampling	9	Four previously sampled locations (S-2, S-3, S-5, and S-6), three samples from downgradient drainage swales, and one sample off-site downgradient	12 (9 regular, 3 QA/QC)	TCL VOCs+10 by EPA Method 8260 PFAS by EPA Method 537 Modified QA/QC includes duplicate, MS, MSD
Sediment Sampling	4	Paired with downgradient surface water samples	7 (4 regular, 3 QA/QC)	TCL VOCs+10 by EPA Method 8260 PFAS by EPA Method 537 Modified QA/QC includes duplicate, MS, MSD
Sludge Sampling	3	Paired with downgradient surface water samples	6 (3 regular, 3 QA/QC)	TCL VOCs+10 by EPA Method 8260 PFAS by EPA Method 537 Modified QA/QC includes duplicate, MS, MSD
Soil Boring Sampling	23	Up to three soil samples will be collected from each boring for VOC and PFAS analysis	81 (69 regular, 12 OA/OC)	TCL VOCs+10 by EPA Method 8260 PFAS by EPA Method 537 Modified QA/QC includes duplicate, MS, MSD
Soil Boring Sampling	4 collected from each horing for		15 (12 regular, 3 QA/QC)	TCL VOCs+10 by EPA Method 8260 TCL SVOCs+20 by EPA Method 8270 QA/QC includes duplicate, MS, MSD
Groundwater Sampling	5	One sample to be collected from each of the 5 newly installed monitoring wells	10 (5 regular, 5 QA/QC)	TCL VOCs+10 by EPA Method 8260 PFAS by EPA Method 537 Modified QA/QC includes duplicate, MS, MSD, field blank, trip blank
Soil Vapor Intrusion Sampling	4	One sub slab soil vapor sample, one indoor air sample, one outdoor air sample, and one duplicate	4 (3 regular, 1 QA/QC)	TO-15  QA/QC includes duplicate

Acronym List:

PFAS: Per- and polyfluoroalkyl substances

TCL: Total compound list

SVOCs: Semivolatile organic compounds VOCs: Volatile organic compounds



# Table 2 Analytical Methods/Quality Assurance Summary Remedial Investigation

Rickett's Dry Cleaners NYSDEC Site # 546058 2017-2019 Doubleday Avenue Ballston Spa, New York

					Containers per Sample			Preservation Requirements			
Parameter	Matrix	Number of Samples (including Field QC)	Preparation Method	Analytical Method	No.	Size	Туре	Temp.	Light Sensitive	Chemical	Maximum Holding Time
SOIL											
VOCs by GC/MS		96	5035A	SW-846 Method 8260B	1	2 oz	clear glass jar	2-6º C	No	NA	14 days
SVOCs by GC/MS	Soil	15	3546	SW-846 Method 8270C	1	4 oz	amber glass jar	2-6º C	Yes	NA	14 days
PFAS		81	NA	Method 537 Modified	2	8 oz	polypropylene	2-6° C	No	NA	14/28 days
SEDIMENT											
VOCs by GC/MS	Sediment	7	5035A	SW-846 Method 8260B	1	2 oz	clear glass jar	2-6º C	No	NA	14 days
PFAS	Sediment	7	NA	Method 537 Modified	2	8 oz	polypropylene	2-6º C	No	NA	14/28 days
SLUDGE											
VOCs by GC/MS	Sludge	6	5035A	SW-846 Method 8260B	1	2 oz	clear glass jar	2-6º C	No	NA	14 days
PFAS		6	NA	Method 537 Modified	2	8 oz	polypropylene	2-6º C	No	NA	14/28 days
SURFACE WATER											
VOCs by GC/MS	Aqueous	12	5035	SW-846 Method 8260B	3	40 ml	glass vial	2-6º C	No	HCL	14 days
PFAS		12	NA	Method 537 Modified	3	250 ml	polypropylene	2-6º C	No	NA	14/28 days
GROUNDWATER											
VOCs by GC/MS	Aqueous	10	5035	SW-846 Method 8260B	3	40 ml	glass vial	2-6º C	No	HCL	14 days
PFAS		10	NA	Method 537 Modified	3	250 ml	polypropylene	2-6º C	No	NA	14/28 days
SOIL VAPOR											
VOCs	Soil Vapor, Air	4	NA	EPA TO-15	1	6-liter	summa canister, 24- hour regulator	NA	No	NA	30 days (summa canister)



# Table 3 Proposed Investigation Locations and Justifications Rickett's Dry Cleaners

#### NYSDEC Site #546058 2017-2019 Double Day Avenue Ballston Spa, New York

Location	Number of Borings	Proposed Boring ID	Samples per Boring	Justification	Analyses
Within vicinity of former car wash area	4	(B-24 to B-27)	3 (surface, above groundwater table, evidence of contamination)	Delineate limits of PAH (and possible VOC) contamination on the southern portion of the Site	TCL VOCs+10 via EPA Method 8260 TCL SVOCs+20 by EPA Method 8270
Within vicinity of PES-5	4	(B-16 to B-19)	3 (surface, above groundwater table, evidence of contamination)	Delineate PFAS (and possible VOC) impacts associated with elevated concentrations detected in PES-5	TCL VOCs+10 via EPA Method 8260 PFAS by Draft EPA Method 573 Modified
Upgradient of HRP-MW-26	2	(B-12 to B-15)	3 (surface, above groundwater table, evidence of contamination)	Identify upgradient edge of VOC and PFAS contamination in soil	TCL VOCs+10 via EPA Method 8260 PFAS by Draft EPA Method 573 Modified
Near SS-1	2	(B-10 and B-11)	3 (surface, above groundwater table, evidence of contamination)	Identify potential PFAS and VOC impacts downgradient of source area	TCL VOCs+10 via EPA Method 8260 PFAS by Draft EPA Method 573 Modified
Proposed monitoring well locations	5	(B-1, B-20 to B-23)	3 (surface, above groundwater table, evidence of contamination)	Identify potential impacts to soil at proposed monitoring well locations	PFAS by Draft EPA Method 573 Modified
Suspected PFAS source area	10	(B-2 to B-9)	3 (surface, above groundwater table, evidence of contamination)	Delineate PFAS and VOC impacts to soil within identified source area	TCL VOCs+10 by EPA Method 8260 PFAS by Draft EPA Method 573 Modified



# **FIGURES**



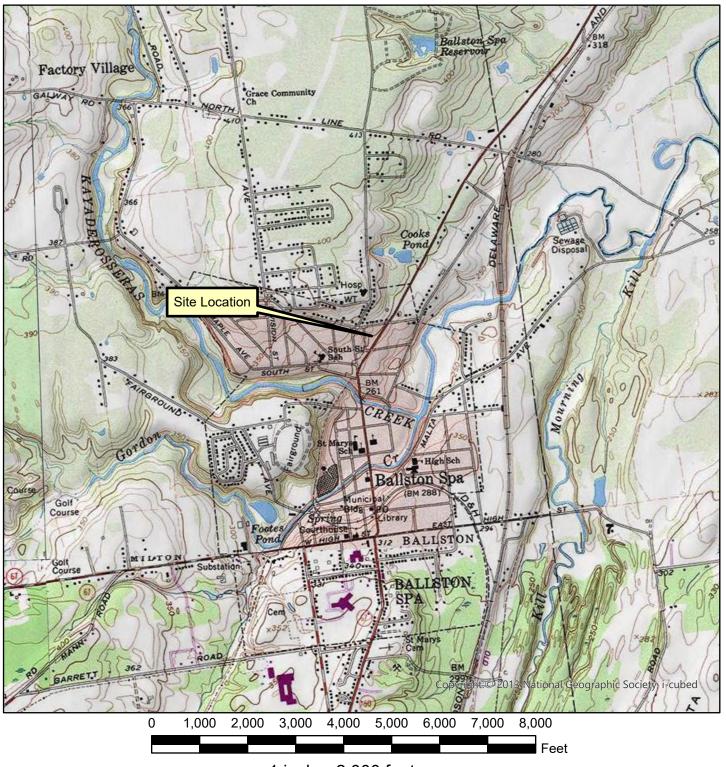
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USGS Quadrangle Information

Quad ID: 43073-A7

Name: Saratoga Springs, New York

Date Pub: 1970



1 inch = 2,000 feet

Figure 1 **Site Location Rickett's Dry Cleaners** 2017-2019 Doubleday Avenue **Ballston Spa, New York** HRP # DEC1002.P3 Scale 1" = 2,000'



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