NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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December 29, 2020

Steve DiMarzo
Highland Grove LLC
301 Exchange Street
Rochester, New York 14608

Re: Site Management Plan
Former Sherwood Shoe Company
Site No.: C828201
City of Rochester, Monroe (C)

Dear Mr. DiMarzo:

The New York State Department of Environmental Conservation (Department) in conjunction with the New York State Department of Health (NYSDOH) (collectively known as the State) have completed a review of the December 22, 2020 Site Management Plan (SMP) submitted for the Former Sherwood Shoe Company site (Site) located at 625 South Goodman Street, City of Rochester. Based on the information presented in the December 2020 SMP, the document is approved.

Please place a copy of the December 2020 SMP in the site's document repository within 7 days of the date of this letter and submit documentation that the document has been placed. If you have any questions or concerns regarding this letter, the BCP requirements, or need further assistance with the Site, please feel free to contact me at 585-226-5354 or via e-mail at charlotte.theobald@dec.ny.gov.

Sincerely,

Charlotte B. Theobald

Charlotte B. Theobald
Assistant Engineer

ec:
Jennifer Gillen (LaBella)
Alexander Brett (LaBella)
Dan Noll (LaBella)
Ronald Hull (Heisman Nunes & Hull LLP)
Justin Deming (NYS. Dept. of Health – Albany)
Daniel Tucholski (NYS Dept. of Health - Albany)
Wendy Kuehner (NYS Dept. of Health - Albany)
John Frazer (Monroe County Health Department)
Dusty Tinsley (NYSDEC)
David Pratt (NYSDEC)
Todd Caffoe (NYSDEC)

FORMER SHERWOOD SHOE COMPANY

MONROE COUNTY

ROCHESTER, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C828201

Prepared for:

Highland Grove LLC

301 Exchange Street

Rochester, New York 14608

Prepared by:

LaBella Associates D.P.C.

300 State Street

Rochester, New York 14614

(585) 454-6110

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

DECEMBER 2020

CERTIFICATION STATEMENT

I __DANIEL P. NOLL________certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

___________________________ P.E.

_DECEMBER 22, 2020______DATE

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FORMER SHERWOOD SHOE COMPANY

MONROE COUNTY

ROCHESTER, NEW YORK

SITE MANAGEMENT PLAN

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List of Acronyms

ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
COC	Certificate of Completion
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ELAP	Environmental Laboratory Approval Program
EWP	Excavation Work Plan
GHG	Green House Gas
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
PID	Photoionization Detector
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
RI	Remedial Investigation
ROD	Record of Decision
RP	Remedial Party
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SSD	Sub-slab Depressurization
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	C828201 Former Sherwood Shoe Company 625 South Goodman Street, Rochester, New York
Institutional Controls:	1. The property may be used for restricted residential use.
	2. All ECs must be operated and maintained as specified in this SMP.
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP.
	4. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Monroe County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
	5. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP.
	6. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP.
	7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP.
	8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP.
	9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP.

	10. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.	
	11. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 8, and any potential impacts that are identified must be monitored or mitigated; and	
	12. Vegetable gardens and farming on the site are prohibited;	
Engineering Controls:	1. Cover system	
	2. Sub-Slab Depressurization System (SSDS)	
Inspections:		Frequency
1. Cover inspection		Annually
Monitoring:		
1. SSDS Operation		Annually
2. Groundwater/NAPL Monitoring: Groundwater Monitoring Wells MW-02R, MW-04R, MW-06R, MW-08R, RIBW-01R, RIBW-02 and RIBW-03		Semi-Annually, years 1-2 Annually, years 3-5
3. NAPL Recovery (Contingency)		As needed
Maintenance:		
1. SSDS		As needed
Reporting:		
1. Periodic Review Report		Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Former Sherwood Shoe Company located in the City of Rochester, New York (hereinafter referred to as the “Site”). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP) Site No. C828201 which is administered by New York State Department of Environmental Conservation (NYSDEC).

Highland Grove, LLC entered into a Brownfield Cleanup Agreement (BCA) in March 2018 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix D.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as “remaining contamination”. Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Monroe County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor’s successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #C828201-02-08; Site #C828201) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix A of this SMP.

This SMP was prepared by LaBella Associates D.P.C., on behalf of Highland Grove, LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.

- 7-day advance notice of any field activity associated with the remedial program.

- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.

- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.

- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days of the emergency event describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Brownfield Cleanup Agreement (BCA), and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table A on the following page includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix A.

Table A: Notifications*

Name	Contact Information
NYSDEC Project Manager; Charlotte B Theobald	585-226-5354 charlotte.theobald@dec.ny.gov
NYSDEC Regional HW Engineer; David Pratt	585-226-5449 david.pratt@dec.ny.gov
NYSDEC Site Control; Kelly Lewandowski	518-402-9547 kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in the City of Rochester, Monroe County, New York and is identified as Section 121.650 Block 2 and Lot 39 on the City of Rochester, Monroe County Tax Map (see Figure 3). The site is an approximately 1.798-acre area and is bounded by Interstate 490 to the north, Karges Place and Uhlen Place to the south, South Goodman Street to the east, and various residential properties and commercial businesses to the west (see Figure 2 – Site Layout Map). The boundaries of the site are more fully described in Appendix D –Environmental Easement. The owner(s) of the site parcel(s) at the time of issuance of this SMP is:

Highland Grove LLC

2.2 Physical Setting

2.2.1 <u>Land Use</u>

The Site consists of the following: a residential apartment building, a paved parking area and a greenspace area with a small stone dust dog park. The Site is currently designated with zoning code C-2 Community Center District which allows for diverse types of development such as multifamily residential and commercial use. The Site was redeveloped from a vacant lot to a completed residential apartment building which is currently occupied by residents.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include commercial and residential properties. The properties immediately south of the Site include commercial and residential properties; immediately northeast of the Site is Interstate 490 (I-490) and just beyond the interstate are residential properties; the properties immediately east of the Site (beyond South Goodman Street) include residential properties; and the properties to the northwest of the Site include commercial properties.

2.2.2 Geology

During the RI, soils encountered in borings consisted mainly of brown or gray-brown coarse to fine sands, or silty sands with varying amounts of coarse to fine subangular to subrounded gravel and silt. A layer of yellow brown sand was observed between approximately 5-ft to 9-ft bgs in the central and western portions of Site. Silt or clay lenses were noted throughout the Site but were generally located closer to the central portion of the Site. The southern central area of the Site appeared to be covered in approximately 1-ft of gravel and crushed stone overlaying a geotextile fabric prior to redevelopment.

Urban fill and construction and demolition debris (C&D debris) including apparent ash, coke, cinders, brick, glass, concrete, asphalt, asphalt millings, slag, and/or wood pieces, were encountered in the majority of the soil borings advanced on the Site. Fill material such as brick, metals, wood, and concrete blocks were encountered in all of the test pits. Prior to remediation, fill material was encountered ranging from the ground surface to approximately 10-ft bgs; however, fill was generally encountered beneath a layer of brown silty sand and gravel. At the locations where fill was encountered at the surface, it was generally found to be mixed with the layer of silty sand and gravel. Fill was also found below a layer of asphalt or concrete in several investigation locations. Fill material was generally mixed with soil rather than in layers; however, a thin layer of ash was encountered at 2-ft bgs and at 5-ft bgs in two separate locations. The specific contents of fill varied in each boring/investigation location. Note that these observations were made prior to redevelopment activities which included the excavation and off-site disposal at an approved landfill of 13,266.44-tons of material, largely generated during Site grading and building footer installation. Much of this material consisted of urban fill.

The top of bedrock was encountered at depths of 17 to 18-ft bgs in the locations of the bedrock wells and refusal on apparent bedrock in borings ranged from approximately 17 to 20-ft bgs prior to redevelopment activities. Following initial development of the Site that included removing approximately 1 to 2-ft of surface soil to reach a desired grade after construction of the cover/surface finishes in the northwest portion of the Site, borings in the area encountered refusal at depths ranging from 8 to 17-ft bgs.

Bedrock was cored in three (3) locations (RIBW-01, RIBW-02, and RIBW-03). Bedrock encountered during drilling consisted of apparent Guelph Dolostone as indicated on the NYS Surficial Geology Maps from the NYS Museum NYS Geological Survey. According the United States Geologic Survey (USGS), Guelph Dolostone is of the upper Silurian age. The overall rock quality designation (RQD) values in the top 8-ft to 10-ft of bedrock were 51.5%, 72.4%, and 73.3 % in RIBW-01, RIBW-02, and RIBW-03, respectively, which corresponds to moderately weathered rock. The RQD's when calculated for first 5-ft were lower than the second 5-ft of rock recovered. The RQDs for the first 5-ft of bedrock ranged from approximately 20% to 69% which corresponds with weathered to moderately weathered rock while RQDs from 5-10-ft into bedrock ranged from approximately 77% to 83% which corresponds generally with more competent rock.

A geologic cross section key and geologic cross sections are shown in Figures 4A, 4B, and 4C. Site specific boring logs are provided in Appendix E.

2.2.3 Hydrogeology

The overburden and bedrock hydrogeology are summarized below.

Overburden Groundwater

Overburden groundwater was generally measured at the Site between 19.46-ft and 22.50-ft bgs based on static water level readings collected from wells during the remedial investigation. Static water levels were collected on June 18, 2018 from all overburden wells in which water was present (six wells). Static water levels were collected again on July 18, 2018 from each overburden wells in which water was present, which included four (4) overburden wells. Groundwater elevations were calculated using static water levels and top of PVC casing elevations. The overburden groundwater flow direction at the Site is generally towards the northeast. The July contouring indicated a low-spot around MW-08 and northerly located wells were found to be dry. The gradient of overburden groundwater across the Site from south to north generally appears to be approximately 2-ft while the gradient from the southwest to northeast generally appears to be approximately 4-ft. It is likely that infrastructure within Interstate 490 influences shallow groundwater flow in the area.

Bedrock Groundwater

Bedrock groundwater was generally measured at the Site between 23.23-ft and 24.54-ft bgs based on static water level readings collected from wells during the remedial investigation. Static water levels for the bedrock wells were collected on July 18, 2018 from each of the three (3) RI bedrock wells. The bedrock groundwater flow direction at the Site is generally towards the northeast. The bedrock groundwater gradient from the southwest to the northeast was less than 1-ft.

Overburden and bedrock groundwater contour maps completed from groundwater elevation data collected in June 2018 and July 2018 are included as Figures 5A, 5B, and 5C. Groundwater elevation data is provided in Table 1. Groundwater monitoring well construction logs are provided in Appendix E.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

Previous Investigation Reports:

The following relevant environmental reports were generated for the Site.

- Phase I Environmental Site Assessment, Stantec, December 2012

- Phase II Environmental Site Assessment, Stantec, October 2016
- Remedial Investigation Work Plan, LaBella, May 2018
- Interim Site Management Plan, LaBella, August 2018
- Remedial Investigation Report, LaBella, March 2020
- Construction Completion Report, LaBella, March 2020
- Remedial Action Work Plan, LaBella, November 2019
- Final Engineering Report, LaBella, December 2020

These reports are summarized below. It is important to note that all depths indicated below are prior to remediation and cover installation.

Phase I Environmental Site Assessment, Stantec, December 2012:

LaBella reviewed a Phase I Environmental Site Assessment (ESA) by Stantec prepared for the City of Rochester dated December 19, 2012. Several Recognized Environmental Conditions (RECs) were identified for the Site:

- Potential for historical uses of the Site to have resulted in releases to the soil or groundwater. The Sherwood Shoe Factory was constructed in approximately 1905. The northern-most portion of the building is depicted as utilized for oil and dye storage on historical mapping. Additional operations appear to have included shoe cutting, fitting, packing and shipping. A boiler room, waste house and coal bin are depicted along the southern edge of the main building, in the central portion of the Site, on historical mapping. A warehouse and automobile parking garage appear to have been located on the southwestern portion of the Site as part of Sherwood Shoe operations. The Erie Canal appears to have bordered the Site to the north as late as 1918 and a subway line and station appear to have bordered the Site to the north as early as 1926.
- Following the late 1930's, the Site appears to have been utilized for various commercial and industrial purposes including but not limited to a laundry, tool/gear manufacturing, machine shops, lamps and lampshade manufacturing,

electrical sales, electrical testing of instruments, photography, printing, laboratory supplies, plastic products and paint sales.

- Historical mapping from 1950 depicts a laundry in the basement of the western portion of the former main building, located in the northwestern portion of the Site. It is unclear if dry cleaning operations were completed as part of this business. This mapping also depicts printing operations in the eastern portion of the former main building and woodworking operations in a separate building located on the southern portion of the Site.
- Former presence of the 6,000-gallon #2 fuel oil UST documented in City of Rochester permit mapping dated 1967. This tank appears to have located in the center of the Site closer to the eastern side of the Site. Refer to Figure 2 for the approximate location of the former tank.
- Use of the Site by the NYSDOT for staging and storage during highway construction projects may have resulted in releases to the Site.
- A geophysical survey of the Site was reportedly performed in November 2012. The survey reportedly identified several magnetic anomalies which indicated the probability of buried metallic objects. The anomalies reportedly did not appear to be related to buried USTs but Stantec indicated they may have been related to features of environmental significance.

In addition to the RECs mentioned above, the Phase I ESA report identified NYSDEC Spill #9713875 associated with the southwestern adjacent property, addressed as 846 South Clinton Avenue (refer to Figure 2). This Spill listing appears to have been opened in March 1998 and indicated eight (8) underground gasoline tanks of unknown sizes were excavated at this adjacent property. In addition, contaminated soil was reportedly encountered beneath the building footprint and in a vault, also potentially located within the building footprint. The building at this adjacent property is located approximately 60-feet to the west of the Site. Material in the vault which reportedly appeared to exhibit characteristics of mineral spirits were reportedly removed and the vault was filled with flowable fill. NYSDEC Spill #9713875 was closed on January 31, 2000.

Phase II Environmental Site Assessment, Stantec, October 2016:

In September-October 2016, Stantec completed a Phase II ESA at the Site. The Phase II ESA was conducted to evaluate RECs identified during the Phase I ESA conducted by Stantec in 2012. The Phase II ESA consisted of the following:

- Advancement of fifteen (15) Test Pits
- Advancement of four (4) Soil Borings
- Installation of three (3) overburden groundwater monitoring wells
- Collection of three (3) Shallow soil samples in (3) locations
- Collection of six (6) overburden soil samples from test pits
- Collection of eight (8) overburden soil samples from soil borings
- Collection of two (2) groundwater samples from well BMW-9

Test pits were advanced to depths of 8.0-ft to 10.5-ft bgs to evaluate the subsurface and magnetic anomalies identified in a geophysical survey. The test pits encountered fill material generally from 5-ft to 8-ft bgs consisting of silty sand and gravel with variable amounts of urban fill comprised of ash, cinders, asphalt, brick, and construction and demolition debris. Soil borings were advanced to terminal depths between 16.0-ft and 20.5-ft bgs. Two of the wells were installed along the northern portion of the Site were reportedly dry upon sampling. Groundwater was reportedly encountered in one well installed in the central portion of the Site.

Stantec's Phase II ESA identified elevated concentrations of SVOCs, PCBs, cyanide, heavy metals and pesticides in soils at the Site, particularly in shallow soils. Several compounds were detected at levels above New York Codes, Rules and Regulations (NYCRR) Part 375 Unrestricted Use and/or Restricted Residential Use Soil Cleanup Objective (SCOs).

In addition to these impacts, chlorinated volatile organic compounds (CVOCs) were identified in soil and groundwater in the central portion of the Site. Specifically, trichloroethylene (TCE) was detected at 13,000 ug/kg in the soil sample collected from in the center of the Site (in which elevated PID readings were measured) at a depth of 3.5 feet. This concentration detected was above the Unrestricted Use and Protection of Groundwater SCO of 470 ug/kg for TCE. CVOCs were also identified above laboratory method detection limits (MDLs) but below Unrestricted Use SCOs in soil samples collected from borings at the Site.

TCE and cis-1,2-dichloroethene (cis-1,2-DCE) were detected above NYSDEC Part 703 Groundwater Quality Standards in groundwater samples collected approximately 20-ft north of the soil impacts.). TCE and cis-1,2-DCE were detected at 85 ug/L and 7.1 ug/L, respectively, in September 2016 and 32 ug/L and 1.5 ug/L in January 2017 in KU-MW-9.

Remedial Investigation Work Plan, LaBella, May 2018

A RIWP was developed by LaBella dated May 2018 to define activities to carry out during the Remedial Investigation to support existing data and fill in data gaps to identify the extent and nature of contamination at the Site in order to determine the extent of remediation necessary to implement at the Site. Activities and methods defined in the RIWP included surface soil sampling, overburden soil borings and soil sampling, installation of overburden and bedrock groundwater monitoring wells, groundwater sampling.

Interim Site Management Plan, LaBella, August 2018

An ISMP was developed by LaBella, dated August 2018 for use during Site redevelopment. The ISMP provides a detailed description of all procedures required to manage contamination at the Site during Site regrading and development activities until a Site Remedy and Final SMP have been developed and approved the NYSDEC.

Remedial Investigation Report, LaBella, March 2020

A remedial investigation Work Plan and one (1) subsequent addendum were submitted and approved by the NSYDEC. RI activities completed between May 31, 2018 and February 15, 2019 consisted of the following:

- Installation of four (4) soil vapor sampling points and collection of four (4) soil vapor samples as well as one (1) outdoor air sample.
- Advancement of twenty-seven (27) overburden soil borings.
- Advancement of ten (10) test pits.
- Advancement of (3) three borings into bedrock and installation of three (3) bedrock wells.
- Installation of nine (9) overburden wells.
- Decommissioning of five (5) overburden wells.
- A total of thirty-three (33) surface soil samples were collected from fourteen (14) locations.

The following analysis was performed during the Remedial Investigation:

- Four soil vapor samples and one (1) outdoor air for VOCs
- Eighteen (18) discrete surface soil samples for VOCs
- Fifteen (15) composite surface soil samples for SVOCs, metals, pesticides, PCBs and cyanide
- Six (6) subsurface soil samples for full-suite parameters
- Two (2) subsurface soil samples for SVOCs and metals only.
- One (1) subsurface soil sample for VOCs, SVOC's and metals only.
- Thirteen (13) subsurface soil samples for VOCs only.
- Thirty (30) test pit soil samples for PFAS only.
- Two (2) bedrock groundwater sample of VOCs and PFAS only.

- One (1) bedrock groundwater sample for VOCs, SVOCs, RCRA metals, PCBs and PFAS
- Two (2) overburden groundwater samples for full-suite parameters and PFAS
- One (1) overburden groundwater samples for VOC and PFAS only.
- Two (2) overburden groundwater samples for VOCs only.

For the soil gas samples, total VOC concentrations were greatest in samples SG-04 (739.06 µg/m3) and SG-03 (490.33 µg/m3) along the eastern and southern areas of the property, respectively (refer to Figure 12). However, the highest total CVOC concentration was detected in sample SG-01 (165.65 µg/m3) by an order of magnitude. TCE was detected above laboratory MDLs in all soil gas samples, with the highest concentration identified in SG-01 (140 µg/m3). 1,1,1-Trichloroethane was also identified at an elevated concentration in SG-01 (22 µg/m3). This compound was not detected above laboratory MDLs in any other soil gas, subsurface soil or groundwater samples collected during the RI. Sample SG-01 was collected from an area presumed to be hydraulically up-gradient of the remainder of the Site.

Soil gas sample SG-04 located near South Goodman Street had elevated levels of hexane (240 µg/m3), cyclohexane (71 µg/m3), toluene (60 µg/m3), and benzene (5.4 µg/m3) which are common constituent of gasoline and other petroleum products. Several gasoline constituents were also detected at other soil gas sample locations, however; the concentrations at other locations were at lower levels than in SG-04. Toluene was detected in two (2) nearby soil samples from RIGP-01 and RIGP-02 above laboratory MDLs but at low concentrations. Toluene was also detected at other locations across the Site.

Borings, surface soil samples, and test pits throughout the Site identified fill material which is described in Section 2.2.2. Samples submitted that included fill material generally identified elevated concentrations of SVOCs, metals, pesticides, PCBs and some low-level VOCs above Unrestricted Use SCOs The highest concentrations of SVOCs and metals exceeded Restricted Residential Use SCOs. The high concentrations of SVOCs were generally found on the eastern portion of the Site between 2-ft and 7ft bgs. The highest concentrations of metals, specifically mercury, were found exceeding Restricted Residential Use SCOs was found on the eastern and south eastern areas on-Site generally between 1-ft and 4-ft bgs. Urban fill materials are often associated with elevated SVOC and metal concentrations and are the likely source of many of the contaminants in soil. The fill materials were likely disposed on-Site during historical industrial and manufacturing use operations as well as demolition of buildings that once occupied the Site. Additionally, asphalt and asphalt millings may have been staged on-Site by the former owner of the Site, the NYSDOT or their contractors as these materials are commonly used/generated by transportation projects.

CVOC impacts were identified in groundwater in the central portion of the Site consisted of TCE and its breakdown products. The CVOC impacts may be associated with the former use of the Site for machining and manufacturing operations. Groundwater impacts identified in the Remedial investigation were similar to those identified in the Phase II ESA by Stantec. TCE was detected at a concentration of 15 ppb in the central portion of the Site in the overburden groundwater. Approximately twenty feet north of the TCE identified in the overburden, TCE was detected in bedrock at a concentration of 6.8 ppb along with breakdown products.

CVOC impacts were also identified during the Remedial Investigation in the groundwater in the northwest portion of the Site consisting of PCE and its breakdown products. PCE was identified at a concentration of 17 ppb in overburden groundwater in the area. The northwestern area of the Site was specifically investigated based on the former “laundry” identified on historical Site mapping, however it is uncertain if the “laundry” was associated with dry clean activities that may have used chemicals such as PCE.

In addition to the RI activities, as part of the ongoing redevelopment of the Site, soils were excavated to approximately 5-feet (ft) below ground surface (bgs) in the northwestern portion of the Site create a space to install footers for the foundation of the future parking garage. Approximately 100-200 cubic yards (cy) of excavated soil was stockpiled and sampled as part of the footer installation in this area. This material was excavated in the vicinity of overburden groundwater PCE impacts. To characterize this material to assess for on-site reuse and in accordance with DER-10, three (3) discrete samples were collected from the stockpile for VOC analysis and one (1) composite sample was collected for analysis of SVOCs, metals, PCBS, and pesticides. PCE was detected above NYCRR Part 375-6.8(a) Unrestricted Use SCOs and Part 375-6.8(b) Protection of Groundwater SCOs in one (1) of the three (3) discrete samples. The concentration of PCE (6.2 ppm) remained below the NYCRR Part 375-6.8(b) Restricted Residential Use SCO of 19 ppm. Based on space constraints at the Site, this soil pile was removed from the Site and transferred to the Seneca Meadows Landfill for disposal.

As a result of the impacts found in the stockpiled soil which was removed from the Site, in February 2019 several borings were advanced in the area surrounding the locations where soils were excavated. No elevated PID readings were recorded in the soil pile; therefore headspace PID readings were taken during the soil boring advancement. This additional investigation was completed in general conformance with the RIWP Amendment letter dated January 14, 2019 and approved by the NYSDEC on February 5, 2019. Low level PCE concentrations were detected in the soil borings; however, the concentrations detected were below NYCRR Unrestricted Use SCOs and well below the concentration detected in the soil pile, indicating remaining concentrations of PCE in soil are below Part 375 SCOs

Petroleum odors were noted at the top of rock, during bedrock well installation in the western corner of the Site Several days after installation, LNAPL was observed immediately preceding well development on July 11, 2018. Upon return to the well for collection of static water levels on July 19, 2018, an oil water interface probe was used however NAPL was not encountered. A bailer was deployed and there was a sheen on the water recovered; however no NAPL was observed. During the well installation, approximately 100-gallons of water were lost into the rock formation and several large fractures were observed. Based on the extensive fractures observed, the LNAPL initially observed may indicate that a small volume of NAPL was present in the bedrock. NAPL can adhere to sediment in the fractures and rock itself and the water used during drilling may have mobilized residual NAPL. Petroleum related compounds were detected in bedrock groundwater along the western site boundary above TOGS 1.1.1 groundwater standards in wells RIBW-02 and the hydraulically downgradient well RIBW-01. Total petroleum related compounds were 526.3 ppb in RIBW-02 and 89.8 ppb in RIBW-01. According to historical documents, automotive repair facilities and gasoline filling stations were present up gradient of this area of the Site since the early 1900s. Due to the concentration gradient and the flow of groundwater to the north-northeast the petroleum related impacts appear to be from an off-Site source. A gasoline filling station was historically south west of the Site and other gasoline filling stations and automotive repair facilities were historically located west of the Site.

During RI fieldwork, the City of Rochester Fire Department was observed spraying alcohol resistant aqueous film forming foam (AR-AFFF) in the central eastern portion of the Site as part of training exercises. The fire department was notified that the property was privately owned and within the BCP program. The extent of prior training activity is unknown. A series of test pits excavated from approximately 0-4-ft discovered PFAS impacts in soil generally highest at the surface and decreasing with depth. PFAS testing in overburden and bedrock groundwater indicated detectable levels of PFAS however only one overburden location identified a concentration of total PFOA and PFOS of 83 ppt above the USEPA Health Advisory limit of 70 ppt. Note that based on recently established (October 2020) NYSDEC groundwater guidance values, concentrations of one (1) or more PFAS compounds were identified above these guidance values in wells MW-06, MW-08, RIMW-02 and RIBW-03. Refer to Section 2.5.2 for additional information about remaining elevated PFAS concentrations in groundwater.

In addition, refer to the FER summary in the following pages for a description of additional PFAS soil sampling work completed in October 2020.

The following Remedial Areas of Concern (RAOCs) were identified following the RI:

1. Fill Material
2. Central-Eastern CVOC Impacts
3. Northwestern CVOC Impacts

4. Off-Site Petroleum Impacts Migrating On-Site
5. Poly- and Per-fluorinated Alkyl Substances (PFAS) Impacts

Construction Completion Report, LaBella, March 2020

A Construction Completion Report (CCR) for the Site dated March 2020 details the work completed under the NYSDEC-approved ISMP. The following activities were completed and documented as part of the ISMP implementation between October 2018 and April 2019:

- Excavation and landfill disposal of approximately 13,266.44 tons of soil and fill material. Materials were transported to Seneca Meadows Landfill in Waterloo NY
- Soil stockpile documentation.
- Re-use of approximately 1,200 cubic yards of soil in accordance with DER-10 and NYSDEC approval.
- Importation and placement of approximately 7,856.31-tons of various types of crusher run stone and washed stone from The Dolomite Group quarry in Rochester, NY with NSYDEC approval.
- Importation and placement of 100 cubic yards of sand from Valley Sand and Gravel in Caledonia New York in accordance with DER-10 and NYSDEC approval.

Implementation of the Community Air Monitoring Plan during earthwork activities including but not limited to excavation, backfilling and grading.

Remedial Action Work Plan, LaBella, November 2019

The Remedial Action Work Plan (RAWP) for the Site dated November 2019 details remedial actions to be implemented at the Site based on the remedial findings of the Remedial Investigation. Remedial alternatives selected for the Site are listed and cover system construction plans are detailed in the report which included plans for asphalt, concrete and greenspace covers.

Final Engineering Report, LaBella, December 2020

A Final Engineering Report (FER) for the Site dated December 2020 details work completed according to the NYSDEC-approved SSDS Work Plan dated February 2019 and the NYSDEC-approved RAWP dated November 2019 based on the selected Site remedy in the Decision Document dated June 2020. The following activities were completed and documented:

- Documentation of installation of the SSDS based on the approved SSDS Work Plan dated November 26, 2018 and revised February 12, 2019 will documented in the Final Engineering Report (FER) pending approval of the Remedial Action Work Plan (RAWP).
- Implementation of the Community Air Monitoring Plan during earthwork activities including but not limited to excavation, backfilling and grading.
- Reinstallation of wells that were decommissioned or destroyed during Site development that are to be used for monitoring per the SMP.

In addition to the above tasks, additional PFAS sampling completed in October 2020 was also summarized in the FER. Following completion of the initial Remedial Investigation, new PFAS guidance was issued by the NYSDEC in January 2020 and updated in October 2020. Additional testing was requested by the NYSDEC after the completion of construction activities at the Site which included construction of a residential multi-unit apartment building and a Site cover system. Note that the construction of the Site cover system was completed in December 2019 based on the RAWP submitted in November 2019. However, the RAWP was not approved by the NYSDEC until June 2020. The cover system in the back of the building in Greenspace Areas A and B consisted of a combination of NYSDEC-approved imported material and existing undisturbed soil in the top two (2) feet that was used as part of the cover given it met all soil cover criteria prior to the establishment of PFAS guidance values. Based on the information and data presented in the March 2020 Remedial Investigation Report and the March 2020 CCR, the NYSDEC issued a conditional approval of the November 2019 RAWP with a condition that additional PFAS soil sampling be completed to evaluate the concentration of PFAS remaining in the 0-2-foot interval of the Site's existing soil/fill material that had been included in the construction of the Site cover system.

A draft PFAS sampling work plan was submitted to the NYSDEC on August 4, 2020 and conditionally approved by the NYSDEC on October 14, 2020. Prior to approval, one (1) composite sample was collected on August 14, 2020 of the existing undisturbed soil that was within the top 2-ft of Northern Greenspaces A and B and submitted for analysis of synthetic precipitation leaching procedure (SPLP) PFAS analysis. Results remained below the NYSDEC criteria of 70ppt for existing soil. However, the NYSDEC's October 14, 2020 conditional approval of the sampling plan called for the collection of four (4) samples for SPLP analysis rather than the one (1) proposed in the draft work plan and collected in August 2020. As such, four (4) additional samples were collected between October 26 and October 28, 2020 from existing undisturbed soil that was part of the 2-ft cover in greenspace areas in the back of the building. Specifically, one additional PFAS sample was collected in Northern Greenspace A and three (3) additional PFAS samples were collected in Northern Greenspace B.

The samples were intended to be analyzed via SPLP but due to a miscommunication with the laboratory, were instead analyzed for total PFAS.

The total PFAS data were compared to the guidance values within the NYSDEC's October 2020 PFAS guidance. Results indicated that concentrations of PFAS in these four (4) samples were below the Protection of Groundwater and Restricted Residential guidance values established in that document. PFAS concentrations in the samples were also below the Unrestricted Use guidance values with the exception of perfluorooctanesulfonic acid (PFOS) in sample SS-COMP-A (16-24-inches bgs).

Based on the deviation to the conditional approval of the sampling work plan, the NYSDEC was contacted once the deviation was realized. The NYSDEC evaluated the total PFAS data in addition to the existing PFAS data and issued an acceptance of the data on November 13, 2020, conditional upon the data usability summary report (DUSR) indicating the data to be valid and usable. Subsequently, the DUSR indicated the data to be valid and usable.

Refer to Table 2 for a summary of data and the FER for a more detailed description of sampling methodology and results.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated June 2020 are as follows:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.5 Remaining Contamination

2.5.1 Soil

Based on the testing completed during the 2016 Phase II Environmental Site Assessment (ESA), the RI, the ISMP implementation and the 2020 PFAS sampling as well as the removal of soils during the ISMP implementation, some contaminants remain at the Site. Contaminant classes remaining at the Site included VOCs, SVOCs or more specifically, PAHs, metals, pesticides, PCBs and PFAS. VOCs remaining at the Site included TCE which was identified during the Phase II ESA in shallow soils at concentrations exceeding Protection of Groundwater SCOs. Additionally acetone remains in surface soils on the northwestern portion of the Site at concentrations above Unrestricted Use SCOs. Select PFAS compounds are present above the October 2020 guidance Unrestricted Use SCOs in shallow soils north of and beneath the Site building. PAHs remain throughout the Site typically in shallow soils up to approximately 6-ft in depth at levels exceeding Unrestricted Use SCOs or Restricted Residential SCOs. Several metals and pesticides remain at the Site in surface and shallow soils above Unrestricted Use SCOs however, only mercury remains above Restricted Residential Use in the southern portion of the Site and southeastern corner of the Site. PCBs are present above Unrestricted Use SCOs in the northeastern area of the Site. The table below summarizes the remaining contamination identified at the Site.

Sample data displayed on the following tables are limited to material remaining after Site construction work and sample depths displayed on this table are based on depths *below the bottom of site cover*. The first table displays data above SCOs. The second table displays PFAS data above the NYSDEC's October 2020 guidance values.

Summary of Remaining Soil Contamination - SCOs

Compound	Samples Remaining that Exceed Unrestricted Use SCOs *Depth below bottom of site cover	Samples Remaining that Exceed Protection of Groundwater SCOs *Depth below bottom of site cover	Samples Remaining that Exceed Restricted Residential SCOs *Depth below bottom of site cover
VOCs			
TCE	• TP-G (2.18-ft)	• TP-G (2.18-ft)	• None
Acetone	• SS-04 (0-0.34-ft)	• None	• None

Compound	Samples Remaining that Exceed Unrestricted Use SCOs *Depth below bottom of site cover	Samples Remaining that Exceed Restricted Residential SCOs *Depth below bottom of site cover
SVOCs		
Benzo(a)anthracene	• RIGP-02 (4.08-6.08-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)	• RIGP-02 (4.08-6.08-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)
Benzo(a)pyrene	• RIGP-02 (4.08-6.08-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)	• RIGP-02 (4.08-6.08-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)
Benzo(b)fluoranthene	• SS-COMP-01 (0-Max. 1.1-ft) • RIGP-02 (4.08-6.08-ft) • RIGP-04 (2.34-4.34-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-C (1.87-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)	• SS-COMP-01 (0-Max. 1.1-ft) • RIGP-02 (4.08-6.08-ft) • RIGP-04 (2.34-4.34-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-C (1.87-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)
Benzo(k)fluoranthene	• RIGP-17 (1.08-3.08-ft) • TP-J (1.58-ft)	• None
Chrysene	• RIGP-02 (4.08-6.08-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-C (1.87-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)	• RIGP-17 (1.08-3.08-ft)

Dibenzo(a,h)anthracene	• RIGP-17 (1.08-3.08-ft)	• RIGP-17 (1.08-3.08-ft)
Indeno(1,2,3-cd)pyrene	• SS-COMP-01 (0-Max. 1.1-ft) • RIGP-02 (4.08-6.08-ft) • RIGP-04 (2.34-4.34-ft) • RIGP-06 (0.37-3.37-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-C (1.87-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)	• SS-COMP-01 (0-Max. 1.1-ft) • RIGP-02 (4.08-6.08-ft) • RIGP-04 (2.34-4.34-ft) • RIGP-06 (0.37-3.37-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-C (1.87-ft) • TP-G (2.18-ft) • TP-J (1.58-ft)
Metals		
Lead	• SS-COMP-01 (0-Max. 1.1-ft) • SS-COMP-02 (0-Max. 1.83-ft) • SS-COMP-04 (0-Max. 1.0-ft) • SS-COMP-05 (0-Max. 0.68-ft) • RIGP-01 (5.08-5.58-ft) • RIGP-02 (4.08-6.08-ft) • RIGP-06 (0.37-3.37-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-C (1.87-ft) • TP-E (2.37-ft) • TP-G (2.18-ft) • TP-J (1.58-ft) • TP-L (0.37-ft)	• None
Mercury	• SS-COMP-02 (0-Max. 1.83-ft) • SS-COMP-04 (0-Max. 1.0-ft) • SS-COMP-05 (0-Max. 0.68-ft) • RIGP-12 (3.37-5.37-ft) • RIGP-17 (1.08-3.08-ft) • B-7 (0.50-1.20-ft) • TP-J (1.58-ft)	• SS-COMP-05 (0-Max. 0.68-ft) • RIGP-17 (1.08-3.08-ft)
Zinc	• SS-COMP-02 (0-Max. 1.83-ft) • RIGP-01 (5.08-5.58-ft) • RIGP-06 (0.37-3.37-ft) • RIGP-16 (11.68-13.18-ft) • RIGP-17 (1.08-3.08-ft)	• NA
Copper	• RIGP-16 (11.68-13.18-ft)	• NA
Nickel	• RIGP-06 (0.37-3.37-ft) • RIGP-16 (11.68-13.18-ft)	• NA

Pesticides		
4,4'-DDD	• SS-COMP-05 (0-Max. 0.68-ft) • RIGP-02 (4.08-6.08-ft) • RIGP-06 (0.37-3.37-ft) • TP-C (1.87-ft) • TP-E (2.37-ft)	• NA
4,4'-DDE	• SS-COMP-01 (0-Max. 1.1-ft) • SS-COMP-02 (0-Max. 1.83-ft) • SS-COMP-05 (0-Max. 0.68-ft) • RIGP-01 (5.08-5.58-ft) • RIGP-06 (0.37-3.37-ft) • RIGP-10 (0.77-3.37-ft) • TP-C (1.87-ft) • TP-E (2.37-ft) • TP-G (2.18-ft) • TP-L (0.37-ft)	• NA
4,4'-DDT	• SS-COMP-01 (0-Max. 1.1-ft) • SS-COMP-02 (0-Max. 1.83-ft) • SS-COMP-05 (0-Max. 0.68-ft) • RIGP-02 (4.08-6.08-ft) • RIGP-06 (0.37-3.37-ft) • B-7 (0.50-1.20-ft) • TP-C (1.87-ft) • TP-E (2.37-ft) • TP-L (0.37-ft)	• NA
Dieldrin	• SS-COMP-01 (0-Max. 1.1-ft) • SS-COMP-05 (0-Max. 0.68-ft) • RIGP-06 (0.37-3.37-ft) • B-7 (0.50-1.20-ft) • TP-E (2.37-ft)	• NA
PCBs		
Total PCBs	• RIGP-01 (5.08-5.58-ft) • B-7 (0.50-1.20-ft)	• NA

Note:

1. Sample results from the 2016 Phase II ESA by Stantec that are included in the table have not been validated.
2. All part 375 Restricted Residential Exceedances are below cover material (i.e., 2-ft clean cover, asphalt, or concrete).
3. "NA" indicates not applicable.
4. Sample depths reflect depths after soil removal and below bottom of soil cover described in the LaBella CCR unless otherwise noted.

Summary of Remaining Soil Contamination – PFAS Guidance Values

Compound	Samples Remaining that Exceed Unrestricted Use PFAS Guidance Values *Depth below bottom of site cover unless otherwise noted	Samples Remaining that Exceed Protection of Groundwater PFAS Guidance Values *Depth below bottom of site cover	Samples Remaining that Exceed Restricted Residential PFAS Guidance Values *Depth below bottom of site cover
PFAS			
PFOS	• SS-COMP-A (1.3-2.0-ft below ground surface)	• None	• None
PFOA	• TP-01 (0-ft to 0.83-ft) • TP-04 (0-ft to 0.08-ft)	• TP-01 (0-ft to 0.83-ft) • TP-04 (0-ft to 0.08-ft)	• None

1. PFAS soil samples were compared to Unrestricted Use, Restricted Residential Use and Protection of Groundwater guidance values established in the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) document dated October 2020.

Historical fill materials from just below cover materials to approximately 10-ft bgs exist over the majority of the Site. Historic fill material has been identified to contain heavy metals, SVOCs, and may contain VOCs, pesticides and PCBs. The highest concentration of SVOCs appears to be located in the eastern portion of the Site in RIGP-17 from 2-4-ft (prior to addition of cover material) which was collected within an interval of fill material consisting of ash, coke, brick and wood. The source of the historic fill materials may be result of on-Site disposal during historical industrial and manufacturing use operations as well as demolition of the buildings that once occupied the Site and burying the materials on-Site. Additionally, the fill material may have been staged by the NYSDOT, a former owner of the Site or their contractors. Asphalt millings and materials containing asphalt are commonly used/generated in transportation projects. The phase II identified an elevated concentration of TCE in the central portion of the Site above Unrestricted Use SCOs; however no similar concentrations were identified during the Remedial Investigation.

PFAS in soil remain on primarily the eastern side of the Site, north of and beneath the Site building, based on test pits that had been advanced in the area and the recent sampling described in Section 2.3. Some soils containing PFAS were removed during development, however; it should be noted that these compounds exist at varying depths and concentrations within soils remaining at the Site. Specifically, PFAS at concentrations above the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyflouroalkyl (PFAS) October 2020 guidance values for Unrestricted Use were identified in soils in Northern Greenspace A contain concentrations of PFAS from 16-24-inches bgs (SS-COMP-A), in Northern Greenspace B between 2-12-inches bgs (TP-01) and beneath the Site building from 0.92-ft to 1.00-ft bgs (TP-04). It should be noted that all PFAS sampling of existing undisturbed soil used as part of the cover system remains below Protection of Groundwater and Restricted Residential guidance values.

A demarcation layer consisting of orange snow fencing or NYSDEC-approved crushed stone was placed in all areas that are utilized as green space located on the northern and eastern portions of the Site. All these materials are located beneath the cover. In green space areas the soil cover extends from the ground surface to at least 2-ft bgs. In other areas, contaminated material will remain below asphalt surfaces, concrete surfaces, or the building slab. Refer to the FER for detailed information above cover system construction.

Table 2 and Figure 6 summarize the results of all soil samples collected that exceed the Unrestricted Use SCOs, Protection of Groundwater SCOs and Restricted Residential Use SCOs at the Site after completion of remedial action. The polygons depicted in Figure 2 are associated with shallow soil composite samples, which by nature were not collected from discrete locations but rather designated areas across the Site. Based on the removal of soil to various depths in these composite sample areas during construction and the subsequent placement of various types (and thus thicknesses) of cover over these composite sample areas, remaining contamination identified in the shallow soil composite samples in some cases consists of a range of contaminant concentrations (i.e., where samples from multiple depths in those sample areas had contamination) and “maximum” contaminant depths based on the removal of soil to various depths in the composite areas.

2.5.2 Groundwater

Groundwater sampling events took place during the Remedial Investigation in June 2018, July 2018 and September 2018. Overburden groundwater samples collected during the June 2018 event were analyzed for VOCs, SVOCs, metals, pesticides, PCBs, cyanide. Not all samples were analyzed for each parameter due to low volume of water in overburden wells. Three more overburden groundwater samples were collected and analyzed for PFAS during the September 2018 sampling event. Bedrock wells were sampled during the July 2018 sampling event for VOCs, SVOCs, metals, PCBs, and PFAS. Not all samples were analyzed for each parameter. Based on these sampling events, the following areas of remaining contamination have been identified:

Contaminant	Location with Exceedance of SCGs
VOCs	
PCE	• MW-04*
TCE	• MW-08 • RIBW-03 • BMW-09
Cis-1,2-DCE	• RIBW-03
Trans-1,2-DCE	• RIBW-01
Vinyl Chloride	• RIBW-03
Petroleum Related Compounds	• RIBW-01 • RIBW-02
SVOCs	
2,4-Dichlorophenol Acenaphthene Fluorene Naphthalene Phenanthrene	• RIBW-02
Metals	
Iron Magnesium Manganese	• MW-07**

Contaminant	Location with Exceedance of SCGs
Sodium	
Aluminum Cobalt Lead Iron Magnesium Manganese Sodium	• MW-08
PFAS*	
Perfluorooctanesulfonic acid (PFOS) 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	• MW-06
Perfluorobutanoic acid (PFBA) Perfluoropentonoic acid (PFPeA)	• MW-08
Perfluorobutanoic acid (PFBA)	• RIMW-02
Perfluorobutanoic acid (PFBA) Perfluoropentonoic acid (PFPeA) Perfluorohexanoic acid (PFHxA) Perfluoroheptonoic acid (PFHpA) Total PFAS	• RIBW-03

** MW-04 was decommissioned on December 7th, 2018 and was subsequently replaced several feet to the west as MW-04R.*

*** MW-7 was decommissioned on April 20, 2019*

****PFAS exceedances are based on the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances October 2020 Guidance*

Off-site groundwater was not evaluated as part of any investigation due to the relatively low impacts in groundwater and the contours indicate groundwater is moving northeast towards interstate 490.

Table 3 and Figure 7 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

2.5.3 Soil Gas

Although there are currently no comparison criteria for soil gas, it should be noted that VOCs were detected above laboratory MDLs in the soil gas samples. Refer to Section 2.3 and attached Figure 12 for information about soil gas sampling results from the RI.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix B) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to Restricted Residential uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 8. These ICs are:

- The property may be used for : restricted residential use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Monroe County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 8, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited.

3.3 Engineering Controls

3.3.1 Cover (or Cap)

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of a minimum of 24 inches clean soil, and/or components of development such as asphalt pavement, concrete-covered sidewalks, and concrete building slabs. Figure 9 presents the location of the cover system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix B outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) as well as the Special CAMP procedures for the site provided in Appendix G.

3.3.2 Sub-slab Depressurization System

Exposure to soil vapor intrusion is prevented by a sub-slab depressurization system (SSDS) that was installed during construction. The SSDS depressurizes the area beneath the building concrete slab, therefore, creating a negative pressure to prevent soil vapor intrusion into the Site building. Two separate SSD (sub-slab depressurization) systems; the "West System" and "East System," were installed starting in February, 2019 beneath the central and eastern wings of the building, respectively and completed in November, 2019. The SSD systems were designed to mitigate approximately 19,000 square feet of occupied ground floor that includes apartments and common areas. Another approximately 11,000 square feet area located on the ground floor of the west wing of the Site building was built as an open air parking area; therefore, an SSDS was not required.

The systems are composed a series of parallel 4-inch diameter perforated HDPE pipes wrapped in a geotextile fabric beneath the slab connected to solid schedule 40 PVC head pipe. The pvc header pipes penetrate the floor slab and are routed to through the building to above the roofline. All piping beneath the slab was installed in pea stone gravel subbase. A 15 mil vapor barrier was installed directly beneath the concrete slab. RadonAway RP265 fans were installed for both the east and west systems and connected to the PVC header pipes to depressurize the sub-slab. Discharge locations from the fans are at least 25-ft from air intakes for the building.

The systems were activated in November 2019. Each system has been set up with an audible alarm to alert building occupants if there is a loss of pressure or air flow in the vent piping. Manometers were installed on each system to give a visual representation of vacuum created by the operation of the system. Additionally, monitoring points consisting of ¼ inch diameter stainless steel tubing were routed beneath the floor slab or through the floor slab. The influence of the systems were measured and confirmed to have established a negative pressure under the occupied building areas. Typical readings at monitoring points are shown in the table below:

Pressure Field Extension Measurements

Monitoring Point	System	November 13, 2019 Minimum Pressure Reading (Inches Water Column)	October 29, 2020 Minimum Pressure Reading (Inches Water Column)
1	East	-0.004	-0.018
2	East	-0.012	-0.040
3	West	-0.028	-0.099
4	West	-0.019	-0.065
5	East	-0.032	-0.099

The pressure field extension measurements collected from the monitoring points show the influence of the sub-slab depressurization systems beneath the building slab at each location under standard operating conditions. Readings confirm that the system has established a negative pressure under the occupied building areas.

Procedures for operating and maintaining the SSD systems are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). As built drawings, signed and sealed by a professional engineer, are included in Appendix I – Operations and Maintenance Manual. Figure 9 shows the location of the ECs for the site.

3.3.3 Groundwater/NAPL Monitoring

Based on the presence of low-level concentrations of VOCs above groundwater standards in RAOCs #2, #3 and #4 and PFAS in RAOC #5, long-term groundwater monitoring and NAPL monitoring activities will be completed. NAPL monitoring will be included in RAOC #4. The Monitoring and Sampling Plan (Section 4.0) outlines the sampling locations and frequency as well as the procedures for sampling and monitoring.

3.3.4 NAPL Recovery (Contingency)

If a measurable amount of NAPL is encountered in a well or wells during groundwater/NAPL monitoring then NAPL removal will commence. The method of removal will be dependent on the amount of NAPL observed, as defined below:

- *NAPL > 3-inches* – For significant NAPL (defined as > 3-inches), a vacuum truck will be utilized. Vacuum truck extraction will consist of connecting the vacuum truck hosing to the monitoring point. Free product and groundwater will then be removed until the well is dry or until the vacuum truck is full. The extracted product/groundwater will be transported off-Site for recycling or disposal at a NYSDEC Part 360 permitted facility.
- *NAPL ≤ 3-inches* - If NAPL is measured at less than 3-inches, absorbent socks will be used to remove NAPL. If absorbent socks are placed, the socks will be retrieved approximately 2-weeks later and placed in 55-gallon drums on-Site, pending disposal. Following retrieval of the absorbent sock, the

thickness of NAPL, if present, will be measured. If NAPL is present an absorbent sock will be placed back down the well again and retrieved 2-weeks later. Absorbent socks will only be placed in the monitoring well(s) where NAPL is observed.

Subsequent to completing the extraction work, the NAPL monitoring schedule will be resumed. Wells to be monitored and the monitoring schedule are included in the Monitoring and Sampling Plan (Section 4).

3.3.5 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.5.1 - Cover (or Cap)

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

3.3.5.2 - Sub-Slab Depressurization System

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH. In the event that monitoring data indicates that the SSD system may no longer be required, a proposal to discontinue the SSD system will be submitted by the remedial party to the NYSDEC and NYSDOH.

3.3.5.3 - Groundwater/NAPL Monitoring

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC with consultation with NYSDOH, until residual groundwater concentrations are found to be consistently below ambient water quality standards, the site SCGs, or have become asymptotic at an acceptable level over an extended period. In the event that monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the system will be submitted by the remedial party. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

3.3.5.4 - NAPL Recovery (contingency)

NAPL recovery will continue as needed until groundwater monitoring ceases (see section 3.3.5.3 above.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix F.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site-wide Inspection

Site-wide inspections will be performed once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC project manager. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix H – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date.

Inspections will be completed when the Site does not have snow cover to allow for proper inspection of all components. Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC project manager must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC and defined in 6 NYCRR Part 375. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Treatment System Monitoring and Sampling

4.3.1 SSDS System Monitoring

Monitoring of the SSD systems will be performed on a routine basis, as identified in Table B1 SSDS Monitoring Requirements and Schedules (see below). Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of a system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Information on the operation and maintenance of the SSDS is included in Appendix I (including fan manuals, system specifications and As-Built Drawings. SSDS components to be monitored include, but are not limited to, the components included in Table B1 below.

Table B1 – SSDS Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameter	Operating Range	Monitoring Schedule
Fans	Pressure/Operational/Condition/Pressure Field Extension	Pressure Should be within typical operating range	Annually or as-needed
Alarms	Operational/Condition	Alarms should sound if pressure drops to low or if fans are not operating	Annually or as-needed
Piping	Operational/Condition	Piping should be in good condition, no breaks, and operating at standard operating pressures.	Annually or as-needed

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix H - Site Management Forms. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning or the system is not performing within specifications; maintenance and repair, as per the Operation and Maintenance Plan, is required immediately.

4.3.2 NAPL Monitoring/Recovery

NAPL monitoring will be performed on a routine basis, as identified in Table B2 NAPL Monitoring/Recovery Requirements and Schedules (see below). Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Table B2 – NAPL Monitoring/Recovery Requirements and Schedule

Remedial System Component	Monitoring Parameter	Operating Range	Monitoring Schedule
NAPL Monitoring	Presence of NAPL in RIBW-01 and RIBW-02	No Measurable NAPL	Semi –Annually, years 1-2 Annually, years 3-5(*)

*Annual monitoring will be continued after year 5 unless a reduced or altered frequency is approved by the NYSDEC PM.

4.4 Post-Remediation Media Monitoring and Sampling

Samples shall be collected from the groundwater/NAPL monitoring wells on a routine basis. Sampling locations, required analytical parameters and schedule are provided in Table C – Post Remediation Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Table C – Post Remediation Sampling Requirements and Schedule

Sampling Location	Analytical Parameters			Schedule
	VOCs (USEPA Method 8260)	SVOCs (USEPA Method 8270)	PFAS (Modified USEPA Method 537)	
MW-02R[A]	X		X	Semi -Annually, years 1-2 Annually, years 3-5(B)
MW-04R[A]	X			
MW-06R[A]	X		X	
MW-08R[A]	X		X	
RIBW-01R[A]	X	X	X	
RIBW-02	X	X	X	
RIBW-03	X		X	

[A]Wells were decommissioned or destroyed during Site redevelopment but have been reinstalled.

[B]Annual sampling will be continued after year 5 unless a reduced or altered frequency is approved by the NYSDEC PM.

Well MW-02 was decommissioned during Site redevelopment activities and wells MW-06, MW-08 and RIBW-01 were destroyed during Site redevelopment activities. These wells were reinstalled in accordance with the NYSDEC-approved Interim Site Management Plan prior to implementation of the groundwater/NAPL monitoring at the Site. Details of the wells are provided in the well construction logs in Appendix E. The new wells were installed in the same general vicinity and to generally the same construction details of the original wells. Construction details of the new wells have been included in Appendix E. These reinstalled wells have not yet been developed and will be developed prior to the first groundwater monitoring event. These wells will be allowed a minimum of 14 days to return to static state prior to conducting the groundwater sampling event.

Based on the differing contaminant types, there will be two different sampling methods as discussed below:

1. *PFAS Sampling* - Wells sampled for PFAS will be sampled via bailers and sampling will be completed in accordance with the NYSDEC guidance documents on PFAS sampling which are included in Appendix F. This will include the Quality Assurance/Quality Control (QA/QC) sampling indicated in the guidance. It should be noted that the attached guidance include 1,4-Dioxane sampling; however, that will not be completed for the sampling for this Site. PFAS sampling will include purging three (3) well volumes and then sampling. Water quality readings will not be collected during the PFAS sampling, rather these readings will be collected with the VOC and SVOC sampling, as detailed below.

2. *VOC & SVOC Sampling* - Wells sampled for VOCs and SVOCs will be sampled using modified low-flow techniques (i.e., peristaltic pump). Water quality parameters including turbidity, pH, temperature, specific conductivity, dissolved oxygen, oxidation reduction potential, and depth to water will be recorded at five (5) minute intervals. Samples will be collected when the parameters have stabilized for three (3) consecutive 5-minute intervals to within the specified ranges below:

- Water level drawdown (<0.3')
- Turbidity (+/- 10%, <50 NTU for metals)
- pH (+/-0.1)
- Temperature (+/- 3%)
- Specific conductivity (+/- 3%)
- Dissolved Oxygen (+/- 10%)
- Oxidation reduction potential (+/- 10 millivolts)

One (1) MS/MSD and one (1) blind duplicate sample will be collected in addition to the proposed samples and analyzed for each analytical parameter at a rate of one (1) per twenty (20) samples and will be collected for each sample matrix. In addition, one (1) trip blank per shipment of groundwater samples will be analyzed for TCL VOCs.

Samples collected will be analyzed according to Table C by the following analytical methods:

- USEPA Target Compound List (TCL) and NYSDEC Commissioner Policy-51 (CP-51) List VOCs using USEPA Method 8260 plus TICs;
- NYSDEC TCL and CP-51 SVOCs using USEPA Method 8270 plus TICs; and/or
- PFAS using Modified Method 537

Figure 11 shows well locations and details for sampling as well as previously decommissioned wells. Detailed sample collection and analytical protocols are provided in Appendix F – Quality Assurance Project Plan.

4.4.1 Groundwater Sampling

Groundwater sampling will be performed semi-annually to assess the performance of the remedy for two (2) years. After the first two years groundwater sampling frequency will be reduced to annually. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

The network of monitoring wells has been installed to monitor upgradient, on-site and downgradient groundwater conditions at the site. The network of on-site wells has been designed based on remaining contamination.

Table D summarizes the wells identification number, as well as the purpose, location, depths, diameter and screened intervals of the wells. As part of the groundwater monitoring, wells are sampled to evaluate the effectiveness of the remedial system.

Table D – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Elevation (above mean sea level)			
				Casing	Surface	Screen Top	Screen Bottom
MW-02R	Downgradient of MW-08	43.14165896° N, 77.59578292° W	2	508.49	508.76	494.36	489.36
MW-04R	Highest PCE concentration	43.1418959° N, 77.59652241° W	2	512.018	508.836	496.836	491.836
MW-06R	Upgradient of MW-08 and MW-02, highest PFOA & PFOS concentration	43.14150904° N, 77.59627991° W	1	509.86	510.06	495.46	490.46
MW-08R	Highest TCE concentration	43.1415629° N, 77.59585991° W	2	508.517	508.767	497.967	487.967
RIBW-01R	Downgradient of RIBW-02, petroleum impacts	43.1418892° N, 77.59650322° W	4	509.509	509.915	493.0-15	483.015
RIBW-02	Upgradient of RIBW-01, petroleum impacts	43.14178699° N, 77.59694082° W	4	512.763	510.204	492.204	484.204
RIBW-03	Vicinity of TCE impacts	43.14159766° N 77.59583975° W	4	510.834	508.623	490.623	480.623

Notes: Well MW-02 was decommissioned and wells MW-06, MW-08 and RIBW-01 were destroyed during Site redevelopment. Wells were reinstalled in accordance with the Interim Site Management Plan .

Monitoring well construction logs are included in Appendix E of this document.

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC project manager will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC project manager. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC project manager.

The sampling frequency may only be modified with the approval of the NYSDEC project manager. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC project manager.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.4.2 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix H - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional details regarding monitoring and sampling protocols are provided in the site-specific Quality Assurance Project Plan provided as Appendix F of this document.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the site to operate and maintain the SSD systems;
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSD systems are operated and maintained.

Further detail regarding the Operation and Maintenance of the SSD systems is provided in Appendix I - Operation and Maintenance Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is to be maintained at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

5.2 Operation and Maintenance of Sub-Slab Depressurization System

The following sections provide a description of the operations and maintenance of SSD systems. Cut-sheets and as-built drawings for SSD systems are provided in Appendix I - Operations and Maintenance Manual.

5.2.1 System Start-Up and Testing

After the SSDS is installed or modified, a start-up test will be perform to evaluate the effectiveness of the SSDS. The first step will be connect fans to a power supply to start the system. When the fans are fully operational, a digital micromanometer, or similar pressure differential measuring device, will be used to collect vacuum readings from the pressure field extension (PFE) monitoring points in the buildings. PFE measurements will generally need to achieve a minimum of 0.004 inches water column vacuum in order to meet the performance requirements of the October 2006 NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Additionally U-tube manometers on SSDS piping should be checked to ensure a vacuum is indicated. If these criteria are not met, adjustments will be made to the SSDS fans to increase air flow and vacuum influence including replacement of the fans with larger fans, if necessary.

5.2.2 Routine System Operation and Maintenance

Annual monitoring and inspection of the Site's SSD systems will be performed to ensure that the systems are operating/performing properly. A visual inspection of the accessible portions of the systems will be conducted during each monitoring event. SSD system components to be visually inspected include: the vent fans (if accessible), system piping, system wiring, and system alarms. In addition, the SSD system vacuum on the suction side of the fan will be monitored to confirm operation is consistent with historic readings by recording PFE monitoring point vacuum readings and U-tube manometer readings. PFE monitoring point vacuum readings will be collected with a digital micromanometer.

In the event that a vent fan appears to be malfunctioning, or if piping or wiring appears damaged, the component(s) in question will be promptly repaired or replaced, following the manufacturer's recommendations and instructions. Vent fan failure(s), repair(s), replacement(s), and/or operations problems should be documented and included with the annual certification. Installation and operating instructions for the RadonAway GP-501 fan and RadonAway HS2000fans are included in Appendix I Operation and Maintenance Plan. Table E provides a summary of and schedule of routine maintenance.

Table E - SSDS Routine Maintenance Schedule

Operational Check/Maintenance Task	Recommended Schedule/Frequency
Verify connections are tight and leak free	Annually
Ensure the fan and ducting are secure and vibration-free	Annually
Verify system vacuum pressure within normal operating range	Annually

Note: Maintenance tasks above are also defined in the RadonAway Operating Instructions in Appendix I. These maintenance tasks will be completed during annual monitoring and inspection of the SSDS system.

5.2.3 Non-Routine Operation and Maintenance

In the event that the alarm system is activated, applicable maintenance and repairs will be conducted as specified in the Operations and Maintenance Plan. Any interruptions to operations of the SSD system and any repairs made will be noted in the PRR.

5.2.4 System Monitoring Devices and Alarms

Each SSD system has an audible alarm to alert building maintenance personnel who will regularly be on-Site if there is a loss of pressure or air flow in the vent piping to indicate that the system is not operating properly. The maintenance personnel will then notify Highland Grove LLC as indicated by information affixed to system piping near the system alarms in order to restart the system. In addition each system has U-tube manometers to give a visual representation of vacuum created by the operation of the system. In the event that the alarm device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSD system will be restarted. In the event the alarm continues, the fan should be evaluated and the manufacturer contacted or a mitigation contractor (e.g., radon mitigation specialist) should be contacted for servicing the fan. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

6.0 PERIODIC ASSESSMENTS/ EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

- Flood Plain- The Site and surrounding area is not located within the Federal Emergency Management Agency (FEMA) 100-year or 500-year flood zone.
- Site Drainage and Storm Water Management- A new storm water management drainage system was installed during the Site development to prevent ponding and handle runoff from rain events.
- Erosion- The new storm water management drainage system is designed to handle rain events and prevent ponding and erosion. Vegetative cover in greenspace is intended to prevent erosion. Annual inspections of Site cover will also assess for any erosion.
- High Wind- High wind is not expected to affect remedial systems. Areas of greenspace will have vegetative cover prevent erosion due to wind. These areas will be assessed during the annual inspection of the cover system.
- Electricity- The SSDS could be affected by power loss and/or dips/surges in voltage during severe weather.

- Spill/Contaminant Release- The Site and engineering controls are not susceptible to spill or contaminant release.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2 Remedial Systems

Remedial systems will be operated properly considering the current site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates and use of reagents and consumables. Spent materials will be sent for recycling, as appropriate.

6.2.3 Building Operations

Structures including buildings and sheds will be operated and maintained to provide for the most efficient operation of the remedy, while minimizing energy, waste generation and water consumption.

6.2.4 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Inspection and sampling frequency have been selected to provide sufficient data but to reduce the number of trips to the Site required and to allow for potentially lowering frequencies required in the future if approved by the NYSDEC. Alarms on the SSDS allow for reduced number of trips to verify the SSDS is functioning properly.

6.2.5 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix H – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits; a set of metrics has been developed.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focuses on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix H. These forms are subject to NYSDEC project manager revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC project manager in accordance with the requirements of Table E and summarized in the Periodic Review Report.

Table F: Schedule of Interim Monitoring/Inspection Reports

Task/Report	**Reporting Frequency***
Site-wide Cover Inspection	Annually
SSDS Inspection	Annually
Groundwater Monitoring/NAPL Monitoring	Annually
Periodic Review Report	Annually, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC project manager.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;

- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link:

http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix D -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.

- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.

- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A site evaluation, which includes the following:

  - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;

  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;

  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;

  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and

  - Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.
  - The overall performance and effectiveness of the remedy.

- A performance summary for all treatment systems at the site during the calendar year, including information such as:

  - The number of days the system operated for the reporting period;

  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;

  - A description of the resolution of performance problems;

- Alarm conditions;
- Trends in equipment failure;
- A summary of the performance, effluent and/or effectiveness monitoring; and
- Comments, conclusions, and recommendations based on data evaluation.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*

- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*
- *The assumptions made in the qualitative exposure assessment remain valid.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] for the site."

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC project manager.

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3, upon completion of an RSO, an RSO report must be submitted to the Department for approval. A general outline for the RSO report is provided in Appendix J. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC project manager. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation". May 2010.

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

NYSDEC, June 2020. Decision Document – Former Sherwood Shoe Company.

NYSDEC, October 2020. Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances (PFAS).

Phase I Environmental Site Assessment by Stantec dated December 2012

Phase II Environmental Site Assessment by Stantec dated October 2016

Remedial Investigation Work Plan by LaBella dated May 2018

Interim Site Management Plan by LaBella dated August 2018

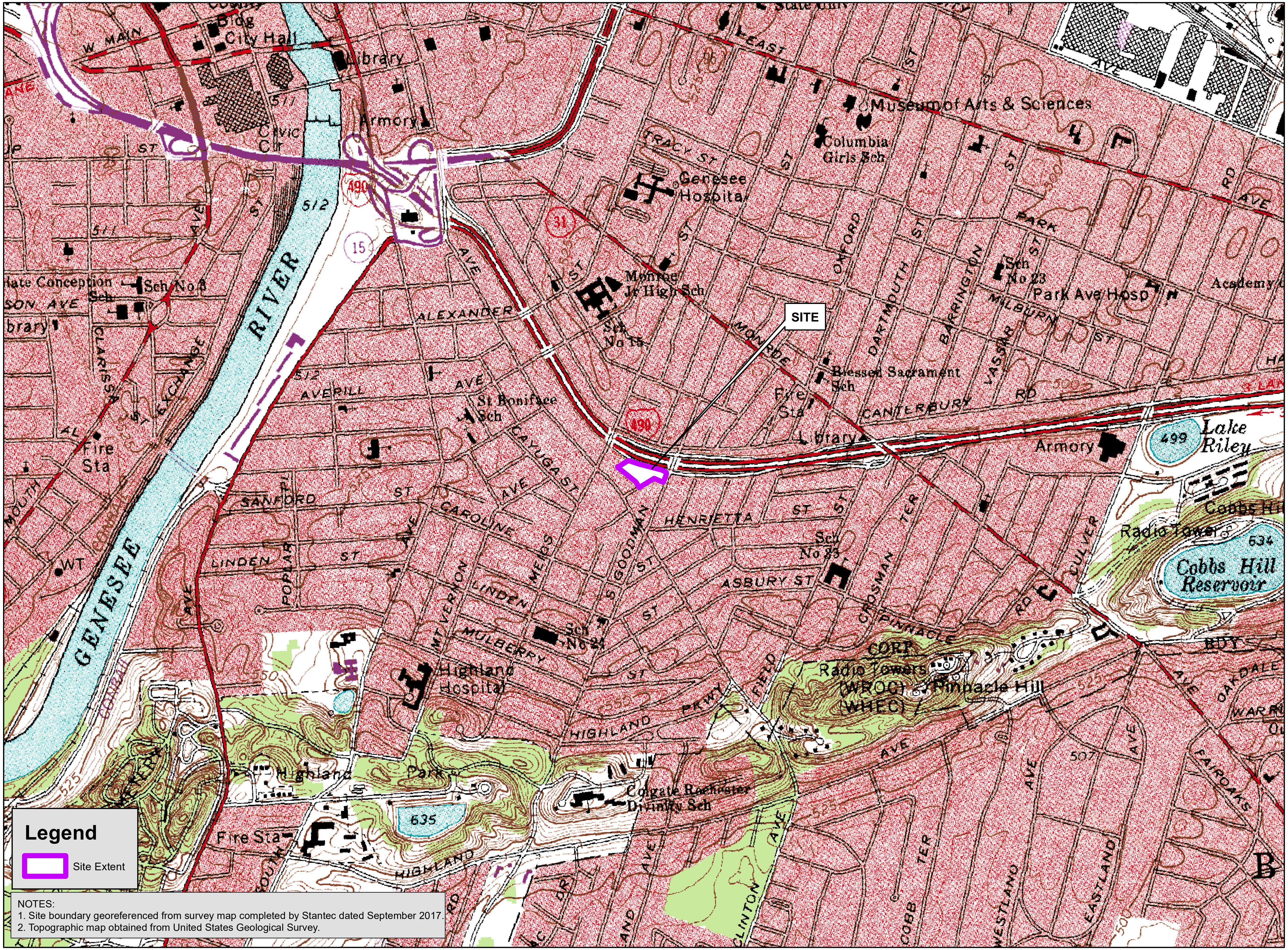
Remedial Action Work Plan by LaBella dated November 2019

Remedial Investigation Report by LaBella dated March 2020

Construction Completion Report by LaBella dated March 2020

Final Engineering Report by LaBella dated December 2020

FIGURES



Legend

Site Extent

NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017
2. Topographic map obtained from United States Geological Survey.

LaBella
Powered by partnership

N
W E
S

0 500 1,000
Feet
1 inch = 1,000 feet
INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
NYSDEC BCP Site No. C828201

Site Management Plan

DRAWING NAME:

Site Location

PROJECT/DRAWING NUMBER:

2172056

FIGURE 1

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 1 - Site Location.mxd

LaBella
Powered by partnership

N
W E
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0 20 40 80
Feet
1 inch = 80 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management
Plan

DRAWING NAME:

Site Layout Map

PROJECT/DRAWING NUMBER:

2172056

FIGURE 2

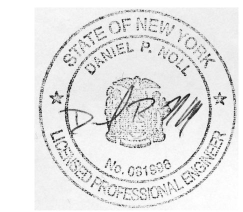
Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 2 - Site Layout Map.mxd

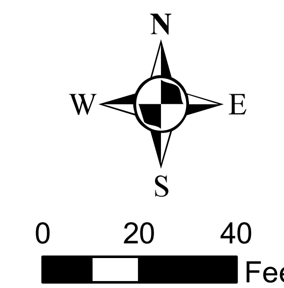
SITE
INTERSTATE
490
BROADWAY
(OVERPASS)
SOUTH CLINTON AVENUE
MEIGS STREET
LAWTON ST.
UHLEN PLACE
KARGES PLACE
GREGORY STREET
CAYUGA STREET
BOND STREET
WEIDER STREET
MT. VERNON AVENUE
WHITMORE ST.
GREGORY TRACT
JOHNSON & ATKINSON TRACT
WM. KARGES AMENDED SUB.
39
1.80 Ac.
D 22, M: 16, 17, 18, 25, 26 D
30, M: 6, 7, 9, 10
WARNING: Use of monument and penalty for destruction thereof is established by law. Contact the Monroe County Surveyor for exact monument location.
City of Rochester Tax Map
FIGURE 3
Property Line
Original Sublot Line
Railroad
Water Course
City Boundary
Block Limit Line
Great Lot or Tract Line
Bartholomew Line
Easement
RCS Monument
RTS Monument
Fed Agency Monument
Great Lot or Tract No
Tax Map Block No
Centroid Position
Street Address
RTS Monument Text
Denotes Parcel Continuation
Tax Map Parcel No
Original Sublot No
Acreage
Lot Dimension
Deed Dimension
Monument Distance
Total Property Line Distance
Feet
Meters
SHEET INDEX
121.56 121.57 121.58
121.64 121.65 121.66
121.72 121.73 121.74
TAX MAP
121.65
CITY OF ROCHESTER
Monroe County, New York
Prepared By
REAL PROPERTY SERVICE AGENCY
SCALE: 1" = 50'
Map Date: June 08, 2017

NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1 cm horizontal accuracy.
4. Stantec 2016 investigation locations were georeferenced from Stantec's Phase II ESA Report dated October 2016.

Path: \\projects1\projectsAM\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\AS-BUILT\FIGURE 4A_Cross Section key.mxd

LaBella
Powered by partnership.





1 inch = 40 feet
INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

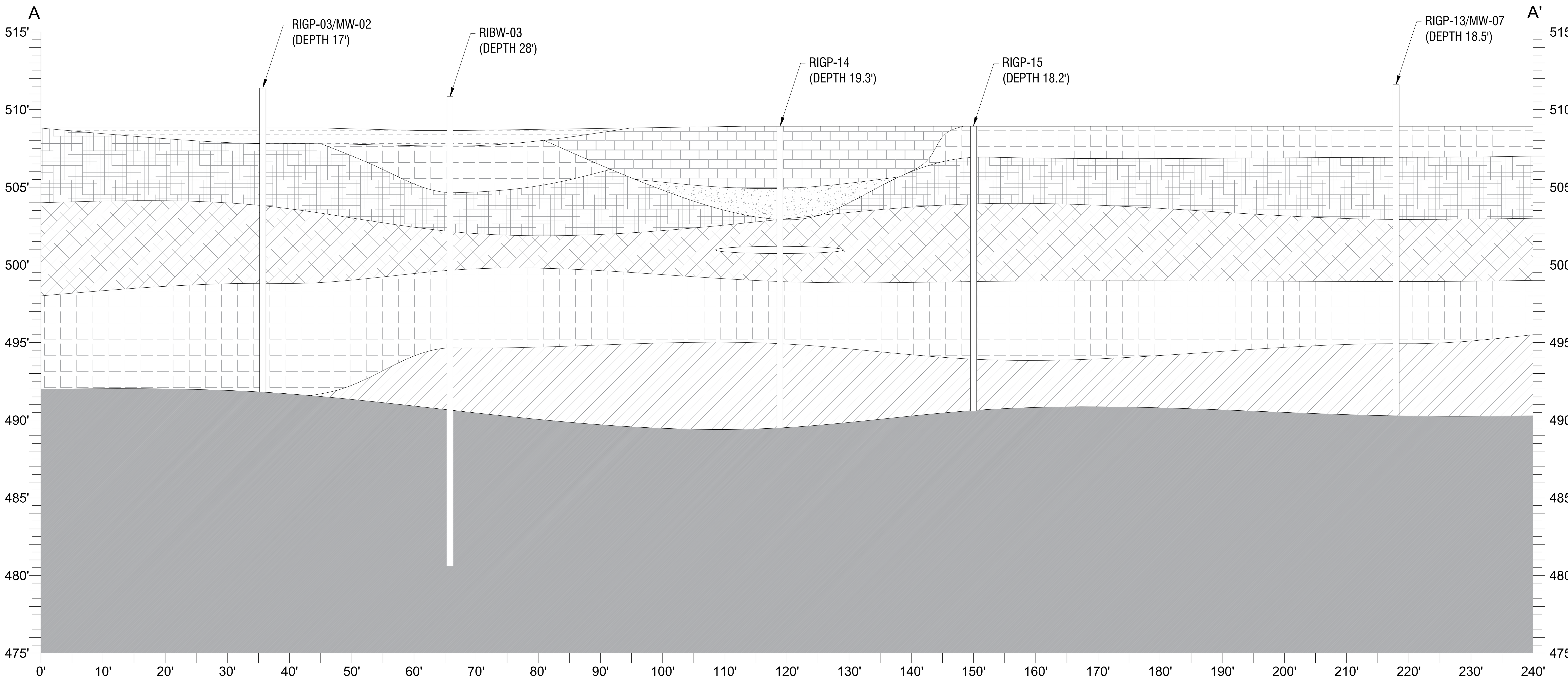
DRAWING NAME:

Cross Section Key As-Built

PROJECT/DRAWING NUMBER:

2172056

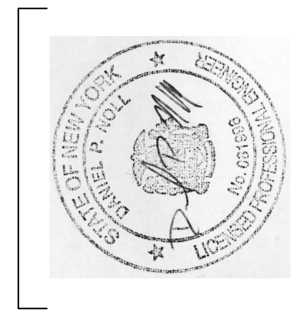
FIGURE 4A



- DOLOSTONE (BEDROCK)
- GRAY SAND WITH VARYING AMOUNTS OF GRAVEL
- BROWN COURSE TO FINE SAND, LITTLE TO SOME GRAVEL, LITTLE SILT
- CLAY
- YELLOW-BROWN TO BROWN SAND, TRACE SILT
- COURSE TO FINE GRAVEL, VARYING AMOUNTS OF ASPHALT
- BROWN COURSE TO FINE SAND, LITTLE TO SOME GRAVEL, LITTLE SILT, VARYING AMOUNTS OF FILL MATERIALS (CONCRETE, BRICK)
- SILTY SAND, VARYING AMOUNTS OF FILL (ASH, CINDERS, SLAG, GLASS, WOOD, ASPHALT MILLINGS, CONCRETE, BRICK)
- SILTY SAND
- ASPHALT
- SILT, LITTLE CLAY, TRACE SAND
- GRAVEL AND ASH

NOTES:
1. ELEVATIONS BASED OFF THE NORTH AMERICAN 1983 DATUM.
2. ELEVATIONS AND HORIZONTAL DISTANCES ARE DISPLAYED IN FEET.
3. THE VERTICAL EXAGGERATION BETWEEN ELEVATION AND HORIZONTAL DISTANCE IS 2.5:1

NO.	REVISION	BY	DATE



LaBella
Powered by partnership.

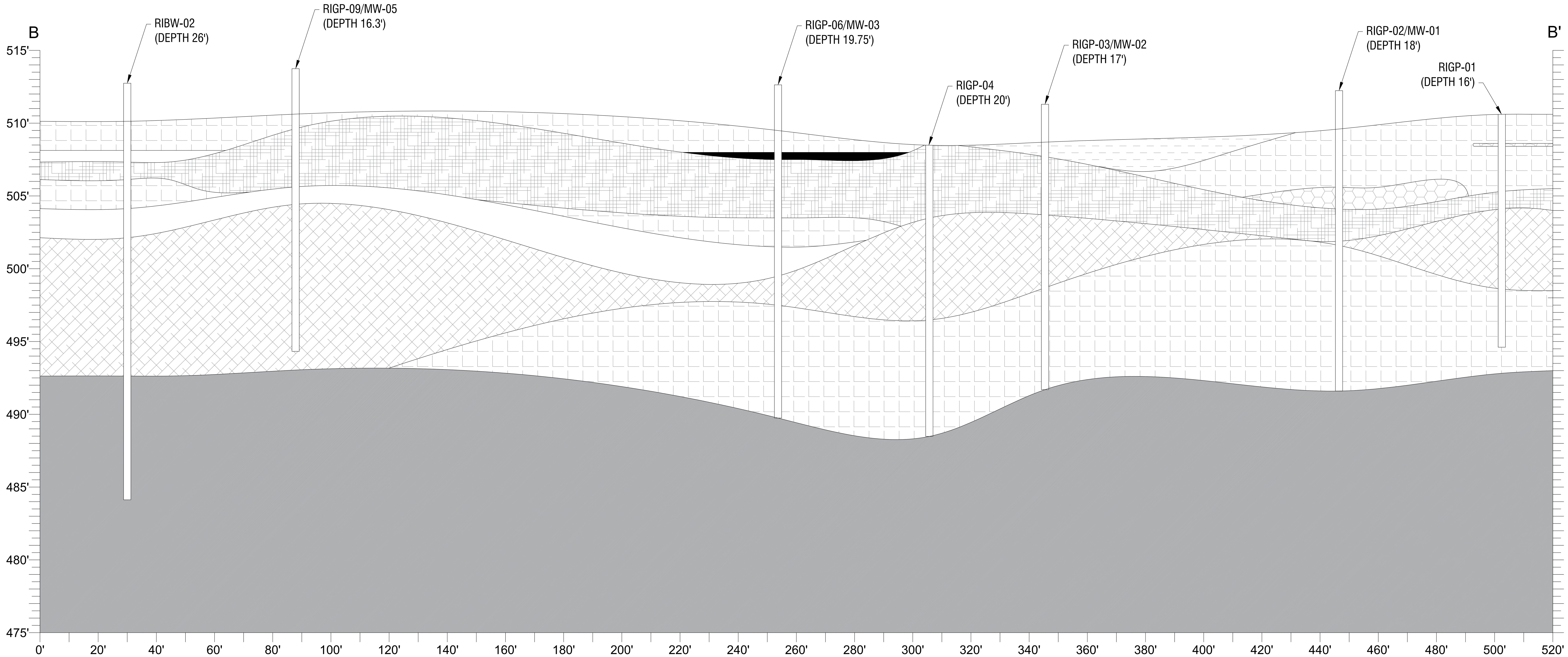
PROJECT/CLIENT
SITE MANAGEMENT PLAN
625 SOUTH GOODMAN STREET
ROCHESTER, NY
C828201

DRAWING TITLE
CROSS SECTION A-A' AS-BUILT

ISSUED FOR
AS-BUILT
DATE: JANUARY, 2018
DESIGNED BY: AB
DRAWN BY: DRP
REVIEWED BY: AB

PROJECT/DRAWING NUMBER
2172056

FIGURE 4B



DOLOSTONE (BEDROCK)

GRAY SAND WITH VARYING AMOUNTS OF GRAVEL

BROWN COURSE TO FINE SAND, LITTLE TO SOME GRAVEL, LITTLE SILT

CLAY

YELLOW-BROWN TO BROWN SAND, TRACE SILT

COURSE TO FINE GRAVEL, VARYING AMOUNTS OF ASPHALT

BROWN COURSE TO FINE SAND, LITTLE TO SOME GRAVEL, LITTLE SILT, VARYING AMOUNTS OF FILL MATERIALS (CONCRETE, BRICK)

SILTY SAND, VARYING AMOUNTS OF FILL (ASH, CINDERS, SLAG, GLASS, WOOD,ASPHALT MILLINGS. CONCRETE, BRICK)

SILTY SAND

ASPHALT

SILT, LITTLE CLAY, TRACE SAND

GRAVEL AND ASH

NOTES:

1. ELEVATIONS BASED OFF THE NORTH AMERICAN 1983 DATUM.
2. ELEVATIONS AND HORIZONTAL DISTANCES ARE DISPLAYED IN FEET.
3. THE VERTICAL EXAGGERATION BETWEEN ELEVATION AND HORIZONTAL DISTANCE IS 2.5:1

NO.	REVISION	BY	DATE

LaBella
Powered by partnership.

PROJECT/CLIENT

SITE MANAGEMENT PLAN

625 SOUTH GOODMAN STREET
ROCHESTER, NY
C828201

DRAWING TITLE

CROSS SECTION B-B'
AS-BUILT

ISSUED FOR
AS-BUILT

DATE: MAY, 2018

DESIGNED BY: AB

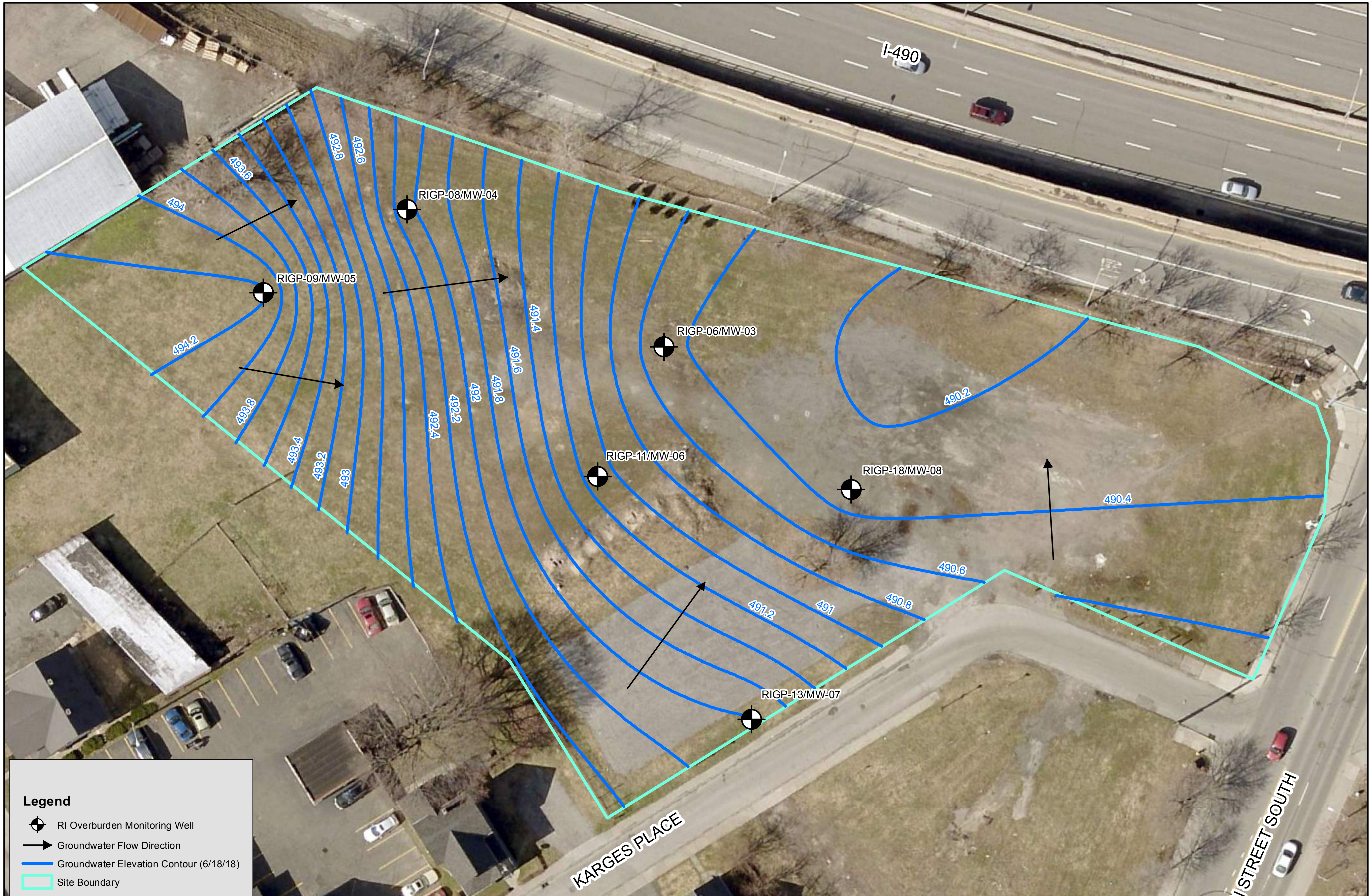
DRAWN BY: DRP

REVIEWED BY: AB

PROJECT/DRAWING NUMBER

2172056

FIGURE 4C



NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1 cm horizontal accuracy.
4. Contours were developed using Surfer version 14.0, kriging method to represent groundwater elevations from overburden wells; data collected on 6/18/18.
5. Only wells from which groundwater elevation data was obtained were used in the model and are depicted on this figure.

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Powered by partnership

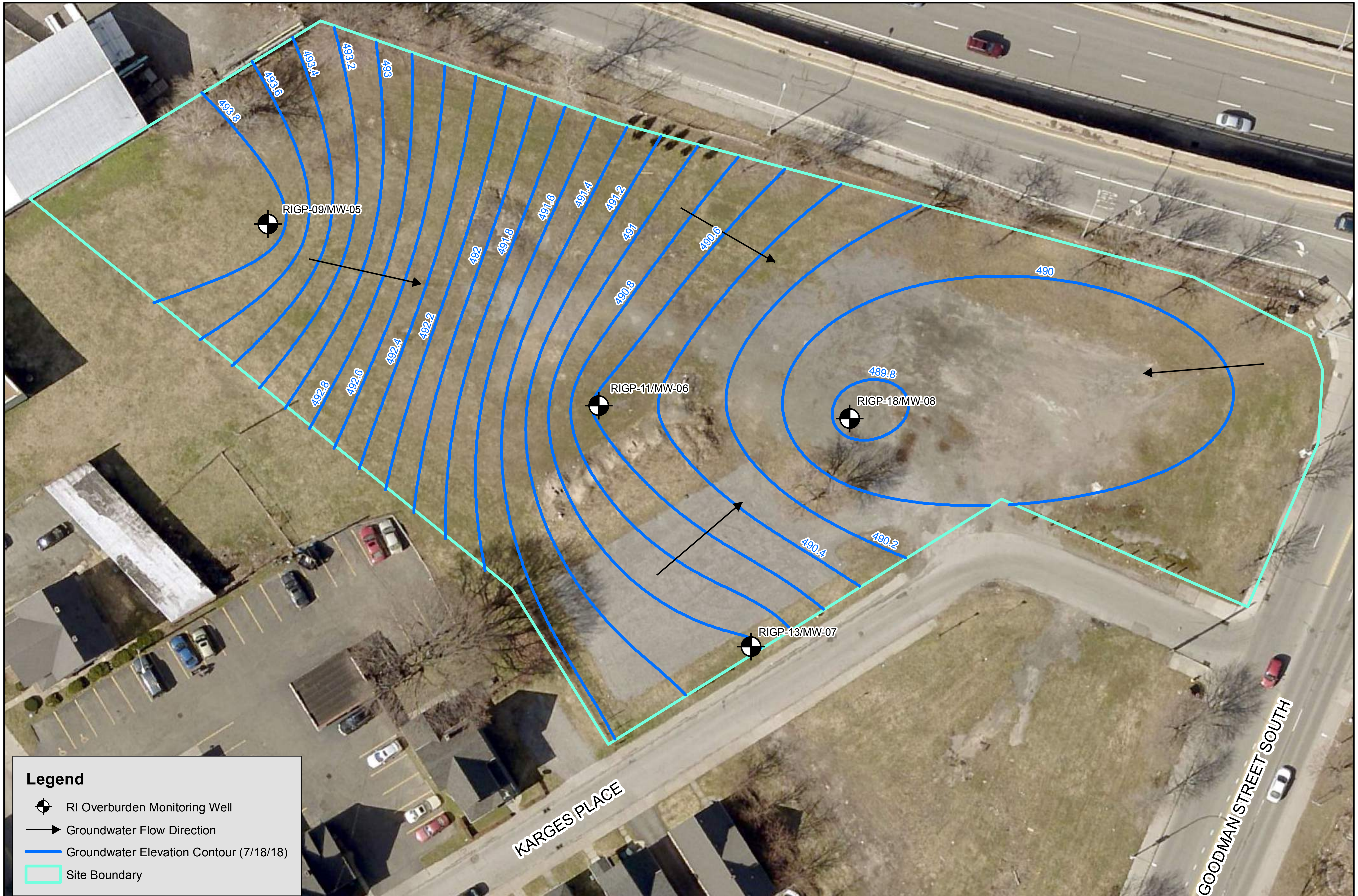
PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

DRAWING NAME:
Overburden Groundwater Elevation Contours
June 18, 2018

PROJECT/DRAWING NUMBER:
2172056
FIGURE 5A

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\FIGURE 4A_GW Elevation 6-18-18.mxd



NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1 cm horizontal accuracy.
4. Contours were developed using Surfer version 14.0, kriging method to represent groundwater elevations from overburden wells collected on 7/18/18.
5. Only wells for which groundwater elevation data was obtained were used in the model and are depicted on this figure.

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N
W E
S

0 20 40
Feet
1 inch = 40 feet
INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

DRAWING NAME:

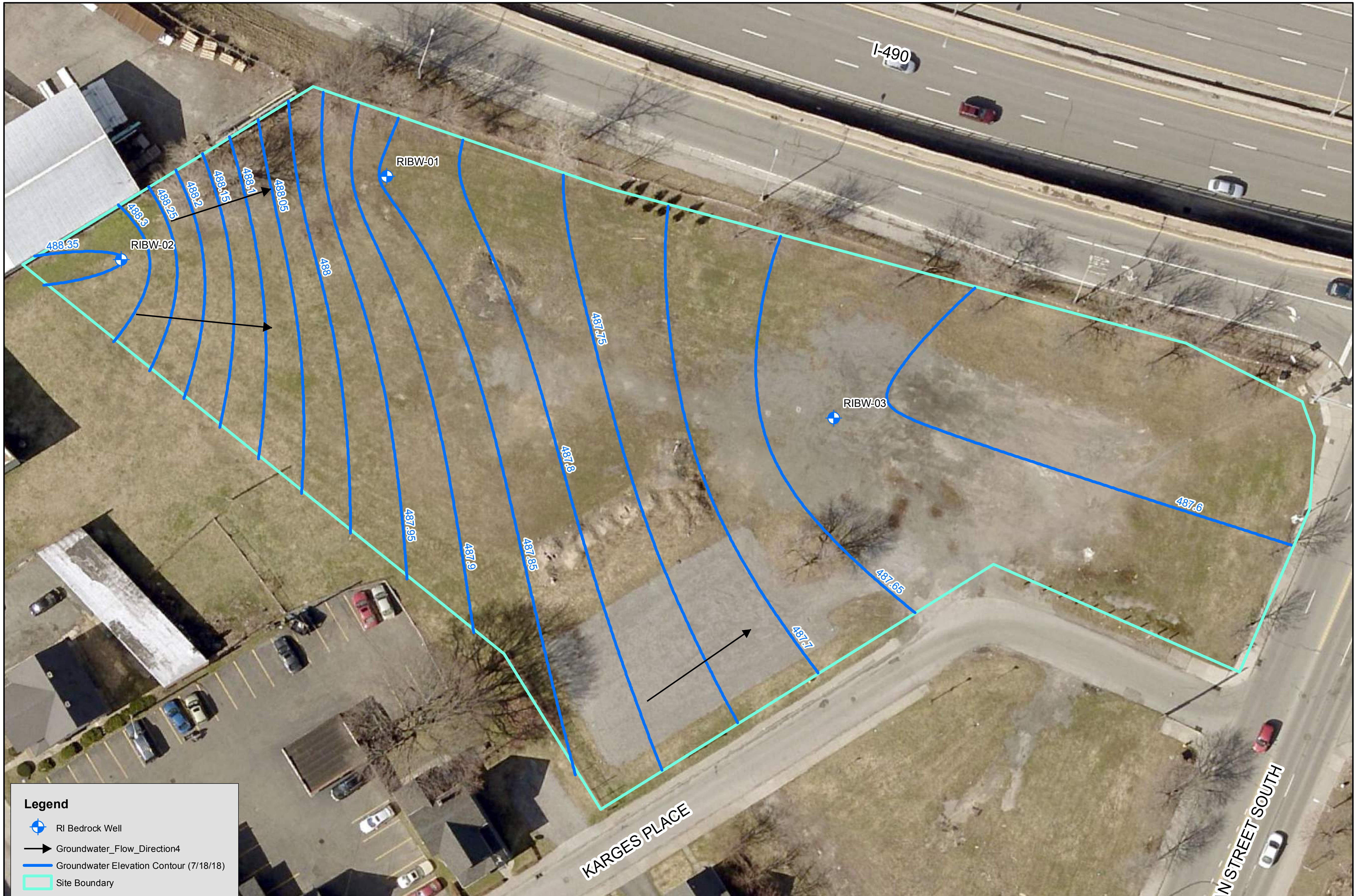
Overburden Groundwater Elevation Contours
July 18, 2018

PROJECT/DRAWING NUMBER:

2172056

FIGURE 5B

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\FIGURE 4B_GW Elevation 7-18-18.mxd



NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1 cm horizontal accuracy.
4. Contours were developed using Surfer version 14.0, kriging method to represent groundwater elevations from bedrock wells collected on 7/18/18.
5. Only wells from which groundwater elevation data was obtained were used in the model and are depicted on this figure.

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\FIGURE 4C_GW Elevation 6-18-18.mxd

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Powered by partnership.

N
W E
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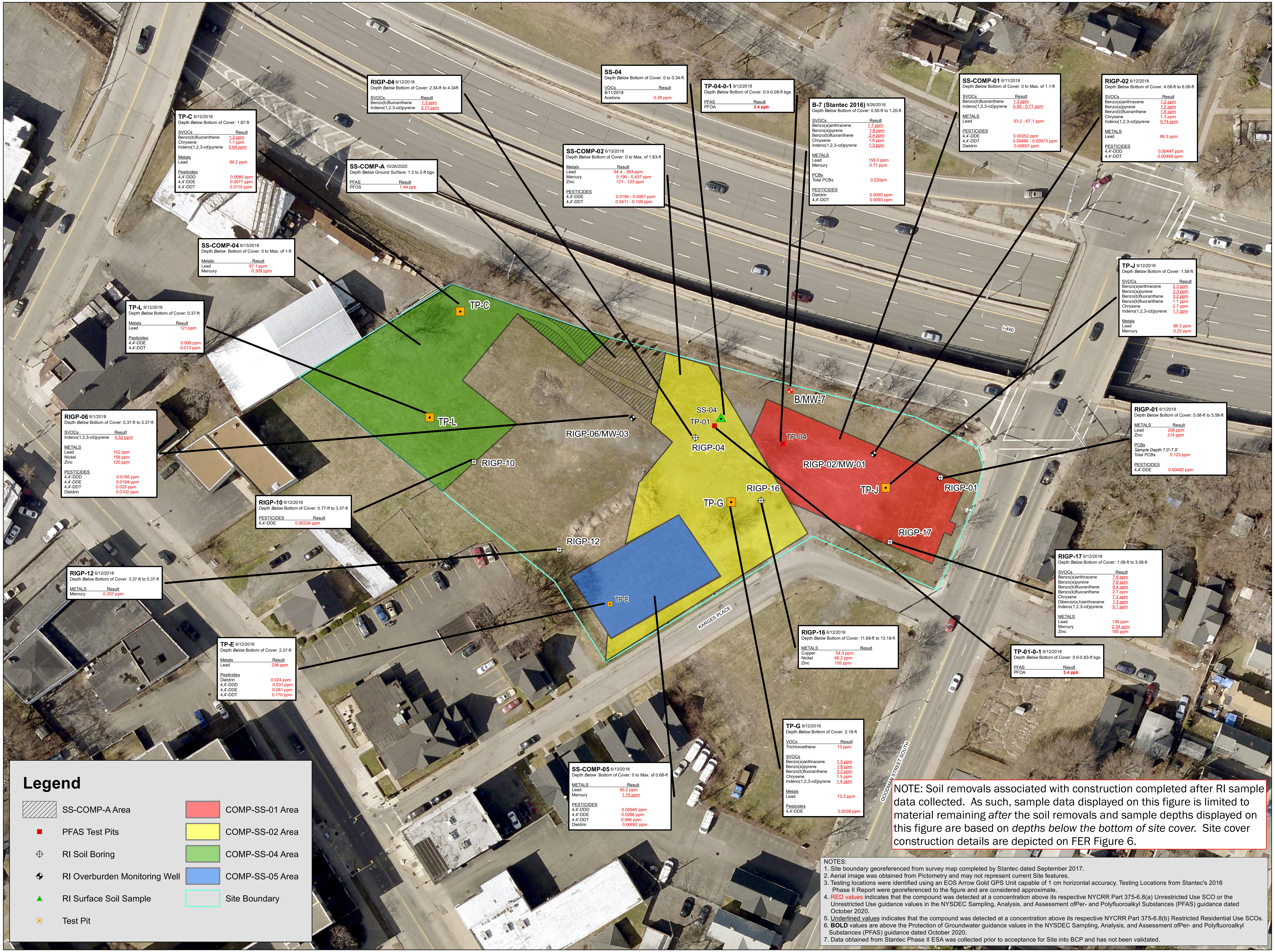
0 20 40 Feet
1 inch = 40 feet
INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

DRAWING NAME:
Bedrock Groundwater Elevation Contours
July 18, 2018

PROJECT/DRAWING NUMBER:
2172056
FIGURE 5C



NOTE: Soil removals associated with construction completed after RI sample data collected. As such, sample data displayed on this figure is limited to material remaining *after* the soil removals and sample depths displayed on this figure are based on *depths below the bottom of site cover.* Site cover construction details are depicted on FER Figure 6.

NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1 cm horizontal accuracy. Testing Locations from Stantec's 2016 Phase II Report were georeferenced to the figure and are considered approximate.
4. RED values indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO or the Unrestricted Use guidance values in the NYSDEC Sampling, Analysis, and Assessment ofPer- and Polyfluoroalkyl Substances (PFAS) guidance dated October 2020.
5. Underlined values indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential Use SCOs.
6. **BOLD** values are above the Protection of Groundwater guidance values in the NYSDEC Sampling, Analysis, and Assessment ofPer- and Polyfluoroalkyl Substances (PFAS) guidance dated October 2020.
7. Data obtained from Stantec Phase II ESA was collected prior to acceptance for Site into BCP and has not been validated.

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N
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0 35 70
Feet
1 inch = 35 feet
INTENDED TO PRINT AS: ANSI D

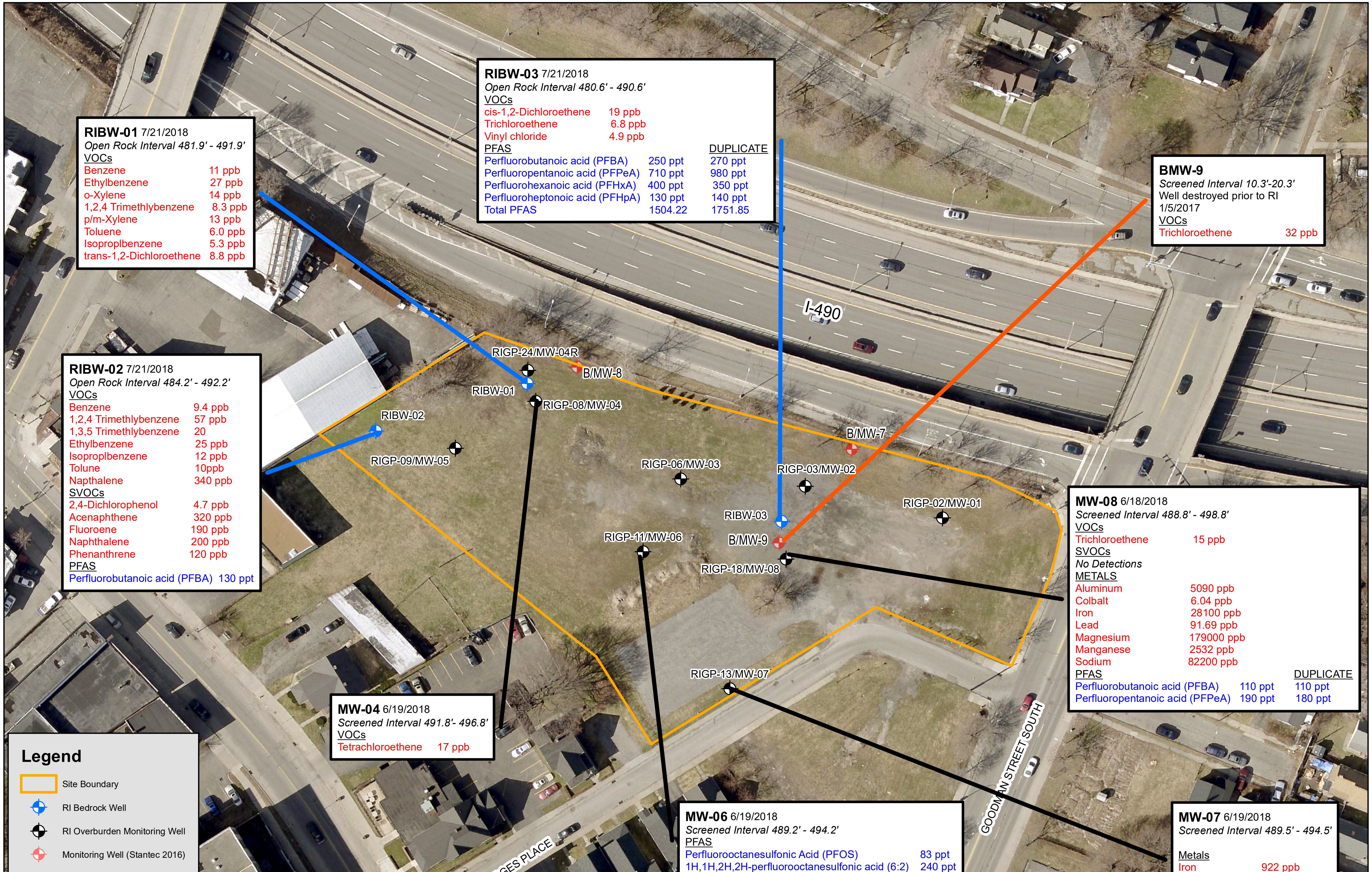
PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

SITE MANAGEMENT PLAN

DRAWING NAME:
REMAINING CONTAMINATION: SOIL AS-BUILT

PROJECT/DRAWING NUMBER:
2172056
FIGURE 6

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 6 Remaining Soil Sample Exceedances cOMBINED AB 11.23.2020.mxd



NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1cm horizontal accuracy.
4. Red font indicates the compound was detected above its respective NYSDEC TOGS 1.1.1 groundwater standard.
5. Blue font indicates the PFAS compound or total compounds were detected above guidance values indicated in the October 2020 NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS)
6. Data obtained from Stantec's Phase II ESA was obtained prior to the acceptance of the Site into the BCP and has not been validated.
7. Screened intervals are recorded in feet above mean sea level with the exception of BMW-9 which shows ft bgs during Stantec Phase II ESA.

LaBella
Powered by partnership.

N W E S

0 35 70 Feet

1 inch = 70 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

DRAWING NAME:
Remaining Contamination: Groundwater As-Built

PROJECT/DRAWING NUMBER:

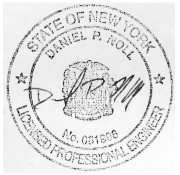
2172056

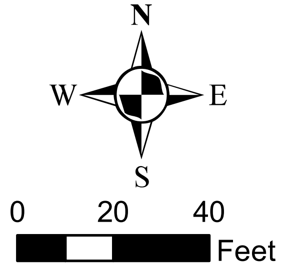
FIGURE 7

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 7 - Remaining GW Contamination AB 11.23.20.mxd

LaBella
Powered by partnership.

It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item iN any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.





1 inch = 40 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

DRAWING NAME:

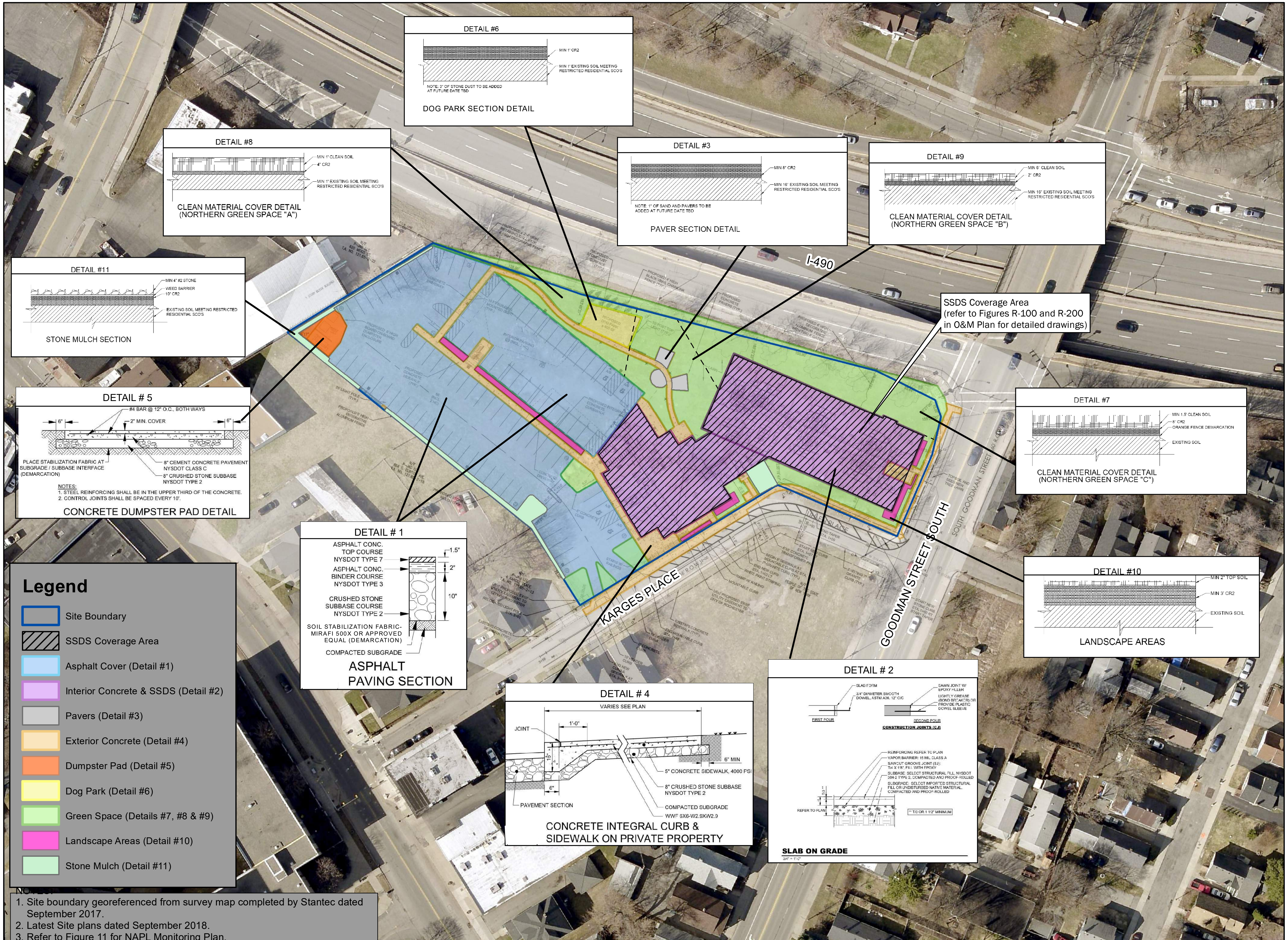
Institutional Control Boundaries

PROJECT/DRAWING NUMBER:

2172056

FIGURE 8

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 8 - Institutional Control Boundaries.mxd



Notes:

1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Latest Site plans dated September 2018.
3. Refer to Figure 11 for NAPL Monitoring Plan.

LaBella
Powered by partnership.

STATE OF NEW YORK · DANIEL P. NOLL · No. 081986 · LICENSED PROFESSIONAL ENGINEER

It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

N W E S

0 40 80 Feet

1 inch = 80 feet

INTENDED TO PRINT AS: 11" X 17"

CLIENT:

HIGHLAND GROVE LLC

PROJECT:

SITE MANAGEMENT PLAN

FORMER SHERWOOD SHOE COMPANY
625 SOUTH GOODMAN ST
ROCHESTER, NEW YORK

NYSDEC BCP #C828201

DRAWING NAME:

AS-BUILT ENGINEERING CONTROLS

PROJECT/DRAWING NUMBER:

2172056

FIGURE 9

NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. CAMP station locations are based on generally prevailing winds and should be adjusted based on Site conditions (e.g. locations of work, direction of wind, etc.)

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It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

N W E S

0 25 50 Feet

1 inch = 50 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

DRAWING NAME:

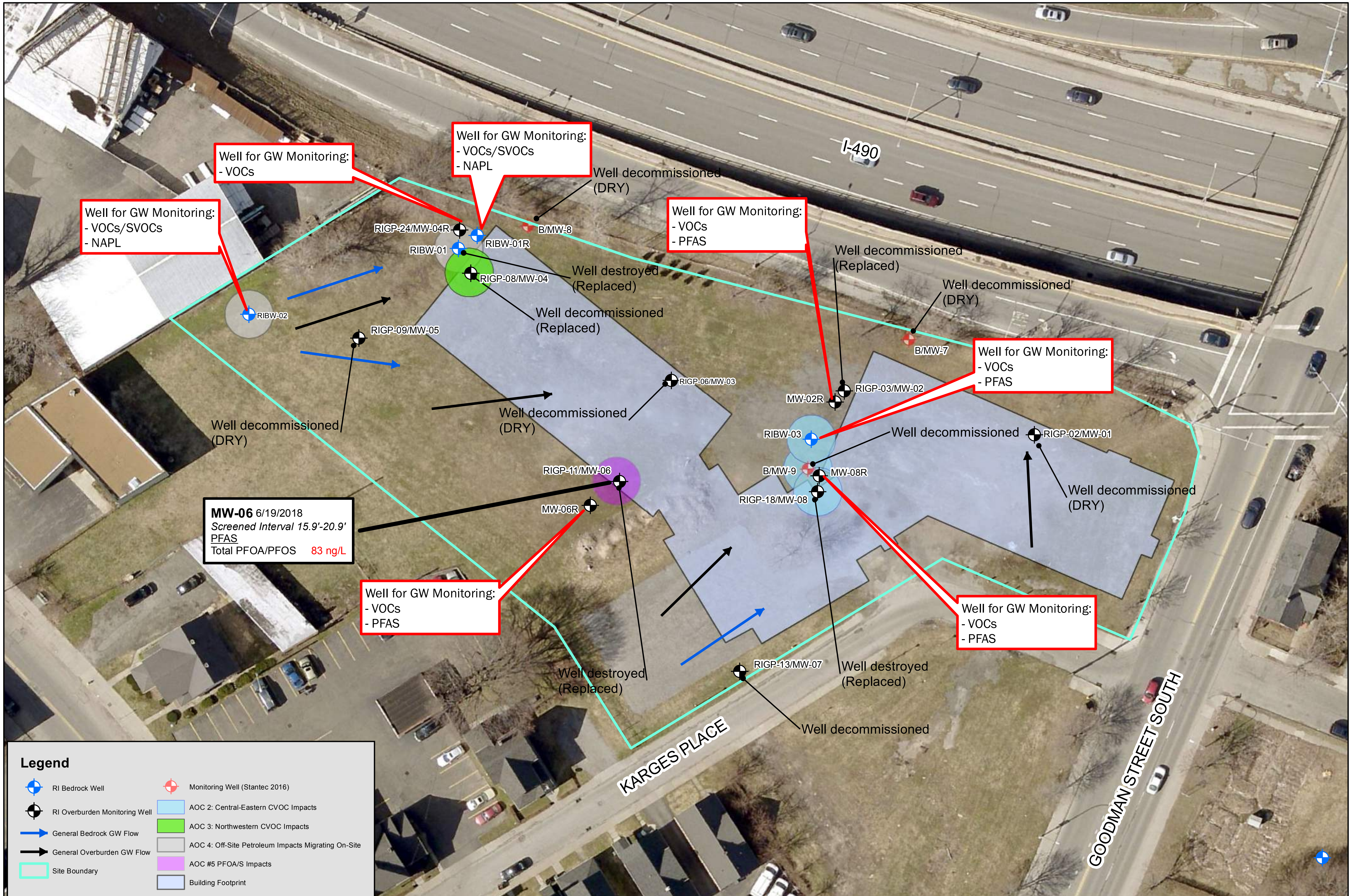
CAMP Station Locations

PROJECT/DRAWING NUMBER:

2172056

FIGURE 10

Path: \\projects1\projectsAM\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 10 - CAMP Station Locations.mxd



NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1 cm horizontal accuracy.
4. Stantec 2016 investigation locations were georeferenced from Stantec's Phase II ESA Report dated October 2016
5. "General Groundwater Flow Direction" based on overburden and bedrock well modeling. Refer to RI Report.

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 11 GW monitoring plan AB 11.23.20 update.mxd

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N W E S

0 25 50 Feet
1 inch = 50 feet

INTENDED TO PRINT AS: 11" X 17"

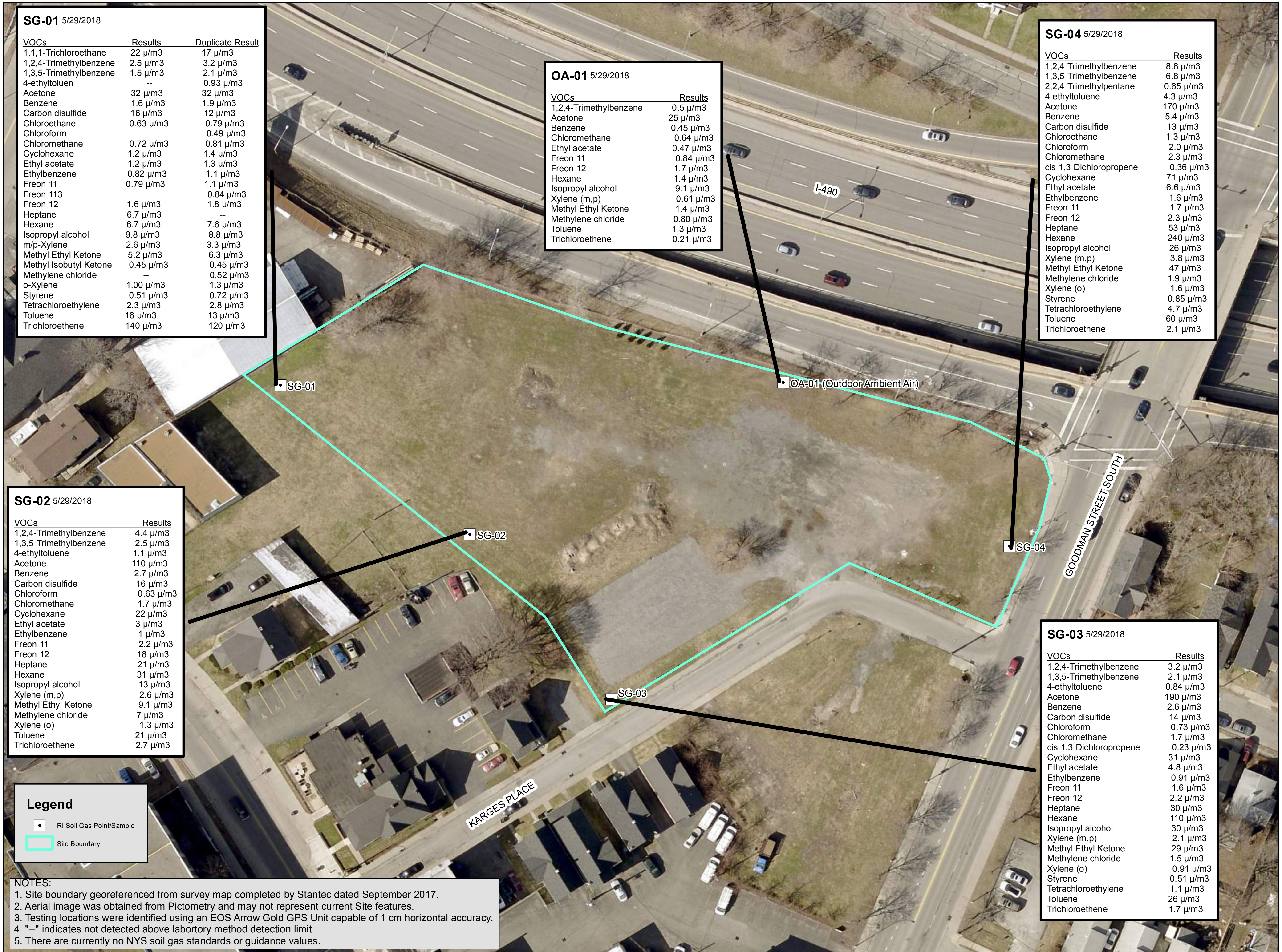
PROJECT:
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

Site Management Plan

DRAWING NAME:
Groundwater/NAPL Monitoring Plan

PROJECT/DRAWING NUMBER:
2172056

FIGURE 11



SG-01 5/29/2018

VOCs	Results	Duplicate Result
1,1,1-Trichloroethane	22 µ/m3	17 µ/m3
1,2,4-Trimethylbenzene	2.5 µ/m3	3.2 µ/m3
1,3,5-Trimethylbenzene	1.5 µ/m3	2.1 µ/m3
4-ethyltoluen	--	0.93 µ/m3
Acetone	32 µ/m3	32 µ/m3
Benzene	1.6 µ/m3	1.9 µ/m3
Carbon disulfide	16 µ/m3	12 µ/m3
Chloroethane	0.63 µ/m3	0.79 µ/m3
Chloroform	--	0.49 µ/m3
Chloromethane	0.72 µ/m3	0.81 µ/m3
Cyclohexane	1.2 µ/m3	1.4 µ/m3
Ethyl acetate	1.2 µ/m3	1.3 µ/m3
Ethylbenzene	0.82 µ/m3	1.1 µ/m3
Freon 11	0.79 µ/m3	1.1 µ/m3
Freon 113	--	0.84 µ/m3
Freon 12	1.6 µ/m3	1.8 µ/m3
Heptane	6.7 µ/m3	--
Hexane	6.7 µ/m3	7.6 µ/m3
Isopropyl alcohol	9.8 µ/m3	8.8 µ/m3
m/p-Xylene	2.6 µ/m3	3.3 µ/m3
Methyl Ethyl Ketone	5.2 µ/m3	6.3 µ/m3
Methyl Isobutyl Ketone	0.45 µ/m3	0.45 µ/m3
Methylene chloride	--	0.52 µ/m3
o-Xylene	1.00 µ/m3	1.3 µ/m3
Styrene	0.51 µ/m3	0.72 µ/m3
Tetrachloroethylene	2.3 µ/m3	2.8 µ/m3
Toluene	16 µ/m3	13 µ/m3
Trichloroethene	140 µ/m3	120 µ/m3

OA-01 5/29/2018

VOCs	Results
1,2,4-Trimethylbenzene	0.5 µ/m3
Acetone	25 µ/m3
Benzene	0.45 µ/m3
Chloromethane	0.64 µ/m3
Ethyl acetate	0.47 µ/m3
Freon 11	0.84 µ/m3
Freon 12	1.7 µ/m3
Hexane	1.4 µ/m3
Isopropyl alcohol	9.1 µ/m3
Xylene (m,p)	0.61 µ/m3
Methyl Ethyl Ketone	1.4 µ/m3
Methylene chloride	0.80 µ/m3
Toluene	1.3 µ/m3
Trichloroethene	0.21 µ/m3

SG-04 5/29/2018

VOCs	Results
1,2,4-Trimethylbenzene	8.8 µ/m3
1,3,5-Trimethylbenzene	6.8 µ/m3
2,2,4-Trimethylpentane	0.65 µ/m3
4-ethyltoluene	4.3 µ/m3
Acetone	170 µ/m3
Benzene	5.4 µ/m3
Carbon disulfide	13 µ/m3
Chloroethane	1.3 µ/m3
Chloroform	2.0 µ/m3
Chloromethane	2.3 µ/m3
cis-1,3-Dichloropropene	0.36 µ/m3
Cyclohexane	71 µ/m3
Ethyl acetate	6.6 µ/m3
Ethylbenzene	1.6 µ/m3
Freon 11	1.7 µ/m3
Freon 12	2.3 µ/m3
Heptane	53 µ/m3
Hexane	240 µ/m3
Isopropyl alcohol	26 µ/m3
Xylene (m,p)	3.8 µ/m3
Methyl Ethyl Ketone	47 µ/m3
Methylene chloride	1.9 µ/m3
Xylene (o)	1.6 µ/m3
Styrene	0.85 µ/m3
Tetrachloroethylene	4.7 µ/m3
Toluene	60 µ/m3
Trichloroethene	2.1 µ/m3

SG-02 5/29/2018

VOCs	Results
1,2,4-Trimethylbenzene	4.4 µ/m3
1,3,5-Trimethylbenzene	2.5 µ/m3
4-ethyltoluene	1.1 µ/m3
Acetone	110 µ/m3
Benzene	2.7 µ/m3
Carbon disulfide	16 µ/m3
Chloroform	0.63 µ/m3
Chloromethane	1.7 µ/m3
Cyclohexane	22 µ/m3
Ethyl acetate	3 µ/m3
Ethylbenzene	1 µ/m3
Freon 11	2.2 µ/m3
Freon 12	18 µ/m3
Heptane	21 µ/m3
Hexane	31 µ/m3
Isopropyl alcohol	13 µ/m3
Xylene (m,p)	2.6 µ/m3
Methyl Ethyl Ketone	9.1 µ/m3
Methylene chloride	7 µ/m3
Xylene (o)	1.3 µ/m3
Toluene	21 µ/m3
Trichloroethene	2.7 µ/m3

SG-03 5/29/2018

VOCs	Results
1,2,4-Trimethylbenzene	3.2 µ/m3
1,3,5-Trimethylbenzene	2.1 µ/m3
4-ethyltoluene	0.84 µ/m3
Acetone	190 µ/m3
Benzene	2.6 µ/m3
Carbon disulfide	14 µ/m3
Chloroform	0.73 µ/m3
Chloromethane	1.7 µ/m3
cis-1,3-Dichloropropene	0.23 µ/m3
Cyclohexane	31 µ/m3
Ethyl acetate	4.8 µ/m3
Ethylbenzene	0.91 µ/m3
Freon 11	1.6 µ/m3
Freon 12	2.2 µ/m3
Heptane	30 µ/m3
Hexane	110 µ/m3
Isopropyl alcohol	30 µ/m3
Xylene (m,p)	2.1 µ/m3
Methyl Ethyl Ketone	29 µ/m3
Methylene chloride	1.5 µ/m3
Xylene (o)	0.91 µ/m3
Styrene	0.51 µ/m3
Tetrachloroethylene	1.1 µ/m3
Toluene	26 µ/m3
Trichloroethene	1.7 µ/m3

Legend

- RI Soil Gas Point/Sample
- Site Boundary

NOTES:
1. Site boundary georeferenced from survey map completed by Stantec dated September 2017.
2. Aerial image was obtained from Pictometry and may not represent current Site features.
3. Testing locations were identified using an EOS Arrow Gold GPS Unit capable of 1 cm horizontal accuracy.
4. "--" indicates not detected above labortory method detection limit.
5. There are currently no NYS soil gas standards or guidance values.

Path: I:\Highland Grove LLC\2172056 - Karges & Uhlen Place BCP App\Drawings\SMP\Figure 12_2172056 RI callouts Soil Gas_Results.mxd

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N
W E
S

0 30 60 Feet

1 inch = 60 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:

Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York
C828201

SITE MANAGEMENT PLAN

DRAWING NAME:

SOIL GAS RESULTS

PROJECT/DRAWING NUMBER:

2172056

FIGURE 12

TABLES

Table 1
Groundwater Elevation Measurements
Site Management Plan
Former Sherwood Shoe Company
625 South Goodamn Street, Rochester, NY
NYSDEC BCP Site #C828201
LaBella Project Number #2172056

TYPE	ID	LAT (y)	LONG (x)	X (ft)	Y (ft)	Top of Riser Elevation (ft.)	Ground Elevation (ft)	Stickup height (ft.)	Depth to Water (ft.) 6/18/18 (Below PVC)	Water Elevation (ft.) 6/18/18	Depth to Water (ft.) 7/18/18 (Below PVC)	Water Elevation (ft.) 7/18/18
Overburden	RIGP-02/MW-01	43.14160067	-77.59540123	1411963.008	1146234.286	512.3954981	509.6395899	2.75590812	--*	--*	--*	--*
	RIGP-03/MW-02	43.14166509	-77.59577282	1411863.556	1146256.597	511.4243685	508.760324	2.664044516	--*	--*	--*	--*
	RIGP-06/MW-03	43.14168451	-77.59611277	1411772.742	1146262.605	512.6251571	509.5870964	3.038060618	22.18	490.4451571	--*	--*
	RIGP-08/MW-04	43.14184192	-77.59650551	1411667.248	1146318.74	512.9860498	510.2367034	2.749346434	20.93	492.0560498	--*	--*
	RIGP-09/MW-05	43.14175066	-77.59672552	1411608.919	1146284.789	513.7078353	510.6697746	3.038060618	19.46	494.2478353	19.75	493.9578353
	RIGP-11/MW-06	43.14154015	-77.59621709	1411745.519	1146209.662	513.0385433	510.0595378	2.979005444	21.95	491.0885433	22.5	490.5385433
	RIGP-13/MW-07	43.14126537	-77.5959854	1411808.536	1146110.241	511.601534	508.8062558	2.795278236	19.79	491.811534	20.56	491.041534
	RIGP-18/MW-08	43.14152221	-77.5958282	1411849.39	1146204.347	511.6540275	508.7668857	2.88714184	21.38	490.2740275	21.93	489.7240275
	RIGP-24/MW-04R	43.1418959	-77.59652241	1411661.738	1146341.493	512.0182011	508.8357834	3.18241771	--*	--*	--	--
Bedrock	RIBW-01	43.14187815	-77.59652785	1411661.128	1146331.876	512.375813	509.9151807	2.46063225	--	--	24.54	487.835813
	RIBW-02	43.14178699	-77.59694082	1411551.302	1146297.351	512.7629525	510.2038949	2.55905754	--	--	24.41	488.3529525
	RIBW-03	43.14159766	-77.59583975	1411845.984	1146231.811	510.8338168	508.6225286	2.211288182	--	--	23.23	487.6038168

Notes:
1. Elevations and locations were measured with an EOS Arrow Gold GPS Unit.
2. Elevations and locations for RIGP-24/MW-04R were measured using a different datum than prior measurements. Elevations were corrected to match the existing datum (NAD 1983) and can be considered approximate.
3. Well MW-04R was installed to replace MW-04 that was decomissioned during Site development activitites, after static groundwater levels were collected therefore, water level data is not available.
4. Bedrock wells were not installed at the time of the June 18, 2018 static water level collection.
*Indicates that wells were dry during static water level collection.

Table 2 (page 1 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	SS-04-2-6		TP-G (Stantec 2016)	
Depth *Below Bottom of Cover* (ft.)				0 - 0.34'		2.18'	
Sample Date				6/11/2018		9/12/2016	
Analyte				Result	Qualifier	Result	Qualifier
Volatile organic compounds (VOCs)							
Acetone	0.05	100	0.05	0.26	J	5.6	U
Trichloroethene	0.47	21	0.47	0.0011	UJ	13	

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
TCL VOCs analyzed by USEPA Method 8260.
Single underline indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Protection of Groundwater SCO.
Red font indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO.
Yellow highlight indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential SCO.
"U" indicates the compounds was not detected above the laboratory method detection limits.
"J" indicates the value is considered estimated
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential Use SCOs were not included
Depths represent those after soil removal and addition of final cover
Stantec data was obtained from the Stantec Phase II Environmental Site Assessment dated October 2016 and has not been validated.

Table 2 (page 2 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	RIGP-02		RIGP-04		RIGP-06		RIGP-17		SS-COMP-01		B-7 (Stantec 2016)		TP-C (Stantec 2016)		TP-G (Stantec 2016)		TP-J (Stantec 2016)	
Depth *Below Bottom of Cover* (ft.)				4.08' - 6.08'		2.34' - 4.34'		0.37' - 3.37'		1.08' - 3.08'		0 to Maximum of 1.1'		0.50' - 1.20'		1.87'		2.18'		1.58'	
Sample Date				6/12/2018		6/12/2018		6/1/2018		6/12/2018		6/11/2018		9/26/2016		9/12/2016		9/12/2016		9/12/2016	
Analyte				Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatile organic compounds (SVOCs)																					
Benzo(a)anthracene	1	1	1	1.2		0.98		0.68		7.6	E	0.76 - 1		1.7	J	0.88		1.3		2.3	
Benzo(a)pyrene	1	1	22	1.2		1		0.68		7.8	E	0.72 - 1		1.8		0.97		1.8		2.3	
Benzo(b)fluoranthene	1	1	1.7	1.6		1.3		0.97		9.4	E	1 - 1.3		2.4		1.2		2.2		3.2	
Benzo(k)fluoranthene	0.8	3.9	1.7	0.56		0.41		0.3		2.7		0.34 - 0.41		1.3	J	0.41	J	0.67	J	1.1	
Chrysene	1	3.9	1	1.3		0.94		0.72		7.3		0.76 -1		1.8		1.1		1.5		2.7	
Dibenzo(a,h)anthracene	0.33	0.33	1000	0.19		0.18		0.12		1.3		0.13 - 0.18		1.8	U	0.88	U	0.94	U	0.93	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.74		0.71		0.52		5.1		0.56 - 0.71		1.3	J	0.64	J	1.4		1.7	

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover.
Based on differing soil removal depths during construction, analyte concentrations for select composite shallow soil samples are displayed in ranges where multiple sample depths overlap.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
TCL SVOCs analyzed by USEPA Method 8270.
Single underline indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Protection of Groundwater SCO.
Red font indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO.
Yellow highlight indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential SCO.
*indicates no Part 375 value, corresponding CP-51 Supplemental Soil Cleanup Objective is listed.
"E" Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
"J" indicates the value is considered estimated
"U" indicates the compound was not detected above the MDL
"NA" indicates not applicable
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential Use SCOs were not included
Depths represent those after soil removal and addition of final cover
Stantec data was obtained from the Stantec Phase II Environmental Site Assessment dated October 2016 and has not been validated.

Table 2 (page 3 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	RIGP-01		RIGP-02		RIGP-06		RIGP-12		RIGP-16		RIGP-17		SS-COMP-01		SS-COMP-02		SS-COMP-04		SS-COMP-05	
Depth *Below Bottom of Cover* (ft.)				5.08' - 5.58'		4.08' - 6.08'		0.37' - 3.37'		3.37' - 5.37'		11.68' - 13.18'		1.08' - 3.08'		0 to Maximum of 1.1'		0 to Maximum of 1.83'		0 to Maximum of 1.0'		0 to Maximum of 0.68'	
Sample Date				6/12/2018		6/12/2018		6/1/2018		6/12/2018		6/12/2018		6/12/2018		6/11/2018		6/13/2018		6/13/2018		6/13/2018	
Analyte				Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Metals and Cyanide																							
Copper	50	270	1720	28.2	J	25	J	46.4	J	22.6	J	54.3	J	33.5	J	19 - 21.4	J	30.5 - 32	J	25.7	J	20.6	J
Lead	63	400	450	206	J	86.3	J	102	J	35.2	J	12	J	136	J	63.2 - 67.1	J	64.4 - 363	J	67.1	J	95.2	J
Mercury	0.18	0.81	0.73	0.056	J	0.117		0.136		0.207		0.022	J	2.34		0.086 - 0.139		0.195 - 0.427		0.309		1.15	
Nickel	30	310	130	10.2		7.03	J	158		8.45		66.2		11		6.91 - 7.25		7.28 - 7.36	J	7.7	J	6.78	J
Zinc	109	10000	2480	214	J	78.7	J	120	J	82.8	J	155	J	185	J	72.3 - 80.3	J	121 - 123	J	64.7	J	103	J

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover.
Based on differing soil removal depths during construction, analyte concentrations for select composite shallow soil samples are displayed in ranges where multiple sample depths overlap.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
Metals analyzed by USEPA Method 6010/7470.
Red font indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO.
Yellow highlight indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential SCO.
Single underline indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Protection of Groundwater SCO.
"J" indicates the value is considered estimated
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential Use SCOs were not included
Depths represent those after soil removal and addition of final cover

Table 2 (page 4 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	B-7 (Stantec 2016)	TP-C (Stantec 2016)	TP-E (Stantec 2016)	TP-G (Stantec 2016)	TP-J (Stantec 2016)	TP-L (Stantec 2016)
Depth *Below Bottom of Cover* (ft.)				0.50' - 1.20'	1.87'	2.37'	2.18'	1.58'	0.37'
Sample Date				9/26/2016	9/12/2016	9/12/2016	9/12/2016	9/12/2016	9/12/2016
Analyte									
Metals and Cyanide									
Lead	63	400	450	158.0	99.2 T	236	73.3	86.3	121
Mercury	0.18	0.81	0.73	0.71	0.093	0.17	0.17	0.23	0.15

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
Metals analyzed by USEPA Method 6010/7470.
Red font indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO.
Yellow highlight indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential SCO.
Single underline indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Protection of Groundwater SCO.
"J" indicates the value is considered estimated
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential Use SCOs were not included
Depths represent those after soil removal and addition of final cover
"T" indicates QC recovery outside acceptable limits
Stantec data was obtained from the Stantec Phase II Environmental Site Assessment dated October 2016 and has not been validated.

Table 2 (page 5 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

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Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	RIGP-01		B-7 (Stantec 2016)	
Depth *Below Bottom of Cover* (ft.)				5.08' - 5.58'		0.50' - 1.20'	
Sample Date				6/12/2018		9/26/2016	
Analyte				Result	Qualifier	Result	Qualifier
Polychlorinated Biphenyls (PCBs)							
Aroclor 1016	NL	NL	NL	0.0361	U	0.17	U
Aroclor 1221	NL	NL	NL	0.0361	U	0.17	U
Aroclor 1232	NL	NL	NL	0.0361	U	0.17	U
Aroclor 1242	NL	NL	NL	0.0277	J	0.17	U
Aroclor 1248	NL	NL	NL	0.0361	U	0.17	U
Aroclor 1254	NL	NL	NL	0.0645	J	0.22	
Aroclor 1260	NL	NL	NL	0.0307	J	0.17	U
Aroclor 1262	NL	NL	NL	0.0361	U	NA	
Aroclor 1268	NL	NL	NL	0.0361	U	NA	
Total PCBs	0.1	1	3.2	0.123	J	0.22	

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
PCBs analyzed by USEPA Method 8082.
Single underline indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Protection of Groundwater SCO.
Red font indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO.
Yellow highlight indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential SCO.
"J" indicates the value is considered estimated
"NL" indicates there is no applicable standard
"U" indicates the compound was not detected above the MDL, with the reporting limit (RL) shown
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential Use SCOs were not included
Depths represent those after soil removal and addition of final cover
"NA" indicates not applicable

Table 2 (page 6 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	RIGP-01		RIGP-02		RIGP-06		RIGP-10		SS-COMP-01		SS-COMP-02-2-12		SS-COMP-05-12-24	
Depth *Below Bottom of Cover* (ft.)				5.08' - 5.58'		4.08' - 6.08'		0.37' - 3.37'		0.77' - 3.37'		0 to Maximum of 1.1'		0 to Maximum of 1.83'		0 to Maximum of 0.68'	
Sample Date				6/12/2018		6/12/2018		6/1/2018		6/12/2018		6/11/2018		6/13/2018		6/15/2018	
Analyte				Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																	
4,4'-DDD	0.0033	13	14	0.00172	U	0.00447	J	0.0185		0.000987	J	0.00164 - 0.0017	U	0.00286 - 0.00324	JP	0.00945	
4,4'-DDE	0.0033	8.9	17	0.00492	J	0.00173	U	0.0194		0.00336		0.00236 - 0.00352	J	0.0194 - 0.0461		0.0266	
4,4'-DDT	0.0033	7.9	136	0.00323	U	0.00499		0.025		0.00318	J	0.00486 - 0.00973		0.0411 - 0.109	J	0.066	
Dieldrin	0.005	0.2	0.1	0.000905	J	0.00108	U	0.0102		0.00113	U	0.00106 - 0.00657	J	0.00201 - 0.00439		0.00692	

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover.
Based on differing soil removal depths during construction, analyte concentrations for select composite shallow soil samples are displayed in ranges where multiple sample depths overlap.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
Pesticides analyzed by USEPA Method 8081.
Single underline indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Protection of Groundwater SCO.
Red font indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO.
Yellow highlight indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential SCO.
"J" indicates the value is considered estimated
"U" indicates the compound was not detected above the MDL, with the reporting limit (RL) shown
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential Use SCOs were not included
Depths represent those after soil removal and addition of final cover

Table 2 (page 7 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	B-7 (Stantec 2016)		TP-C (Stantec 2016)		TP-E (Stantec 2016)		TP-G (Stantec 2016)		TP-L (Stantec 2016)	
Depth *Below Bottom of Cover* (ft.)				0.50' - 1.20'		1.87'		2.37'		2.18'		0.37'	
Sample Date				9/26/2016		9/12/2016		9/12/2016		9/12/2016		9/12/2016	
Analyte													
Pesticides													
4,4'-DDD	0.0033	13	14	0.0360	U	0.0080	J	0.0310		0.0180	U	0.0035	U
4,4'-DDE	0.0033	8.9	17	0.0036	U	0.0077	J	0.0810		0.0039	J	0.0080	
4,4'-DDT	0.0033	7.9	136	0.0093	J	0.0110		0.1700		0.0180	U	0.0130	
Dieldrin	0.005	0.2	0.1	0.0095	J	0.0088	U	0.0240		0.0180	U	0.0035	U

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
Pesticides analyzed by USEPA Method 8081.
Single underline indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Protection of Groundwater SCO.
Red font indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(a) Unrestricted Use SCO.
Yellow highlight indicates that the compound was detected at a concentration above its respective NYCRR Part 375-6.8(b) Restricted Residential SCO.
"J" indicates the value is considered estimated
"U" indicates the compound was not detected above the MDL, with the reporting limit (RL) shown
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential Use SCOs were not included
Depths represent those after soil removal and addition of final cover
Stantec data was obtained from the Stantec Phase II Environmental Site Assessment dated October 2016 and has not been validated.

Table 2 (page 8 of 8)
Remaining Soil Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project #2172056

Sample ID	NYCRR Part 375-6.8(a) Unrestricted Use SCOs	NYCRR Part 375-6.8(b) Restricted Residential Use SCOs	NYCRR Part 375-6.8(b) Protection of Groundwater SCOs	SS-COMP-A		TP-01-0-1		TP-04-0-1	
Depth *Below Bottom of Cover* (ft.)				1.3 - 2.0-ft bgs		0.0 - 0.83-ft		0.0 - 0.08-ft	
Sample Date				10/26/2020		9/12/2018		9/12/2018	
Analyte				Result	Qualifier	Result	Qualifier	Result	Qualifier
Per- and Polyfluoroalkly Substances (PFAS)									
Perfluorooctanesulfonic Acid (PFOS)	0.88	44	3.7	1.44	JF	0.67		0.58	U
Perfluorooctanoic Acid (PFOA)	0.66	33	1.1	0.186	JF	3.4		2.4	

NOTES:
Sample data displayed on this table is limited to material remaining after Site construction work and sample depths displayed on this table are based on depths below the bottom of site cover unless otherwise noted.
SS-COMP-A sample depth is measure from below ground surface.
All values displayed in milligrams per kilograms (mg/kg) or parts per million (ppm).
PFAS analyzed by USEPA modifed Method 537 or Isotope Dilution.
Single underline indicates that the compound was detected at a concentration above the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Protection of Groundwater guidance value
Red font indicates that the compound was detected at a concentration above the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Unrestricted Use guidance value
Yellow highlight indicates that the compound was detected at a concentration above the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Restricted Residential guidance value
"J" indicates the value is considered estimated
"F" indicates that the ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
"U" indicates the compound was not detected above the MDL, with the reporting limit (RL) shown
Analytes and samples that did not exceed Protection of Groundwater, Unrestricted and/or Restricted Residential guidance values were not included
Depths represent those after soil removal and addition of final cover

Table 3 (page 1 of 4)
Remaining Groundwater Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project Number 2172056

Sample ID	NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values	MW-4		MW-8		RIBW-01		RIBW-02		RIBW-03		Field Dupe (RIBW-03)		BMW-09 (Stantec 2016)	
Sample Date		6/19/2018		6/18/2018		7/21/2018		7/21/2018		7/19/2018		7/19/2018		1/5/2017	
Analyte		Results	Qual	Results	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Volatile Organic Compounds (VOCs)															
1,2,4-Trimetlybenzene	5	NA		NA		8.3	J	57		1.0	U	1.0	U	1.0	U
1,3,5-Trimethlybenzene	5	NA		NA		1.9	J	20		1.0	U	1.0	U	1.0	U
Benzene	1	0.5	U	0.21	J	11	J	9.4	J	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	5	2.5	U	1.2	J	3.5	J	10	U	19		18	J	1.5	
Ethylbenzene	5	2.5	U	2.5	U	27	J	25		1.0	U	1.0	U	1.0	U
Isopropylbenzene	5	2.5	U	2.5	U	5.3	J	12	J	1.0	U	1.0	U	1.0	U
Napthalene	10	NA		NA		10	J	340		1.0	U	1.0	U	1.0	U
o-Xylene	5	2.5	U	2.5	U	14	J	10	U	1.0	U	1.0	U	1.0	U
p/m-Xylene	5	2.5	U	2.5	U	13	J	20	U	2.0	U	2.0	U	2.0	U
Tetrachloroethene	5	17		0.5	U	1.0	UJ	10	UJ	1.0	U	1.0	U	1.0	U
Toluene	5	2.5	U	2.5	U	6.0	J	10		1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	5	2.5	U	2.5	U	8.8	J	10	U	1.0	U	1.0	U	1.0	U
Trichloroethene	5	1.7	J	15	J	0.80	J	10	U	6.8		6.2		32.0	
Trichlorofluoromethane	5	2.5	U	2.5	U	1.0	UJ	10	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	2	1	U	1	U	1.0	UJ	10	U	4.9		4.7		1.0	U

NOTES:
All values are displayed in micrograms per liter (µg/L) or parts per billion (ppb).
VOCs analyzed by United States Environmental Protection Agency (USEPA) Method 8260.
Yellow highlight indicates the value exceeds its respective NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values.
"J" indicates the value is considered estimated
"NA" indicates not applicable
"U" indicates the compound was not detected above the MDL, with the reporting limit (RL) shown
Analytes and samples that did not exceed NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values are not shown

Table 3 (page 2 of 4)
Remaining Groundwater Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project Number 2172056

Sample ID	NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values	MW-7		MW-8		RIBW-02	
Sample Date		6/18/2018		6/18/2018		7/21/2018	
Analyte		Results	Qual	Results	Qual	Result	Qual
Semivolatile Organic Compounds (SVOCs)							
2,4-Dichlorophenol	1	5	U	5	U	4.7	J
Acenaphthene	20	0.1	U	0.1	U	320	J
Fluorene	50	0.1	U	0.1	U	190	J
Naphthalene	10	0.1	U	0.1	U	200	J
Phenanthrene	50	0.1	U	0.1	U	120	J

NOTES:
All values are displayed in micrograms per liter (µg/L) or parts per billion (ppb).
SVOCs analyzed by United States Environmental Protection Agency (USEPA) Method 8270.
Yellow highlight indicates the value exceeds its respective NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values.
*RIBW-02 sample was prepped or analyzed beyond the specified holding time
"J" indicates the value is considered estimated
"NA" indicates not applicable
"ND" indicates not detected
"U" indicates the compound was not detected above the MDL, with the reporting limit (RL) shown
Analytes and samples that did not exceed NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values are not shown

Table 3 (page 3 of 4)
Remaining Groundwater Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project Number 2172056

Sample ID	NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values	MW-7		MW-8	
Sample Date		6/18/2018		6/18/2018	
Analyte		Results	Qual	Results	Qual
Metals and Cyanide					
Aluminum	100	84.3		5090	
Cobalt	5	1.18		6.04	
Iron	300	922		28100	
Lead	25	1.23		91.69	
Magnesium	35000	35800		179000	
Manganese	300	638.4		2532	
Sodium	20000	45500		82200	

NOTES:
All values are displayed in micrograms per liter (µg/L) or parts per billion (ppb).
TAL Metals analyzed by United States Environmental Protection Agency (USEPA) Method 6010/7470.
Cyanide analyzed by USEPA Method 9012.
Yellow highlight indicates the value exceeds its respective NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values.
Analytes and samples that did not exceed NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values are not shown

Table 3 (page 4 of 4)
Remaining Groundwater Contamination
Site Management Plan
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
NYSDEC #C828201
LaBella Project Number 2172056

Sample ID	NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances	RIGP-11/MW-06		RIGP-18/MW-08		DUPE (RIGP-18/MW-08)		RIBW-02		RIBW-03		Field Dupe (RIBW-03)	
Sample Date		9/14/2018		9/12/2018		9/12/2018		7/21/2018		7/19/2018		7/19/2018	
Analyte		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Flourinated Alkyl Substances (PFAS)													
Perfluorobutanoic acid (PFBA)	100	35	J	110	B	110	B	130	J	250	J	270	J
Perfluoropentanoic acid (PFPeA)	100	2.3	J	190		180		2.1		710		980	
Perfluorohexanoic acid (PFHxA)	100	1.7	J	43		41		2.8		400		350	
Perfluoroheptonoic acid (PFHpA)	100	2.4	J	3		3.2		0.93	J	130		140	
Perfluorooctanoic acid (PFOA)	10	3.6	U	1.6	J	1.8	J	1.9	U	9.2	B	8.3	B
Perfluorononanoic acid (PFNA)	100	0.48	J	0.9	J	0.77	J	1.9	U	1.9	U	1.9	U
Perfluorodecanoic acid (PFDA)	100	3.6	U	0.94	J	0.72	J	1.9	U	1.9	U	1.9	U
Perfluoroundecanoic acid (PFUnA)	100	3.6	U	1.8	U	2.1	U	0.31	J	0.32	J	0.27	J
Perfluorododecanoic acid (PFDoA)	100	3.6	U	1.8	U	2.1	U	1.9	U	1.9	U	1.9	U
Perfluorotridecanoic Acid (PFTriA)	100	3.6	U	1.8	U	2.1	U	1.9	U	1.9	U	1.9	U
Perfluorotetradecanoic acid (PFTeA)	100	3.6	U	0.56	J	2.1	U	1.9	U	1.9	U	1.9	U
Perfluorobutanesulfonic acid (PFBS)	100	3.6	U	1.8	U	0.31	J	3		1.5	J	1.9	U
Perfluorohexanesulfonic acid (PFHxS)	100	3.6	U	1.8	U	2.1	U	0.36	J	1.9	U	0.48	J
Perfluoroheptanesulfonic Acid (PFHpS)	100	3.6	U	1.8	U	2.1	U	1.9	U	1.9	U	1.9	U
Perfluorooctanesulfonic acid (PFOS)	10	83		0.81	J	0.86	J	0.97	J	1.9	U	1.9	U
Perfluorodecanesulfonic acid (PFDS)	100	3.6	U	1.8	U	2.1	U	1.9	U	1.9	U	1.9	U
Perfluorooctane Sulfonamide (PFOSA)	100	3.6	U	1.8	U	2.1	U	1.9	U	1.9	U	1.9	U
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	100	36	U	18	U	21	U	19	U	19	U	19	U
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	100	36	U	18	U	21	U	19	U	19	U	19	U
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	100	240		18	U	21	U	19	U	3.2	J	2.8	J
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	100	36	U	18	U	21	U	19	U	19	UJ	19	U
Total PFAS:	*500*	*364.88*		*350.81*		*338.66*		*140.47*		*1504.22*		*1751.85*	

NOTES:
All values are displayed in micrograms per liter (ng/L).
PFAS analyzed by United States Environmental Protection Agency (USEPA) Modified Method 537.
"NL" indicates there is no applicable standard
"U" indicates the compound was not detected above the MDL, with the reporting limit (RL) shown
Yellow highlight indicates the value exceeds NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances October 2020 screening levels.

APPENDIX A – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner – Highland Grove, LLC – Steven DiMarzo	585-232-1760 sdimarzo@markiventerprises.com
Remedial Party – Highland Grove, LLC – Steven DiMarzo	585-232-1760 sdimarzo@markiventerprises.com
Qualified Environmental Professional – Dan Noll, P.E.	585-295-6611 dnoll@labellapc.com
NYSDEC DER Project Manager – Charlotte Theobald	585-226-5354 charlotte.theobald@dec.ny.gov
NYSDEC Regional HW Engineer –David Pratt	585-226-5449 david.pratt@dec.ny.gov
NYSDEC Site Control – Kelly Lewandowski	518-402-9547 Kelly.lewandowski@dec.ny.gov
Remedial Party Attorney – Heisman Nunes & Hull LLP – Ronald G. Hull	585-270-6207 rhull@hnhattorneys.com

APPENDIX B – EXCAVATION WORK PLAN (EWP)

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to breach the Site's cover system and encounter remaining contamination, the site owner or their representative will notify the NYSDEC. Table B-1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix A.

Table B-1: Notifications*

NYSDEC Project Manager; Ms. Charlotte B Theobald	585-226-5354 charlotte.theobald@dec.ny.gov
NYSDEC Regional HW Engineer; Mr. David Pratt	585-226-5449 david.pratt@dec.ny.gov
NYSDEC Site Control; Ms. Kelly Lewandowski	518-402-9547 Kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated, truck routes with map and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;

- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix G of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with the required Request to Import/Reuse Fill or Soil form with all chemical testing results and sieve results for non-soil (e.g., stone) backfill material.

B-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional as defined in 6 NYCRR Part 375 or personnel under the direct supervision of the PE of record during all ground intrusive activities and excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soil will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil.

Soils exhibiting any indication of contamination such as odors, staining or PID readings above 5ppm would be placed in a separate pile and tested for reuse or disposal. Soils exhibiting no indications of contamination and PID readings below 5ppm can be reused on Site below the cover system without analytical testing. Further discussion of off-site disposal of materials and on-site reuse is provided in Sections B-6 and B-7 of this Appendix.

B-3 SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be staged on and kept covered at all times with appropriately anchored tarps consisting of a minimum of 12-milimeter polyethylene sheeting. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

B-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their direct supervision of the PE of record will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site. A Site utility stakeout will be completed for public utilities prior to any ground intrusive work at the Site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

Decontamination will be completed on all trucks and equipment exiting the Site. A truck wash, if warranted, will be operated on-site. Truck wash waters will be collected and disposed of off-site in an appropriate manner in accordance with all applicable local, State and Federal regulations. If a truck wash is not warranted, trucks and equipment will be decontaminated with hand tools such as shovels or brushes to remove soils or other materials from the Site. Truck decontamination material will be collected and disposed of off-Site in an appropriate manner in accordance with all applicable local, State and Federal regulation. The qualified environmental professional or personnel under direct supervision of the PE of record will be responsible for ensuring that all outbound trucks will be washed at the truck wash or decontaminated by hand tools before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking, especially at the end of the work day.

The qualified environmental professional or personnel under direct supervision of the PE of record will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials. Material accumulated from the street cleaning activities will be disposed off-site at a permitted facility in accordance with all applicable local, State and Federal regulations.

B-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are to be determined and will be included in the Change of Use or 15 day activity notice. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; (f) overall safety in transport; and (g) community input, when necessary.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

B-6 MATERIALS DISPOSAL OFF-SITE

All material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed at a permitted facility in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC project manager. Unregulated off-site management of materials from this site will not occur without formal NYSDEC project manager approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled consistent with 6NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D recovery facility (6NYCRR Subpart 361-5 registered or permitted facility).

B-7 MATERIALS REUSE ON-SITE

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Proposed materials for reuse must be sampled for full suite analytical parameters including PFAS and 1,4-dioxane. Results of soil testing must meet all criteria defined in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil, NYSDEC DER-10 Subdivision 5.4(e) including Table 5.4(e)10 which indicates sampling frequency and NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances October 2020 guidance values unless prior approval is obtained from the NYSDEC. Materials for reuse will be segregated and staged as described in Sections B-2 and B-3. The size and location of stockpiles will be determined prior to or during excavation activities based on the location of Site activities and proximity to nearby Site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. Material must have no odors or visual evidence or impacts and not be grossly contaminated.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC project manager for acceptance prior to reuse. Concrete crushing or processing on-site will not be performed without prior NYSDEC project manager approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

B-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed off-site at a permitted facility in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from the NYSDEC project manager.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

B-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the decision document. The existing cover system is comprised of a minimum of 24 inches of clean soil and/or asphalt pavement, concrete covered sidewalks and concrete building slab. The demarcation layer, consisting of orange snow fencing material or equivalent material will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt) as shown on Figure 9, this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

B-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional as defined in 6 NYCRR Part 375 and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d) as well as DER-10's Appendix 5 Restricted Residential for all compounds listed included as Appendix K of this SMP. In addition, imported soil should meet requirements defined in the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances guidance document which is included in Appendix F. A summary table of the PFAS guidance values is included in Appendix K. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by the NYSDEC project manager. Solid waste will not be imported onto the site. Soil material will be sampled for full suite of analytical parameters including PFAS and 1,4-dioxane at a frequency described in DER-10 Table 5.4(e)10 and meeting all other criteria defined in DER-10 Appendix 5 Subdivision 5.4(e). Non-soil backfill material (e.g., stone) will have sieve analysis and documentation as per DER-10 Subdivision 5.4(e).

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11 STORMWATER POLLUTION PREVENTION

For construction project exceeding 1 acre, a Stormwater Pollution Prevention Plan that conforms to the requirements of the NYSDEC Division of Water guidelines and NYSD regulations will be submitted with the notifications as detailed in B-1

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Sediments will be managed as per B-6 of this Excavation Work Plan

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

B-12 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition. The NYDEC project manager will be promptly notified within two (2) hours of the discovery.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides, PCBs, PFAS and 1,4-dioxane), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed out as per NSYDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone within two (2) hours to NYSDEC’s Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

B-13 COMMUNITY AIR MONITORING PLAN

Continuous air monitoring for VOCs and particulate levels at the perimeter of the property/Site will be required during any ground intrusive work including but not limited to soil excavation, test pitting, trenching and installation of soil borings and monitoring wells. The following action levels will be employed for VOC and particulate monitoring:

- If ambient air concentrations of total organic vapors at the downwind perimeter of work exceed 5 ppm above background for a 15-minute time average, work activities must be halted and monitoring continued, if readings decrease, work can continue. If reading are sustained, corrective actions must be taken. If organic vapor levels exceed 25 ppm at the perimeter, activities must be shut down.
- If downwind particulate concentrations greater than 100 mcg/m^3 above background levels are observed or visible dust is observed leaving the work area, then dust suppression must be employed. If particulate levels exceed 150 mcg/m^3 then work must be stopped and dust suppression techniques should be reevaluated.

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Figure 10. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations. If a sensitive receptor, such as a school, day care or residential area are located adjacent to the site, a fixed monitoring station will be located at that site perimeter, regardless of wind direction. The details associated with the sensitive receptor monitoring will be provided in the notification submittal as detailed in Section B-1 of this Excavation Work Plan.

Given that the Site is developed with an occupied residential building, special CAMP requirements will be employed for work within 20-ft of potentially exposed individuals or structures. Special requirements include continuous VOC and particulate monitoring to reflect the nearest potentially exposed individuals and ventilation system intakes for nearby structures. If indoor work is required, the sample considerations apply however individuals not directly involved in the work must be absent from the room and nearby/occupied structures would be considered adjacent occupied rooms. The following action levels will be employed for special CAMP requirements:

- If total VOC concentrations opposite the walls of occupied structures or next to intake vent exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaced must be taken prior to commencement of the planned work and background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less a the monitoring point.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers. Refer to the Health and Safety Plan included as Appendix G of this report which includes the NYSDOH Generic Community Air Monitoring Plan and CAMP Special Requirements for more information about the CAMP.

B-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site and on-site, if there are residents or tenants on the property. Use of specific odor control methods to be used on a routine basis is not anticipated to be necessary. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH project managers will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Qualified Environmental Professional as defined in 6 NYCRR Part 375 or personnel that are a direct report to the PE of record for the Site, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils as needed. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

Specific Odor Control Plan elements that will be used during ground intrusive activities will be included in the 15-day Excavation Work Plan notification.

B-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

B-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

These plans will be included in the 15-day notification submittal.

APPENDIX C

RESPONSIBILITIES of
OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Former Sherwood Shoe Company site (the "site"), number C828201are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as: Highland Grove, LLC (the "owner").

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is:
Highland Grove, LLC

Contact:
Steve DiMarzo
301 Exchange Blvd Suite 201
Rochester, NY 14608
(585) 232-1760
sdimarzo@markiventerprises.com
Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in a(n)

Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3Notifications.

6) In the event some action or inaction by the owner adversely impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3- Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site property. 6 NYCRR Part 375 contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 1.3 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) : Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner

must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC as detailed in Section 1.3 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 1.3- Notifications of the SMP.

7) The RP is responsible for the proper maintenance of any installed vapor intrusion mitigation systems associated with the site, as required in Section 5 or Appendix I (Operation, Monitoring and Maintenance Manual) of the SMP.

8) The RP is responsible for the proper monitoring and maintenance of any installed drinking water treatment system associated with the site, as required in Section 5 or Appendix I (Operation, Monitoring and Maintenance Manual).

9) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

10) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX D

ENVIRONMENTAL EASEMENT

Adam J. Bello, County Clerk
Monroe County Clerk
39 West Main Street
Rochester, NY 14614

625 South Goodman St.

Receipt #:	2225149
Transaction #:	7844443
Transaction Date:	09/30/2019 11:37:43 AM
Payment Comment:	

Fees for: EASEMENT AGREEMENT $0.00

Book / Page: D 12247 0409
Instrument #: 201909300676
Ref #: TT0000004365
Recorded: 09/30/2019 11:37:43 AM

Recording Fee	$26.00
Pages Fee	$45.00
State Fee Cultural Education	$14.25
State Fee Records Management	$4.75
TP-584 Form Fee	$5.00

HIGHLAND GROVE LLC,
DEPARTMENT OF ENVIORNMENTAL CONSERVATION,

DEPARTMENT OF ENVIORNMENTAL CONSERVATION,
HIGHLAND GROVE LLC,

Total Charges for Transaction: $95.00

Payments Received:

Check (1066)	$95.00
Change	$0.00

Cashier: ED

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 17th day of September, 2019 between Owner(s) Highland Grove LLC, having an office at 301 Exchange Boulevard, Rochester, New York 14608, County of Monroe, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 625 South Goodman Street in the City of Rochester, County of Monroe and State of New York, known and designated on the tax map of the County Clerk of Monroe as tax map parcel numbers: Section 121.65 Block 2 Lot 39, being the same as that property conveyed to Grantor by deed dated September 1, 2016 and recorded in the Monroe County Clerk's Office as Control # 201609210838. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.8 +/- acres, and is hereinafter more fully described in the Land Title Survey dated April 29, 2019 prepared by John H. Sciarabba, L.L.S. of Land Tech Surveying & Planning P.L.L.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C828201-02-18, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Monroe County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining

contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:	Site Number: C828201 Office of General Counsel NYSDEC 625 Broadway Albany New York 12233-5500
With a copy to:	Site Control Section Division of Environmental Remediation NYSDEC 625 Broadway Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the

recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Highland Grove LLC:

By: Steven M DiMarzo

Print Name: STEVEN M DIMARZO

Title: MEMBER Date: 8/28/2019

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Monroe)

On the 28th day of August, in the year 2019, before me, the undersigned, personally appeared Steven M. DiMarzo personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

C.M.N

Notary Public - State of New York

CHRISTIAN M. NADLER, ESQ
Notary Public, State of New York
Reg# 02NA6156723
Qualified in Monroe County
Commission Expires Nov. 20, 2020

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting by and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: ______________________
Michael J. Ryan, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 17th day of September, in the year 2019, before me, the undersigned, personally appeared Michael J. Ryan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2022

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT TRACT, PIECE OR PARCEL OF LAND situate in the City of Rochester, County of Monroe, State of New York, the premises known and described as Parcel Nos. 369 and 371 on said Map No. 367 and Parcel No. 420 on said Map No. 370, which maps are entitled "Rochester City: Genesee Expressway (Rochester Inner Loop to Rochester City Line)" and which were filed in the Monroe County Clerk's Office on December 31, 1970 and March 25, 1971, respectively; and

Beginning at a point on the westerly highway boundary line of South Goodman Street at its intersection with the northerly highway boundary line of Uhlen Place, said point of beginning being northeasterly 33.93 feet, measured at right angles from Station 10+94.07 of the hereinafter described 2012 survey baseline for the conveyance of State property; thence northeasterly along the aforesaid westerly highway boundary line of South Goodman Street, 72.90 feet to a point, said point being northeasterly 106.82 feet measured at right angles from baseline Station 10+92.82, thence along the southerly highway boundary line of Interstate Route Connection 580: Rochester City (Eastern Expressway Parts 1 & 2) F.I.C. 58-2 the following: northerly on an angle to the right of 160°-33'-00", 30.04 feet to a point; thence northerly on an angle to the right of 155°-59'-00", 15.05 feet to a point; thence northwesterly on an angle to the right of 136°-27'-00" 53.44 feet to a point; thence westerly on an angle to the right of 167°-58'-00", 100.90 feet to a point; thence westerly on an angle to the right of 180°-32'-23", 144.91 feet to a point; thence westerly on an angle to the right of 183°-45'-37", 128.98 feet to a point as its intersection with the division line between People of the State of New York on the southeast and Ronal K. Geck and Richard Geck (reputed owners) on the northwest; thence southwesterly on an angle to the right of 130°-00'-16", 140.70 feet to a point; thence southeasterly on an angle to the right of 69°-56'-17" 254.39 feet to a point; thence southeasterly on an angle to the right of 199°-28'-40", 75.00 feet to a point on the northwesterly highway boundary line of Karges Place; thence northeasterly, along the aforesaid highway boundary line of Karges Place, on an angle to the right of 90°-00'-00", 191.25 feet to a point; thence southeasterly on an angle to the right of 235°-19'-47", 110.46 feet to the point of beginning and 90°-00'-00" from the first course; containing 78,316 S.F. 1.8± Acres.

The above mentioned 2012 survey base baseline is for the conveyance of State property and described as follows:
BEGINNING at Station I 0+00.00 thence South 65°-50'-02" East to station I 0+98.66. All bearings referred to True North at the 78°-35'-00" MERIDIAN OF WEST LONGITUDE (1983 N.A. Datum).

Subject to covenants, easements and restrictions of record.

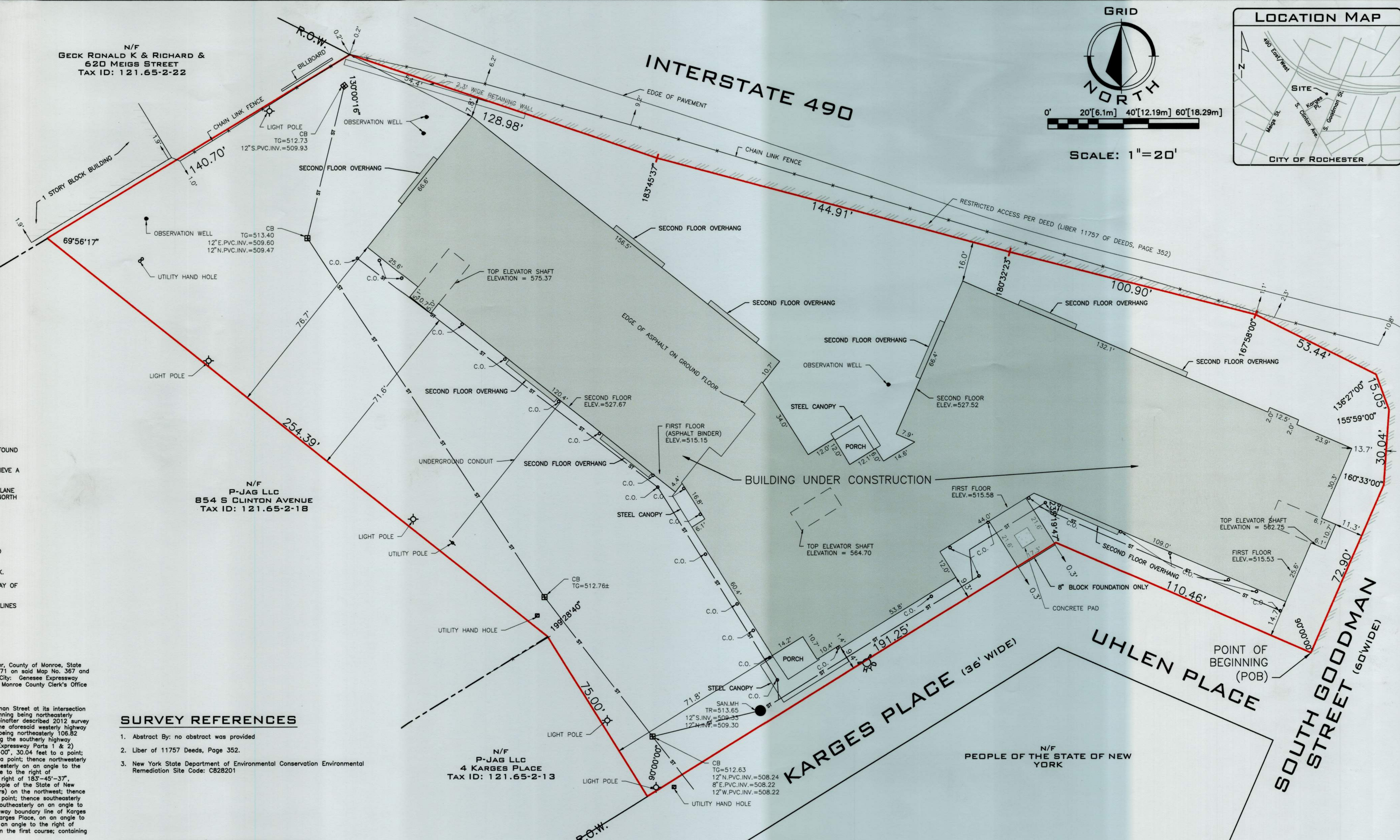
Legend

Line Types
Centerline
Property Line
Resub. Prop. Line 100.00'
Easement Line
Existing Contour 370
Proposed Contour 370
Chain Link Fence
Wood Fence
Guide Rail
Wire Fence
Overhead Wires
Gas Line
Water Line
Force Main
Sanitary Sewer
Storm Sewer
Electric
Edge of Woods
Flood Zone
Wetlands
Right-of-Way R.O.W.
Landscaping & Retaining Walls
Silt Fence
Drainage Flow
Sump Pump Discharge

Line Styles
Existing Utility (Light Line Weight)

Symbols
UP
Water Gate Valve
Curb Box
Gas Valve
Utility Box
Transformer
Survey Monument
Mailbox
Sign
Iron pipe/rebar
Traffic Control M.H.
Cleanout
Catch basin
Fire hydrant
Signal span pole
Perc hole
Deep hole
Benchmark
End section
Spot elev. x351.00'
Light pole
Well
Utility manhole
Storm Sewer Manhole
Sanitary Sewer Manhole
Rebar (to be set)

Labels
Record Map Info. "(R)"
Typical Style "Typ."



General Notes

1. TAX ACCOUNT NUMBER: 121.65-2-39
   1.1. TAX MAP 121.65
   1.2. TAX MAP BLOCK No. 2
   1.3. TAX MAP PARCEL No. 39
2. OWNER: HIGHLAND GROVE LLC
3. SITE ADDRESS: 625 S. GOODMAN STREET, ROCHESTER N.Y., 14620
4. TOTAL AREA: 78316 S.F. 1.8± ACRE.
5. CURRENT ZONING: C-2 Community Center District
6. CURRENT USE: VACANT
7. THIS PROJECT IS LOCATED IN THE CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK.
8. THIS PROJECT IS LOCATED WITHIN OTHER AREAS-ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 36055C0213G, DATED AUGUST 28, 2008.
9. THIS SURVEY IS BASED UPON THE BEST AVAILABLE MONUMENTATION FOUND WITHIN THE PROJECT AREA.
10. THIS SURVEY WAS PREFORMED BY PROCEDURES NECESSARY TO ACHIEVE A HORIZONTAL ACCURACY OF 1:10,000 OR BETTER.
11. THE HORIZONTAL DATUM IS REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM WESTERN ZONE, TRANSMERCATOR PROJECTION, NORTH AMERICAN DATUM OF 1983.
12. THERE ARE OBSERVED EVIDENCE OF ENCROACHMENTS.
13. THERE IS NO OBSERVED EVIDENCE OF REFUSE LOCATED ON THE PROPERTY. "NONE"
14. THERE IS NO OBSERVED EVIDENCE OF CEMETERIES, GRAVE SITES AND BURIAL GROUNDS. "NONE"
15. THERE IS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK.
16. ACCESS IS GAINED TO THE PROPERTY PER THE PUBLIC RIGHT-OF-WAY OF KARGES PLACE.
17. THERE ARE NO PROPOSED CHANGES IN THE STREET RIGHT-OF-WAY LINES SHOWN ON THIS MAP.
18. THERE IS NO OBSERVED WATERWAYS ON THE SITE AND THERE IS NO OBSERVED EVIDENCE OF WETLANDS.

Legal Description

Schedule A

ALL THAT TRACT, PIECE OR PARCEL OF LAND situate in the City of Rochester, County of Monroe, State of New York, the premises known and described as Parcel Nos. 369 and 371 on said Map No. 367 and Parcel No. 420 on said Map No. 370, which maps are entitled "Rochester City: Genesee Expressway (Rochester Inner Loop to Rochester City Line)" and which were filed in the Monroe County Clerk's Office on December 31, 1970 and March 25, 1971, respectively; and

Beginning at a point on the westerly highway boundary line of South Goodman Street at its intersection with the northerly highway boundary line of Uhlen Place, said point of beginning being northeasterly 33.93 feet, measured at right angles from Station 10+94.07 of the hereinafter described 2012 survey baseline for the conveyance of State property; thence northeasterly along the aforesaid westerly highway boundary line of South Goodman Street, 72.90 feet to a point, said point being northeasterly 106.82 feet measured at right angles from baseline Station 10+92.82, thence along the southerly highway boundary line of Interstate Route Connection 580: Rochester City (Eastern Expressway Parts 1 & 2) F.I.C. 58-2 the following: northerly on an angle to the right of 160°-33'-00", 30.04 feet to a point; thence northerly on an angle to the right of 155°-59'-00", 15.05 feet to a point; thence northwesterly on an angle to the right of 136°-27'-00" 53.44 feet to a point; thence westerly on an angle to the right of 167°-58'-00", 100.90 feet to a point; thence westerly on an angle to the right of 180°-32'-23", 144.91 feet to a point; thence westerly on an angle to the right of 183°-45'-37", 128.98 feet to a point as its intersection with the division line between People of the State of New York on the southeast and Ronal K. Geck and Richard Geck (reputed owners) on the northwest; thence southwesterly on an angle to the right of 130°-00'-16", 140.70 feet to a point; thence southeasterly on an angle to the right of 69°-56'-17" 254.39 feet to a point; thence southeasterly on an angle to the right of 199°-28'-40", 75.00 feet to a point on the northwesterly highway boundary line of Karges Place; thence northeasterly, along the aforesaid highway boundary line of Karges Place, on an angle to the right of 90°-00'-00", 191.25 feet to a point; thence southeasterly on an angle to the right of 235°-19'-47", 110.46 feet to the point of beginning and 90°-00'-00" from the first course; containing 78,316 S.F. 1.8± Acres.

The above mentioned 2012 survey base baseline is for the conveyance of State property and described as follows:
BEGINNING at Station I 0+00.00 thence South 65°-50'-02" East to station I 0+98.66. All bearings referred to True North at the 78°-35'-00" MERIDIAN OF WEST LONGITUDE (1983 N.A. Datum).

Subject to covenants, easements and restrictions of record.

Zoning Notes

C-2 Community Center Zoning District

	Code
Min. lot area	1,000 SF/Unit
Min. lot depth	
Min. lot width	
Min. front setback	average of buildings
Min. side setback	n/a
Min. rear setback	n/a
Max. lot coverage	80%
Min. open space	20%
Max. building coverage	70%
Min. Building height	2 stories (20')
Parking Automobile	104 spaces
Parking Bicycle	10 spaces

UNAUTHORIZED ALTERATION OR ADDITION TO A MAP BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR IS A VIOLATION OF ARTICLE 145, SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

Survey References

1. Abstract By: no abstract was provided
2. Liber of 11757 Deeds, Page 352.
3. New York State Department of Environmental Conservation Environmental Remediation Site Code: C828201

Surveyor's Certificate:

To

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS.
THE FIELD WORK WAS COMPLETED ON APRIL 23, 2019.

DATE OF PLAT OR MAP: APRIL 29, 2019.

State of New York · John Henry Sciarabba · 050348 · Licensed Land Surveyor

John H Sciarabba

JOHN H. SCIARABBA L.S. # 050348

Note

This property is subject to an environmental easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law. The engineering and institutional controls for this Easement are set forth in more detail in the Site Management Plan (SMP). A copy of the SMP must be obtained by any party with an interest in the property. The SMP can be obtained from NYS Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@dec.ny.gov

NYS Department of Environmental Easement Map

showing

Higland Grove LLC property

625 S. Goodman Street

City of Rochester, Monroe County, New York

LAND TECH
Surveying & Planning P.L.L.C.
710 Latta Road · Rochester, NY · 14612
Phone (585) 442-9902 · Fax (585) 225-4819
E-mail john@landtechny.com; John Sciarabba

Project Number: 18502

W:\PROJECTS\2018\18502 - S Goodman St 625\Survey\Topo-Base\18502 S Goodman St 625.dwg, 5/9/2019 4:09:47 PM

APPENDIX E

FIELD LOGS

	PROJECT	
LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-01 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC — BORING LOCATION: See Figure — TIME: TO
DRILLER: M. Pepe — GROUND SURFACE ELEVATION NA — DATUM: NA
LABELLA REPRESENTATIVE: A. Brett — START DATE: 5/31/18 — END DATE: 5/31/18 — WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT — DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA — INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push — OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	1.5'/2.0'	S1 0-2'		Grass, top soil.	0	
			0.2'	Brown fine sand, little coarse to fine gravel, trace silt, dry , no odor.		
1					0	
2	1.0'/2.0'	S2 2-4'	2.0'	Gray gravel underlain by trace ash/coke (fill)	0	
			2.2'	Brown fine sand, little coarse to fine gravel, trace silt, dry , no odor.		
3					87 ppb	
4	1.0'/2.0'	S3 4-6'			42 ppb	
					85 ppb	
5			5.3'	Brown coarse to fine sand, little organics, concrete, brick, slag, little gravel, little silt, moist, no odor.	21.85 ppm	
					110 ppm	
6	1.5'/2.0'	S4 6-8'	6.0'	Concrete dust and sand, dry, odor.	178.6 ppm	
			6.5'	Brown fine to medium sand, trace silt, moist, slight odor.	134 ppm	
7					6 ppb	
					0 ppb	
8	1.7'/2.0'	S5 8-10'	8.0'	Brown to gray brown fine sand, trace silt, moist, no odor.	2250 ppb	
					2540ppb	
9					2310 ppb	
					2420 ppb	
10	1.8'/2.0'	S6 10-12'				
					565 ppb	
11						
					438 ppb	
12	0.7'/2.0'	S7 12-14'	12'	Gray broken cobble, silty sand, moist, no odor.		
					1031 ppb	
13						
					230 ppb	
14	1.2'/2.0'	S8 14-16'	14'	Glacial till, silty sand , some coarse to fine gravel, moist to wet, no odor.		
					423 ppb	
15						
					361 ppb	
16						
				16' - End Boring - Refusal on Apparent Bedrock		
17						
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	16'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-01

LaBella
Powered by partnership.

300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Remedial Investigation
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, NY

BORING: RIGP-02
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure		TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION	NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 5/31/18	END DATE: 5/31/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	1.4'/2.0'	S1 0-2'	0.0'	Brown silty sand, some fine gravel, trace clay, moist, no odor.	130 ppb	
1					132 ppb	
2	1.4'/2.0'	S2 2-4'	2.0'	Brown silty sand, little coarse to fine gravel, trace clay, moist, no odor.	130 ppb 47 ppb	
3					91 ppb	
4	1.0'/2.0'	S3 4-6'	4.0'	Dark brown silt, little caly, trace coarse sand, trace organics, moist, no odor.	150 ppb 39 ppb	
5			5.5'	Brown fine sand, trace silt, trace brick, moist, no odor.	40 ppb	
6	1.3'/2.0'	S4 6-8'		Similar with lense of silt, little clay	92 ppb	
7					101 ppb	
8	1.7'/2.0'	S5 8-10'		Similar, trace gravel.	92 ppb 6 ppb	
9					0 ppb	
10	1.5'/2.0'	S6 10-12'	8.0'	Brown silty sand some coarse to fine gravel, moist, no odor.	5 ppb	
11					30 ppb	
12	1.5'/2.0'	S7 12-14'	12.0'	Gray coarse to fine sand and gravel, moist, no odor.	85 ppb 310 ppb	
13					275 ppb 177 ppb	
14	0.8'/2.0'	S8 14-16'			48 ppb	
15					72 ppb	
16	0.7'/2.0'	S9 16-18'			39 ppb	
17					64 ppb	
18				Similar to above, wet at bottom 0.2' 18' - End Boring - Refusal on Apparent Bedrock		
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	18'	18'	--	

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-02

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-03 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/12/18 END DATE: 6/12/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	3.6/5.0'	S1 0-5'	0.0'	Gray coarse to fine gravel, dry no odor.	187 ppb	
1			1.0'	Brown coarse to fine sand, some gravel, little brick moist no odor.	125 ppb	
2					133 ppb	
3					142 ppb	
4						
5	4.5/5.0'	S2 5-10'	5.0'	Yellow brown to brown fine sand, trace clayey silt at top, moist, no odor.	24 ppb	
6					7 ppb	
7					6 ppb	
8					31 ppb	
9						
10	2.5/5.0'	S3 10-15'	10.0'	Brown coarse to fine sand, some gravel, trace silt, moist, no odor.	660 ppb	
11					661 ppb	
12						
13					275 ppb	
14						
15	1.0/2.0'	S4 15-17'			1063 ppb	
16					89 ppb	
17			16.8'	Similar to above, wet in last 3 inches 17' - End Boring - Refusal on Apparent Bedrock		
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	17'	17'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-03

LaBella
Powered by partnership.

300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Remedial Investigation
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, NY

BORING: RIGP-04
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Pepe		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 6/12/18	END DATE: 6/12/18	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT — DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA — INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push — OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	3.6/5.0'	S1 0-5'	0.0'	Black coarse to fine sand, trace silt, little brick, slag, glass, moist, no odor.	65 ppb	
1						
2					192 ppb	
3					87 ppb	
4						
5	3.9/5.0'	S2 5-10'	5.0'	Yellow-brown fine sand, moist, no odor.	60 ppb	
6					28 ppb	
7						
8					26 ppb	
9				Similar gray, little silt		
10	2.9/5.0'	S3 10-15'			28 ppb	
11				Brown tightly packed sand, little silt, little gravel, moist to very moist.	477 ppb	
12			12' 12.5'	Broken Cobble Brown sand, some gravel, moist, no odor.		
13					126 ppb	
14						
15	2.7/5.0'	S4 15-20'			63 ppb	
16					165 ppb	
17					303 ppb	
18						
19			19'	Gray fine sand and gravel, wet, no odor.	148 ppb	
20				20' - End Boring - Refusal on Apparent Bedrock		

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	20'	--	

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-04

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-05 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Pepe		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 6/12/18	END DATE: 6/12/18	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	3.5/5.0'	S1 0-5'	0.0'	Tan-brown dry sand, trace silt, moist, no odor.		
			0.5'	Gray and black coarse to fine sand, some brick and debris, moist, no odor.	206 ppb	
1						
2					179 ppb	
3						
					37 ppb	
4			4.0'	Yellow-brown fine sand, trace silt, moist, no odor.		
5	3.2/5.0'	S2 5-10'			81 ppb	
6						
					95 ppb	
7						
8					68 ppb	
9			9.0'	Gray-brown fine sand, little gravel, little silt, moist, no odor.		
					68 ppb	
10	2.5/5.0'	S3 10-15'			538 ppb	
					1063 ppb	
11			11.0'	Similar to above, some gravel.		
12					56 ppb	
13						
14						
					278 ppb	
15	2.5/4.1'	S4 15-19'				
16						
17			17.0'	Gray-brown fine sand, some gravel, trace sand, rust staining wet.		
18					48 ppb	
19						
				19.1' - End Boring - Refusal on Apparent Bedrock		
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	19.1'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-05

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-06 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/1/18 END DATE: 6/1/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	1.7/2.0'	S1 0-2'	0.0'	Tan silty sand, some gravel, dry, no odor.		
					67 ppb	
1					81 ppb	
			1.5'	Asphalt		
2	1.0/2.0'	S2 2-4'	2.0'	Brown silty sand, little gravel, little black cinders, trace coke, brick, glass (fill), trace organics/former topsoil.	184 ppb	
3					121 ppb	
4	0.5/2.0'	S3 4-6'			3841 ppb	
5					3430 ppb	
6	0.2/2.0'	S4 6-8'	6.0'	Brown coarse to fine sand, little fine gravel, moist, no odor.	1201 ppb	
7					277 ppb	
8	1.8/2.0'	S5 8-10'	8.0'	Brown clay and silt, little sand, moist, no odor.		
			8.2'	Fine sand.		
9			8.7'	Silty sand, some coarse to fine gravel, moist, no odor.	383 ppb	
10	1.6/2.0'	S6 10-12'	10'	Brown fine sand, little silt, moist to wet, no odor.	166 ppb	
11					282 ppb	
12	0.5/2.0'	S7 12-14'	12'	Brown fine sand, some gravel coarse to fine, cobbles, trace silt, moist, no odor.	113 ppb	
13					99 ppb	
14	1.0/2.0'	S8 14-16'	14'	Brown coarse to fine gravel, some coarse to fine sand, moist, no odor.	102 ppb	
15					98 ppb	
16	1.0/2.0'	S9 16-18'	16'	Similar, wet.	40 ppb	
17					56 ppb	
18	1.0/1.75'	S9 18-19.75'			45 ppb	
19					32 ppb	
20				19.75' - End Boring - Refusal on Apparent Bedrock		

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	19.75'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-06

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-07 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME: TO
DRILLER: M. Pepe		GROUND SURFACE ELEVATION	NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 6/12/18	END DATE: 6/12/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	4.0/5.0'	S1 0-5'	0.0'	Brown coarse to fine sand, little to trace gravel, silt lenses, little asphalt, brick, moist, no odor.	851 ppb	
1					87 ppb	
2						
3					849 ppb	
4						
5	2.5/5.0'	S2 5-10'		Similar to above, organics, glas brick.	1427 ppb	
6					215 ppb	
7						
8					210 ppb	
9						
10	3.0/5.0'	S3 10-15'	10.0'	Brown silty fine sand, some to little gravel, moist to wet, no odor.	242 ppb	
11					259 ppb	
12						
13					1448 ppb	
14						
15	3.2/4.2'	S4 15-19.2'	15.0'	Gray wet sand, some gravel, moist, no odor.	792 ppb	
16					212 ppb	
17						
18						
19				19.2' - End Boring - Refusal on Apparent Bedrock		
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	19.2'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-07

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-08 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Pepe		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 6/1/18	END DATE: 6/1/18	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	1.8/2.0'	S1 0-2'	0.0'	Tan brown silty sand, little gravel, dry, no odor.	0 ppb	
			0.5'	Brown or black sandy silt, little gravel, trace organics, little asphalt, slag, moist,		
1				no odor.	204 ppb	
					151 ppb	
2	2.0/2.0'	S2 2-4'		Similar, cloth		
					37 ppb	
3						
					26 ppb	
4	2.0/2.0'	S3 4-6'	4.0'	Brown silty sand, trace bricks, cloth, moist, no odor.		
					208 ppb	
5			5.0'	Black sand and silt, ash, moist, no odor.		
			5.2'	Brown fine sand trace silt, moist, no odor.	0 ppb	
6	2.0/2.0'	S4 6-8'				
					14 ppb	
7					18 ppb	
					211 ppb	
8	2.0/2.0'	S5 8-10'	8.0'	Gray-brown to red-brown fine to medium sand, trace silt, trace gravel, moist, no		
				odor.	48 ppb	
9						
					139 ppb	
10	1.5/2.0'	S6 10-12'	10.0'	Brown sand and gravel, little silt, moist, no odor.	218 ppb	
11					479 ppb	
				Similar with cobble at 11.5'	186 ppb	
12	1.5/2.0'	S7 12-14'				
					122 ppb	
13						
					125 ppb	
14	1.2/2.0'	S8 14-16'		Similar, moist to wet.		
					586 ppb	
15						
					796 ppb	
16	1.2/1.7'	S9 16-17.7'		Similar, gray, wet.		
17					592 ppb	
18				17.8' - End Boring - Refusal at Apparent Bedrock		
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	17.8'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-08

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-09 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/1/18 END DATE: 6/1/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	NA*	S1 0-2'	0.0' 0.3'	Topsoil Brown fill sand, concrete, trace cinders, trace brick fragments, damp, no odor.	0	
1					0	
2		S2 2-4'			0	
3					0	
4		S3 4-6'			140 ppb	
5			5.0'	Organics, reworked former topsoil	81 ppb	
6		S4 6-8'	6.2'	Yellow-brown coarse sand, little fine to medium-coarse subangular to subrounded gravel, damp/moist, loose.		
7					0	
8		S5 8-10'			0	
9					0	
10		S6 10-12'				
11					82 ppb	
12		S7 12-14'				
13				Similar to above, wet.	507 ppb	
14		S8 14-16'			486 ppb	
15						
16		S9 16-16.3'			31 ppb	
17				16.3' - End Boring - Refusal on Apparent Bedrock		
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	*Sample recoveries were not recorded at this boring.
NA	NA	NA	NA	16.3'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-09

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-10 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure		TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION	NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE:	END DATE:	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	3.0/5.0'	S1 0-5'	0.0'	Tan-gray sand, little silt and gravel, no odor.	149 ppb	
1						
2			2.2' 2.4'	Asphalt Brown silty sand, moist, no odor.	233 ppb	
3					323 ppb	
4						
5	3.8/5.0'	S2 5-10'	5.0'	Yellow-brown fine sand, moist, no odor.	2 ppb	
6					3 ppb	
7						
8					5 ppb	
9			9.0'	Brown coarse to fine sand, silt lens, moist, no odor.	25 ppb	
10	2.4/5.0'	S3 10-15'	10.0'	Brown silty sand and gravel, lens of brown fine sand, moist, no odor.		
11					47 ppb	
12					50 ppb	
13						
14						
15	2.3/5.0'	S4 15-18.2'		Similar, gray fine sand, little gravel, wet.	50 pppb	
16						
17					47 ppb	
18				18.2' - End Boring - Refusal on Apparent Bedrock		
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	18.2'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-10

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-11 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Pepe		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE:	END DATE:	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	1.7/2.0'	S1 0-2'	0.0'	Tan brown sandy silt, topsoil.	0	
1					0	
2	1.6/2.0'	S2 2-4'		Similar to above, brown sandy silt, trace coke, brick cobbles, moist, no odor.	0	
3					0	
4	1.3/2.0'	S3 4-6'	4.0'	Brown to dark brown silt and sand, trace organics, moist, no odor.	0	
5					0	
			5.7'	Yellow-brown fine sand, trace silt, moist, no odor.		
6	2.0/2.0'	S4 6-8'		Similar to above, little gravel.	0	
7					0	
8	1.0/2.0'	S5 8-10'			0	
9					0	
10	NA	S6 10-12'	10.0'	Silty sand, some gravel, moist, no odor.	0	
11					0	
12	1.3/2.0'	S7 12-14'			0	
13					0	
14	1.0/2.0'	S8 14-16'			0	
15					0	
16	1.0/2.0'	S9 16-16.3'	16.0'	Gray brown coarse sand and gravel, trace to little silt, wet, no odor.	0 191 ppb	
17					200 ppb	
18				18' - End Boring - Refusal on Apparent Bedrock		
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	18'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-11

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-12 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/12/18 END DATE: 6/12/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	1.4/5.0'	S1 0-5'	0.0'	Brown coarse to fine sand, little silt, little gravel, asphalt millings from 0.7-0.9' moist, no odor.	297 ppb	
1						
2					132 ppb	
3					118 ppb	
4						
5	2.6/5.0'	S2 5-10'		Similar to above, little brick, trace organics.	232 ppb	
6						
7					455 ppb	
8					157 ppb	
9			9.0'	Gray fine sand, little gravel, trace silt, moist, no odor.		
10	4.1/5.0'	S3 10-15'			345 ppb	
11						
12					279 ppb	
13					540 ppb	
14						
15	4.1/4.7'	S4 15-19.7'		Similar to above, moist to wet.	395 ppb	
16						
17					89 ppb	
18			18' 18.2'	Gravel lens Gray brown sand and gravel, wet, no odor.	67 ppb	
19						
20				19.7' - End Boring - Refusal on Apparent Bedrock		

WATER LEVEL DATA			DEPTH (FT)			NOTES:
			BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
DATE	TIME	ELAPSED TIME				
NA	NA	NA	NA	19.7'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-13 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/4/18 END DATE: 6/4/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	1.4/2.0'	S1 0-2'	0.0' 0.3'	Top soil Brown silty sand, little gravel, moist, no odor.	0	
1					0	
2	0.9/2.0'	S2 2-4'		Dark brown silty sand, trace organic, trace brick, moist, no odor.	0	
3					0	
4	0.7/2.0'	S3 4-6'	4.0'	Yellow-brown fine sand, little silt seams, moist, no odor.	0	
5					0	
6	2.0/2.0'	S4 6-8'			0	
7					0	
8	0.2/2.0'	S5 8-10'		Gray-brown fine to medium sand, moist, no odor.	0	
9					0	
10	2.0/2.0'	S6 10-12'	10.0'	Brown silty sand and cobbles, moist, no odor.	605 ppb	
11						
12	2.0/2.0'	S7 12-14'			1935 ppb	
13					0	
14	1.5/2.0'	S8 14-16'	14.0'	Gray-brown fine sand and gravel, little silt, wet.		
15					191 ppb	
16	1.5/2.0'	S9 16-18'	16.0'	Gray gravel, little to some sand, little silt, wet.	123 ppb	
17						
18	NA	S10 18-18.5'			0	
19				18.5' - End Boring - Refusal on Apparent Bedrock	0	
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	18.5'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-13

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-14 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 5/31/18 END DATE: 6/1/18	WEATHER:
TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore	
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"	
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:	

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	1.6/2.0'	S1 0-2'	0.0'	Brown silty sand, some coarse to fine gravel, trace coke, brick at bottom, moist, no odor.	121 ppb	
1					758 ppb	
2	1.8/2.0'	S2 2-4'	2.0'	Brown sand, layers of silt, little clay, little cinders/slag, little organics, trace coarse to fine gravel, moist, no odor.		
3					183 ppb	
4	1.7/2.0'	S3 4-6'		Similar, no fill.		
5					157 ppb	
6	1.6/2.0'	S4 6-8'	6.0'	Brown fine sand, wet, no odor.	783 ppb	
7			7.0' 7.5'	Brown clay, little silt, moist, no odor. Brown sand, well graded, moist, no odor.	982 ppb	
8	1.9/2.0'	S5 8-10'			732 ppb 554 ppb	
9					872 ppb 385 ppb	
10	1.5/2.0'	S6 10-12'	10.0'	Brown fine silty sand, little gravel, moist to wet.	701 ppb	
11					482 ppb	
12	0.9/2.0'	S7 12-14'		Similar, cobble at 12.5'	1032 ppb	
13					2837 ppb	
14	0.7/2.0'	S8 14-16'	14.0'	Gray sand and gravel, trace silt, moist to wet.	120 ppb	
15						
16	NA	S9 16-18'		Similar, wet.	120 ppb	
17					160 ppb	
18	NA	S10 18-19.3'				
19				19.3' - End Boring - Refusal on Apparent Bedrock		
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	19.3'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-14

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-15 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/12/18 END DATE: 6/12/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	2.2/5.0'	S1 0-5'	0.0'	Brown coarse to fine sand, little silt, little gravel, trace asphalt, moist, no odor.	129 ppb	
1					483 ppb	
2			2.0'	Similar, trace brick and coke.		
3						
4					163 ppb	
5	2.8/5.0'	S2 5-10'		Brown coarse to fine sand, trace silt, moist, no odor.	901 ppb	
6						
7					386 ppb	
8						
9					273 ppb	
10	4.0/5.0'	S3 10-15'	10.0'	Brown coarse to fine gravel and sand, little sitl, moist, no odor.	602 ppb	
11						
12					508 ppb	
13						
14					871 ppb	
15	2.3/3.2'	S4 15-18.2'	15.0'	Gray brown tightly packed coarse to fine sand and gravel.	707 ppb	
16						
17					1680 ppb	
18				18.2' - End Boring - Refusal on Apparent Bedrock	974 ppb	
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	18.2'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-15

LaBella
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300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Remedial Investigation
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, NY

BORING: RIGP-16
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Pepe		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 6/12/18	END DATE: 6/12/18	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT
AUGER SIZE AND TYPE: NA
OVERBURDEN SAMPLING METHOD: Direct Push
DRIVE SAMPLER TYPE: Macrocore
INSIDE DIAMETER: 2"
OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	2.9/5.0'	S1 0-5'		Asphalt millings		
			0.2'	Brown silty sand and gravel, moist, trace asphalt	131 ppb	
1						
2					183 ppb	
3						
4						
			4.7'	Brick		
5	3.2/5.0'	S2 5-10'	5.0'	Red brown silt, little sand, trace clay.	1781 ppb	
6						
			6.3'	Silty sand, moist, no odor, rust stain.	1523 ppb	
7			6.5'	Brown fine sand, moist, slight odor.		
8					1776 ppb	
9						
10	3.2/4.6'	S3 10-15'				
					1831 ppb	
11						
12						
13			13'	Similar to above, little to some gravel, moist, no odor.	2219 ppb	
14					700 ppb	
				14.6' - End Boring - Refusal		
15						
16						
17						
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	14.6'	--	

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-16

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-17 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 5/31/18 END DATE: 6/1/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	1.5/2.0'	S1 0-2'	0.0'	Brown silty sand, little concrete at bottom, little gravel, moist, no odor.	0	
1					0	
2	1.4/2.0'	S2 2-4'	2.0'	Brick	0	
3			3.0'	Brown black silt, some coarse to fine sand, little ash, wood, coke.	452 ppb	
4	1.6/2.0'	S3 4-6'	4.0'	Brown fine sand, seam of silty sand, moist, no odor.	0	
5					0	
6	1.8/2.0'	S4 6-8'	6.0' 6.5'	Brown clayey silt, moist, no odor. Brown to gray brown fine to medium sand, seam of clayey silt, moist, no odor.	0	
7					0	
8	1.9/2.0'	S5 8-10'		Similar to above, trace gravel, no clay/silt.	0	
9					0	
10	1.3/2.0'	S6 10-12'			0	
11					0	
12	2.0/2.0'	S7 12-14'	12.0'	Brown silt and fine sand, little coarse to fine gravel, moist to wet, no odor.	0	
13					0	
14	1.0/2.0'	S8 14-16'	14.0'	Gray-brown silty coarse to fine sand and gravel, wet-moist, no odor.	0	
15					0	
16	1.4/2.0'	S9 16-18'		Similar to above, wet.	0	
17					0	
18	1.8/2.0'	S10 18-19.7'			782 ppb	
19					0	
20				19.8' End Boring - Refusal on Apparent Bedrock		

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	19.8'	--	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-17

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-18 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Pepe	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/8/18 END DATE: 6/8/18	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: NA
AUGER SIZE AND TYPE: 2.25-in Hollow Stem Auger	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: NA	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	NA	NA	NA	Soils were not sampled as part of the well installation.	NA	
1				Soil cuttings that were produced during augering consisted primarily of silty sand with some gravel.		
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	2" diameter well installed to 20' with a 10' well screen connected to 10' of PVC riser. Well designated as MW-08.
NA	NA	NA	NA	20.0'	~19'	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
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BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-18

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-19 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Winderl	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 2/7/19 END DATE: 2/7/19	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE: SAMPLE RECOVERY (FEET)	SAMPLE: SAMPLE NO. AND DEPTH	SAMPLE: STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS
0	4.2/5.0'	S1 0-5'	0.0'	Brown to gray-brown silty sand, trace brick, some gravel, moist, no odor.	201 ppb		
1					176 ppb	727 ppb	
2					182 ppb		
3					76 ppb	925 ppb	
4					0		
5	4.0/5.0'	S2 5-10'	5.0'	Light Brown Clay, moist, no odor.			
6			6.0'	Brown fine to medium sand, moist, no odor.	356 ppb	1394 ppb	
7							
8					287 ppb	1994 ppb	
9					142 ppb		
10	4.6/5.0'	S3 10-15'	-- 10.5'	Similar to above seams of silt, little gravel.	231 ppb		
11						2085 ppb	
12					646 ppb		
13						3524 ppb	
14			14.0' 14.3'	Similar to above, seam of gray gravel layers. Gray-brown silty sand, moist to wet.	2431 ppb		
15	0.2/0.2'	S4 15-15.2'		15.2' End Boring - Refusal	543 ppb	1884 ppb	
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	15.2'	~14.3'	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
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	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-19

	PROJECT	
300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-20 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Winderl		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 2/8/19	END DATE: 2/8/19	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)				
0	3.9/5.0'	S1 0-5'	0.0'	Gray Gravel.	0		
1			1.0'	Brown silty sand, some brick, moist, no odor.	0	1087 ppb	
2							
					307 ppb		
3			3.0'	Fine brown sand, moist, no odor, little silt, no odor.			
					0	753 ppb	
4							
					0		
5	5.0/5.0'	S2 5-10'	--				
					0		
6						742 ppb	
					0		
7							
					0		
8							
					0	1011 ppb	
9							
					0		
10	4.6/5.0'	S3 10-15'	10.0'	Brown silty fine sand, gravel, moist, no odor.			
					0		
11						1280 ppb	
					139 ppb		
12							
					0		
13							
					39 ppb	1219 ppb	
14							
					0		
15	0.7/0.7'	S4 15-15.7'					
				15.7' End Boring - Refusal	11 ppb	433 ppb	
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	15.7'	~15.0'	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-20

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-21 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure		TIME: TO
DRILLER: M. Winderl	GROUND SURFACE ELEVATION	NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 2/8/19	END DATE: 2/8/19	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)				
0	3.9/5.0'	S1 0-5'	0.0'	Gray Gravel.	0		
1			1.0'	Brown silty sand, some brick, moist, no odor.	37 ppb	175 ppb	
2					0		
3			3.0'	Fine brown sand, moist, no odor, little silt, no odor.	0	833 ppb	
4					0		
5	5.0/5.0'	S2 5-10'	--		0		
6					0	6050 ppb	
7					0		
8				8' End Boring - Refusal	1018 ppb		
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	8'	NA	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

	PROJECT		
LaBella Powered by partnership.	Remedial Investigation	BORING:	RIGP-22
	Former Sherwood Shoe Company	SHEET	1 OF 1
	625 South Goodman Street	JOB:	2172056
300 STATE STREET, ROCHESTER, NY	Rochester, NY	CHKD BY:	
ENVIRONMENTAL ENGINEERING CONSULTANTS		DATE:	

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure		TIME: TO
DRILLER: M. Winderl	GROUND SURFACE ELEVATION	NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 2/8/19	END DATE: 2/8/19	WEATHER:
TYPE OF DRILL RIG: Geoprobe 6620DT		DRIVE SAMPLER TYPE: Macrocore	
AUGER SIZE AND TYPE: NA		INSIDE DIAMETER: 2"	
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:	

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS w/miniRAE
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)				
0	4.0/5.0'	S1 0-5'	0.0'	Dark brown, silty sand, little brick, moist, no odor.	0		
1					0	7619 ppb	6.3 ppm
2					0		
3					0	11065 ppb	8.6 ppm
4				Brown, similar to above.	0		
5	4.1/5.0'	S2 5-10'	5.0'	Light brown fine sand, moist, no odor.	0		
6					0	8625 ppb	9.2 ppm
7					0		
8					0	7470 ppb	5.7 ppm
9					0		
10	4.0/5.0'	S3 10-15'		Similar to above, little silt, little gravel, moist to wet.	0		
11					0	11000 ppb	8.5 ppm
12					0		
13					0		
14					0	11000 ppb	9.4 ppm
15	0.1/0.1'	S4 15-15.1'		15.1' - End Boring - Refusal	10		
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	A ppbRAE was used for headspace initially. Due to very slow response (>5mins) A miniRAE was used to double check headspace readings, response rate was still slow.
NA	NA	NA	NA	15.1'	~15'	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-22

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIGP-23 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure		TIME: TO
DRILLER: M. Winderl	GROUND SURFACE ELEVATION	NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 2/8/19	END DATE: 2/8/19	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS w/miniRAE
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)				
0	3.8/5.0'	S1 0-5'	0.0'	Brown silty sand, some dark brown silty sand, little brick, moist, no odor.			
1					0		
2						8960 ppb	5.4 ppm
3							
4					120 ppb		
5	5.0/5.0'	S2 5-10'	5.0'	Brown fine sand, moist, no odor.			
6					343 ppb		
7						9572 ppb	6.3 ppm
8							
9					346 ppb		
10	5.0/5.0'	S3 10-15'	10.0'	Brown fine sand, seams of silty clay, some to little gravel, moist, no odor.			
11					421 ppb		
12						10586 ppb	8.5 ppm
13							
14					458 ppb		
15	0.6/0.6'	S4 15-15.6'	15.0'	Gray-brown silty sand, some coarse to fine subrounded gravel, moist, no odor. 15.6' - End Boring - Refusal			
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	A ppbRAE was used for headspace initially. Due to very slow response (>5mins) A miniRAE was used to double check headspace readings, response rate was still slow.
NA	NA	NA	NA	15.6'	~15'	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	**BORING:** RIGP-24 **SHEET** 1 OF 1 **JOB:** 2172056 **CHKD BY:** **DATE:**

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Winderl/D. Hitchcock		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 2/15/19	END DATE: 2/15/19	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)				
0	3.5/5.0'	S1 0-5'	0.0'	Brown coarse to fine gravel and sand, moist, petro odor.	6503 ppb		
1					28.82 ppm	17.88 ppm	petro odor
2							
3					11.97 ppm	29.12 ppm	petro odor
4					3204 ppb		
5	4.0/5.0'	S2 5-10'	5.0'	Brown fine sand, little gravel, trace silt, moist, no odor.	3598 ppb		
6					307 ppb	1176 ppb	
7							
8					1944 ppb	4786 ppb	
9							
10	5.0/5.0'	S3 10-15'	10.0'	Brown silty sand, moist, no odor.	1072 ppb		
11						4195 ppb	
12					1231 ppb		
13						4898 ppb	
14							
15	0.6/0.6'	S4 15-17'	15.0'	Brown to gray-brown silty sand and gravel, moist to wet, no odor.	6917 ppb		
16					6082 ppb	1472 ppb	
17				17' - End Boring - Refusal			
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Well installed to 17-ft bgs with 5-ft of prepacked well screen. Installed with dual tube instead of auger, no drill cuttings produced. Sandpacked, topped with bentonite and finished with black metal standpipe.
NA	NA	NA	17'	17'	~16'	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-24

	PROJECT	
LaBella Powered by partnership.	Remedial Investigation	BORING: RIGP-25
	Former Sherwood Shoe Company	SHEET 1 OF 1
	625 South Goodman Street	JOB: 2172056
300 STATE STREET, ROCHESTER, NY	Rochester, NY	CHKD BY:
ENVIRONMENTAL ENGINEERING CONSULTANTS		DATE:

CONTRACTOR: LaBella Env. LLC	BORING LOCATION: See Figure	TIME: TO
DRILLER: M. Winderl/D. Hitchcock	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 2/15/19 END DATE: 2/15/19	WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)				
0	3.2/5.0'	S1 0-5'	0.0'	Dark gray-brown silty sand, little brick, trace cinders, moist, no odor.			
1					231 ppb	781 ppb	
2			--	Similar to above, brown, trace clay.			
3					0		
4					0	786 ppb	
5	4.8/5.0'	S2 5-10'	5.0'	Brown fine sand, trace silt, trace gravel, moist, no odor.			
6					0	1218 ppb	
7			--	Similar to above, no gravel.			
8							
9					167 ppb	1114 ppb	
10	3.5/3.8'	S3 10-15'	10.0'	Gray-brown coarse to fine sand, some gravel, little silt, moist, no odor.			
11					453 ppb		
12						4306 ppb	
13					301 ppb		
14				13.8' - End Boring - Refusal			
15							
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
			BOTTOM OF	BOTTOM OF	GROUNDWATER	
DATE	TIME	ELAPSED TIME	CASING	BORING	ENCOUNTERED	
NA	NA	NA	NA	13.8'	NA	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

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NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-25

300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Remedial Investigation
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, NY

BORING: RIGP-26
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

CONTRACTOR: LaBella Env. LLC
DRILLER: M. Winderl/D. Hitchcock
LABELLA REPRESENTATIVE: A. Brett
BORING LOCATION: See Figure
GROUND SURFACE ELEVATION NA
START DATE: 2/15/19
END DATE: 2/15/19
TIME: TO
DATUM: NA
WEATHER:

TYPE OF DRILL RIG: Geoprobe 6620DT
AUGER SIZE AND TYPE: NA
OVERBURDEN SAMPLING METHOD: Direct Push
DRIVE SAMPLER TYPE: Macrocore
INSIDE DIAMETER: 2"
OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS
0	3.3/5.0'	S1 0-5'	0.0'	Dark brown silty sand, some gravel, moist, no odor.			
1					231 ppb	3660 ppb	
2							
3					54 ppb		
4						743 ppb	
5	4.1/5.0'	S2 5-10'	--	Similar to above, trace brick and cinders.			
6					0	555 ppb	
7					0		
			7.5'	Brown fine sand, little silt, moist, no odor.			
8							
9					123 ppb	2436 ppb	
10	4.5/5.0'	S3 10-15'	--	Similar to above, trace silt.			
11					0	0 ppb	
12							
			--	Similar to above.			
13					0	1326 ppb	
14					131 ppb		
15	0.2/0.2'	S4 15-15.2'	15.0'	Gray-brown silty fine sand, some gravel, wet, no odor. 15.2' End Boring - Refusal			
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	15.2'	~15.0'	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
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NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
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	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-26

LaBella
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300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Remedial Investigation
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, NY

BORING: RIGP-27
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME:	TO
DRILLER: M. Winderl/D. Hitchcock		GROUND SURFACE ELEVATION	NA	DATUM:	NA
LABELLA REPRESENTATIVE: A. Brett		START DATE: 2/15/19	END DATE: 2/15/19	WEATHER:	

TYPE OF DRILL RIG: Geoprobe 6620DT
AUGER SIZE AND TYPE: NA
OVERBURDEN SAMPLING METHOD: Direct Push
DRIVE SAMPLER TYPE: Macrocore
INSIDE DIAMETER: 2"
OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	Headspace w/ppbRAE	REMARKS
0	3.3/5.0'	S1 0-5'	0.0'	Dark brown silty sand, trace brick, trace gravel, moist, no odor.			
1					0	17 ppb	
2							
3					0		
4						0 ppb	
5	4.1/5.0'	S2 5-10'	5.0'	Brown fine sand, moist, no odor.	0		
6						0 ppb	
7					0		
8						0 ppb	
9					0		
10	4.5/5.0'	S3 10-15'	10.0'	Brown silty sand, little gravel, trace caly, moist, no odor.			
11					0	0 ppb	
12							
13					0		
14						0 ppb	
15	0.2/0.2'	S4 15-15.2'	--	Similar to above, wet. 15.7' End Boring - Refusal	0		
16							
17							
18							
19							
20							

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	NA	15.7'	~15.0'	

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
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	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIGP-27

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIBW-01 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: NYEG	BORING LOCATION: See Figure	TIME: 1300 TO
DRILLER: Joel R.	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 7/5/18 END DATE: 7/5/18	WEATHER:

TYPE OF DRILL RIG: CME 55	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: 6.25"	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE			VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)			
0	1.5/2.0'	S1 0-2'	0.0'	Brown/tan fine sand, trace silt, some asphalt layers, moist, no odor.	0	
					0	
1						
					0.1	
2	1.1/2.0'	S2 2-4'	2.0'	Brown coarse to fine sand, little silt, little glass, metal, trash, fill.	0.2	
					0.3	
3						
			3.7'	Brown/black former top soil, sandy silt, trace organics.	0.2	
4	0.9/2.0'	S3 4-6'		Similar, some asphalt.	0.3	
5			5.0'	Brick and Concrete	0.2	
			5.5'	Brown fine to medium sand, moist, no odor.		
6	1.7/2.0'	S4 6-8'	6.0'	Brown/tan sand and angular coarse to fine gravel and concrete.	0.1	
7			7.0'	Gray-brown mixed fine to medium sand, silt lens, moist, no odor.	0.1	
8	1.3/2.0'	S5 8-10'			0	
9					0	
10	0.9/2.0'	S6 10-12'		Similar to above, Tan-brown coarse to fine sand, little silt lens, trace subrounded gravel, trace cobbles, moist, no odor.	0.1	
11					0.1	
12	1.4/2.0'	S7 12-14'		Similar to above, gray brown fine sand, trace silt, moist, no odor.	0.3	
13					0.2	
14	0.8/2.0'	S8 14-16'	14.0'	Gray coarse to fine sand and subrounded to subangular gravel, trace cobbles, moist, no odor.	0.2	
15					0.3	
16	0.5/2.0'	S9 16-18'			0.7	
17			17.0'	Bedrock	1	
18			18.0'	Augered into bedrock to 18' to set casing.		
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA				

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
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	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIBW-01

LaBella
Powered by partnership.
300 STATE STREET, ROCHESTER, NEW YORK
ENVIRONMENTAL ENGINEERING CONSULTANTS

ROCK CORE LOGS

Remedial Investigation
Former Shwerwood Shoe Company
625 South Goodman Street
Rochester, NY

MONITORING WELL RIBW-01
SHEET 1 OF 1
JOB # 2172056
CHKD. BY:

CONTRACTOR: NYEG
DRILLER: Joel R.
LABELLA REPRESENTATIVE: A. Brett
BORING LOCATION: NA
GROUND SURFACE ELEVATION: NA
DATUM: NA
START DATE: 7/9/18
END DATE: 7/9/18

TYPE OF DRILL RIG: CME 55
AUGER SIZE AND TYPE: 6.25-inch HAS
OVERBURDEN SAMPLING METHOD: Split spoon
ROCK DRILLING METHOD: HX Core Barrel

WATER LEVEL DATA

DATE	TIME	WATER	REMARKS

DEPTH	BLOW COUNT / 6"	SAMPLE INTERVAL (FT)	RECOVERY	RQD (%)	VISUAL OBSERVATIONS		WELL INSTALLATION INFORMATION	PID (ppm)	NOTES
	NA	18-23'	3.9'	20	18-20' Crumbling rock	Dolomite		0	
18									
								0	
19									
								0	
20					20' Gravely, fractures for 7"				
								0	
21									
					21.5' Fracture			0	
22					21.8' Fracture				
								0	
23	NA	23-28'	5'	82.92	23.5' Fracture	Dolomite			
					23.75' Fracture			0	
24					23.9 Fracture				
					24.3' Fracture			0	
25					25.1' Fracture				
					25.25' Fracture			0	
26					25.5' Fracture				
					26.25' Fracture			0	
27					26.7' Fracture				
					27.6' Fracture			0	
28									
					28' - End Rock Core.				
29									
30									
31									
32									
33									

NOTES:
Approximately 100 gallons lost during drilling (rock coring).

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

and = 35 - 50%	C = Coarse	R = Rounded	BGS = Below Ground Surface
some = 20 - 35%	M = Medium	A = Angular	NA = Not Applicable
little = 10 - 20%	F = Fine	SR = Subrounded	
trace = 1 - 10%	VF = Very Fine	SA = Subangular	

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIBW-02 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: NYEG	BORING LOCATION: See Figure	TIME: 1300 TO
DRILLER: Joel R.	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 7/6/18 END DATE: 7/6/18	WEATHER:

TYPE OF DRILL RIG: CME 55	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: 6.25"	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	1.0/2.0'	S1 0-2'	0.0'	Brown coarse to fine sand, some coarse to fine gravel, little silt, moist, no odor.	0	
1					0	
2	0.8/2.0'	S2 2-4'	2.0'	Tan fine to medium sand, moist, no odor.	0	
3			2.8'	Brown/black coarse to fine sand, little ash, trace cinders, trace glass, moist, no odor.	0	
4	0.6/2.0'	S3 4-6'	4.0'	Brown coarse to fine sand, some coarse to fine gravel, trace silt, moist, no odor.	0	
5					0	
6	1.2/2.0'	S4 6-8'	6.0'	Brown and gray coarse to fine sand, lenses of silt, rust staining, moist, no odor.	0	
7					0	
8	1.3/2.0'	S5 8-10'		Brown/tan fine to medium sand, trace silt, moist, no odor.	0	
9					0	
10	0.3/2.0'	S6 10-12'		Similar to above, cobble at 10.3'	0	
11					0	
12	1.5/2.0'	S7 12-14'		Similar to above, gray-brown, no cobble.	0	
13					0	
14	1.0/2.0'	S8 14-16'		Gray fine to medium sand, trace silt, broken cobbles, wet, no odor.	0	
15					0	
16	0.0/0.0'	S9 SPT Refusal		Split spoon refusal, continued augers.	1 1.2	Petroleum odor when augering to rock. PID reading of 12-16.9 ppm in soil cuttings.
17				Bedrock at 17.5'	1.1	
18				Augered into bedrock to 18.5' to set casing.		
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA				

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIBW-02

300 STATE STREET, ROCHESTER, NEW YORK
ENVIRONMENTAL ENGINEERING CONSULTANTS

ROCK CORE LOGS

Remedial Investigation
Former Shwerwood Shoe Company
625 South Goodman Street
Rochester, NY

MONITORING WELL	RIBW-02
SHEET	1 OF 1
JOB #	2172056
CHKD. BY:	

CONTRACTOR: NYEG
DRILLER: Joel R.
LABELLA REPRESENTATIVE: A. Brett

BORING LOCATION: NA
GROUND SURFACE ELEVATION: NA DATUM: NA
START DATE: 7/9/18 END DATE: 7/9/18

TYPE OF DRILL RIG: CME 55
AUGER SIZE AND TYPE: 6.25-inch HAS
OVERBURDEN SAMPLING METHOD: Split spoon
ROCK DRILLING METHOD: HX Core Barrel

WATER LEVEL DATA

DATE	TIME	WATER	REMARKS

DEPTH	BLOW COUNT / 6"	SAMPLE INTERVAL (FT)	RECOVERY	RQD (%)	VISUAL OBSERVATIONS		WELL INSTALLATION INFORMATION	PID (ppm)	NOTES
	NA	18-21'	2..75'	58.33	18.2' Fracture	Dolomite		0	
18					18.8 Fracture				
					19' Fracture			0	
19					19.5' Fracture				
					19.9' Fracture				
20					20.3' Fracture (5") w/sediment			6 ppm at 20.3'	
					21' Fracture (0.25")				
21	NA	21-26'	5.0'	80.83	21.1' Fracture (1") w/sediment	Dolomite		1.1 ppm at 21.1'	
					21.3' Fracture				
22					21.5' Fracture (0.25") w/sediment			1.6 ppm at 21.5'	
					22' Fracture				
23					22.6' Fracture			0	
					23.4' Fracture				
24								0	
					24.75' Fracture				
25					25.25' Fracture			0	
26									
					26' - End Rock Core				
27									
28									
29									
30									
31									
32									
33									

NOTES:
Approximately 100 gallons lost during drilling (rock coring). The drillers were able to recover 8' of rock before running out of water. The well appeared to produce water and coring was terminated.

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

and = 35 - 50%	C = Coarse	R = Rounded	BGS = Below Ground Surface
some = 20 - 35%	M = Medium	A = Angular	NA = Not Applicable
little = 10 - 20%	F = Fine	SR = Subrounded	
trace = 1 - 10%	VF = Very Fine	SA = Subangular	

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: RIBW-03 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR: NYEG	BORING LOCATION: See Figure	TIME: 1300 TO
DRILLER: Joel R.	GROUND SURFACE ELEVATION NA	DATUM: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 7/6/18 END DATE: 7/6/18	WEATHER:

TYPE OF DRILL RIG: CME 55	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: 6.25"	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	2.0/2.0'	S1 0-2'		Gray gravel and black asphalt.	0.3 0	
1				Gray brown coarse to fine sand, some coarse to fine gravel, little silt, moist, no odor.	0	
2	0.1/2.0'	S2 2-4'		Similar to above, split spoon refusal at 2.2', augering down to 4'.	0.2	
3					0.1	
4	1.3/2.0'	S3 4-6'		Brown coarse to fine sand, ,little silt, little asphalt, little coke, little brick, moist, no odor.	0.1	
5				Brick	0.1	
6	1.7/2.0'	S4 6-8'		Dark brown coarse to fine silty sand, little brick, moist, no odor. Yellow brown to tan fine sand, trace silt, silt lens at 7.5', moist, no odor.	0.2 0.1	
7					0.1	
8	1.8/2.0'	S5 8-10'		Similar to above.	0	
9				Brown silty sand, little coarse to fine gravel, moist, no odor.	0	
10	0.7/2.0'	S6 10-12'		Similar to above.	0.2	
11					0.1	
12	0.6/2.0'	S7 12-14'		Gray boulder.	0.5	
13						
14	1.3/2.0'	S8 14-16'		Gray brown fine sand, trace fine gravel, wet, no odor.	0	
15					0	
16						
17				Bedrock at 17.0'		
18				Augered into bedrock to 18.0' to set casing.		
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA				

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: RIBW-03

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	ROCK CORE LOGS Remedial Investigation Former Shwerwood Shoe Company 625 South Goodman Street Rochester, NY	MONITORING WELL RIBW-03 SHEET 1 OF 1 JOB # 2172056 CHKD. BY:

CONTRACTOR: NYEG — BORING LOCATION: NA
DRILLER: Joel R. — GROUND SURFACE ELEVATION: NA — DATUM: NA
LABELLA REPRESENTATIVE: A. Brett — START DATE: 7/9/18 — END DATE: 7/9/18

TYPE OF DRILL RIG: CME 55
AUGER SIZE AND TYPE: 6.25-inch HAS
OVERBURDEN SAMPLING METHOD: Split spoon
ROCK DRILLING METHOD: HX Core Barrel

WATER LEVEL DATA

DATE	TIME	WATER	REMARKS

DEPTH	BLOW COUNT / 6"	SAMPLE INTERVAL (FT)	RECOVERY	RQD (%)	VISUAL OBSERVATIONS	WELL INSTALLATION INFORMATION	PID (ppm)	NOTES
	NA	18-23'	4.9'	69.17	18.25' Facture (0.5") w/ vertical break			
18					19' Fracture (1") w/vertical break			
					19.33' Fracture (0.25") w/vertical break			
19					19.75' Fracture			
					20.1' Fracture (2") w/sediment			
20					20.5' Fracture (0.5") w/sediment			
					20.7' Fracture			
21					21.1' Fracture			
					21.8' Fracture			
22					22.8' Fracture (0.5") w/calcified deposits			
					22.9' Fracture			
23	NA	23-28'	4.9'	77.5				
24					24.4' Fracture (2.5") w/sediment			
					24.75' Fracture			
25					24.9' Fracture			
					25.25' Fracture			
26					25.9' Fracture			
					26.25' Fracture			
27								
28								
					28' - End Rock Core			
29								
30								
31								
32								
33								

NOTES:
Approximately 80 gallons lost during drilling (rock coring).

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

and = 35 - 50%	C = Coarse	R = Rounded	BGS = Below Ground Surface
some = 20 - 35%	M = Medium	A = Angular	NA = Not Applicable
little = 10 - 20%	F = Fine	SR = Subrounded	
trace = 1 - 10%	VF = Very Fine	SA = Subangular	

	PROJECT	
300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: SG-01 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME: 900	TO: 930
DRILLER:	M. Pepe	GROUND SURFACE ELEVATION	509.82	DATUM:	North American 1983
LABELLA REPRESENTATIVE: A. Brett		START DATE: 5/24/18	END DATE: 5/24/2018	WEATHER:	Sunny, 70s, wind E

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (INCHES)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	3.2/5.0	S1 0-5	0.0'	Brown SILTY SAND, some gravel, moist, no odor.	0	
1					0	
2					0	
			2.5'	Brown SAND and SILT, some ash and cinders, trace brick, moist, no odor.		
3					0	
4			4.0'	Brown wet SILT, little sand, trace clay, moist, no odor.	0.3	
5				End Boring	0	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	5'	5'	NA	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: SG-01

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY	BORING: SG-03 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME: 930	TO: 1000
DRILLER:	M. Pepe	GROUND SURFACE ELEVATION	510.16	DATUM:	North American 1983
LABELLA REPRESENTATIVE: A. Brett		START DATE: 5/24/18	END DATE: 5/24/2018	WEATHER:	Sunny, 70s, wind E

TYPE OF DRILL RIG: Geoprobe 6620DT	DRIVE SAMPLER TYPE: Macrocore
AUGER SIZE AND TYPE: NA	INSIDE DIAMETER: 2"
OVERBURDEN SAMPLING METHOD: Direct Push	OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (INCHES)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	3.0/5.0	S1 0-5	0	Brown SILTY SAND, some gravel, moist, no odor.	0	
1					0	
2					0	
			2.5	Cobble		
3			2.7	Brown SAND and SILT, some ash and cinders, moist, no odor.	0.2	
			3.2	Brown SILT, some fine sand, moist, no odor.	0.3	
4					0.5	
					0.3	
5				End Boring	0.2	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	5'	5'	NA	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: SG-03

300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Remedial Investigation
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, NY

BORING: SG-03
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME: 1030	TO: 1100
DRILLER:	M. Pepe	GROUND SURFACE ELEVATION	508.48	DATUM:	North American 1983
LABELLA REPRESENTATIVE: A. Brett		START DATE: 5/24/18	END DATE: 5/24/2018	WEATHER:	Sunny, 70s, wind E

TYPE OF DRILL RIG: Geoprobe 6620DT
AUGER SIZE AND TYPE: NA
OVERBURDEN SAMPLING METHOD: Direct Push
DRIVE SAMPLER TYPE: Macrocore
INSIDE DIAMETER: 2"
OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (INCHES)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	3.8/5.0	S1 0-5	0.0'	Brown SAND and GRAVEL, moist, no odor.	0	
1			1.0'	Brick	0	
			1.3'	Brown fine SAND, moist, no odor.	0.2	
2			1.5'	Brown SAND and GRAVEL, little ash and coke, moist, no odor.	0.2	
			2.5'	Brown fine SAND, little silt, moist, no odor.	0.2	
3					0.2	
4					0.2	
5				End Boring		
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	5'	5'	NA	

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: SG-03

300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Remedial Investigation
Former Sherwood Shoe Company
625 South Goodman Street
Rochester, NY

BORING: SG-04
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION: See Figure		TIME: 1130	TO: 1100
DRILLER:	M. Pepe	GROUND SURFACE ELEVATION	509.99	DATUM:	North American 1983
LABELLA REPRESENTATIVE: A. Brett		START DATE: 5/24/18	END DATE: 5/24/2018	WEATHER:	Sunny, 70s, wind E

TYPE OF DRILL RIG: Geoprobe 6620DT
AUGER SIZE AND TYPE: NA
OVERBURDEN SAMPLING METHOD: Direct Push

DRIVE SAMPLER TYPE: Macrocore
INSIDE DIAMETER: 2"
OTHER:

DEPTH (FEET BGS)	SAMPLE RECOVERY (INCHES)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET BGS)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	4.0/5.0	S1 0-5	0.0'	Brown SILTY SAND, some gravel, moist, no odor.	0	
1					0	
			1.4'	Similar, trace ash and asphalt, moist, no odor.		
2			2.0'	Similar, little brick and concrete, moist.	0.2	
3					0.4	
			3.2'	Brown SAND and SILT, little gravel, trace coke, moist, no odor.		
4					0.3	
5				End Boring	0.3	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELAPSED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	
NA	NA	NA	5'	5'	NA	

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

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	trace = 1 - 10%	VF = Very Fine	SA = Subangular

BORING: SG-04

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Former Sherwood Shoe Company Remedial Investigation 625 South Goodman Street Rochester, NY Client: Mark IV Enterprises	TEST PIT: TP-01 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:
COMPANY RUNNING EQUIPMENT: Mark IV Enterprises OPERATOR: Hank LABELLA REPRESENTATIVE: A. Brett	TEST PIT LOCATION: see map GROUND SURFACE ELEVATION NA START DATE: 9/12/18	DATUM: NA TYPE OF EQUIPMENT: END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE: SAMPLE NO. AND DEPTH	SAMPLE: STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'	0.0'	Brown silty sand, moist, no odor.	0	
1	S2 1-2'	1.0'	Asphalt	0	
		1.3'	Brown silty sand, moist, no odor		
2	S3 2-4'	2.0'	Brown silty sand and gravel, little brick, little concrete, moist, no odor	0	
3				0	
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-01

300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Former Sherwood Shoe Company
Remedial Investigation
625 South Goodman Street
Rochester, NY
Client: Mark IV Enterprises

TEST PIT:	TP-02
SHEET	1 OF 1
JOB:	2172056
CHKD BY:	
DATE:	

COMPANY RUNNING EQUIPMENT: Mark IV Enterprises
OPERATOR: Hank
LABELLA REPRESENTATIVE: A. Brett

TEST PIT LOCATION: see map
GROUND SURFACE ELEVATION NA
START DATE: 9/12/18

DATUM: NA
TYPE OF EQUIPMENT:
END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'	0.0' 0.3'	Brown silty sand, little cobbles, little gravel, moist, no odor. Brown silty sand, some brick and asphalt pieces, little cobbles, little metal pieces, little gravel.	0	MS/MSD/DUP from 0-1 feet
1	S2 1-2'			0	
2	S3 2-4'			0	
3				0	
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-02

	PROJECT		
LaBella Powered by partnership.	Former Sherwood Shoe Company	TEST PIT:	TP-03
	Remedial Investigation	SHEET	1 OF 1
	625 South Goodman Street	JOB:	2172056
300 STATE STREET, ROCHESTER, NY	Rochester, NY	CHKD BY:	
ENVIRONMENTAL ENGINEERING CONSULTANTS	Client: Mark IV Enterprises	DATE:	

COMPANY RUNNING EQUIPMENT: Mark IV Enterprises	TEST PIT LOCATION: see map	DATUM: NA
OPERATOR: Hank	GROUND SURFACE ELEVATION NA	TYPE OF EQUIPMENT:
LABELLA REPRESENTATIVE: A. Brett	START DATE: 9/12/18	END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE		VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)			
0	S1 0-1'	0.0'	Brown/dark brown sitly sand, moist, no odor.	0	
1	S2 1-2'	1.0'	Light brown sand, little silt, moist, no odor.	0	
2	S3 2-4'			0	
3		3.0'	Dark brown silty sand, little brick, woodpieces, asphalt, little cobble, moist, no odor. Old conduit at 3ft.	0	
4			4-ft - End Test Pit		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-03

	PROJECT		
LaBella Powered by partnership.	Former Sherwood Shoe Company	TEST PIT:	TP-04
	Remedial Investigation	SHEET	1 OF 1
	625 South Goodman Street	JOB:	2172056
300 STATE STREET, ROCHESTER, NY	Rochester, NY	CHKD BY:	
ENVIRONMENTAL ENGINEERING CONSULTANTS	Client: Mark IV Enterprises	DATE:	

COMPANY RUNNING EQUIPMENT: Mark IV Enterprises	TEST PIT LOCATION: see map	DATUM: NA
OPERATOR: Hank	GROUND SURFACE ELEVATION NA	TYPE OF EQUIPMENT:
LABELLA REPRESENTATIVE: A. Brett	START DATE: 9/12/18	END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE		VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)			
0	S1 0-1'	0.0'	Brown sand, moist, no odor.	0	
1	S2 1-2'	1.0'	Brown silty sand, moist, no odor.	0	
2	S3 2-4'	2.0'	Gray-brown silty sand and gravel, little cobbles, little brick, large wood pieces.	0	
3				0	
4			3.7-ft - End Test Pit - Refusal on Concrete Slab	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		3.7-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-04

300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Former Sherwood Shoe Company Remedial Investigation 625 South Goodman Street Rochester, NY Client: Mark IV Enterprises	TEST PIT: TP-05 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:
COMPANY RUNNING EQUIPMENT: Mark IV Enterprises OPERATOR: Hank LABELLA REPRESENTATIVE: A. Brett	TEST PIT LOCATION: see map GROUND SURFACE ELEVATION NA START DATE: 9/12/18	DATUM: NA TYPE OF EQUIPMENT: END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'	0.0'	Light brown fine sand, little silt, little brick, moist, no odor.	0	
1	S2 1-2'			0	
2	S3 2-4'	2.0'	Similar to above, little concrete, cobbles, wood, slag, old pipe conduit at 2ft	0	
3				0	
		3.4'	Gray brown silty sand, little wood, no odor.		
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-05

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Former Sherwood Shoe Company Remedial Investigation 625 South Goodman Street Rochester, NY Client: Mark IV Enterprises	TEST PIT: TP-06 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:
COMPANY RUNNING EQUIPMENT: Mark IV Enterprises OPERATOR: Hank LABELLA REPRESENTATIVE: A. Brett	TEST PIT LOCATION: see map GROUND SURFACE ELEVATION NA START DATE: 9/12/18	DATUM: NA TYPE OF EQUIPMENT: END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'		Brown silty sand, little gravel and cobbles, moist, organic odor.	0	
1	S2 1-2'			0	
2	S3 2-4'		Broken concrete slab at 2ft. Brown silty sand, little gravel and cobbles, moist, organic odor.	0	
3			Similar to above, little brick and wood.	0	
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-06

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Former Sherwood Shoe Company Remedial Investigation 625 South Goodman Street Rochester, NY Client: Mark IV Enterprises	TEST PIT: TP-07 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:
COMPANY RUNNING EQUIPMENT: Mark IV Enterprises OPERATOR: Hank LABELLA REPRESENTATIVE: A. Brett	TEST PIT LOCATION: see map GROUND SURFACE ELEVATION NA START DATE: 9/12/18	DATUM: NA TYPE OF EQUIPMENT: END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE NO. AND DEPTH	SAMPLE STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'	0.0'	Gray gravel, little brown sand, moist, no odor. Geotextile at 0.6 ft.	0	
1	S2 1-2'	0.6'	Light brown sand, little silt, little gravel, little cobbles.	0	
2	S3 2-4'			0	
3		3.0'	Brown silty sand, some gravel, concrete, organic odor.	0	
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-07

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Former Sherwood Shoe Company Remedial Investigation 625 South Goodman Street Rochester, NY Client: Mark IV Enterprises	**TEST PIT:** TP-08 **SHEET** 1 OF 1 **JOB:** 2172056 **CHKD BY:** **DATE:**
COMPANY RUNNING EQUIPMENT: Mark IV Enterprises	TEST PIT LOCATION: see map	DATUM: NA
OPERATOR: Hank	GROUND SURFACE ELEVATION NA	TYPE OF EQUIPMENT:
LABELLA REPRESENTATIVE: A. Brett	START DATE: 9/12/18	END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'	0.0'	Gray gravel, little brown sand, moist, no odor. Geotextile at 0.5 ft	0	
1	S2 1-2'		Gray brown sitly sand and gravel, little cobbles, concrete blocks, wire conduit, trace brick, moist, no odor.	0	
2	S3 2-4'			0	
3			Dark gray silty sand, similar fill as above.	0	
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-08

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NY ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Former Sherwood Shoe Company Remedial Investigation 625 South Goodman Street Rochester, NY Client: Mark IV Enterprises	TEST PIT: TP-09 SHEET 1 OF 1 JOB: 2172056 CHKD BY: DATE:
COMPANY RUNNING EQUIPMENT: Mark IV Enterprises OPERATOR: Hank LABELLA REPRESENTATIVE: A. Brett	TEST PIT LOCATION: see map GROUND SURFACE ELEVATION NA START DATE: 9/12/18	DATUM: NA TYPE OF EQUIPMENT: END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'	0.0' 0.4'	Brown sand, little silt, some gravel, little cobbles, moist, no odor. Brown sand, little silt, some gravel, little cobbles, little concrete slab pieces, trace brick, moist, no odor.	0	
1	S2 1-2'			0	
2	S3 2-4'			0	
3				0	
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)	
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED
NA	NA	NA		4-ft	NO

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-09

LaBella Powered by partnership.

300 STATE STREET, ROCHESTER, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Former Sherwood Shoe Company
Remedial Investigation
625 South Goodman Street
Rochester, NY
Client: Mark IV Enterprises

TEST PIT: TP-10
SHEET 1 OF 1
JOB: 2172056
CHKD BY:
DATE:

COMPANY RUNNING EQUIPMENT: Mark IV Enterprises
OPERATOR: Hank
LABELLA REPRESENTATIVE: A. Brett

TEST PIT LOCATION: see map
GROUND SURFACE ELEVATION NA
START DATE: 9/12/18

DATUM: NA
TYPE OF EQUIPMENT:
END DATE: 9/12/2018

DEPTH (FEET)	SAMPLE NO. AND DEPTH	STRATA CHANGE (FEET)	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0	S1 0-1'	0.0'	Gray brown to brown silty sand and gravel, little cobbles, moist, no odor.	0	MS/MSD/DUP from 0-1 feet
1	S2 1-2'			0	
2	S3 2-4'			0	
		2.5'	Light brown sand, little brick, trace silt, trace gravel, moist, no odor.		
3		3.0'	Brown silty sand, some gravel, little brick, moist, no odor.	0	
4			4-ft - End Test Pit	0	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WATER LEVEL DATA				DEPTH (FT)		
DATE	TIME	ELAPSED TIME		BOTTOM OF TEST PIT	GROUNDWATER ENCOUNTERED	Dusttrak 3634 Upwind Dusttrak 3635 Downwind
NA	NA	NA		4-ft	NO	

GENERAL NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER

BGS = Below Ground Surface	and = 35 - 50%	C = Coarse	R = Rounded
NA = Not Applicable	some = 20 - 35%	M = Medium	A = Angular
	little = 10 - 20%	F = Fine	SR = Subrounded
	trace = 1 - 10%	VF = Very Fine	SA = Subangular

TEST PIT: TP-10

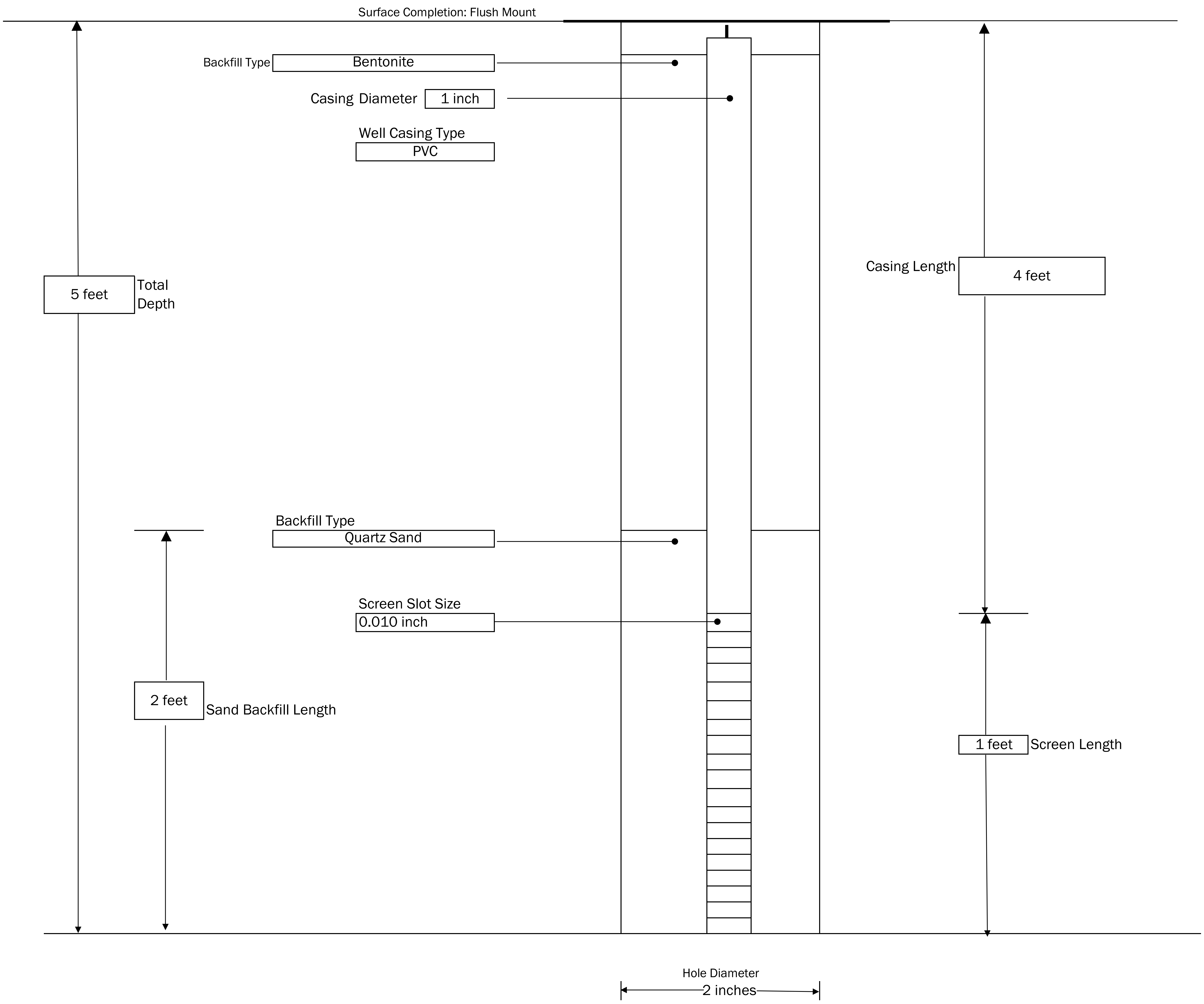
LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**Soil Gas Point Construction Log** Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY Remedial Investigation	**SOIL GAS POINT: SG-1** **SHEET** 1 OF 1 **Project #** 2172056 **Client** Highland Grove LLC

CONTRACTOR: LaBella Env. LLC
DRILLER: M. Pepe
LABELLA REPRESENTATIVE: Alex Brett

BORING LOCATION: See Figure
GROUND SURFACE ELEVATION: 509.82 DATUM: North American 1983
START DATE: 5/24/2018 END DATE: 5/24/2018

TYPE OF DRILL RIG: Geoprobe 6620 DT
AUGER SIZE AND TYPE: NA
OVERBURDEN SAMPLING METHOD: macrocore
ROCK DRILLING METHOD: NA

Weather: Sunny, 70's, wind: west to east.



NOTE: NOT TO SCALE

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL

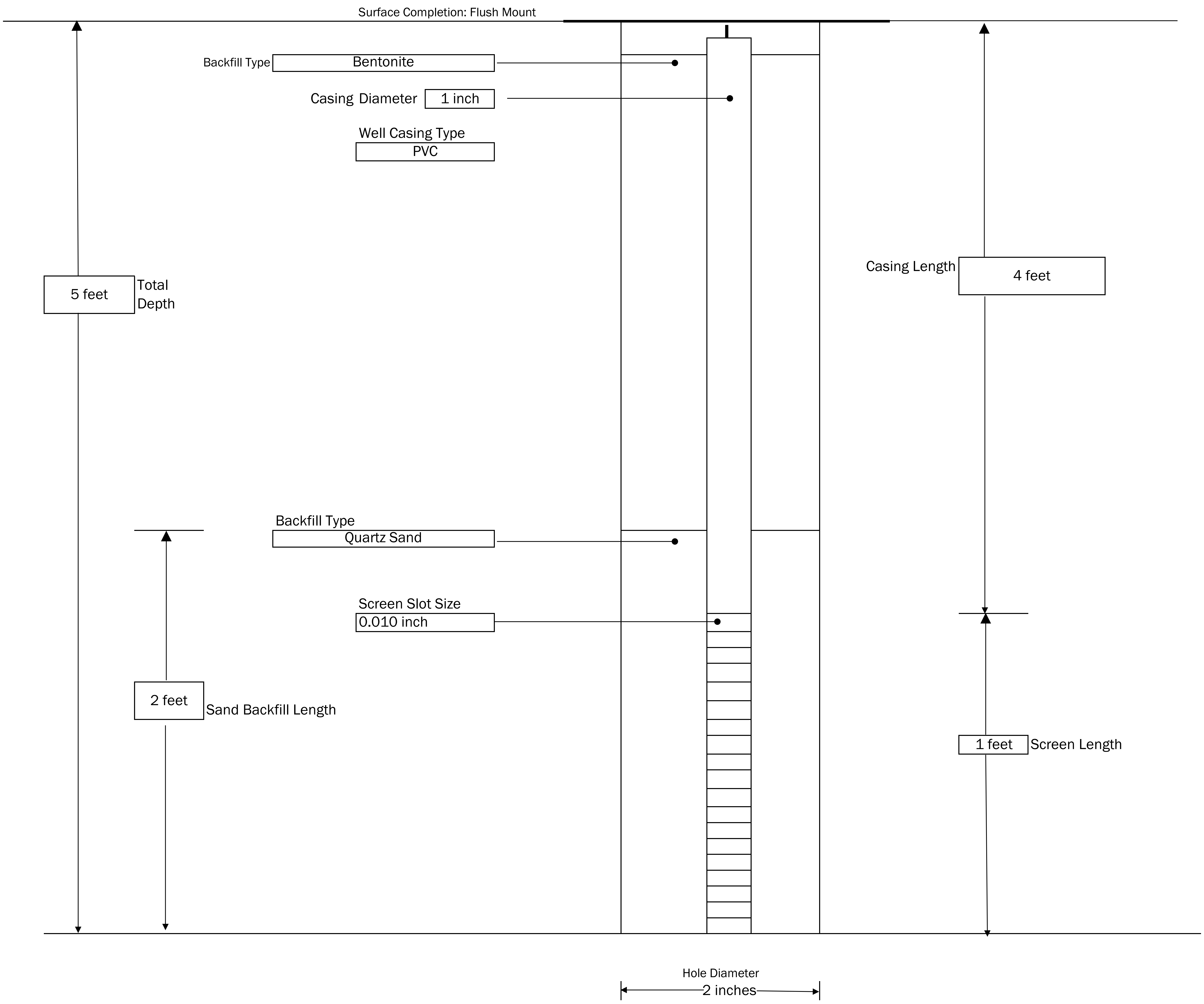
LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**Soil Gas Point Construction Log** Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY Remedial Investigation	**SOIL GAS POINT: SG-2** **SHEET** 1 OF 1 **Project #** 2172056 **Client** Highland Grove LLC

CONTRACTOR: LaBella Env. LLC
DRILLER: M. Pepe
LABELLA REPRESENTATIVE: Alex Brett

BORING LOCATION: See Figure
GROUND SURFACE ELEVATION: 510.16 DATUM: North American 1983
START DATE: 5/24/2018 END DATE: 5/24/2018

TYPE OF DRILL RIG: Geoprobe 6620 DT
AUGER SIZE AND TYPE: NA
OVERBURDEN SAMPLING METHOD: macrocore
ROCK DRILLING METHOD: NA

Weather: Sunny, 70's, wind: west to east.



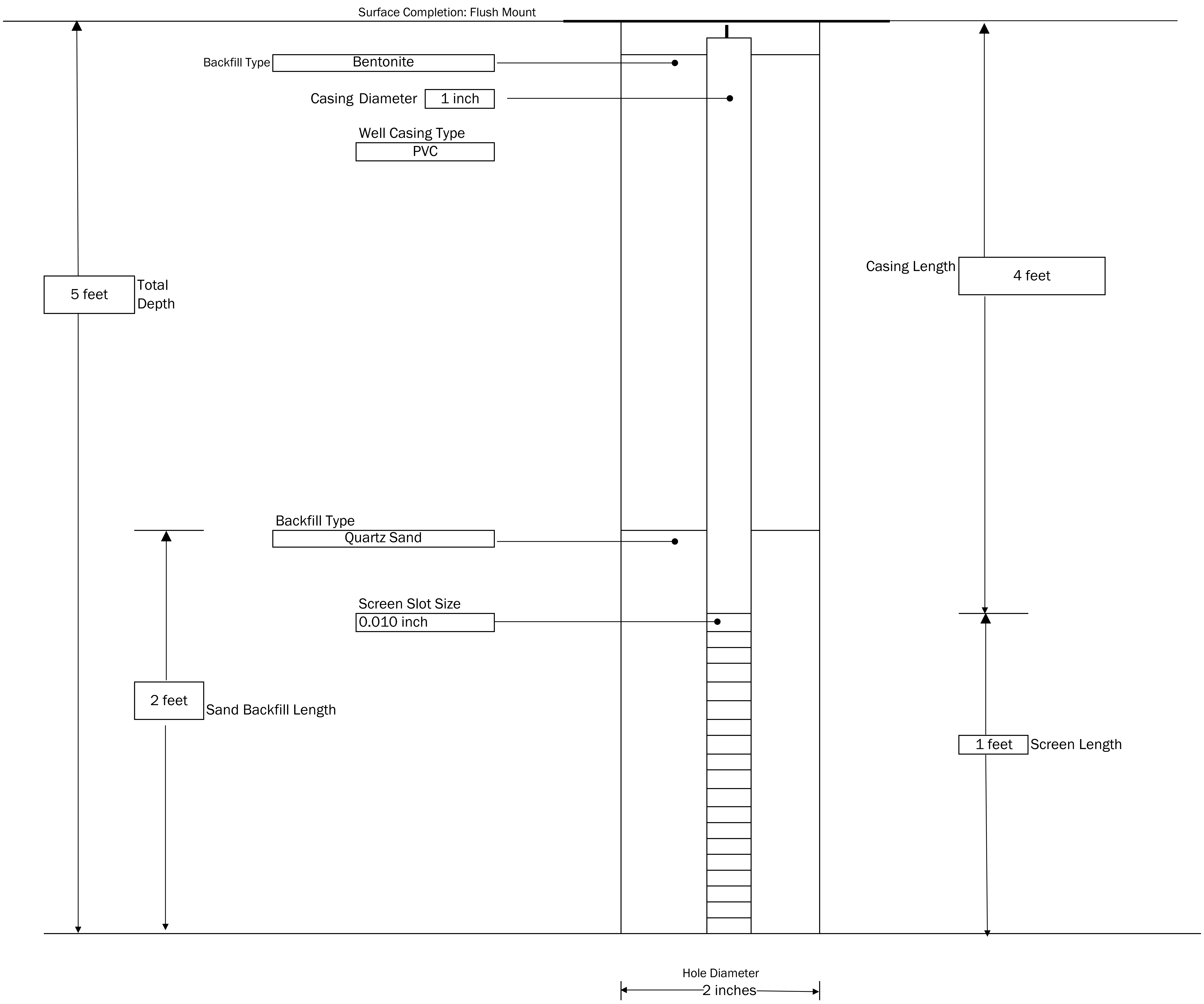
NOTE: NOT TO SCALE

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**Soil Gas Point Construction Log** Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY Remedial Investigation	**SOIL GAS POINT: SG-3** **SHEET** 1 OF 1 **Project #** 2172056 **Client** Highland Grove LLC

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION:	See Figure		
DRILLER:	M. Pepe	GROUND SURFACE ELEVATION:	508.48	DATUM:	North American 1983
LABELLA REPRESENTATIVE: Alex Brett		START DATE:	5/24/2018	END DATE:	5/24/2018

TYPE OF DRILL RIG:	Geoprobe 6620 DT	Weather: Sunny, 70's, wind: west to east.
AUGER SIZE AND TYPE:	NA	
OVERBURDEN SAMPLING METHOD:	macrocore	
ROCK DRILLING METHOD:	NA	



NOTE: NOT TO SCALE

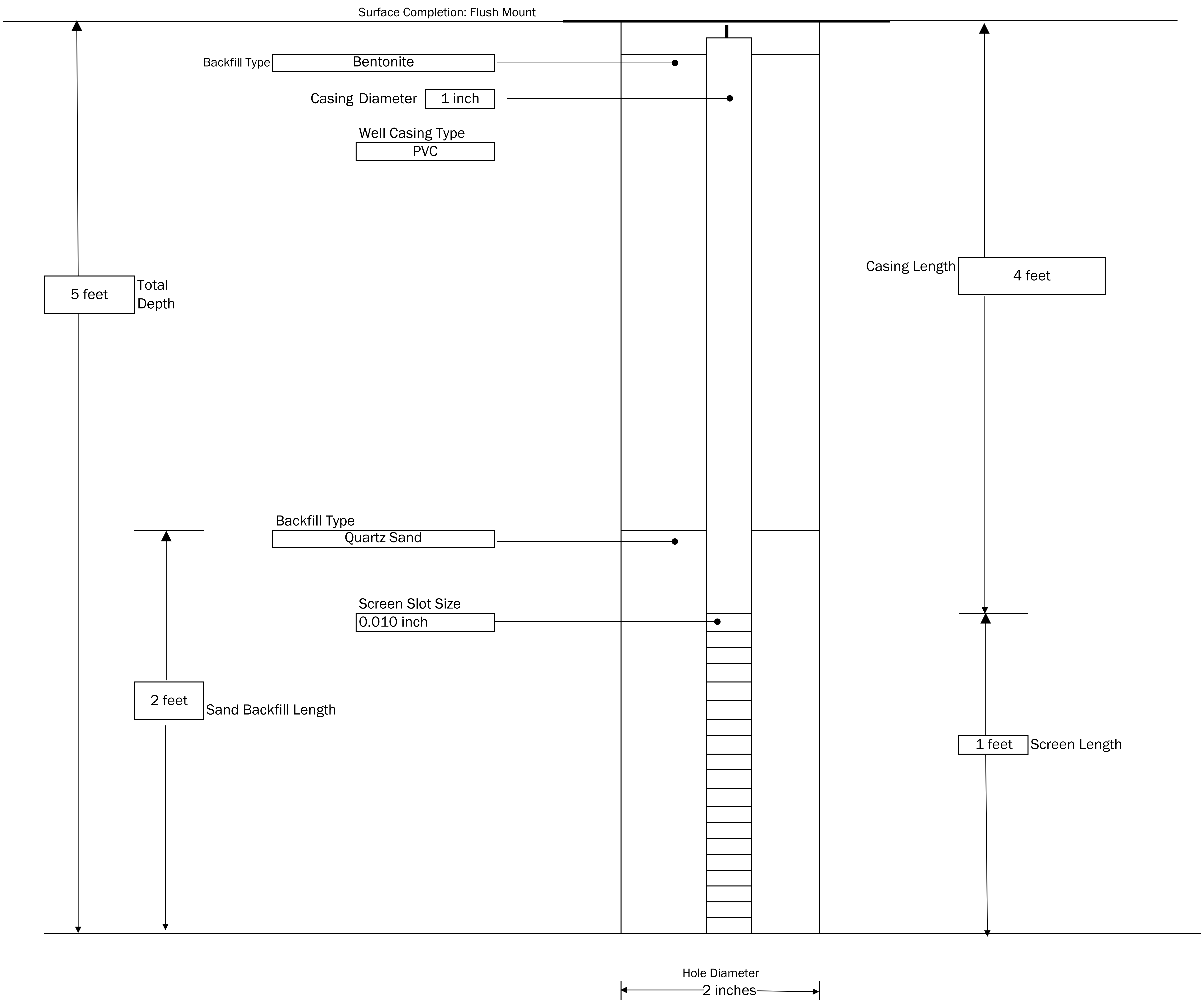
GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**Soil Gas Point Construction Log** Former Sherwood Shoe Company 625 South Goodman Street Rochester, NY Remedial Investigation	**SOIL GAS POINT: SG-4** **SHEET** 1 OF 1 **Project #** 2172056 **Client** Highland Grove LLC

CONTRACTOR:	LaBella Env. LLC	BORING LOCATION:	See Figure		
DRILLER:	M. Pepe	GROUND SURFACE ELEVATION:	509.99	DATUM:	North American 1983
LABELLA REPRESENTATIVE: Alex Brett		START DATE:	5/24/2018	END DATE:	5/24/2018

TYPE OF DRILL RIG:	Geoprobe 6620 DT	Weather: Sunny, 70's, wind: west to east.
AUGER SIZE AND TYPE:	NA	
OVERBURDEN SAMPLING METHOD:	macrocore	
ROCK DRILLING METHOD:	NA	



NOTE: NOT TO SCALE

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL

LaBella
Powered by partnership.

AIR SAMPLING FIELD REPORT

AIR SAMPLING POINT
SG-01

Project:	Former Sherwood Shoe Company	LaBella Project No.:	2172056
Site Location:	625 South Goodman Street	LaBella Representative:	A. Brett
Client:	Highland Grove LLC	Weather:	80°F to 70°F, partly cloudy
Sample Date:	5/29/2018		

General Information

Sample Canister Location: SG-01 (see Figure)

Sample Source: ____ Indoor Air ____ Sub-Slab ____ Interior Ambient Air ____ Exterior Ambient Air

X Soil Gas ____ Other

Shipping Date: 5/30/2018 Laboratory: Centek

Canister Type: X 1.0 L Summa Canister ____ 6.0 L Summa Canister Other (specify): ____

Canister Serial No.: 360 Flow Controller Serial No.: 375

Purge Information

Leak Detection Test Date: 5/29/2018 Leak Detection: X Pass ____ Fail

Tracer Gas Used: Helium Detector Used: Restek Leak Detector

Purging Method: Plastic Syringe

Volume of Gas Extracted: 1 L

Sampling Information

Sample Date: 5/29/2018 Sampler: A. Brett

Sample Depth: 4-5' bgs

	Start	Stop
Canister Pressure Gauge Reading:	-30" Hg	–5" Hg
Sample Time:	1500	2002

Sample Analysis: TO-15

Comments:

LaBella
Powered by partnership.

AIR SAMPLING FIELD REPORT

AIR SAMPLING POINT
Duplicate(SG-01)

Project:	Former Sherwood Shoe Company	LaBella Project No.:	2172056
Site Location:	625 South Goodman Street	LaBella Representative:	A. Brett
Client:	Highland Grove LLC	Weather:	80°F to 70°F, partly cloudy
Sample Date:	5/29/2018		

General Information

Sample Canister Location: Duplicate (SG-01) (see Figure)

Sample Source: ____ Indoor Air ____ Sub-Slab ____ Interior Ambient Air ____ Exterior Ambient Air

X Soil Gas ____ Other

Shipping Date: 5/30/2018

Laboratory: Centek

Canister Type: X 1.0 L Summa Canister ____ 6.0 L Summa Canister Other (specify): ____

Canister Serial No.: 87

Flow Controller Serial No.: 375

Purge Information

Leak Detection Test Date: 5/29/2018

Leak Detection: X Pass ____ Fail

Tracer Gas Used: Helium

Detector Used: Restek Leak Detector

Purging Method: Plastic Syringe

Volume of Gas Extracted: 1 L

Sampling Information

Sample Date: 5/29/2018

Sampler: A. Brett

Sample Depth: 4-5' bgs

	Start	Stop
Canister Pressure Gauge Reading:	-30" Hg	–5" Hg
Sample Time:	1500	2002

Sample Analysis: TO-15

Comments:

LaBella
Powered by partnership.

AIR SAMPLING FIELD REPORT

AIR SAMPLING POINT
SG-02

Project:	Former Sherwood Shoe Company	LaBella Project No.:	2172056
Site Location:	625 South Goodman Street	LaBella Representative:	A. Brett
Client:	Highland Grove LLC	Weather:	80°F to 70°F, partly cloudy
Sample Date:	5/29/2018		

General Information

Sample Canister Location: SG-02 (see Figure)

Sample Source: ____ Indoor Air ____ Sub-Slab ____ Interior Ambient Air ____ Exterior Ambient Air

X Soil Gas ____ Other

Shipping Date: 5/30/2018 Laboratory: Centek

Canister Type: X 1.0 L Summa Canister ____ 6.0 L Summa Canister Other (specify): ____

Canister Serial No.: 209 Flow Controller Serial No.: 693

Purge Information

Leak Detection Test Date: 5/29/2018 Leak Detection: X Pass ____ Fail

Tracer Gas Used: Helium Detector Used: Restek Leak Detector

Purging Method: Plastic Syringe

Volume of Gas Extracted: 1 L

Sampling Information

Sample Date: 5/29/2018 Sampler: A. Brett

Sample Depth: 4-5' bgs

	Start	Stop
Canister Pressure Gauge Reading:	-30" Hg	–6" Hg
Sample Time:	1520	2130

Sample Analysis: TO-15

Comments:
MS/MSD

LaBella
Powered by partnership.

AIR SAMPLING FIELD REPORT

AIR SAMPLING POINT
SG-03

Project: Former Sherwood Shoe Company
Site Location: 625 South Goodman Street
Client: Highland Grove LLC
Sample Date: 5/29/2018

LaBella Project No.: 2172056
LaBella Representative: A. Brett
Weather: 80°F to 70°F, partly cloudy

General Information

Sample Canister Location: SG-03 (see Figure)

Sample Source: ____ Indoor Air ____ Sub-Slab ____ Interior Ambient Air ____ Exterior Ambient Air

X Soil Gas ____ Other

Shipping Date: 5/30/2018

Laboratory: Centek

Canister Type: X 1.0 L Summa Canister ____ 6.0 L Summa Canister Other (specify): ____

Canister Serial No.: 337

Flow Controller Serial No.: 240

Purge Information

Leak Detection Test Date: 5/29/2018

Leak Detection: X Pass ____ Fail

Tracer Gas Used: Helium

Detector Used: Restek Leak Detector

Purging Method: Plastic Syringe

Volume of Gas Extracted: 1 L

Sampling Information

Sample Date: 5/29/2018

Sampler: A. Brett

Sample Depth: 4-5' bgs

	Start	Stop
Canister Pressure Gauge Reading:	-30" Hg	–6" Hg
Sample Time:	1600	2110

Sample Analysis: TO-15

Comments:

AIR SAMPLING FIELD REPORT

LaBella
Powered by partnership.

AIR SAMPLING POINT

SG-04

Project:	Former Sherwood Shoe Company	LaBella Project No.:	2172056
Site Location:	625 South Goodman Street	LaBella Representative:	A. Brett
Client:	Highland Grove LLC	Weather:	80°F to 70°F, partly cloudy
Sample Date:	5/29/2018		

General Information

Sample Canister Location: SG-04 (see Figure)

Sample Source: ____ Indoor Air ____ Sub-Slab ____ Interior Ambient Air ____ Exterior Ambient Air

X Soil Gas ____ Other

Shipping Date: 5/30/2018

Laboratory: Centek

Canister Type: X 1.0 L Summa Canister ____ 6.0 L Summa Canister Other (specify): ____

Canister Serial No.: 1193

Flow Controller Serial No.: 381

Purge Information

Leak Detection Test Date: 5/29/2018

Leak Detection: X Pass ____ Fail

Tracer Gas Used: Helium

Detector Used: Restek Leak Detector

Purging Method: Plastic Syringe

Volume of Gas Extracted: 1 L

Sampling Information

Sample Date: 5/29/2018

Sampler: A. Brett

Sample Depth: 4-5' bgs

	Start	Stop
Canister Pressure Gauge Reading:	-30" Hg	–6" Hg
Sample Time:	1540	2100

Sample Analysis: TO-15

Comments:

LaBella
Powered by partnership.

AIR SAMPLING FIELD REPORT

AIR SAMPLING POINT
OA-01

Project:	Former Sherwood Shoe Company	LaBella Project No.:	2172056
Site Location:	625 South Goodman Street	LaBella Representative:	A. Brett
Client:	Highland Grove LLC	Weather:	80°F to 70°F, partly cloudy
Sample Date:	5/29/2018		

General Information

Sample Canister Location: SG-04 (see Figure)

Sample Source: ____ Indoor Air ____ Sub-Slab ____ Interior Ambient Air X Exterior Ambient Air

____ Soil Gas ____ Other

Shipping Date: 5/30/2018 Laboratory: Centek

Canister Type: X 1.0 L Summa Canister ____ 6.0 L Summa Canister Other (specify): ____

Canister Serial No.: 1184 Flow Controller Serial No.: 269

Purge Information

Leak Detection Test Date: 5/29/2018 Leak Detection: X Pass ____ Fail

Tracer Gas Used: Helium Detector Used: Restek Leak Detector

Purging Method: Plastic Syringe

Volume of Gas Extracted: 1 L

Sampling Information

Sample Date: 5/29/2018 Sampler: A. Brett

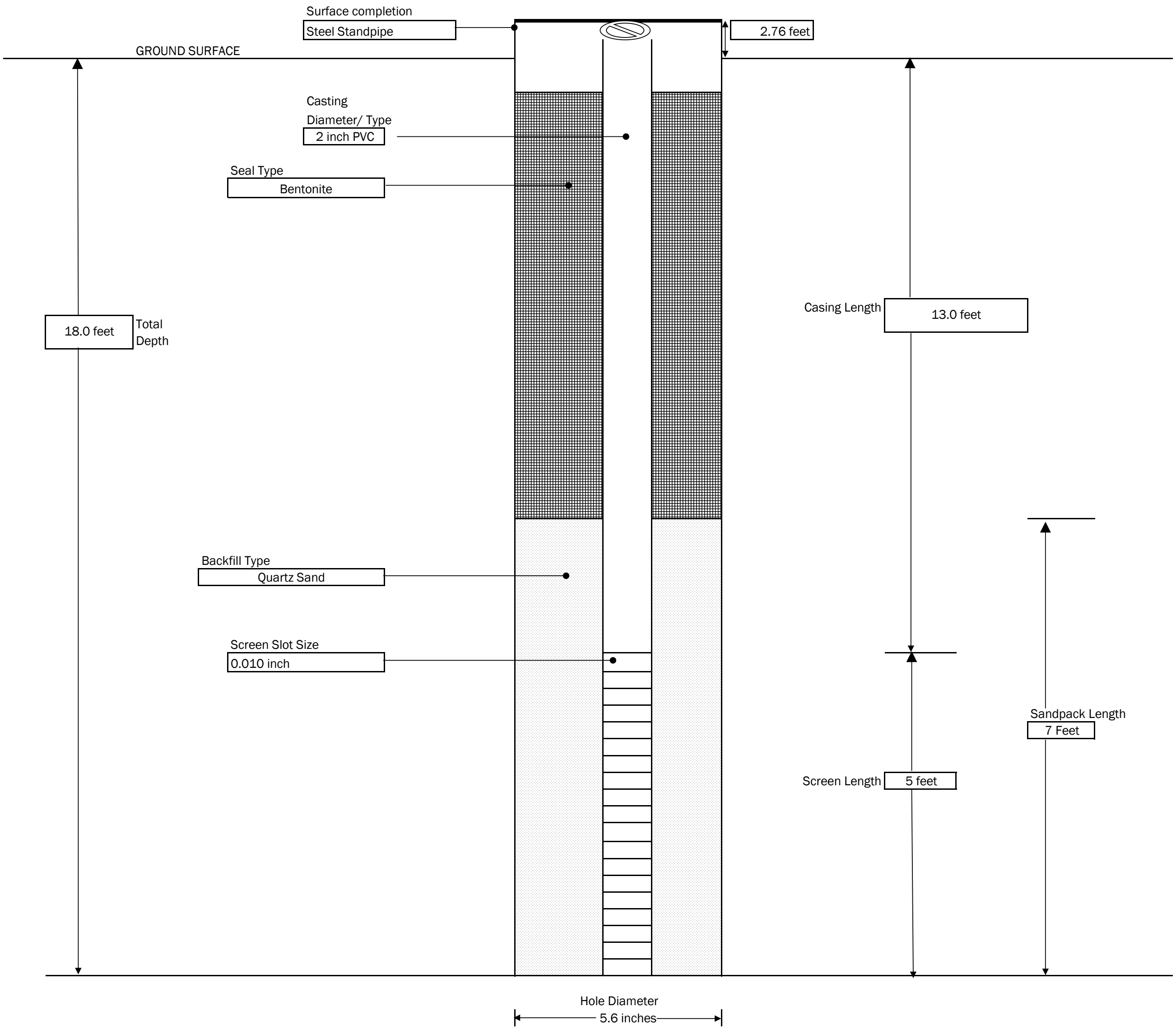
Sample Depth: 4-5' bgs

	Start	Stop
Canister Pressure Gauge Reading:	-30" Hg	–6" Hg
Sample Time:	1600	2120

Sample Analysis: TO-15

Comments:

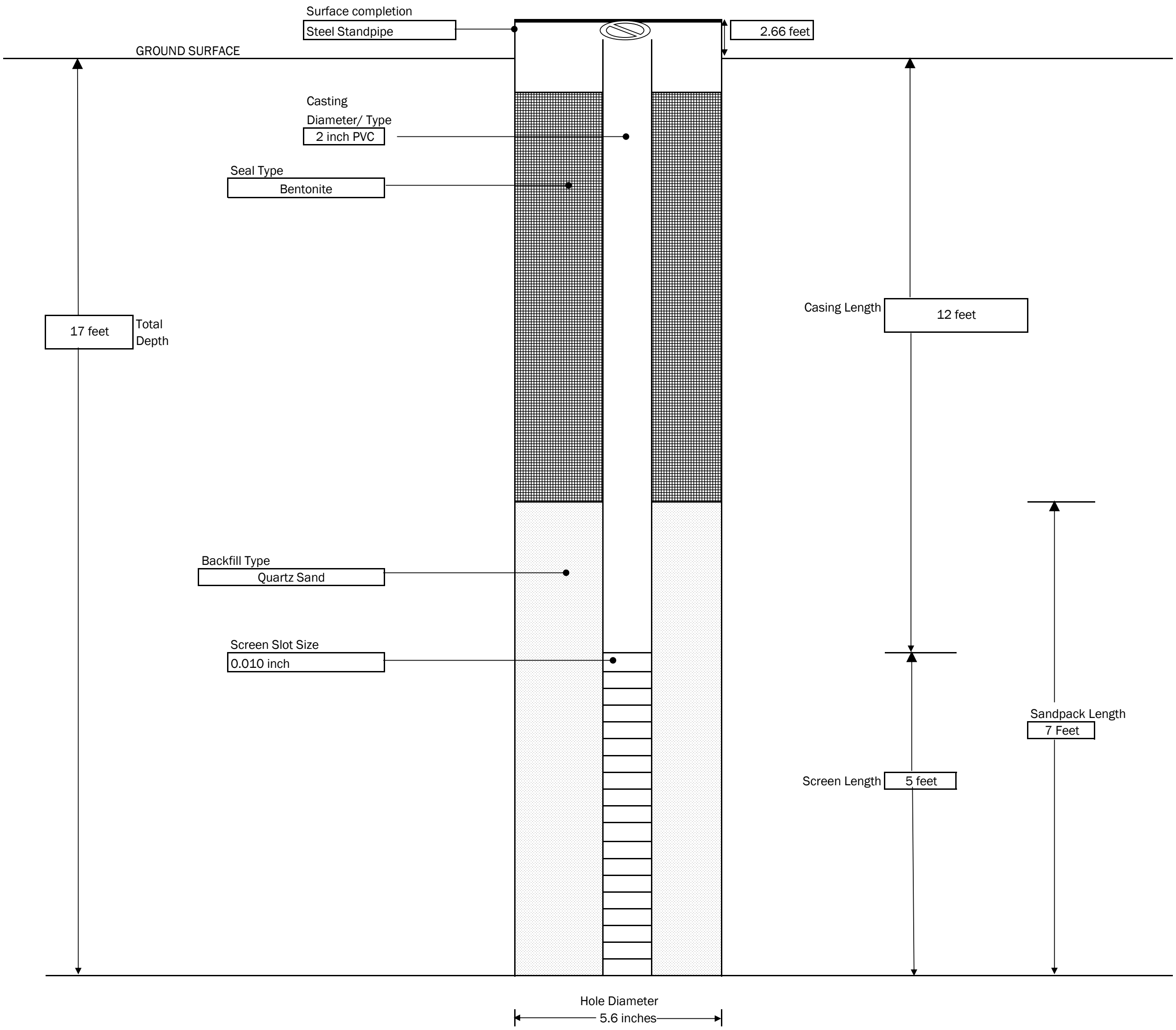
LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC	**MONITORING WELL :** **MW-01** **SHEET** 1 OF 1 **JOB #** 2172056
CONTRACTOR: LaBella Environmental LLC	BORING LOCATION: RIGP-02	TYPE OF DRILL RIG: Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION: 509.64 DATUM: North American 1983	AUGER SIZE AND TYPE: 2.25-in Hollow Stem
LABELLA REPRESENTATIVE: A. Brett	START DATE: 5/31/2018 END DATE: 5/31/2018	OVERBURDEN SAMPLING METHOD: Split spoon



GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

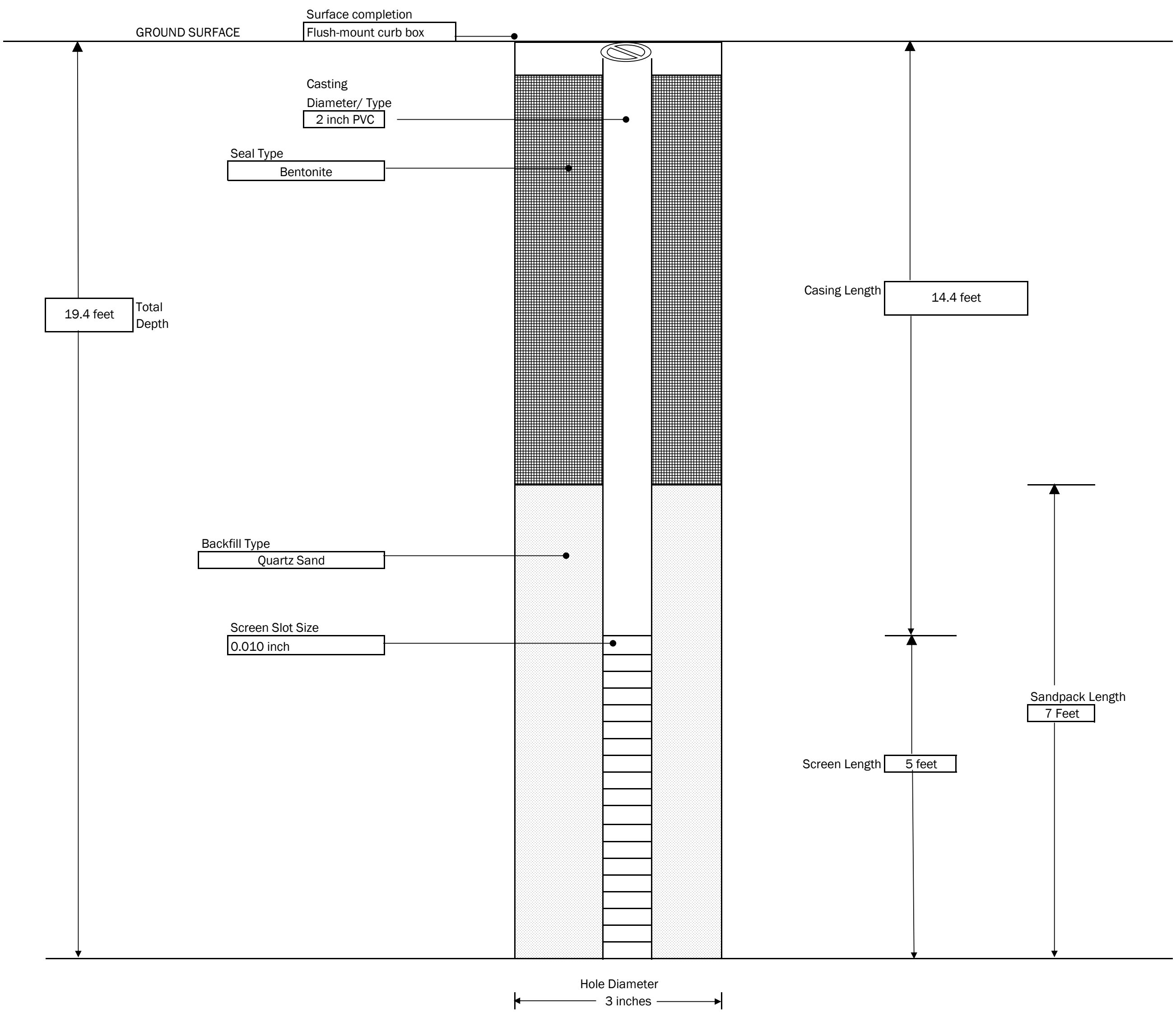
LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC		**MONITORING WELL :** **MW-02** **SHEET** 1 OF 1 **JOB #** 2172056

CONTRACTOR: LaBella Environmental LLC	BORING LOCATION:	RIGP-03		TYPE OF DRILL RIG:	Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION:	508.76	DATUM: North American 1983	AUGER SIZE AND TYPE:	2.25-in Hollow Stem
LABELLA REPRESENTATIVE: A. Brett	START DATE:	6/8/2018	END DATE: 6/11/2018	OVERBURDEN SAMPLING METHOD:	Split spoon



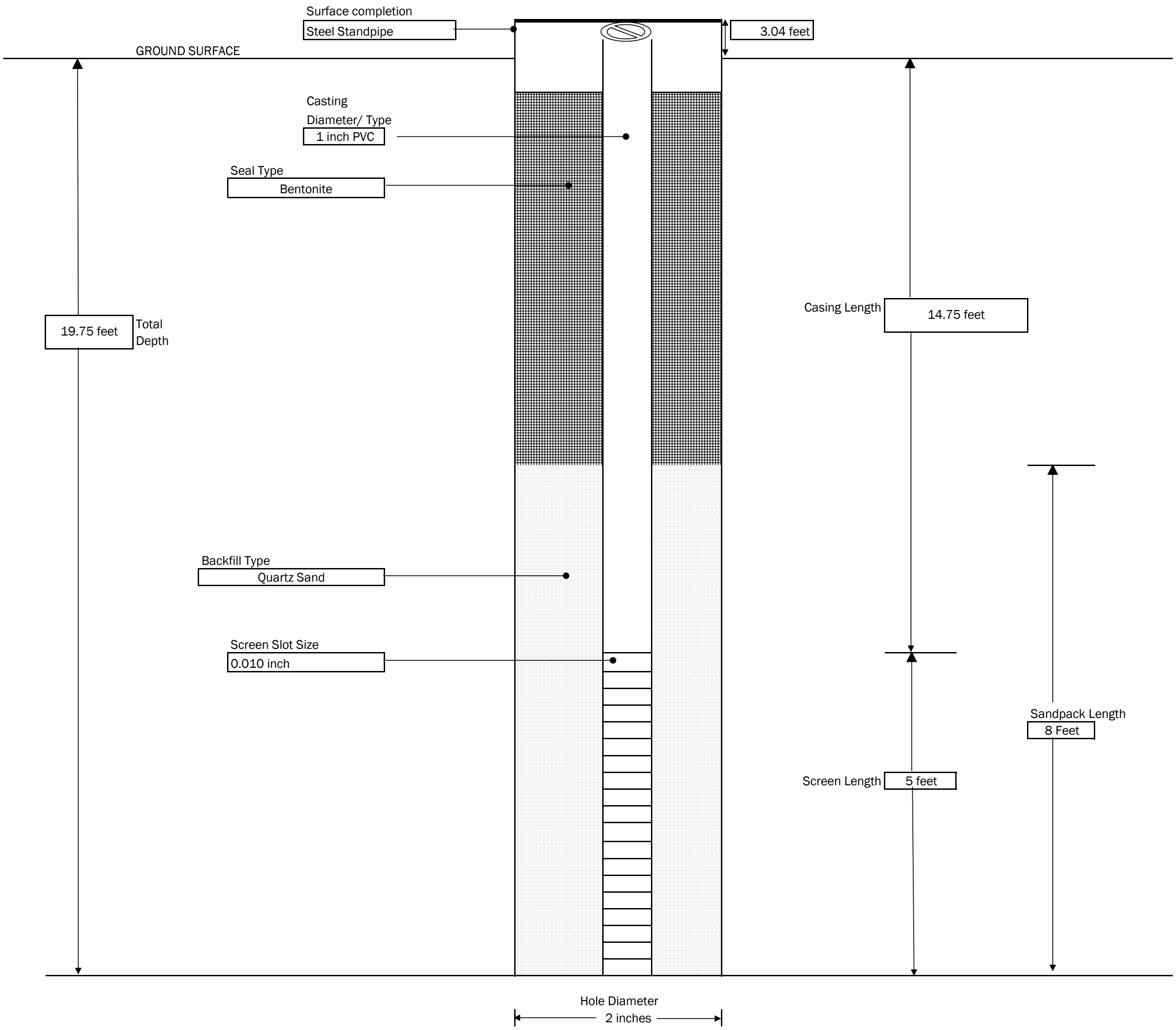
GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC		**MONITORING WELL :** **MW-02R** **SHEET** 1 OF 1 **JOB #** 2172056
CONTRACTOR: LaBella Environmental LLC DRILLER: Chris Stone LABELLA REPRESENTATIVE: A. Brett	BORING LOCATION: GROUND SURFACE ELEVATION: START DATE: 4/23/20	 DATUM: END DATE: 4/23/20	TYPE OF DRILL RIG: Geoprobe 6610 AUGER SIZE AND TYPE: 3 inch Dualtube OVERBURDEN SAMPLING METHOD: NA



GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

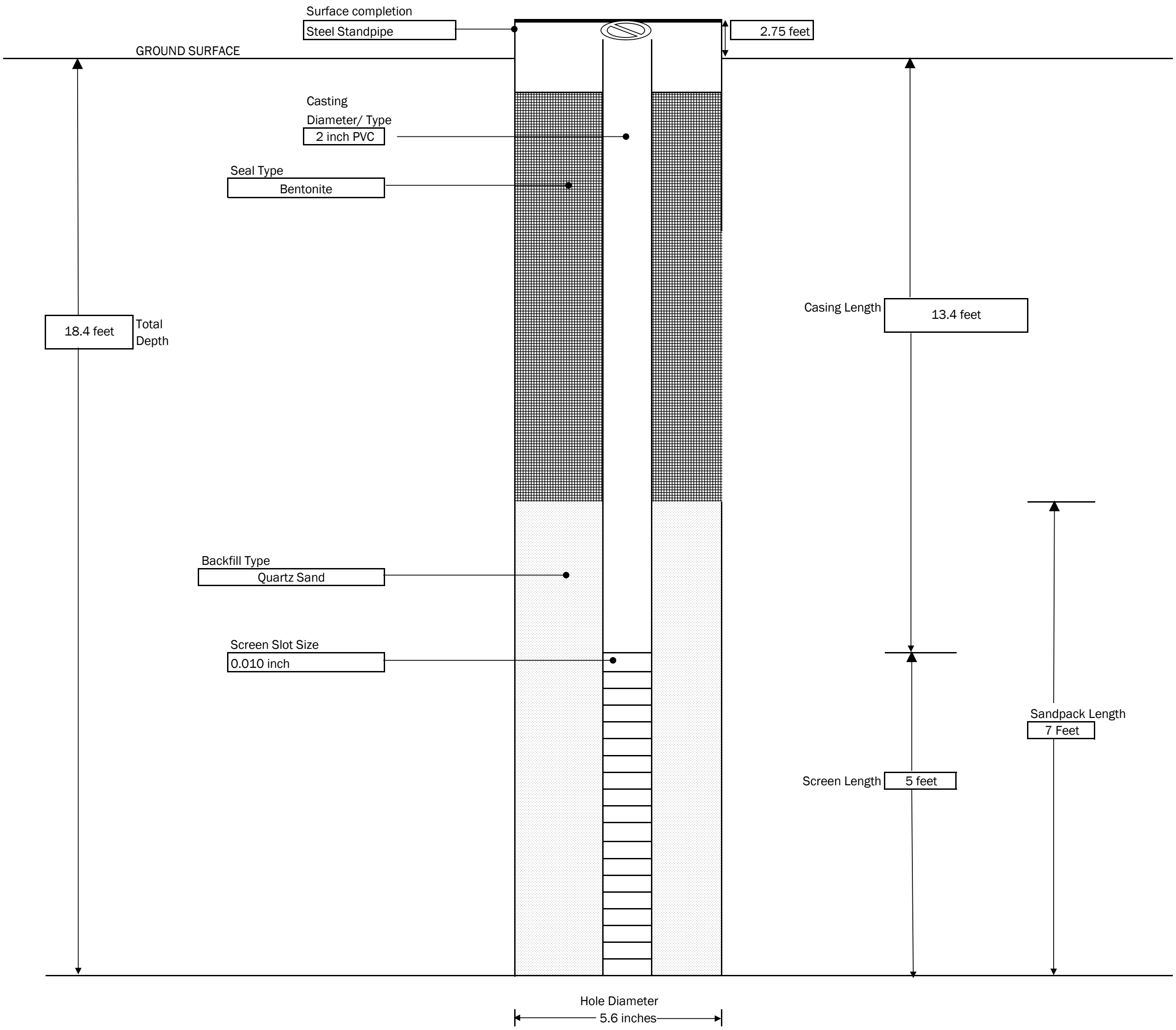
LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC		**MONITORING WELL :** **MW-03** **SHEET** 1 OF 1 **JOB #** 2172056
CONTRACTOR: LaBella Environmental LLC	BORING LOCATION: RIGP-06		TYPE OF DRILL RIG: Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION: 509.59	DATUM: North American 1983	AUGER SIZE AND TYPE: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/8/2018	END DATE: 6/8/2018	OVERBURDEN SAMPLING METHOD: Macrocore



GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

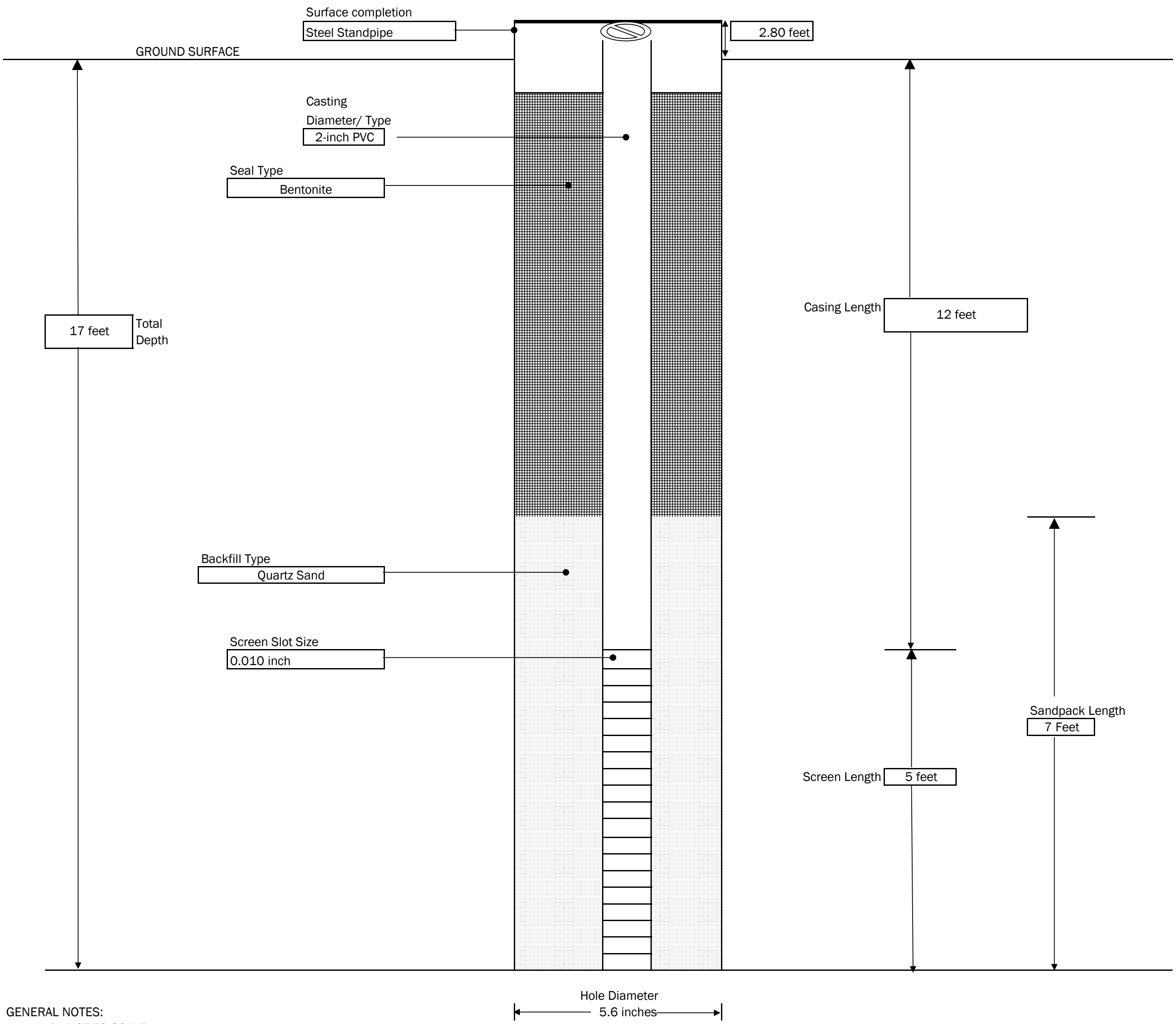
	PROJECT	MONITORING WELL :	MW-04
300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC	SHEET JOB #	1 OF 1 2172056

CONTRACTOR: LaBella Environmental LLC	BORING LOCATION:	RIGP-08			TYPE OF DRILL RIG:	Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION:	510.24	DATUM: North American 1983		AUGER SIZE AND TYPE:	2.25-in Hollow Stem
LABELLA REPRESENTATIVE: J. Lanz	START DATE:	6/5/18	END DATE:	6/5/18	OVERBURDEN SAMPLING METHOD:	Split spoon



GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

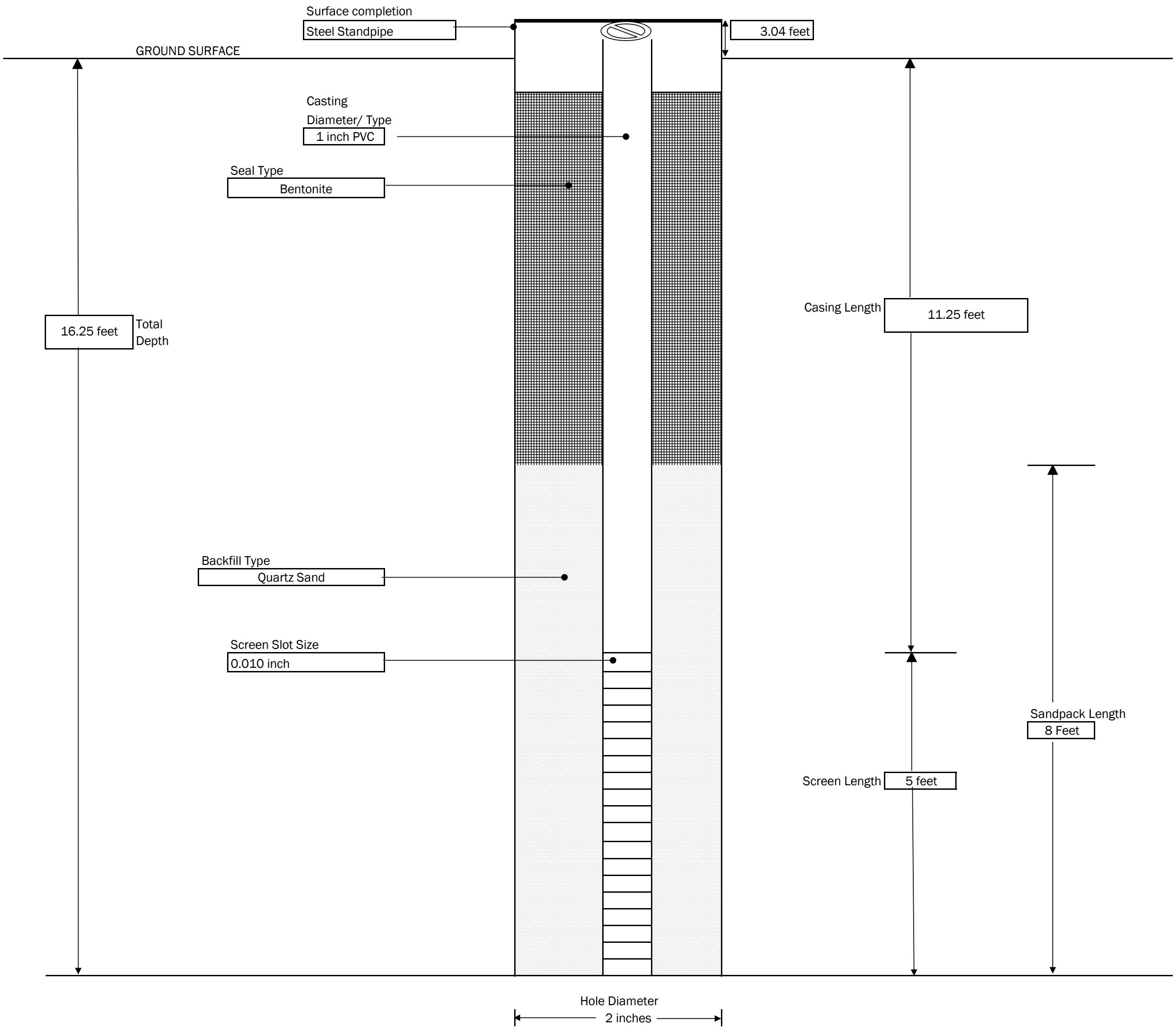
LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC				**MONITORING WELL :**	**MW-04R**
					SHEET	1 OF 1
					JOB #	2172056
CONTRACTOR: LaBella Environmental LLC	BORING LOCATION:	RIGP-24			TYPE OF DRILL RIG:	Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION:	508.836	DATUM: North American 1983		AUGER SIZE AND TYPE:	2.25-in Hollow Stem
LABELLA REPRESENTATIVE: A. Brett	START DATE:	2/15/19	END DATE:	2/15/19	OVERBURDEN SAMPLING METHOD:	Split spoon



GENERAL NOTES:

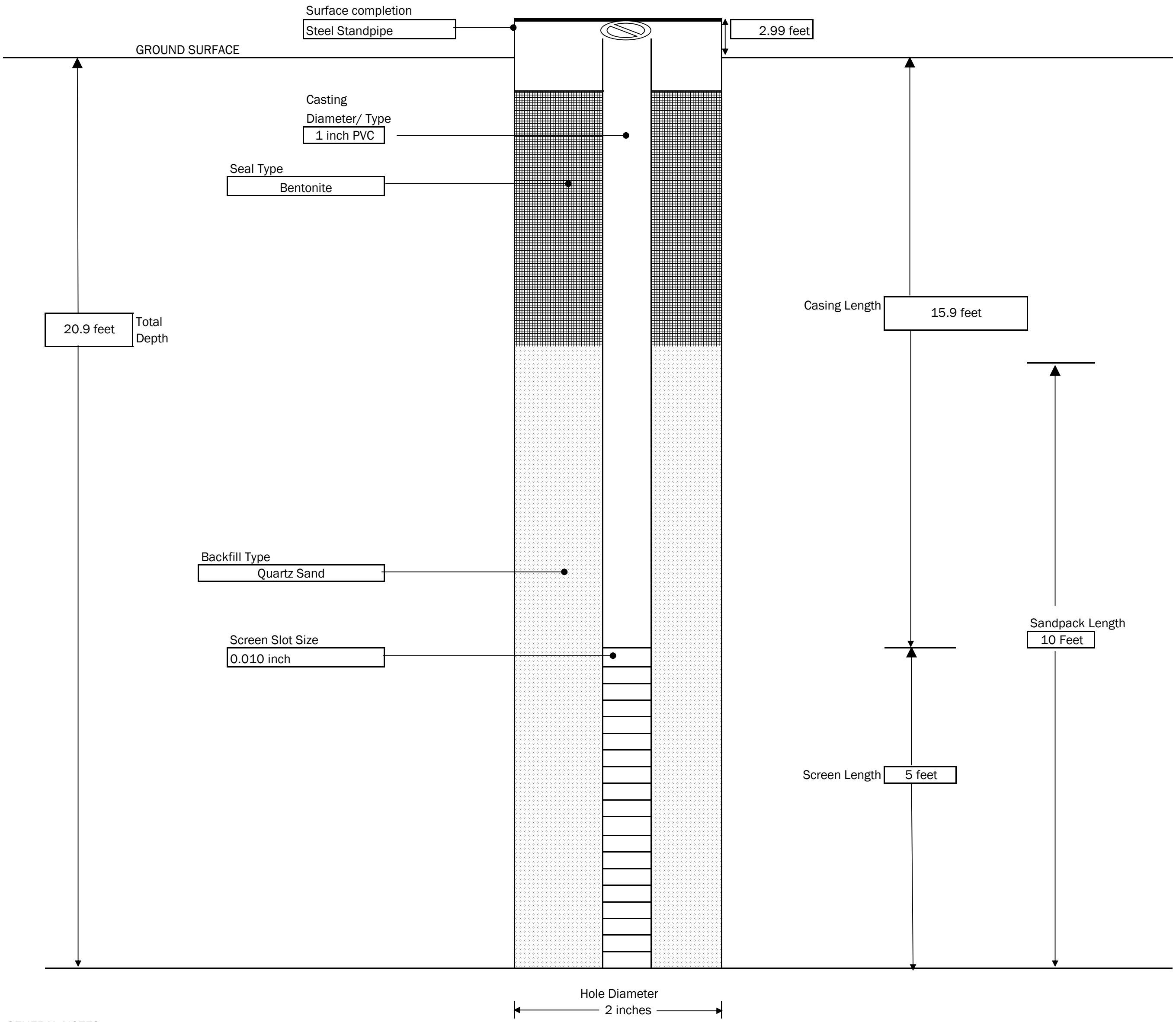
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE
3) WELL INSTALLED WITH 5 FOOT PREPACKED WELL SCREEN. ADDITIONAL SAND ADDED TO FILL VOID SPACE AROUND THE PREPACKED SCREEN.

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC	**MONITORING WELL :** **MW-05** **SHEET** 1 OF 1 **JOB #** 2172056
CONTRACTOR: LaBella Environmental LLC	BORING LOCATION: RIGP-09	TYPE OF DRILL RIG: Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION: 510.67 DATUM: North American 1983	AUGER SIZE AND TYPE: NA
LABELLA REPRESENTATIVE: A. Brett	START DATE: 6/8/2018 END DATE: 6/8/2018	OVERBURDEN SAMPLING METHOD: Macrocore



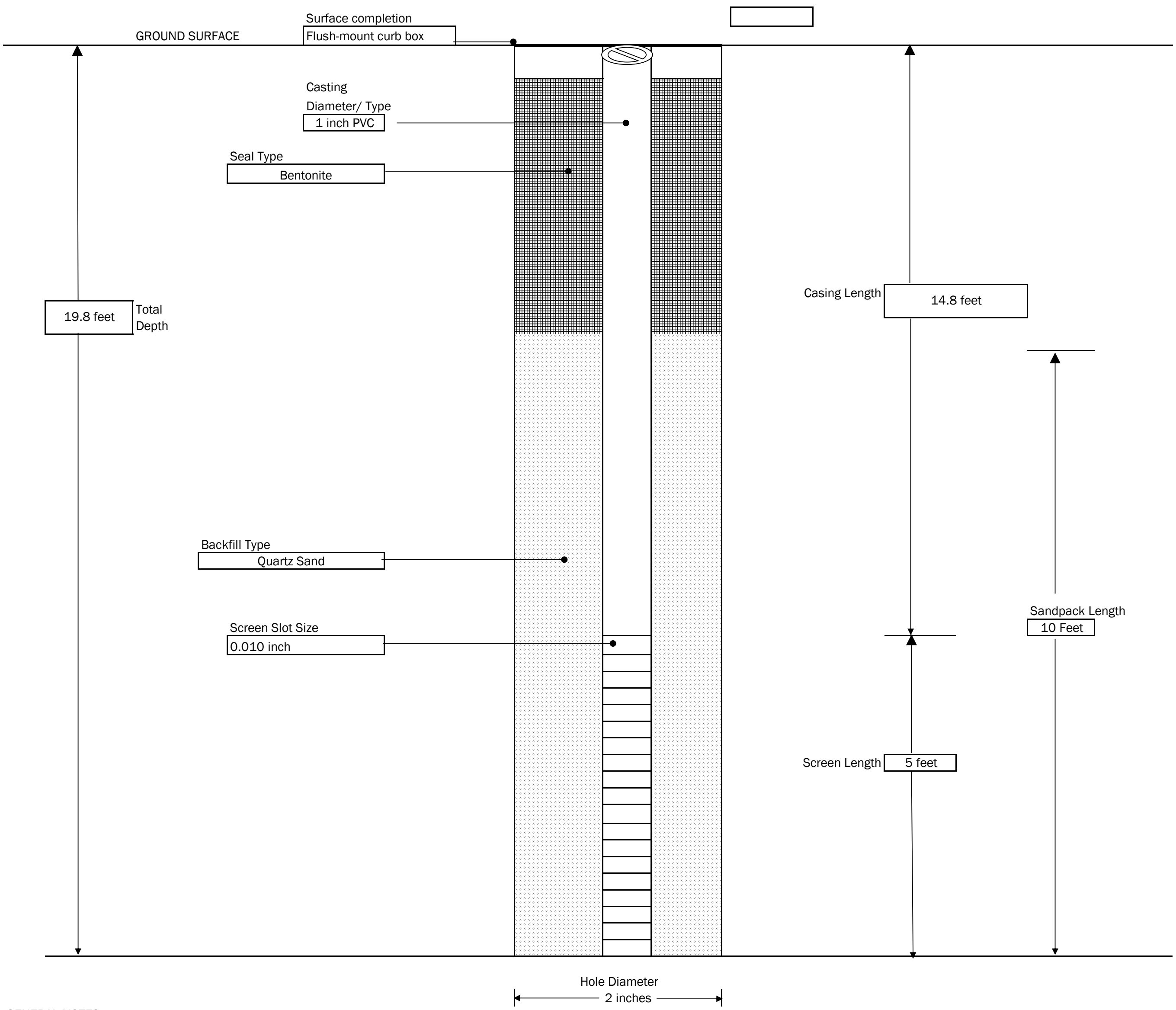
GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC	**MONITORING WELL :** **MW-06** **SHEET** 1 OF 1 **JOB #** 2172056
CONTRACTOR: LaBella Environmental LLC	BORING LOCATION: RIGP-11	TYPE OF DRILL RIG: Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION: 510.06 DATUM: North American 1983	AUGER SIZE AND TYPE: NA
LABELLA REPRESENTATIVE: J. Lanz	START DATE: 6/5/18 END DATE: 6/5/18	OVERBURDEN SAMPLING METHOD: Macrocore



GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC		**MONITORING WELL :** **MW-06R** **SHEET** 1 OF 1 **JOB #** 2172056
CONTRACTOR: LaBella Environmental LLC	BORING LOCATION:		TYPE OF DRILL RIG: Geoprobe 6610
DRILLER: Chris Stone	GROUND SURFACE ELEVATION:	DATUM:	AUGER SIZE AND TYPE: Dualtube
LABELLA REPRESENTATIVE: A. Brett	START DATE: 4/23/20	END DATE: 4/23/30	OVERBURDEN SAMPLING METHOD: NA

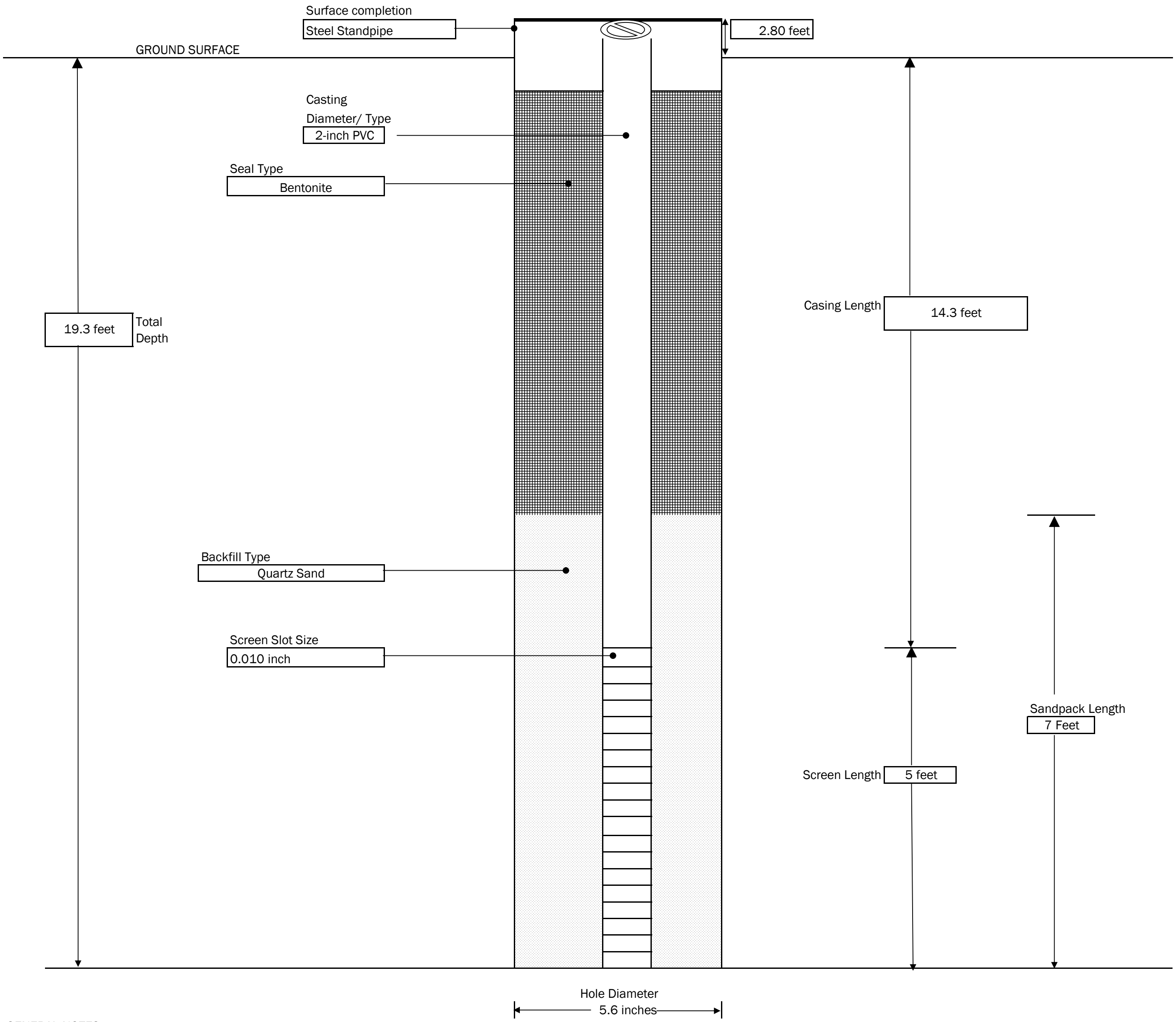


GENERAL NOTES:

1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC	**MONITORING WELL :** **MW-07** **SHEET** 1 OF 1 **JOB #** 2172056

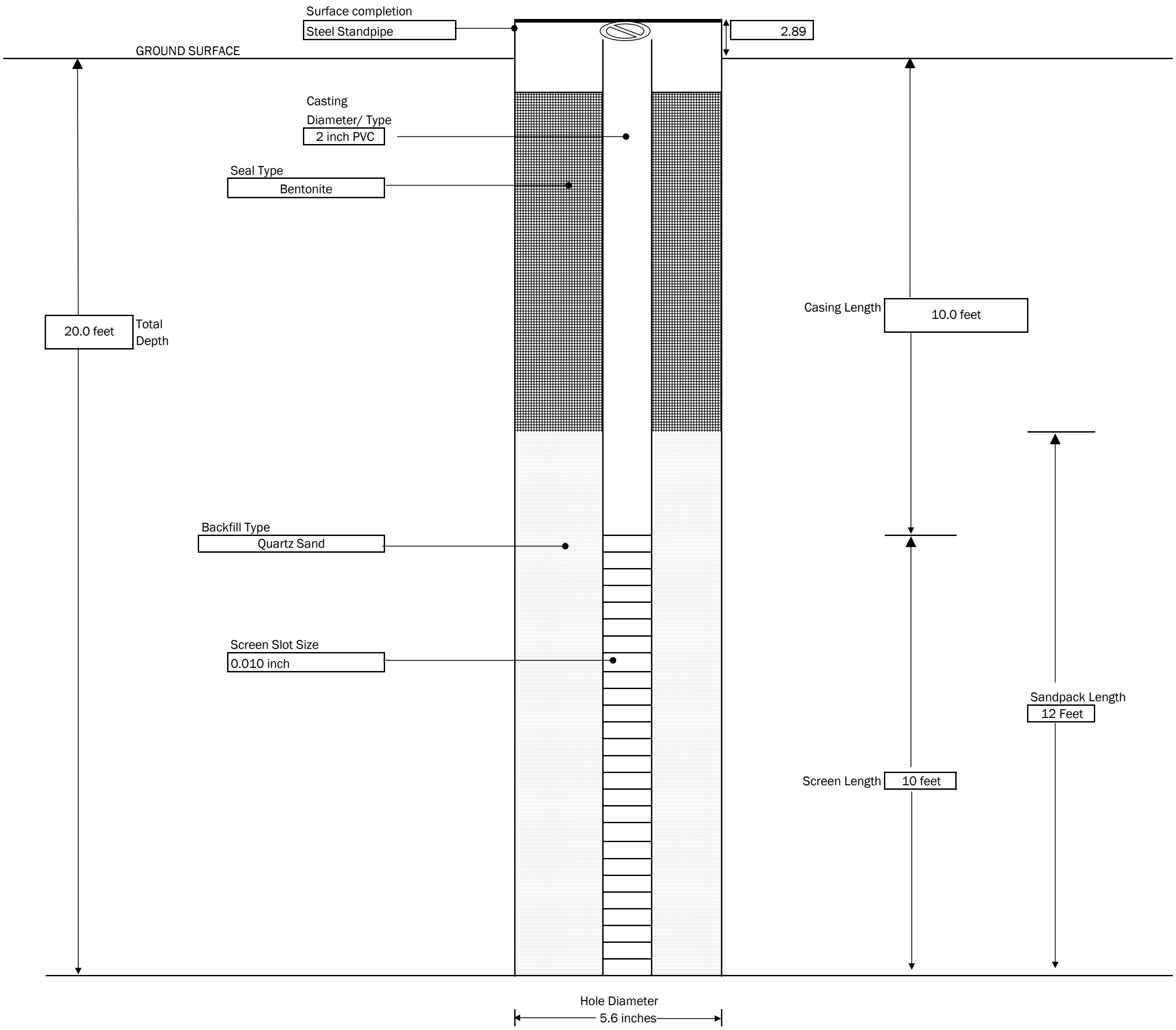
CONTRACTOR: LaBella Environmental LLC	BORING LOCATION:	RIGP-13		TYPE OF DRILL RIG:	Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION:	508.81	DATUM: North American 1983	AUGER SIZE AND TYPE:	2.25-in Hollow Stem
LABELLA REPRESENTATIVE: J. Lanz	START DATE:	6/5/18	END DATE: 6/5/18	OVERBURDEN SAMPLING METHOD:	Split spoon



GENERAL NOTES:
1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	**PROJECT** Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC		**MONITORING WELL :** **MW-08** **SHEET** 1 OF 1 **JOB #** 2172056

CONTRACTOR: LaBella Environmental LLC	BORING LOCATION:	RIGP-18			TYPE OF DRILL RIG:	Geoprobe 6610
DRILLER: M.Pepe	GROUND SURFACE ELEVATION:	511.65	DATUM: North American 1983		AUGER SIZE AND TYPE:	2.25-in Hollow Stem
LABELLA REPRESENTATIVE: A. Brett	START DATE:	6/8/2018	END DATE:	6/8/2018	OVERBURDEN SAMPLING METHOD:	Split spoon

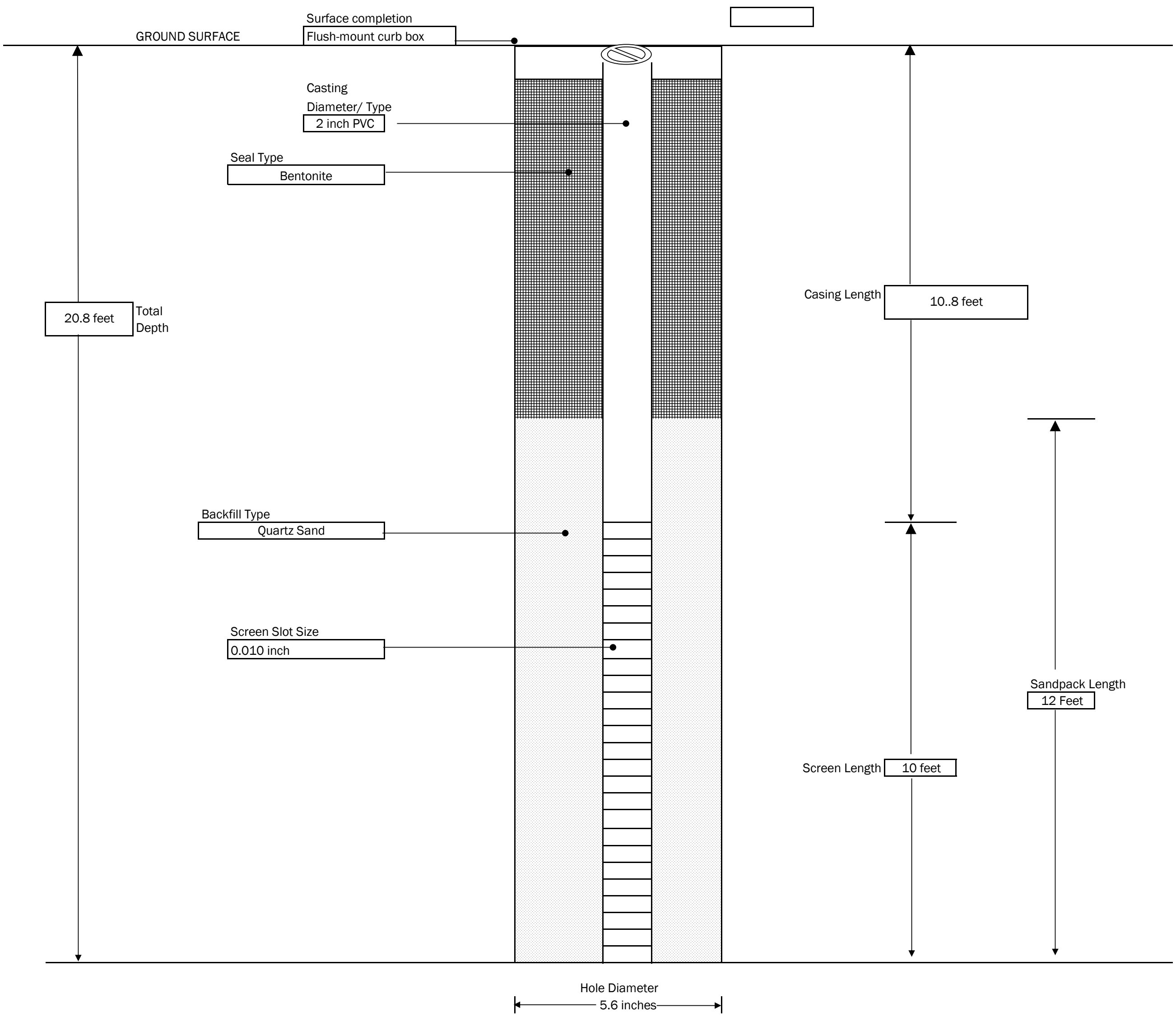


GENERAL NOTES:

1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Remedial Investigation Former Sherwood Shoe Company 625 South Goodman, Rochester, New York Client: Highland Grove LLC		MONITORING WELL : MW-08R SHEET 1 OF 1 JOB # 2172056

CONTRACTOR: LaBella Environmental LLC	BORING LOCATION:		TYPE OF DRILL RIG: Geoprobe 6610
DRILLER: Chris Stone	GROUND SURFACE ELEVATION:	DATUM:	AUGER SIZE AND TYPE: Dualtube
LABELLA REPRESENTATIVE: A. Brett	START DATE: 4/23/2020	END DATE: 4/23/2020	OVERBURDEN SAMPLING METHOD: NA



GENERAL NOTES:

1) NOT TO SCALE
2) DEPTHS ARE APPROXIMATE

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Former Sherwood Shoe Company 625 South Goodman Street, Rochester, NY Highland Grove LLC	BORING: BW-01 SHEET 1 OF 1 JOB # 2172056 CHKD. BY:

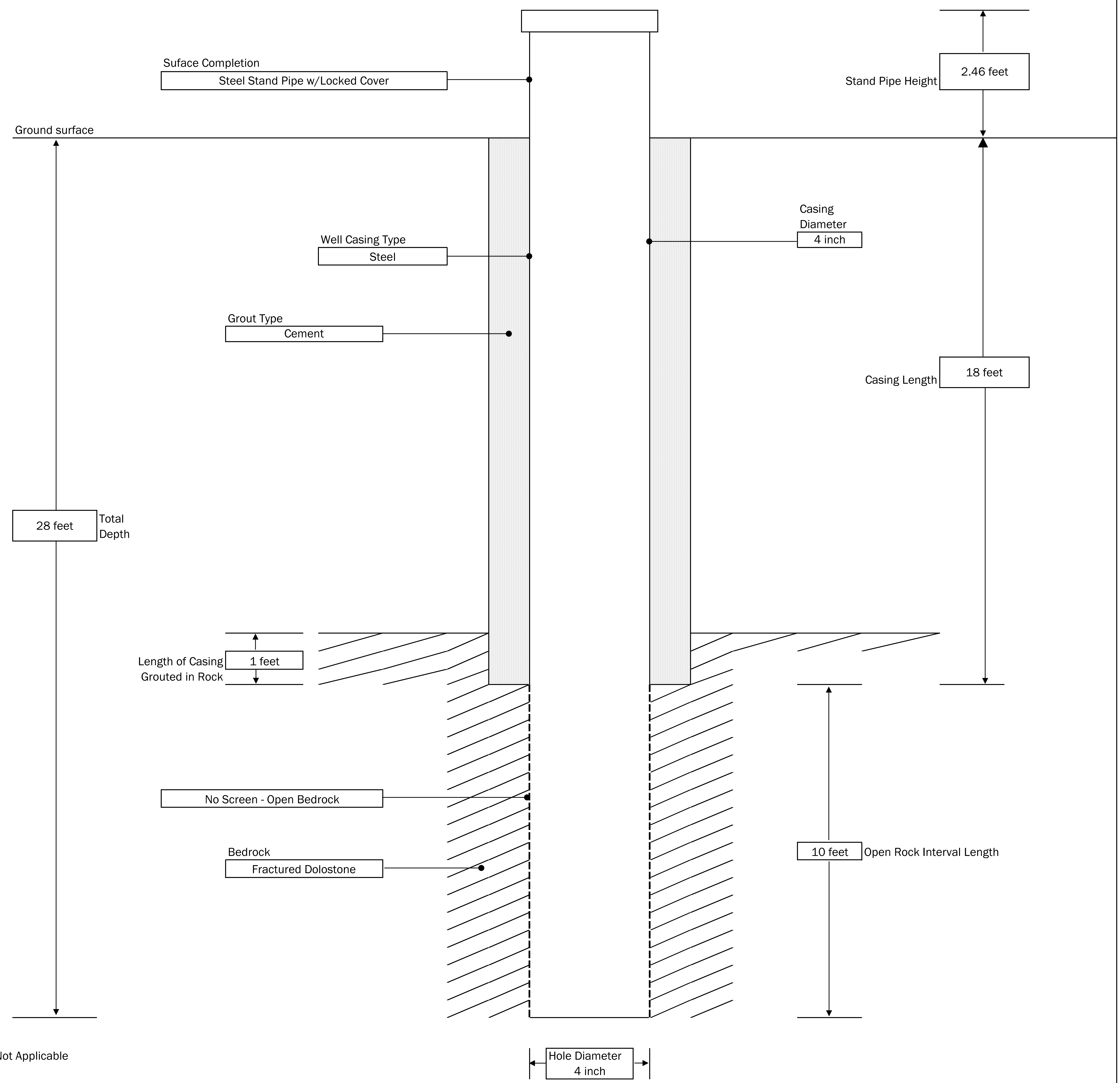
CONTRACTOR: NYEG
DRILLER: Joel
LABELLA REPRESENTATIVE: A. Brett

BORING LOCATION: See Figure
GROUND SURFACE ELEVATION: - 509.9150 DATUM: North American 1983
START DATE: 7/5/2018 END DATE: 7/9/2018

TYPE OF DRILL RIG: CME 55
AUGER SIZE AND TYPE: Hollow-Stem Auger
OVERBURDEN SAMPLING METHOD: NA
ROCK DRILLING METHOD: HX Core Barrel

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS



NA-Not Applicable

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LaBella 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Former Sherwood Shoe Company 625 South Goodman Street, Rochester, NY Highland Grove LLC	BORING: BW-01R SHEET 1 OF 1 JOB # 2172056 CHKD. BY:

CONTRACTOR: LaBella Environmental LLC
DRILLER: Neal Short
LABELLA REPRESENTATIVE: A. Brett

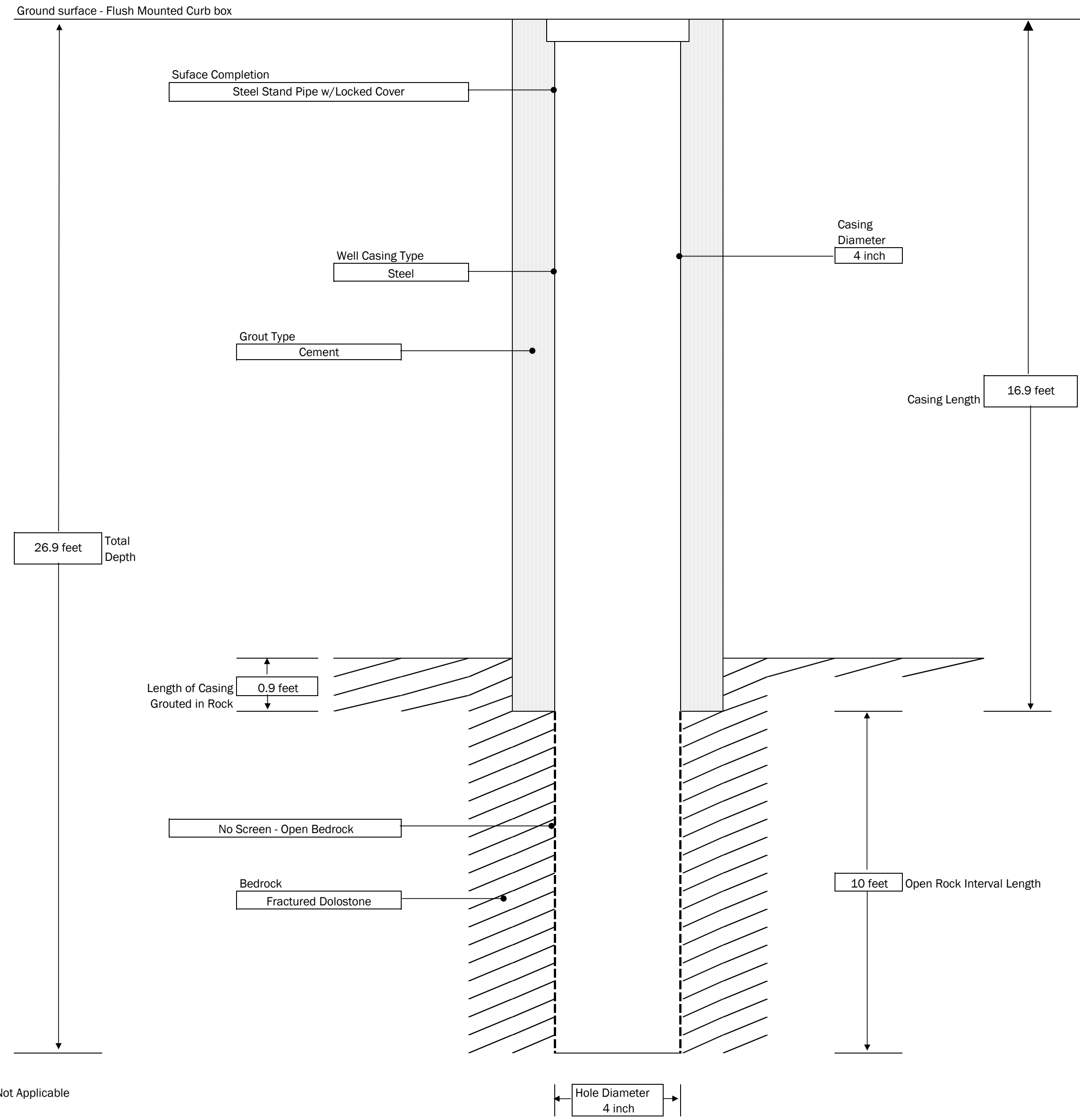
BORING LOCATION: See Figure
GROUND SURFACE ELEVATION: -
START DATE: 5/5/2020

DATUM:
END DATE: 5/6/2020

TYPE OF DRILL RIG: Detrich 50, turbo track-mounted rig.
AUGER SIZE AND TYPE: 4.25 Hollow-Stem Auger
OVERBURDEN SAMPLING METHOD: NA
ROCK DRILLING METHOD: HX Core Barrel

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS



NA-Not Applicable

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LaBella Powered by partnership. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Former Sherwood Shoe Company 625 South Goodman Street, Rochester, NY Highland Grove LLC	BORING: BW-02 SHEET 1 OF 1 JOB # 2172056 CHKD. BY:

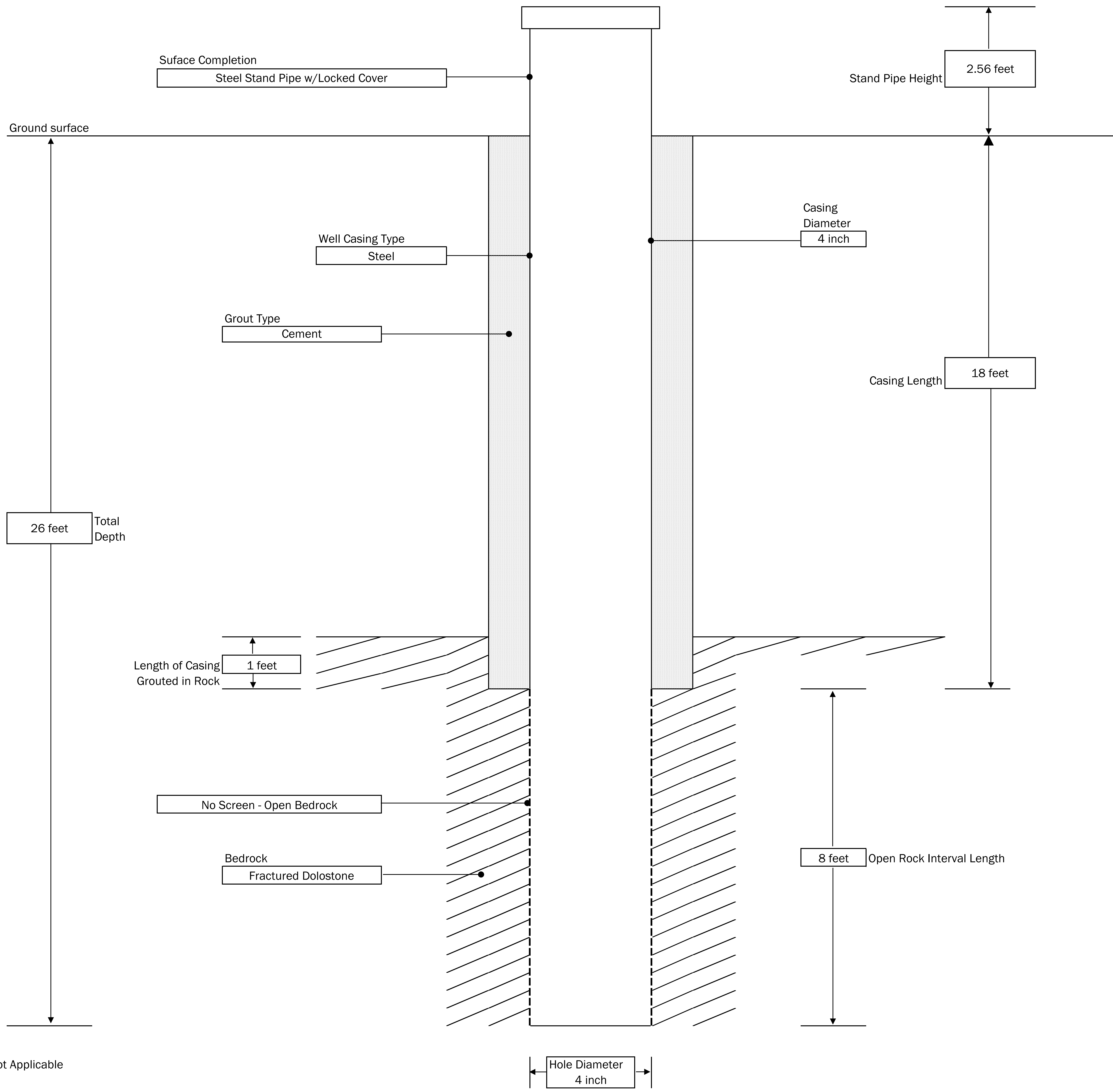
CONTRACTOR: NYEG
DRILLER: Joel
LABELLA REPRESENTATIVE: A. Brett

BORING LOCATION: See Figure
GROUND SURFACE ELEVATION: - 510.2040 DATUM: North American 1983
START DATE: 7/6/2018 END DATE: 7/9/2018

TYPE OF DRILL RIG: CME 55
AUGER SIZE AND TYPE: Hollow-Stem Auger
OVERBURDEN SAMPLING METHOD: NA
ROCK DRILLING METHOD: HX Core Barrel

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS



NA-Not Applicable

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LaBella
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300 STATE STREET, ROCHESTER, NEW YORK
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
Former Sherwood Shoe Company
625 South Goodman Street, Rochester, NY
Highland Grove LLC

BORING: BW-03
SHEET 1 OF 1
JOB # 2172056
CHKD. BY:

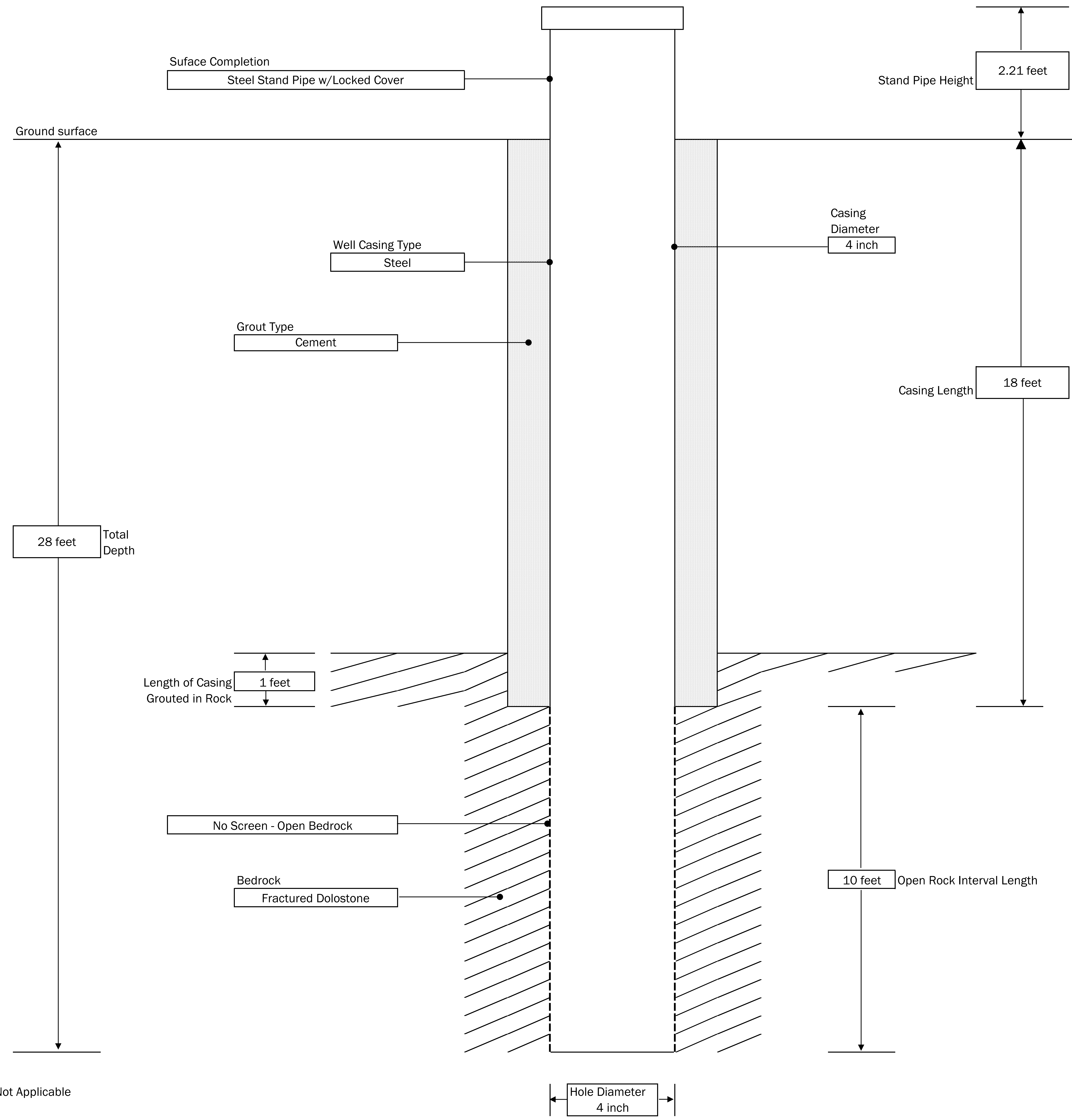
CONTRACTOR: NYEG
DRILLER: Joel
LABELLA REPRESENTATIVE: A. Brett

BORING LOCATION: See Figure
GROUND SURFACE ELEVATION: - 510.2040 DATUM: North American 1983
START DATE: 7/6/2018 END DATE: 7/9/2018

TYPE OF DRILL RIG: CME 55
AUGER SIZE AND TYPE: Hollow-Stem Auger
OVERBURDEN SAMPLING METHOD: NA
ROCK DRILLING METHOD: HX Core Barrel

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS



NA-Not Applicable

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LaBella
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300 STATE STREET, ROCHESTER, NY
PH: (585) 454-6110 FAX: (585) 454-3066

GROUNDWATER DEVELOPMENT FORM

WELL I.D. MW-01

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/8/2018
Weather: Cloudy, 60s to 70s

PURGE VOLUME CALCULATION

Well Diameter: 2.0 -Inch
Static Water Level: Dry -Feet
Depth of Well: 22.00 -Feet
Single Well Volume: 0.00 -Gallons

PURGE & SAMPLING METHOD

[X] Bailer - Type: PVC
[ ] Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
0832	0	--	--	--	--		Color =
							LNAPL or DNAPL observed = No
							Odor: YES / NO
							Sheen: YES / NO

Total NA Gallons Purged
Purge Start Time: 0832
Purge End Time: '--

OBSERVATIONS:

Well was dry upon development attempt. Returned to check well at 1600. Well still dry.

Well Volume (1" well) = 0.0408-gal/ft.	Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.	

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. MW-02

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/11/2018
Weather: Partly cloudy, high 60's low 70's

PURGE VOLUME CALCULATION

Well Diameter: 2.0 -Inch
Static Water Level: Dry -Feet
Depth of Well: 19.80 -Feet
Single Well Volume: 0.00 -Gallons

PURGE & SAMPLING METHOD

[X] Bailer - Type: PVC
[ ] Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
1534	0	--	--	--	--		Color =
							LNAPL or DNAPL observed = No
							Odor: YES / NO
							Sheen: YES / NO

Total NA Gallons Purged
Purge Start Time: 0822
Purge End Time: '--

OBSERVATIONS:

Well was dry upon development attempt. Returned to check well at 1600. Well still dry.

Well Volume (1" well) = 0.0408-gal/ft.	Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.	

GROUNDWATER DEVELOPMENT FORM

LaBella
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300 STATE STREET, ROCHESTER, NY
PH: (585) 454-6110 FAX: (585) 454-3066

WELL I.D. MW-03

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/11/2018
Weather: Partly cloudy, high 60's low 70's

PURGE VOLUME CALCULATION

Well Diameter: 1.0 -Inch
Static Water Level: 22.61 -Feet
Depth of Well: 23.10 -Feet
Single Well Volume: 0.02 -Gallons

PURGE & SAMPLING METHOD

☒ Bailer - Type: PVC
☐ Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
0850	0.02	--	--	--	--		Color = brown
0950	0.01	--	--	--	--		LNAPL or DNAPL observed = No
1410	0.05	--	--	--	--		Odor: NO
							Sheen: NO

Total 0.035 Gallons Purged
Purge Start Time: 0850
Purge End Time: '--

OBSERVATIONS:

Well goes dry after first development. Return to extract more water.
Amounts of water removed are estimated based on the very low volume able to be extracted.
Bailed until dry three times.

Well Volume (1" well) = 0.0408-gal/ft.	Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.	

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. MW-04

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/8/2018
Weather: Cloudy, 60s to 70s

PURGE VOLUME CALCULATION

Well Diameter: 2.0 -Inch
Static Water Level: 20.75 -Feet
Depth of Well: 21.25 -Feet
Single Well Volume: 0.08 -Gallons

PURGE & SAMPLING METHOD

☒ Bailer - Type: PVC
☐ Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
0905	0.1	--	--	--	--		Color = Brown
1200	0.05	--	--	--	--		LNAPL or DNAPL observed = No
							Odor: NO
							Sheen: NO

Total 0.15 Gallons Purged   Purge Start Time: 0905   Purge End Time: '--

OBSERVATIONS:

Well developed until dry. Returned later and only was able to remove a little additional water.

Well Volume (1" well) = 0.0408-gal/ft.	Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.	

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. MW-05

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/11/2018
Weather: Partly cloudy, high 60's low 70's

PURGE VOLUME CALCULATION

Well Diameter: 1.0 -Inch
Static Water Level: 19.52 -Feet
Depth of Well: 19.83 -Feet
Single Well Volume: 0.013 -Gallons

PURGE & SAMPLING METHOD

[X] Bailer - Type: PVC
[ ] Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
0930	0.013	--	--	--	--		Color = brown
1045	0.005	--	--	--	--		LNAPL or DNAPL observed = No
							Odor: NO
							Sheen: NO

Total 0.018 Gallons Purged Purge Start Time: 0930 Purge End Time: '--

OBSERVATIONS:

Well goes dry after first development. Return to extract more water.
Unable to extract more than a few drops.
Small amounts of removed were estimated based on well volumes.

Well Volume (1" well) = 0.0408-gal/ft.
Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. MW-06

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/8/2018
Weather: Cloudy, 60s to 70s

PURGE VOLUME CALCULATION

Well Diameter: 1.0 -Inch
Static Water Level: 22 -Feet
Depth of Well: 23.04 -Feet
Single Well Volume: 0.08 -Gallons

PURGE & SAMPLING METHOD

[X] Bailer - Type: PVC
[ ] Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
0935	0.04	--	--	--	--		Color = Brown
1500	0.04	--	--	--	--		LNAPL or DNAPL observed = No
							Odor: NO
							Sheen: NO

Total 0.08 Gallons Purged
Purge Start Time: 0935
Purge End Time: '--

OBSERVATIONS:

Well developed until dry.
Returned later to develop until dry again

Well Volume (1" well) = 0.0408-gal/ft.	Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.	

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. MW-07

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/8/2018
Weather: Cloudy, 60s to 70s

PURGE VOLUME CALCULATION

Well Diameter: 2.0 -Inch
Static Water Level: 19.85 -Feet
Depth of Well: 22.00 -Feet
Single Well Volume: 0.35 -Gallons

PURGE & SAMPLING METHOD

[X] Bailer - Type: PVC
[ ] Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
1000	0.45	--	--	--	--		Color = Brown to clear
1700	0.25	--	--	--	--		LNAPL or DNAPL observed = No
							Odor: NO
							Sheen: NO

Total 0.7 Gallons Purged
Purge Start Time: 0935
Purge End Time: '--

OBSERVATIONS:

Well developed until dry.
Returned later to removed additional volume as well continued to recharged.

Well Volume (1" well) = 0.0408-gal/ft.
Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. MW-08

Project Name: Former Sherwood Shoe Company
Project No.: 2172056
Location: 625 South Goodman St, Rochester, NY
Development By: A. Brett
Date: 6/11/2018
Weather: Partly cloudy, high 60's low 70's

PURGE VOLUME CALCULATION

Well Diameter: 2.0 -Inch
Static Water Level: 21.4 -Feet
Depth of Well: 22.89 -Feet
Single Well Volume: 0.24 -Gallons

PURGE & SAMPLING METHOD

☒ Bailer - Type: PVC
☐ Pump - Type
Sampling Device:
Pump Rate:

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
1235	1	--	--	--	--		Color = brown to clear
							LNAPL or DNAPL observed = No
							Odor: NO
							Sheen: NO

Total 1.00 Gallons Purged
Purge Start Time: 1235
Purge End Time: 1315

OBSERVATIONS:

Well Volume (1" well) = 0.0408-gal/ft.
Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. RIBW-01

Project Name: Former Sherwood Shoe Co
Project No.: 2172056
Location: 625 S Goodman St, Rochester, NY
Development By: S. Logan
Date: 7/11/2018
Weather: sunny, 80*F

PURGE VOLUME CALCULATION

Well Diameter: 4.0 -Inch
Static Water Level: 24.48 -Feet
Depth of Well: 27.00 -Feet
Single Well Volume: 1.64 -Gallons

PURGE & SAMPLING METHOD

☐ Bailer - Type:
☒ Pump - Type Waterspout 2
Sampling Device:
Pump Rate: 2 gal/min @ 30 ft DTW

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
							Approximately 100 Gallons lost during
							drilling. WP indicates to remove water
							lost plus three well volumes.

7/10/2018: purged 55 gallons
7/11/2018: purged 55 gallons

Total 110.00 Gallons Purged
Purge Start Time:
Purge End Time:

OBSERVATIONS:

Slight odor of solvent or petroleum
Slight sheen on water surface
Slightly sporadic well recharge. Occasionally had to give a few minutes to recharge, but filled relatively quickly.

Well Volume (1" well) = 0.0408-gal/ft.
Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. RIBW-02

Project Name: Former Sherwood Shoe Co
Project No.: 2172056
Location: 625 S Goodman St, Rochester, NY
Development By: S. Logan
Date: 7/11/2018
Weather: sunny, 85*F

PURGE VOLUME CALCULATION

Well Diameter: 4.0 -Inch
Static Water Level: 24.1 -Feet
Depth of Well: 25.00 -Feet
Single Well Volume: 0.59 -Gallons

PURGE & SAMPLING METHOD

☐ Bailer - Type:
☒ Pump - Type: Waterspout 2
Sampling Device:
Pump Rate: 2 gal/min @ 30 ft DTW

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
							Approximately 100 Gallons lost during
							drilling. WP indicates to remove water
							lost plus three well volumes.

7/10/2018: purged 55 gallons
7/11/2018: purged 25 gallons
7/12/2018: purged 30 gallons

Total 110.00 Gallons Purged   Purge Start Time: Purge End Time:

OBSERVATIONS:

Stronger odor of solvent or petroleum
Slight sheen on water surface
Coating of black-brown sticky/oily substance on pump when pulled out each day well was purged.
Recharge of well volume was slower than other 2 bedrock wells. Pumped water on 1 minute, off for 2, approximately.

Well Volume (1" well) = 0.0408-gal/ft.
Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.

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GROUNDWATER DEVELOPMENT FORM

WELL I.D. RIBW-03

Project Name: Former Sherwood Shoe Co
Project No.: 2172056
Location: 625 S Goodman St, Rochester, NY
Development By: S. Logan
Date: 7/11/2018
Weather: sunny, 85*F

PURGE VOLUME CALCULATION

Well Diameter: 4.0 -Inch
Static Water Level: 23.4 -Feet
Depth of Well: 28.00 -Feet
Single Well Volume: 2.99 -Gallons

PURGE & SAMPLING METHOD

☐ Bailer - Type:
☒ Pump - Type Waterspout 2
Sampling Device:
Pump Rate: 2 gal/min @ 30 ft DTW

FIELD PARAMETER MEASUREMENTS

Time	Gallons Purged	pH	Temp (oC)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
							Approximately 80 Gallons lost during
							drilling. WP indicates to remove water
							lost plus three well volumes.

7/11/2018: purged all 110 gallons

Total 110.00 Gallons Purged Purge Start Time: Purge End Time:

OBSERVATIONS:

Slight odor of solvent or petroleum
Slight sheen on water surface
No issues with recharge - consistant flow.

Well Volume (1" well) = 0.0408-gal/ft.
Well Volume (4" well) = 0.65-gal/ft.
Well Volume (2" well) = 0.163-gal/ft.

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Project Name: Former Sherwood Shoe Company
Location: 625 South Goodman Street, Rochester NY
Project No.: 2172056
Sampled By: J. Porter
Date: 6/18/2018
Weather: Sunny 85 F

WELL I.D.: MW-01

WELL SAMPLING INFORMATION

Well Diameter: 2-inch
Depth of Well: 22.2’
Measuring Point: Top PVC
Pump Type: Peristaltic Pump
Static Water Level: Dry
Length of Well Screen: 5’
Depth to Top of Pump: NA
Tubing Type: LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
--	--	--	--	--	--	--	--	--	--	--	Well dry upon sampling attempt.

Total NA Gallons Purged

Purge Time Start: --
Purge Time End: --
Final Static Water Level: NA

OBSERVATIONS

Notes: Well was dry upon arrival

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WELL I.D.: MW-2

Project Name: Former Sherwood Shoe Company
Location: 625 South Goodman Street, Rochester NY
Project No.: 2172056
Sampled By: J. Porter

Date: 6/18/18
Weather: Sunny, 85 F

WELL SAMPLING INFORMATION

Well Diameter: 2-inch
Depth of Well: 19.88’
Measuring Point: Top of PVC
Pump Type: Peristaltic Pump

Static Water Level: Dry
Length of Well Screen: 5’
Depth to Top of Pump: NA
Tubing Type: LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp ^{o}C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
--	--	--	--	--	--	--	--	--	--	--	Well dry upon sampling attempt.

Total NA Gallons Purged

Purge Time Start: -- Purge Time End: -- Final Static Water Level: NA

OBSERVATIONS

Notes: Well was dry upon arrival

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WELL I.D.: MW-3

Project Name: Former Sherwood Shoe Company
Location: 625 South Goodman Street, Rochester NY
Project No.: 2172056
Sampled By: J. Porter
Date: 6/19/18
Weather: Sunny, partly cloudy, 64 F

WELL SAMPLING INFORMATION

Well Diameter: 1-inch
Depth of Well: 23.2’
Measuring Point: Top of PVC
Pump Type: Peristaltic Pump
Static Water Level: 22.18’
Length of Well Screen: 5’
Depth to Top of Pump: NA
Tubing Type: LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
0730	--	--	--	--	--	--	--	--	--	--	Not enough water to purge.
											Begin Sampling.

Total NA Gallons Purged

Purge Time Start: 730
Purge Time End: --
Final Static Water Level: 23.13’ – bottom of well

OBSERVATIONS

Notes: Not enough water to purge. (7:30am). Began to collect VOC sample but not enough volume was available to analyze.

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Project Name: Former Sherwood Shoe Company
Location: 625 South Goodman Street, Rochester NY
Project No.: 2172056
Sampled By: J. Porter
Date: 6/19/18
Weather: Sunny, partly cloudy, 65 F

WELL I.D.: MW-4

WELL SAMPLING INFORMATION

Well Diameter: 2-inch
Depth of Well: 21.90
Measuring Point: Top of PVC
Pump Type: Peristaltic Pump
Static Water Level: 20.93’
Length of Well Screen: 5’
Depth to Top of Pump: 21.90
Tubing Type: LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
0930	--	--	--	--	--	--	--	--	--	--	Not enough water to purge.
											Begin Sampling.

Total NA Gallons Purged

Purge Time Start: --
Purge Time End: --
Final Static Water Level: 21.90’ – Bottom of Well

OBSERVATIONS

Notes: (9:30am) 1 full VOC sample and 1 almost full SVOC sample was collected before it ran dry.

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Project Name: Former Sherwood Shoe Company
Location: 625 South Goodman Street, Rochester NY
Project No.: 2172056
Sampled By: J. Porter
Date: 6/18/18
Weather: Sunny, 85 F

WELL I.D.: MW-5

WELL SAMPLING INFORMATION

Well Diameter: 1-inch
Depth of Well: 19.81
Measuring Point: Top of PVC
Pump Type: Peristaltic Pump

Static Water Level: 19.46'
Length of Well Screen: 5
Depth to Top of Pump: 19.81
Tubing Type: LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
1700	--	--	--	--	--	--	--	--	--	--	Not enough water to purge.
											Begin Sampling.

Total NA Gallons Purged

Purge Time Start: -- Purge Time End: -- Final Static Water Level: 19.81' – Bottom of Well

OBSERVATIONS

Notes: 17:00 – began to collect VOC sample but well went dry. Unable to collect enough volume for analysis.

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Project Name: Former Sherwood Shoe Company
Location: 625 South Goodman Street, Rochester NY
Project No.: 2172056
Sampled By: J. Porter

Date: 6/19/18
Weather: Sunny, partly cloudy, 64 F

WELL I.D.: MW-6

WELL SAMPLING INFORMATION

Well Diameter: 1-inch
Depth of Well: 23.05
Measuring Point: Top of PVC
Pump Type: Peristaltic Pump

Static Water Level: 21.96’
Length of Well Screen: 5’
Depth to Top of Pump: 23.05’
Tubing Type: LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
--	--	--	--	--	--	--	--	--	--	--	Not enough water to purge.
											Begin Sampling.

Total NA Gallons Purged

Purge Time Start: --　Purge Time End: --　Final Static Water Level: Dry

OBSERVATIONS

Notes: Very turbid upon first pump but then settled and became clear. VOC sample collected at 7:45 am. Was unable to collect further samples before the well ran dry.

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Project Name:	Former Sherwood Shoe Company
Location:	625 South Goodman Street, Rochester NY
Project No.:	2172056
Sampled By:	J. Porter
Date:	6/18/18
Weather:	Sunny, 85 F → Thunderstorms, 76 F

WELL I.D.: MW-7

WELL SAMPLING INFORMATION

Well Diameter:	2-inch	Static Water Level:	19.79'
Depth of Well:	22.2	Length of Well Screen:	5'
Measuring Point:	Top of PVC	Depth to Top of Pump:	22'
Pump Type:	Peristaltic Pump	Tubing Type:	LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
1125	--	--	16.5	1.59	1.127	7.02	-2.4	125.2			
1130	--	--	19.2	1.71	1.127	6.88	-19	236.2			Clear
1135	--	--	21.8	2.75	1.138	6.87	-24.2	161.0			
1140	--	--	23.6	3.35	1.146	6.89	-26.9	118.2			
1145	--	--	24.6	3.61	1.513	6.89	-28.6	79.7			
1150	--	--	25.6	3.75	1.161	6.90	-31.2	48.2			
1155	--	--	26.2	3.81	1.164	6.93	-33.2	36.9			
1200	--	--	26.8	3.38	1.170	6.91	-33.6	27.3			
1205	--	--	27.3	3.84	1.174	6.91	-34.4	20.8			SAMPLE

Total 0.15 Gallons Purged

Purge Time Start: 1125 Purge Time End: 1205 Final Static Water Level: --

OBSERVATIONS

Notes: Well did not go dry. VOCs only – MS/MSD, VOCs only – DUPE. Was able to get full suite of samples.

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Project Name: Former Sherwood Shoe Company
Location: 625 South Goodman Street, Rochester NY
Project No.: 2172056
Sampled By: J. Porter

Date: 6/18/18
Weather: Sunny, 85 F

WELL I.D.: MW-8

WELL SAMPLING INFORMATION

Well Diameter: 2-inch
Depth of Well: 22.90
Measuring Point: Top of PVC
Pump Type: Peristaltic Pump

Static Water Level: 21.38’
Length of Well Screen: 10’
Depth to Top of Pump: 22.8’
Tubing Type: LDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	ORP (mV)	Turbidity (NTU)	Alkalinity	Iron (II)	Comments
930	--	--	17.8	4.80	1.885	7.16	-112.5	24.7			No odor
935	--	--	17.4	3.05	1.868	6.94	-109.9	76.3			
940	--	--	20.8	0.65	1.872	6.9	-116.1	100.5			
945	--	--	24.0	0.59	1.879	6.91	-123.7	8.07			
950	--	--	26.1	0.55	1.882	6.97	-131.1	64.4			
955	--	--	28.1	0.51	1.884	6.95	-137.1	53.3			
1000	--	--	29.3	0.49	1.881	6.69	-141.9	57.6			
1005	--	--	30.5	0.47	1.888	6.98	-147.5	35.9			
1010	--	--	31.2	0.49	1.887	6.99	-150.9	30.8			SAMPLE

Total 0.5 Gallons Purged

Purge Time Start: 930
Purge Time End: 1010
Final Static Water Level: --

OBSERVATIONS

Notes: VOC’s, 1 PEST amber bottle, 1 Total Hg/metal sample.

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WELL I.D.: MW-01

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/27/18
Weather: 70*F, overcast / light sprinkle

WELL SAMPLING INFORMATION

Well Diameter: 2”
Depth of Well: 22.20’
Measuring Point: Top of PVC
Pump Type:

Static Water Level:
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ________ Gallons Purged

Purge Time Start: ________ Purge Time End: ________ Final Static Water Level: ________

OBSERVATIONS

Notes:

Well is dry, no sample

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Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/28/18
Weather: 65*F, overcast

WELL I.D.: MW-01

WELL SAMPLING INFORMATION

Well Diameter: 2”
Depth of Well: 22.20’
Measuring Point: Top of PVC
Pump Type:

Static Water Level:
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp ^{o}C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ______ Gallons Purged

Purge Time Start: Purge Time End: Final Static Water Level:

OBSERVATIONS

Notes:

Well is dry, no sample

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan
Date: 6/27/18
Weather: 70*F, overcast / light sprinkle

WELL I.D.: MW-02

WELL SAMPLING INFORMATION

Well Diameter: 2”
Depth of Well: 19.88’
Measuring Point: Top of PVC
Pump Type:
Static Water Level:
Length of Well Screen:
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ____ Gallons Purged

Purge Time Start: ____ Purge Time End: ____ Final Static Water Level: ____

OBSERVATIONS

Notes:

Well is dry, no sample

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Facsimile: (585) 454-3066

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/28/18
Weather: 65*F, overcast

WELL I.D.: MW-02

WELL SAMPLING INFORMATION

Well Diameter: 2”
Depth of Well: 19.88’
Measuring Point: Top of PVC
Pump Type:

Static Water Level:
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ____________ Gallons Purged

Purge Time Start: ____________ Purge Time End: ____________ Final Static Water Level: ____________

OBSERVATIONS

Notes:

Well is dry, no sample

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Facsimile: (585) 454-3066

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/27/18
Weather: 70*F, overcast / light sprinkle

WELL I.D.: MW-03

WELL SAMPLING INFORMATION

Well Diameter: 1”
Depth of Well: 23.2’
Measuring Point: Top of PVC
Pump Type:

Static Water Level: 23.1’
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ________ Gallons Purged

Purge Time Start: ________ Purge Time End: ________ Final Static Water Level: ________

OBSERVATIONS

Notes:

Not enough water for sample

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Facsimile: (585) 454-3066

WELL I.D.: MW-03

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/28/18
Weather: 65*F, overcast

WELL SAMPLING INFORMATION

Well Diameter: 1”
Depth of Well: 23.2’
Measuring Point: Top of PVC
Pump Type:

Static Water Level: 23.1’
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ______ Gallons Purged

Purge Time Start: ______ Purge Time End: ______ Final Static Water Level: ______

OBSERVATIONS

Notes:

Not enough water for sample

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Telephone: (585) 454-6110
Facsimile: (585) 454-3066

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/28/18
Weather: 65*F, overcast

WELL I.D.: MW-04

WELL SAMPLING INFORMATION

Well Diameter: 1”
Depth of Well: 21.1’
Measuring Point: Top of PVC
Pump Type:

Static Water Level:
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ______ Gallons Purged

Purge Time Start: ______ Purge Time End: ______ Final Static Water Level: ______

OBSERVATIONS

Notes:

Well dry, no sample

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Telephone: (585) 454-6110
Facsimile: (585) 454-3066

WELL I.D.: MW-05

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/27/18
Weather: 70*F, light rain

WELL SAMPLING INFORMATION

Well Diameter: 1"
Depth of Well: 19.75'
Measuring Point: Top of PVC
Pump Type:

Static Water Level: 19.55'
Length of Well Screen: 10'
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ______ Gallons Purged

Purge Time Start: ______ Purge Time End: ______ Final Static Water Level: ______

OBSERVATIONS

Notes:

Not enough water for sample

LaBella
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Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

WELL I.D.: MW-05

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/28/18
Weather: 65*F, overcast

WELL SAMPLING INFORMATION

Well Diameter: 1”
Depth of Well: 19.75’
Measuring Point: Top of PVC
Pump Type:

Static Water Level: 19.55’
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ________ Gallons Purged

Purge Time Start: ________ Purge Time End: ________ Final Static Water Level: ________

OBSERVATIONS

Notes:

Not enough water for sample

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Facsimile: (585) 454-3066

Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan
Date: 6/28/18
Weather: 65*F, overcast

WELL I.D.: MW-06

WELL SAMPLING INFORMATION

Well Diameter: 1”
Depth of Well: 23.05’
Measuring Point: Top of PVC
Pump Type:
Static Water Level: 22.07’
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ______ Gallons Purged

Purge Time Start: ______ Purge Time End: ______ Final Static Water Level: ______

OBSERVATIONS

Notes:

Not enough water for sample

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Project Name: Former Sherwood Shoe Co / Highland Grove LLC
Location: 625 S Goodman St, Rochester, NY
Project No.: 2172056
Sampled By: S. Logan

Date: 6/27/18
Weather: 73*F, rain

WELL I.D.: MW-08

WELL SAMPLING INFORMATION

Well Diameter: 2”
Depth of Well: 22.90’
Measuring Point: Top of PVC
Pump Type:

Static Water Level: 19.50’
Length of Well Screen: 10’
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			

Total ____ Gallons Purged

Purge Time Start: ____ Purge Time End: ____ Final Static Water Level: ____

OBSERVATIONS

Notes:

250mL unpreserved plastic container filled for Sulfates/Nitrates/Nitrites testing
Low recovery well, no normal field parameters

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WELL I.D.: RIBW-03

Project Name: Former Sherwood Shoe Co. C828201
Location: 625 South Goodman St, Rochester NY
Project No.: 2172056
Sampled By: K. Miller
Date: 7/19/2018
Weather: Sunny, 80 F +/-

WELL SAMPLING INFORMATION

Well Diameter:	4” Steel Casting/2.5” rock core	Static Water Level:	23.23’
Depth of Well:	30.7’	Length of Well Screen:	N/A (Open Rock)
Measuring Point:	TOC (steel)	Depth to Top of Pump:	+/- 24.5’ BTOC
Pump Type:	Peristaltic	Tubing Type:	HDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp ºC	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			
1540	<0.2 L/min										Begin purging
1545		<0.5	6.94	23.34	1.34	4.96	1.22	-17			Fill flow thru cell
1550			6.89	22.63	1.41	3.17	0.99	-25			w/L 23.25’
1555		<0.5	6.88	22.52	1.42	3.17	0.92	-28			
1600			6.87	22.45	1.43	3.08	0.83	-37			w/L 23.25’
1605			6.86	22.78	1.11	6.02	1.12	-47			
1610		0.5	6.86	23.20	1.49	7.07	1.12	-47			w/L 23.25’
1615			6.86	23.25	1.49	7.07	1.12	-48			|
1620		0.75	6.87	23.33	1.48	3.51	1.99	-48			|
1625			6.88	24.42	1.42	1.93	0.92	-50			|
1630			6.88	23.78	1.42	1.92	0.92	-50			|
1635			6.88	23.72	1.43	2.53	0.94	-49			|
1640		>1	6.88	23.08	1.43	1.86	0.69	-47			|
1645			6.88	23.06	1.43	1.41	0.84	-48			|
1650		+/- 1.5	6.87	22.52	1.41	1.41	0.75	-50			V

Total ______ Gallons Purged

Purge Time Start: 1540 Purge Time End: See page 2 Final Static Water Level: ______

OBSERVATIONS

30.70-23.23= 7.47 ft. water column

Field Duplicate also collected here

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Telephone: (585) 454-6110
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Project Name: Former Sherwood Shoe Co. C828201
Location: 625 South Goodman St, Rochester NY
Project No.: 2172056
Sampled By: K. Miller
Date: 7/19/2018
Weather: Sunny, 80 F +/-

WELL I.D.: RIBW-03

WELL SAMPLING INFORMATION

Well Diameter:	4" Steel Casting/2.5" rock core	Static Water Level:	23.23'
Depth of Well:	30.7'	Length of Well Screen:	N/A (Open Rock)
Measuring Point:	TOC (steel)	Depth to Top of Pump:	+/- 24.5' BTOC
Pump Type:	Peristaltic	Tubing Type:	HDPE

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			
1655	0.2 L/min		6.87	21.74	1.39	0.36	0.73	-50			Increased pump rate slightly
1700			6.86	21.74	1.26	2.43	0.56	-50			
1705			6.86	21.31	1.26	2.86	0.55	-50			
1710			6.86	20.98	1.27	2.36	0.55	-50			23.27' w/L
1715			6.86	20.63	1.28	2.97	0.54	-50			
1720			6.86	20.23	1.29	4.87	0.54	-51			
1725		+/- 3.5	6.85	20.18	1.29	5.13	0.48	-50			
1730			6.84	19.59	1.39	5.54	0.48	-55			w/L 23.27'
1735			6.83	19.45	1.42	6.09	0.47	-56			|
1740			6.83	19.43	1.42	4.70	0.46	-57			|
1745		4+	6.83	19.22	1.42	4.55	0.44	-57			|
1750			6.83	19.18	1.42	3.63	0.44	-57			|
1755			6.83	19.43	1.40	4.28	0.41	-57			|
1800			6.84	19.30	1.29	3.81	0.40	-57			\/

Total 4.4+ Gallons Purged

Purge Time Start: See page 1 Purge Time End: 1800 Final Static Water Level: 23.27' BTOC

OBSERVATIONS

Alex B reports core into neck using Hx core barrel (3.78" O.D) therefore 0.58 gal/ft of water column x 7.47 = 4.36 gal = well volume. In all, nearly 5 gallons purged before PFC Samples collected. Sampling conducted between 1815 and 1845

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Project Name: Former Sherwood Shoe Co. C828201
Location: 625 South Goodman St, Rochester NY
Project No.: 2172056
Sampled By: K. Miller
Date: 7/21/2018
Weather: Sunny, 80 F +/-, windy

WELL I.D.: RIBW-02

WELL SAMPLING INFORMATION

Well Diameter: Rock/3.78”
Depth of Well: 27.59’
Measuring Point: TOC (steel)
Pump Type: Peristaltic
Static Water Level: 24.26’ BTOC
Length of Well Screen: N/A (Open Rock)
Depth to Top of Pump: +/- 26’ BTOC
Tubing Type: HDPE/Silicone

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH +/- 0.1	Temp °C	Conductivity (mS/cm) +/- 3%	Turbidity (NTU)	Dissolved O_2 (mg/L) + 10%	Redox (mV) +/- 10 mV	Alkalinity	Iron (II)	Comments
1640	+/- 2 L/min										Fill flow thru cell
1645			6.86	17.04	1.50	35.5	3.09	-248			
1650			6.84	16.99	1.55	16.4	1.76	-274			
1655		+/- 0.5.	6.81	17.63	1.63	14.5	0.63	-302			24.45’ w/L BTOC
1700			6.80	18.10	1.68	10.4	0.67	-310			
1705	150mL/min	0.75	6.80	18.16	1.66	16.4	0.71	-308			24.43’ w/L BTOC
1710			6.79	18.31	1.71	14.6	0.56	-318			
1715			6.79	18.39	1.70	14.3	0.53	-318			
1720			6.80	18.19	1.68	16.8	0.53	-317			24.43 w/L BTOC
1725			6.81	17.93	1.68	15.5	0.60	-313			
1730			6.81	18.07	1.71	13.6	0.61	-313			
1735		1.7	6.81	18.00	1.71	12.8	0.66	-313			24.43’ w/L BTOC
1740			6.81	18.20	1.71	12.8	0.66	-313			
1745			6.81	17.68	1.71	12.7	0.74	-316			
1750		2	6.80	18.06	1.73	9.81	0.49	-325			24.44’ w/L BTOC

Total 2+ Gallons Purged

Purge Time Start: 1640
Purge Time End: 1750
Final Static Water Level: 24.43’ BTOC

OBSERVATIONS

Purge water buckets: orange=02, blue=01, white=03
PFC equipment cleaned, equipment blank collected @1830
27.59-24.41=3.18’x0.58=1.84 gal/well volume
3.78” well=0.58 ft3 water/ft of water
Petro odor to purged water (stronger than RIBW-01)
Sample time 1800 – Sampled VOCs, PFCs, 1, 4 -Dioxane, TCL SVOCs, PCBs, and RCRA Metals.

LaBella
Powered by partnership.

300 State Street
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Project Name: Former Sherwood Shoe Co. C828201
Location: 625 South Goodman St, Rochester NY
Project No.: 2172056
Sampled By: K. Miller
Date: 7/21/2018
Weather: Sunny, 75 F +/-

WELL I.D.: RIBW-01

WELL SAMPLING INFORMATION

Well Diameter:	Rock/3.78"	Static Water Level:	24.54'
Depth of Well:	27.25'	Length of Well Screen:	N/A (Open Rock)
Measuring Point:	TOC (steel)	Depth to Top of Pump:	+/- 26' BTOC
Pump Type:	Peristaltic	Tubing Type:	HDPE/Silicone

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	pH	Temp °C	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved O_2 (mg/L)	Redox (mV)	Alkalinity	Iron (II)	Comments
			+/- 0.1		+/- 3%		+ 10%	+/- 10 mV			
800	<0.2 L/min										Fill flow thru cell
805			6.81	17.07	1.38	21.2	4.67	-228			
810			6.81	16.48	1.40	17.8	2.40	-236			24.65' w/L BTOC
815			6.79	15.67	1.46	15.1	1.37	-249			
820	+/- .2 L/min	+/- 1	6.78	15.45	1.50	13.4	1.24	-258			24.68' w/L BTOC
825			6.78	15.30	1.55	12.2	1.18	-268			
830	+/-.2L/min	>1	6.77	15.42	1.57	12.3	1.08	-269			
835			6.77	15.82	1.61	12.2	1.11	-271			24.66 w/L BTOC
840			6.77	16.62	1.61	12.52	1.28	-256			
845		1.5	6.78	16.96	1.60	13.0	1.38	-257			24.66' w/L BTOC
850			6.79	17.05	1.60	12.6	1.49	-285			
855			6.80	18.07	1.60	12.6	1.39	-262			
900			6.80	18.22	1.60	11.2	1.37	-262			
905		2	6.80	18.22	1.60	11.2	1.39	-259			

Total >2 Gallons Purged

Purge Time Start: 800 Purge Time End: 905 Final Static Water Level:

OBSERVATIONS

27.25-24.54=2.71 ft x 0.58=1.57 gal/well volume
Sample and MS/MSD samples collected here
(9) 40-mL HCL pres. VOAs; (6) 1L unpreserved amber and (6) 250 mL unpreserved HDPE
Slight Petro Odor

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name: Sherwood Shoe	Well I.D.: RI GP-02 / MW-01
Site Location: 625 South Goodman	Driller: M. Pope
Drilling Co.: LaBella LLC	Inspector: M. Marrash
	Date: 11/8/2018

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

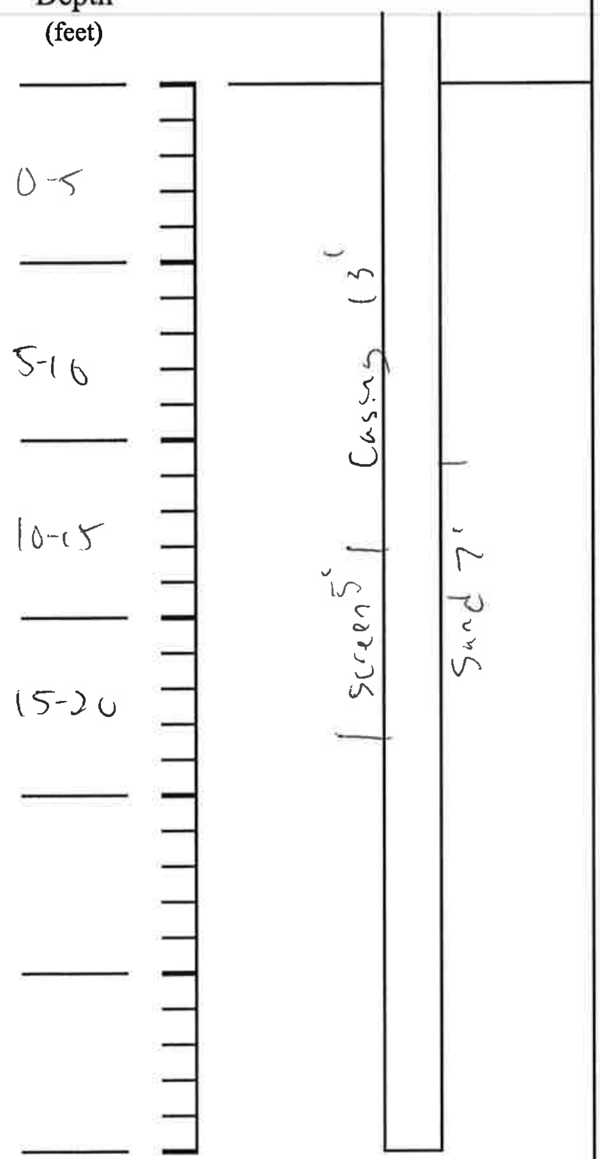
CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLS)	18'
# of batches prepared	2'
For each batch record:	
Quantity of water used (gal.)	5 gal
Quantity of cement used (lbs.)	25 lbs
Cement type	ready mix
Quantity of bentonite used (lbs.)	0
Quantity of calcium chloride used (lbs.)	0
Volume of grout prepared (gal.)	~
Volume of grout used (gal.)	~

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

LaBella LLC
Drilling Contractor

M. Marrash
Department Representative

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name: Sherwood Shoe	Well I.D.: RIGP-03 /MW-02
Site Location: 625 South Goodman	Driller: M. Pepe
Drilling Co.: LaBella LLC	Inspector: M. Marrash
	Date: 11/8/2018

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	NA
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA

CASING PULLING

Method employed	NA
Casing retrieved (feet)	NA
Casing type/dia. (in)	NA

CASING PERFORATING

Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA

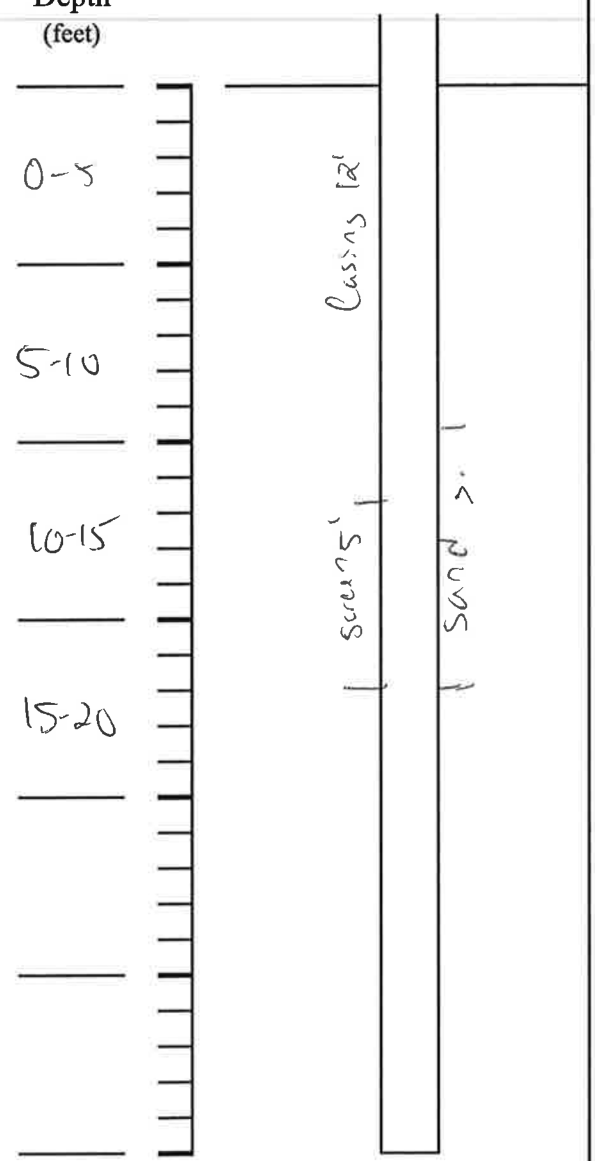
GROUTING ✓

Interval grouted (FBLS)	17'
# of batches prepared	2

For each batch record:

Quantity of water used (gal.)	5
Quantity of cement used (lbs.)	25
Cement type	ready mix
Quantity of bentonite used (lbs.)	0
Quantity of calcium chloride used (lbs.)	0
Volume of grout prepared (gal.)	~
Volume of grout used (gal.)	~

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

LaBella LLC
Drilling Contractor

M. Marrash
Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: Sherwood Shoe	Well I.D.: RIGP-06/MW-03
Site Location: 625 South Goodman Street	Driller: M. Prac
Drilling Co.: LaBella LLC	Inspector: M. Murrash
	Date: 11/8/2018

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

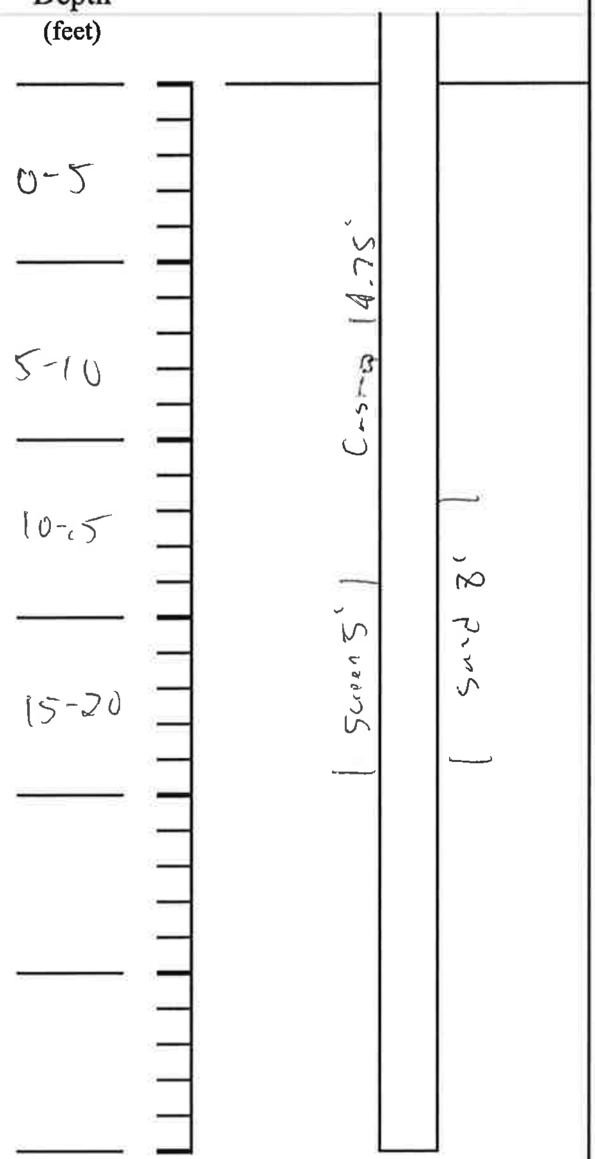
CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLS)	19.75
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	2.5
Quantity of cement used (lbs.)	13.5
Cement type	ready mix
Quantity of bentonite used (lbs.)	0
Quantity of calcium chloride used (lbs.)	0
Volume of grout prepared (gal.)	~
Volume of grout used (gal.)	✓

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

LaBella LLC
Drilling Contractor

Mike Murrash
Department Representative

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name: Former Sherwood Shoe	Well I.D.: MW-04
Site Location: 625 S. Goodman St, Rochester, NY	Driller: —
Drilling Co.: LaBella	Inspector: A. DaSilva
	Date: ~~12/17~~ 12/7/18

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	NA
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA

CASING PULLING

Method employed	NA
Casing retrieved (feet)	NA
Casing type/dia. (in)	NA

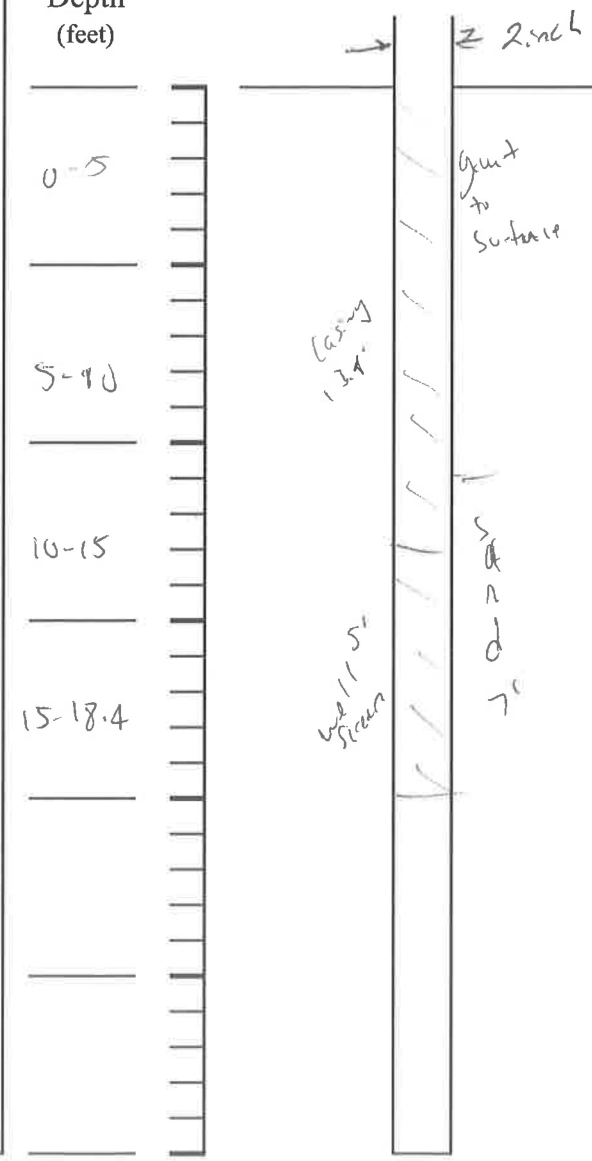
CASING PERFORATING

Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA

GROUTING

Interval grouted (FBLS)	~~0-18~~ 0-18.4
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	~4 gals
Quantity of cement used (lbs.)	50
Cement type	Portland Cement
Quantity of bentonite used (lbs.)	2.5
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	~6 gals
Volume of grout used (gal.)	~3 gals

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

LaBella
Drilling Contractor

A. DaSilva
Department Representative

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name: Sherwood Shoe	Well I.D.: ~~RI~~GP-09 /MW-05
Site Location: 625 South Goodman	Driller: M. Pope
Drilling Co.: LaBella LLC	Inspector: M. Marrash
	Date: 11/8/2018

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

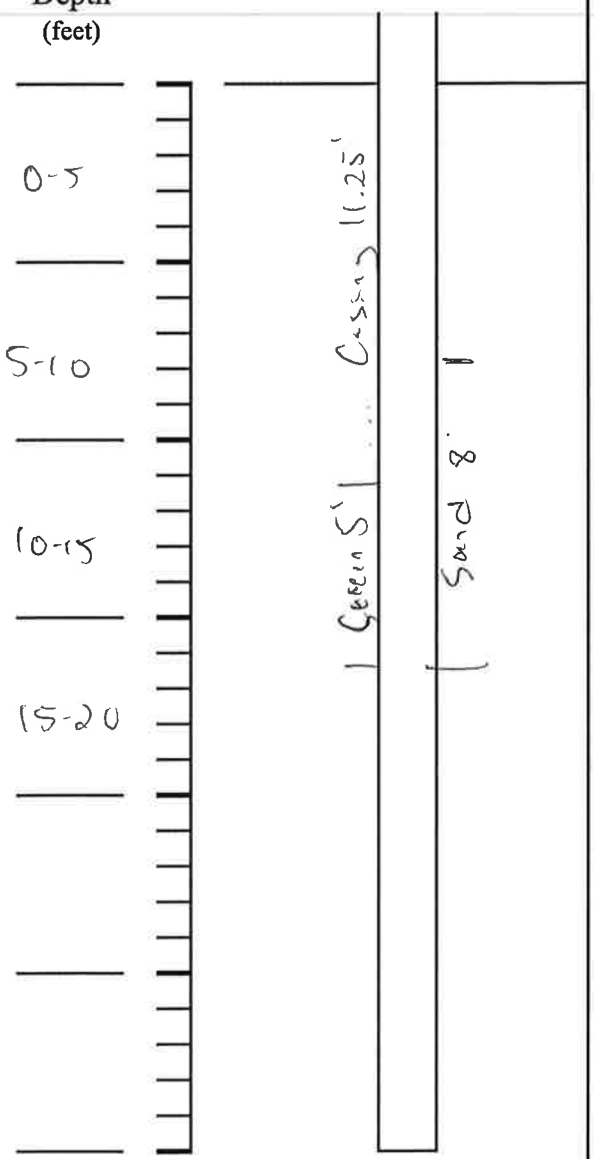
CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLS)	19.25
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	2.5
Quantity of cement used (lbs.)	13.5
Cement type	readymix
Quantity of bentonite used (lbs.)	0
Quantity of calcium chloride used (lbs.)	0
Volume of grout prepared (gal.)	~
Volume of grout used (gal.)	~

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

LaBella LLC
Drilling Contractor

Mike Marrash
Department Representative

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name: Sherwood Shoe	Well I.D.: BMW-7
Site Location: 625 South Goodman	Driller: M. Pepe
Drilling Co.: LaBella LLC	Inspector: M. Marrash
	Date: 11/9/18

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

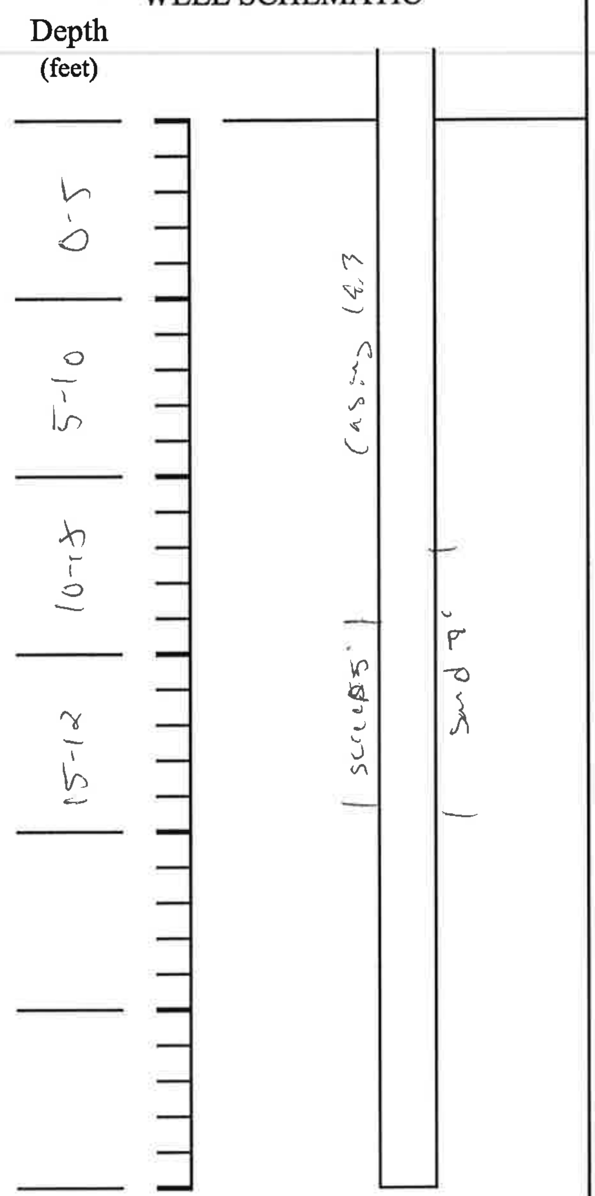
CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLS)	19.3
# of batches prepared	2
For each batch record:	
Quantity of water used (gal.)	5
Quantity of cement used (lbs.)	25
Cement type	ready mix
Quantity of bentonite used (lbs.)	0
Quantity of calcium chloride used (lbs.)	0
Volume of grout prepared (gal.)	~
Volume of grout used (gal.)	~

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

LaBella LLC
Drilling Contractor

M. Marrash
Department Representative

APPENDIX F

QUALITY ASSURANCE PROJECT PLAN

Quality Assurance Project Plan (QAPP)

Location:

Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York

Prepared For:

Highland Grove, LLC
301 Exchange Street
Rochester, New York

LaBella Project No. 2172056

November 2020

Quality Assurance Project Plan (QAPP)

Location:

Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York

Prepared For:

Highland Grove, LLC
301 Exchange Street
Rochester, New York

LaBella Project No. 2172056

November 2020

LaBella Associates, D.P.C.
300 State Street
Rochester, New York 14614

Table of Contents

1.0 Introduction

The Quality Assurance Project Plan (QAPP) contains procedures which allow for the proper collection and evaluation of data and documents that quality control (QC) procedures have been followed during field investigations. The quality control program presents the methodology and measurement procedures used in collecting quality field data. This methodology includes the proper use of equipment, documentation of sample collection, and sample handling procedures.

Procedures used in the firm's QAPP are compatible with federal, state, and local regulations, as well as, appropriate professional and technical standards.

This QAPP program has been organized into the following areas:

- Quality Control Objectives and Checks
- Field Equipment, Handling, and Calibration
- Sampling Techniques
- Sample Handling and Packaging

It should be noted that project-specific work plans (e.g., Remedial Investigation Work Plans) may have project specific details that will differ from the procedures in this QC program. In such cases, the project-specific work plan should be followed (subsequent to regulatory approval).

2.0 Quality Control Objectives

The United States Environmental Protection Agency (EPA) has identified five general levels of analytical data quality as being potentially applicable to site investigations conducted under CERCLA. These levels are summarized below:

- **Level I** - Field screening. This level is characterized by the use of portable instruments, which can provide real-time data to assist in the optimization of sampling point locations and for health and safety support. Data can be generated regarding the presence or absence of certain contaminants (especially volatiles) at sampling locations.
- **Level II** - Field analysis. This level is characterized by the use of portable analytical instruments, which can be used on site or in mobile laboratories stationed near a site (close-support labs). Depending upon the types of contaminants, sample matrix, and personnel skills, qualitative and quantitative data can be obtained.
- **Level III** - Laboratory analysis using methods other than the Contract Laboratory Program (CLP) Routine Analytical Services (RAS). This level is used primarily in support of engineering studies using standard EPA-approved procedures. Some procedures may be equivalent to CLP RAS, without the CLP requirements for documentation.
- **Level IV** - CLP Routine Analytical Services. This level is characterized by rigorous QC protocols and documentation and provides qualitative and quantitative analytical data. Some regions have obtained similar support via their own regional laboratories,

university laboratories, or other commercial laboratories.

- **Level V** - Non-standard methods. Analyses, which may require method modification and/or development. CLP Special Analytical Services (SAS) are considered Level V.

Unless stated otherwise, all data will be generated in accordance with Level IV. When CLP methodology is not available, federal and state approved methods will be utilized. Level III will be utilized, as necessary, for non-CLP RAS work which may include ignitability, corrosivity, reactivity, EP toxicity, and other state approved parameters for characterization. Level I will be used throughout the RI for health and safety monitoring activities.

All measurements will be made to provide that analytical results are representative of the media and conditions measured. Unless otherwise specified, all data will be calculated and reported in units consistent with other organizations reporting similar data to allow comparability of data bases among organizations. Data will be reported in micrograms per liter (µg/L) and milligrams (mg)/L for aqueous samples, and µg/ kilogram (kg) and mg/kg (dry weight) for soils, or otherwise as applicable.

The characteristics of major importance for the assessment of generated data are accuracy, precision, completeness, representativeness, and comparability. Application of these characteristics to specific projects is addressed later in this document. The characteristics are defined below.

2.1 Accuracy

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value and is a measure of bias in the system.

2.2 Precision

Precision is the degree of mutual agreement among individual measurements of a given parameter.

2.3 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct normal conditions.

2.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition

Careful choice and use of appropriate methods in the field will ensure that samples are representative. This is relatively easy with water or air samples since these components are homogeneously dispersed. In soil and sediment, contaminants are unlikely to be evenly distributed, and thus it is important for the sampler and analyst to exercise good judgment when removing a sample.

2.5 Comparability

Comparability expresses the confidence with which one data set can be compared to another. The data sets may be inter- or intra- laboratory.

3.0 Measurement of Data Quality

3.1 Accuracy

Accuracy of a particular analysis is measured by assessing its performance with "known" samples. These "knowns" take the form of EPA standard reference materials, or laboratory prepared solutions of target analytes spiked into a pure water or sample matrix. In the case of gas chromatography (GC) or GC/MS (mass spectrometry) analyses, solutions of surrogate compounds are used. These solutions can be spiked into every sample and are designed to mimic the behavior of target analytes without interfering with their determination.

In each case the recovery of the analyte is measured as a percentage, correcting for analytes known to be present in the original sample if necessary, as in the case of a matrix spike analysis. For EPA supplied known solutions, this recovery is compared to the published data that accompany the solution.

For the firm's prepared solutions, the recovery is compared to EPA-developed data or the firm's historical data as available. For surrogate compounds, recoveries are compared to EPA CLP acceptable recovery tables.

If recoveries do not meet required criteria, then the analytical data for the batch (or, in the case of surrogate compounds, for the individual sample) are considered potentially inaccurate. The analyst or his supervisor must initiate an investigation of the cause of the problem and take corrective action. This can include recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For highly contaminated samples, recovery of the matrix spike may depend on sample homogeneity. As a rule, analyses are not corrected for recovery of matrix spike or surrogate compounds.

3.2 Precision

Precision of a particular analysis is measured by assessing its performance with duplicate or replicate samples. Duplicate samples are pairs of samples taken in the field and transported to the laboratory as distinct samples. Their identity as duplicates is typically not known to the laboratory. For most purposes, precision is determined by the analysis of replicate pairs (i.e., two samples prepared at the laboratory from one original sample). Often in replicate analysis the sample chosen for replication does not contain target analytes so that quantitation of precision is impossible. For EPA CLP analyses, replicate pairs of spiked samples, known as matrix spike/matrix spike duplicate samples, are used for precision studies. This has the advantage that two real positive values for a target analyte can be compared.

Precision is calculated in terms of Relative Percent Difference (RPD).

- Where X_1 and X_2 represent the individual values found for the target analyte in the two replicate analyses or in the matrix spike/matrix spike duplicate analyses.
- RPDs must be compared to the method RPD for the analysis. The analyst or his supervisor must investigate the cause of RPDs outside stated acceptance limits. This may include a visual inspection of the sample for non-homogeneity, analysis of check samples, etc. Follow-up action may include sample reanalysis or flagging of the data as suspect if problems cannot be resolved.
- During the data review and validation process, field duplicate RPDs are assessed as a measure of the total variability of both field sampling and laboratory analysis.

3.3 Completeness

Completeness for each parameter is calculated as follows:

- The firm's target value for completeness for all parameters is 100%. A completeness value of 95% will be considered acceptable. Incomplete results will be reported to the site managers. In planning the field sample collection, the site manager will plan to collect field duplicates from identified critical areas. This procedure should assure 100% completeness for these areas.

3.4 Representativeness

The characteristic of representativeness is not quantifiable. Subjective factors to be taken into account are as follows:

- The degree of homogeneity of a site;
- The degree of homogeneity of a sample taken from one point in a site; and
- The available information on which a sampling plan is based.

To maximize representativeness of results, sampling techniques and sample locations will be carefully chosen so that they provide laboratory samples representative of the site and the specific area. Within the laboratory, precautions are taken to extract from the sample bottle an aliquot representative of the whole sample. This includes premixing the sample and discarding pebbles from soil samples.

4.0 Quality Control Targets

Target values for detection limit, percent spike recovery and percent "true" value of known check standards, and RPD of duplicates/replicates are included in the QAPP, Analytical Procedures. Note that tabulated values are not always attainable. Instances may arise where high sample concentrations, non-homogeneity of samples, or matrix interferences preclude achievement of target detection limits or other quality control criteria. In such instances, the firm will report reasons for deviations from these detection limits or noncompliance with quality control criteria.

5.0 Soil & Groundwater Investigation

The groundwater sampling plan outlined in this subsection has been prepared in general accordance with RCRA Groundwater Monitoring Technical Enforcement Guidance Document 9950.1 (September 1986), Office of Solid Waste and Emergency Response.

Prior to drilling, all drill sites will be cleared with appropriate utility companies to avoid potential accidents relating to underground utilities.

5.1 Test Borings and Well Installation

5.1.1 Drilling Equipment

Direct Push Geoprobe Soil Borings:

Soil borings and monitoring wells may be advanced with a Geoprobe direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The Geoprobe utilizes a four-foot or five-foot Macrocore sampler, with disposable polyethylene sleeves. Soil cores will be retrieved in four-foot or five-foot sections, and can be easily cut from the polyethylene sleeves for observation and sampling. The Macrocore sampler will be decontaminated between samples and borings using an alconox and water solution. Any investigative derived waste generated during the advancement of soil borings and monitoring well installations will be containerized and characterized for proper disposal.

Hollow-Stem Auger Advanced Soil Borings:

The drilling and installation of soil borings and monitoring wells may be performed using a rotary drill rig which will have sufficient capacity to perform 4 1/2-inch inside diameter (ID) hollow-stem auger drilling in the overburden, retrieve Macrocore or split-spoon samples, and perform necessary rock coring to provide a minimum 3-inch diameter core, known in the industry as "NX." The borehole may be reamed to 5 1/2-inch diameter prior to monitoring well installation as cased hole in the bedrock, or may be left as open hole, with regulatory concurrence. Equipment sizes and diameters may vary based on project-specific criteria. Any investigative derived waste generated during the advancement of soil borings and monitoring well installations will be containerized and characterized for proper disposal.

5.1.2 Drilling Techniques

Direct Push Geoprobe Advanced Borings:

Prior to initiating drilling activities, the Geoprobe, Macrocores, drive rods and/or other pertinent equipment will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used. All sampling equipment will be steam cleaned or washed with an alconox and water solution upon completion of the investigation and prior to leaving the Site.

Test borings will be advanced with 2-inch (or larger) inside diameter (ID) direct push Macrocore through overburden soils. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

It will be the responsibility of the consultant to arrange for the appropriate drilling equipment to be present at the Site. Standby time to arrange for additional equipment or a water supply will not be allowed unless caused by unexpected Site conditions.

During the drilling, a properly calibrated photoionization detector (PID) will be used to screen soil cores retrieved from the Macrocores.

Direct Push Geoprobe advanced groundwater-monitoring wells typically utilize 1.25-inch threaded flush joint PVC pipe with 0.010-in. slotted screen. However, well construction will vary by project and will be specified in the project-specific work plan. PVC piping used for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe, and shall bear markings that will identify the material as that which is specified. All materials used to construct the wells will be NSF/ASTM approved. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well. All risers and screens shall be set round, plumb, and true to line.

Hollow-Stem Auger Advanced Borings:

Prior to initiating drilling activities, the drill rig, augers, rods, Macrocore, split spoons and/or other pertinent equipment will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. These activities will be performed in a designated on-site decontamination area. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used. The drilling rig and all equipment will be steam cleaned or washed with an alconox and water solution upon completion of the investigation and prior to leaving the site.

Test borings completed with the hollow-stem auger will be advanced with 4 1/2-inch (ID) hollow stem augers through overburden, and NX-sized diamond core barrels in competent rock, driven by truck-, track-, or trailer-mounted drilling equipment. Alternative methods of drilling or equipment may be allowed or requested for project-specific criteria, but must be approved by the NYSDEC. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

It will be the responsibility of the consultant to arrange for the appropriate drilling equipment to be present at the site. Standby time to arrange for additional equipment or a water supply will not be allowed unless caused by unexpected site conditions.

During the drilling, a (PID) will be used to screen soils retrieved from the split spoons or Macrocores.

If bedrock wells are required, test borings shall be advanced into rock with NX (or similar) coring tools. Only water from an approved source shall be used in rock coring. The consultant shall monitor and record the petrology, core recovery, fractures, rate of advance, water levels, and water lost or produced in each test boring. The Rock Quality Determination (RQD) value shall be calculated for each 5-foot core. Each core shall be screened with a PID upon extraction to determine proper handling procedure. All core samples shall be retained and stored by the consultant in an approved wooden core box for a period of not less than one year.

The method selected may be percussion or rotary drilling at the option of the subcontractor. The method and equipment selected must be capable of penetrating the bedrock at each well location to a depth required by the work plan and will be selected based on the results of the rock coring performed.

Bedrock well installation will involve construction of a rock socket in the weathered bedrock. The socket will be drilled into the top of rock (typically 1-ft. to 5-ft. into the top of rock) at each bedrock well location to allow a permanent steel casing to be grouted securely in place prior to completion of the well. The purpose for this is to provide a seal at the overburden/bedrock interface and into the upper bedrock surface, to prevent the entrance of overburden water into the bedrock. After the grout and casing have set up for a minimum of 12 hours, the remaining bedrock can be NX (or similar) cored through the steel casing to a depth determined by the project-specific work plan.

Bedrock wells will either be open coreholes in the rock or consist of threaded, flush-joint PVC piping. Construction will vary depending on the project and as such, specific construction of the wells will be detailed in the project-specific work plan. Bedrock wells which do utilized PVC piping for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe, and shall bear markings that will identify the material as that which is specified. All materials used to construct the wells will be NSF/ASTM approved.

The well screen slot size will be selected based on the filter pack grain size and the ability to hold back 85 percent or more of the filter pack materials. Screen and riser sections shall be joined by flush-threaded coupling to form watertight unions that retain 100% of the strength of the casing. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well. All risers and screens shall be set round, plumb, and true to line.

5.1.3 Artificial Sand Pack

When utilized, granular backfill will be chemically and texturally clean, inert, siliceous, and of appropriate grain size for the screen slot size and the host environment. The sand pack will be installed using a tremie pipe, when possible (i.e., a tremie pipe may not fit into smaller, 2-in. diameter boreholes). When utilized, the well screen and casing will be installed, and the sand pack placed around the screen and casing to a depth extending 2-ft. or at least 25 percent of the screen length above the top of the screen.

An artificial sand pack will not be utilized in bedrock wells without screens (i.e., open borehole wells).

5.1.4 Bentonite Seal

A minimum 2-ft. thick seal of tamped bentonite pellets will be placed directly on top of the sand pack, and care will be taken to avoid bridging. In the event that Site geology does not allow for a 2-ft. seal (e.g., only 1-ft. of space remains between the top of the sand pack and ground surface), the remaining space in the annulus will be filled with bentonite. The seal will be measured immediately after placement, without allowance for swelling.

5.1.5 Grout Mixture

Upon completion of the bentonite seal, the well may be grouted with a non-shrinking cement grout (e.g., Volclay^R) mix to be placed from the top of the bentonite seal to the ground surface. The cement grout shall consist of a mixture of Portland cement (ASTM C 150) and water, in the proportion of not more than 7 gallons of clean water per bag of cement (1 cubic foot or 94 pounds). Additionally, 3% by weight of bentonite powder shall be added, if permitted.

5.1.6 Surface Protection

At all times during the progress of the work, precautions shall be used to prevent tampering with or the entrance of foreign material into the well. Upon completion of the well, a suitable lockable cap shall be installed to prevent material from entering the well. Where permanent wells are to be installed, the well riser shall be protected by a flush mounted road box set into a concrete pad. A concrete pad, sloped away from the well, shall be constructed around the flush mount road box at ground level.

Any well that is to be temporarily removed from service or left incomplete due to delay in construction shall be capped with a watertight cap and equipped with a "vandal-proof" cover, satisfying applicable NYSDEC regulations or recommendations.

5.1.7 Surveying

Coordinates and elevations will be established for each monitoring well and sampling location. Elevations to the closest 0.01 foot shall be used for the survey. These elevations shall be referenced to a regional, local, or project-specific datum. USGS benchmarks will be used whenever available. The location, identification, coordinates, and elevations of the wells will be plotted on maps with a scale large enough to show their location with reference to other structures at each site.

5.1.8 Well Development

After completion of the well, but not sooner than 24 hours after grouting is completed, development will be accomplished using pumping, bailing, or surge blocking. No dispersing agents, acids, disinfectants, or other additives will be used during development or introduced into the well at any other time. During development, water will be removed throughout the entire water column by periodically lowering and raising the pump intake (or bailer stopping point).

Development water will be either properly contained and treated as waste until the results of chemical analysis of samples are obtained or discharged on Site as determined by the Site-specific work plans and/or consultation with the NYSDEC representatives on Site.

The development process will continue until a stabilization of pH, specific conductance, temperature, and turbidity (goal of <50 NTUs) of the discharge is achieved for three consecutive intervals following the removal of a minimum of 110% of the water lost during drilling, or three well volumes; whichever is greater. In the event that limited recharge does not allow for the recovery of all drilling water lost in the well or three (3) well volumes, the well will be allowed to stabilize to conditions deemed representative of groundwater conditions. Stabilization periods will vary by project but will be confirmed with the NYSDEC prior to sampling.

6.0 Geologic Logging and Sampling

At each investigative location, borings will be advanced through overburden using either a drill rig and hollow-stem auger or direct push technology. Soils will be evaluated for visual and olfactory evidence of impairment (i.e., staining, odors, and elevated PID readings) by a geologist, engineer or qualified Environmental Professional. Sampling devices will be decontaminated according to procedures outlined in the Decontamination section of this document. When utilized, split-spoon samplers will be driven into the soil using a minimum 140-pound safety hammer and allowed to free-fall 30-inches, in accordance with ASTM-D 1586-84 specifications. The number of blows required to drive the sampler each 6-inches of penetration will be recorded. When required, samples will be stored in glass jars until they are needed for testing or the project is complete.

If hard boulders or bedrock result in auger refusal, rock coring will be used to advance the hole to design depth. If hydrogeologic conditions are favorable for well installation at a depth less than design, the well may be installed at the boring or coring termination depth. In the event that maximum design depth is reached and hydrogeologic conditions are not suitable for well installation, the maximum drilling depth may be revised. Hydrogeologic suitability for well placement will be determined by the supervising geologist, engineer or qualified Environmental Professional in consultation with NYSDEC, based on thickness and estimated hydraulic conductivity of the saturated zone encountered. If necessary, the borehole will be advanced to water or abandoned.

Boulders and bedrock encountered during well installation may be cored by standard diamond-core drilling methods using an "NX" size core barrel. All rock cores recovered will be logged by a geologist, labeled and stored in wooden core boxes. The cores will be stored by the firm until the project is completed or for at least one year. Drilling logs will be prepared by an experienced geologist or engineer, who will be present during all drilling operations. One copy of each field boring and well construction log and groundwater data, will typically be submitted as part of the investigation summary report (e.g., Remedial Investigation Report). The RQD value shall be calculated for each 5-foot section. Information provided in the logs shall include, but not be limited to, the following:

- Date, test hole identification, and project identification;
- Name of individual developing the log;
- Name of driller and assistant(s);
- Drill, make and model, auger size;

- Identification of alternative drilling methods used and justification thereof (e.g., rotary drilling with a specific bit type to remove material from within the hollow stem augers);
- Standard penetration test (ASTM D-1586) blow counts;
- Field diagram of each monitoring well installed with the depth to bottom of screen, top of screen, and pack, bentonite seal, etc.;
- Reference elevation for all depth measurements;
- Depth of each change of stratum;
- Thickness of each stratum;
- Identification of the material of which each stratum is composed, according to the USCS system or standard rock nomenclature, as appropriate;
- Depth interval from which each sample was taken;
- Depth at which hole diameters (bit sizes) change;
- Depth at which groundwater is encountered;
- Depth to static water level and changes in static water level with well depth;
- Total depth of completed well;
- Depth or location of any loss of tools or equipment;
- Location of any fractures, joints, faults, cavities, or weathered zones;
- Depth of any grouting or sealing;
- Nominal hole diameters;
- Amount of cement used for grouting or sealing;
- Depth and type of well casing;
- Description of well screen (to include depth, length, location, diameter, slot sizes, material, and manufacturer);
- Any sealing-off of water-bearing strata;
- Static water level upon completion of the well and after development;
- Drilling date or dates;
- Construction details of well; and
- An explanation of any variations from the work plan.

7.0 Groundwater Sampling Procedures

New monitoring wells will developed prior to any groundwater sampling. Development will consist of removing a minimum of three (3) well volumes or until dry utilizing a dedicated bailer or pump. Development water will be containerized in 55-gallon drums, characterized and disposed of in accordance with applicable regulations. New wells will be allowed to stabilize for a minimum of two (2) weeks following development unless a shorter time period is approved by the NYSDEC.

Water levels will be measured to within 0.01 feet prior to purging and sampling. Sampling of each well will typically be accomplished in one of two ways; active or passive. Sampling volumes are provided on Table 11-1.

Active Sampling via Bladder Pump or Peristaltic Pump:

Purging will be completed prior to active sampling. During purging, the following will be recorded in field books or groundwater sampling logs:

- date
- purge start time
- weather conditions
- PID reading immediately after the well cap is removed
- presence of NAPL, if any, and approximate thickness
- pH
- dissolved oxygen
- temperature
- specific conductance
- depth of well
- depth to water
- estimated water volume
- purge end time
- volume of water purged

In general, wells will be purged until the water quality parameters of the groundwater being pumped from the well have stabilized for three consecutive 5-minute intervals within limits defined below:

- Water level drawdown (<0.3')
- Turbidity (+/- 10%, <50 NTU for metals)
- pH (+/-0.1)
- Temperature (+/- 3%)
- Specific conductivity (+/- 3%)
- Dissolved Oxygen (+/- 10%)
- Oxidation reduction potential (+/- 10 millivolts)

Following stabilization of water parameters, samples will be collected. Sample intake depth will be recorded at the time of sample collection.

Active Sampling via Bailer:

Groundwater samples collected via bailer will be collected according to the following procedures and in the volumes specified in Table 11-1:

- Prior to sample collection the following info will be noted:
  - Date
  - Weather conditions
  - Presence of NAPL, if any
  - Depth of well
  - Depth of water
  - Estimated well volume

- Samples collected will be collected with an appropriate sized bailer for the well. Bailers are typically made of low-density polyethylene plastic (LDPE), high-density polyethylene plastic or PVC. Bailers will be deployed using synthetic rope or cotton twine.
- LDPE or Teflon containing bailers will not be used for collection of PFAS samples.
- Samples will be collected by lowering the bailer to the middle of the screened interval unless an alternate interval is targeted.
- Bailers will be lowered slowly into the well to prevent agitation of the water, as agitation promotes loss of volatiles. Bailers will also be slowly removed from the well and will immediately be transferred to sample containers.
- When transferring water from the bailers to sample containers, care will be taken to avoid agitating the sample, since agitation promotes the loss of volatile constituents.
- Any observable physical characteristics of the groundwater (e.g., color, sheen, odor, turbidity) at the time of sampling will be recorded.

Passive Sampling:

Groundwater samples will be collected via passive methods (i.e., no-purge) according to the following procedures and in the volumes specified in Table 11-1:

- Samples will be collected via passive diffusion bag (PDB) samplers. PDB samplers are made of low-density polyethylene plastic tubing (typically 4 mil), filled with laboratory grade (ASTM Type II) deionized water and sealed at both ends.
- PDB samplers will only be used to collect groundwater samples which will be analyzed for VOCs.
- PDB samplers will be deployed by hanging in the well at the middle of the well screen unless there is a low water table, a need to deploy multiple samplers or the targeting of a specific depth interval is identified. The PDB samplers will be deployed at least 14 days prior to sampling. The depth of the PDB sampler will be noted during deployment.
- The PDB samplers will be deployed using a Teflon® coated string or synthetic rope.
- When transferring water from the PDB to sample containers, care will be taken to avoid agitating the sample, since agitation promotes the loss of volatile constituents;
- Any observable physical characteristics of the groundwater (e.g., color, sheen, odor, turbidity) at the time of sampling will be recorded; and
- Weather conditions (i.e., air temperature, sky condition, recent heavy rainfall, drought conditions) at the time of sampling will be recorded.

All groundwater samples and their accompanying QC samples will be run for volatile organic compounds (VOCs) using NYSDEC Analytical Services Protocol (ASP; revised July 2005 and subsequent amendments or revisions).

8.0 PFAS Soil and Groundwater Sampling Protocol

PFAS sample analysis will require strict sampling protocol to be implemented due to high analytical sensitivities associated with PFAS. Low detection limits are required for both soil and groundwater samples analyzed for PFAS and many potential sources of trace levels of PFAS exist in everyday items and articles of clothing. The specific requirements set forth are to avoid cross contamination of samples.

PFAS are typically associated with non-stick coatings and water proof or water resistant products. To minimize the possibility of cross contamination, field personnel will take the following precautions immediately prior to and during the collection and handling of samples to be analyzed for PFAS:

- No use of PTFE (also know as Teflon®)-containing materials including but not limited PTFE lined sample jars or sample jar lids, PTFE lined tubing, PTFE tape, and plumbing paste.
- LDPE plastics will not be used.
- HDPE plastics, polypropylene and stainless steel may be used for sample collection or for equipment used during sampling.
- Clothing treated with stain and/or water resistant coatings (e.g, ePFTE, also know as Gore-Tex®) will not be worn during sampling, unless Site conditions warrant additional protection for the samples and no other materials can be used to be protective (documentation of such will be provide in field notes)
- Clothes worn during sampling will have been laundered multiple times.
- Sampling equipment and components will not come into contact with aluminum foil, or glass.
- Decontamination using alconox or similar and a clean water rinse will be performed for equipment that comes into contact with PFAS materials or between samples.
- Packaged food shall be avoided including microwave popcorn bags, fast food wrappers and disposal cups as many packaged food and drink materials contain PFAS.
- New nitrile gloves will be worn for sample collection and sample handling.
- Only sample containers provided by the lab doing the sample analysis will be used for sample collection.
- PFAS free deionized water provided by the lab will be used for trip blanks, field blanks and equipment blanks as well as for equipment decontamination.

Quality assurance and quality control sampling associated with groundwater PFAS samples will include the following:

- One (1) equipment blank for every twenty samples or per shipment, whichever comes first;
- One (1) field duplicate for every twenty samples or per shipment, whichever comes first; and,
- One (1) MS/MSD for every twenty samples or per shipment, whichever comes first.

Quality control samples for PFAS soil samples will be collected according to the internal quality control checks defined in Section 19. Refer to Section 19 for more information about quality control samples.

Refer to the NYSDEC guidance documents on PFAS attached to this QAPP as Attachment 1 for additional guidance on PFAS sampling.

9.0 Management of Investigative-Derived Waste

Purpose:

The purposes of these guidelines are to ensure the proper holding, storage, transportation, and disposal of materials that may contain hazardous wastes. Investigation-derived waste (IDW) included the following:

- Drill cuttings, discarded soil samples, drilling mud solids, and used sample containers;
- Well development and purge waters and discarded groundwater samples;
- Decontamination waters and associated solids;
- Soiled disposable personal protective equipment (PPE);
- Used disposable sampling equipment;
- Used plastic sheeting and aluminum foil;
- Other equipment or materials that either contain or have been in contact with potentially-impacted environmental media.
- Because these materials may contain regulated chemical constituents, they must be managed as a solid waste. This management may be terminated if characterization analytical results indicate the absence of these constituents.

Procedure:

1. Contain all investigation-derived wastes in Department of Transportation (DOT)-approved 55-gallon drums, roll-off boxes, or other containers suitable for the wastes.
2. Containerize wastes from separate borings or wells in separate containers (i.e. do not combine wastes from several borings/wells in a single container, unless it is a container used specifically for transfer purposes, or unless specific permission to do so has been provided by the LaBella Project Manager. Unused samples from surface sample locations within a given area may be combined.
3. To the extent practicable, separate solids from drilling muds, decontamination waters, and similar liquids. Place solids within separate containers.
4. Transfer all waste containers to a staging area. Access to this area will be controlled. Waste containers must be transferred to the staging area as soon as practicable after the generating activity is complete.
5. Pending transfer, all containers will be covered and secured when not immediately attended,
6. Label all containers with regard to contents, origin, and date of generation. Use indelible ink for all labeling.
7. Collect samples for waste characterization purposes, use boring/well sample analytical data for characterization.
8. For wastes determined to be hazardous in character, be aware on accumulation time limitations. Coordinate the disposal of these wastes with the Owner and NYSDEC.
9. Dispose of investigation-derived wastes as follows;

- Soil, water, and other environmental media for which analysis does not detect organic constituents (compounds typically containing carbon), and for which inorganic constituents are below Unrestricted Use SCOs, may be spread on-site (pending NYSDEC approval) or otherwise treated as a non-waste material.
- Soils, water, and other environmental media in which organic compounds are detected or metals are present above Unrestricted Use SCOs will be disposed as industrial waste or hazardous waste, as appropriate. Alternate disposition must be consistent with applicable State and Federal laws.
- Personal protective equipment, disposable bailers, and similar equipment may be disposed as municipal waste, unless waste characterization results mandate disposal as industrial wastes

10. If waste is determined to be listed hazardous waste, it must be handled as hazardous waste as described above, unless a contained-in determination is accepted by the NYSDEC.

10.0 Decontamination

Sampling methods and equipment have been chosen to minimize decontamination requirements and to prevent the possibility of cross-contamination. Decontamination of equipment will be performed between discrete sampling locations. Equipment used to collect samples between composite sample locations will not require decontamination between collection of samples. All drilling equipment will be decontaminated after the completion of each drilling location. Special attention will be given to the drilling assembly and augers.

Split spoons and other non-disposable equipment will be decontaminated between each sampling event. The sampler will be cleaned prior to each use, by one of the following procedures:

- Initially cleaned of all foreign matter
- Sanitized with a steam cleaner

OR

- Initially cleaned of all foreign matter
- Scrubbed with brushes in alconox solution
- Rinsed and allowed to air dry.

11.0 Sample Containers

The containers required for sampling activities are pre-washed and ordered directly from a laboratory, which has the containers prepared in accordance with USEPA bottle washing procedures. The following tables detail sample volumes, containers, preservation and holding time for typical analytes.

Table 11-1
Water Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
VOCs	40-ml glass vial with Teflon-backed septum	Two (2); fill completely, no air space	Cool to 4° C (ice in cooler), Hydrochloric acid to pH <2	7 days
Semivolatile Organic Compounds (SVOCs)	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Pesticides	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Polychlorinated biphenyls (PCBs)	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Metals	500-ml polyethylene	One (1); fill completely	Cool to 4° C (Nitric acid to pH <2	6 months
Cyanide	500-ml polyethylene	One (1); fill completely	Cool to 4° C (Sodium hydroxide to pH >12, plus 0.6 grams ascorbic acid)	14 days
PFAS	250-ml polyethylene (HDPE)	Two (2); fill completely	Cool to 4° C (ice in cooler), Trizma	14 days
1,4-Dioxane	500-ml amber glass jar	Two (2); fill completely	Cool to 4° C (ice in cooler)	7 days

*Holding time is based on verified time of sample collection.

Note: *All sample bottles will be prepared in accordance with USEPA bottle washing procedures.*

TABLE 11-2
Soil Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
VOCs by USEPA Method 5035 (if specified in work plan) Closed-system Purge and Trap Method	40-ml glass vial with Teflon-backed septum	Three (3), fill with 5 grams of soil using soil syringe	Cool to 4° C (ice in cooler). Two (2) with 10 mL DI water or 5 mL sodium bisulfate, one (1) with 5 mL methanol.	14 days; 48 hours if DI water used as preservative for low level analysis
SVOCs	4-oz. glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	14 days
PCBs	4-oz. glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	14 days
Pesticides	4-oz. glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	14 days
RCRA/TAL Metals	4-oz. glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	180 days
Cyanide	4-oz. glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	14 days
PFAS	8-oz. polyethylene (HDPE)	One (1); fill completely	Cool to 4° C (ice in cooler)	28 days
1,4-Dioxane	8-oz glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	14 days

*Holding time is based on the times from verified time of sample collection.

Note: All sample bottles will be prepared in accordance with USEPA bottle washing procedures.

TABLE 11-3
List of Major Instruments for Sampling and Analysis

- MSA 360 0_2 /Explosimeter
- Hollige Series 963 Nephlometer (turbidity meter)
- EM-31 Geomics Electromagnetic Induction Device
- pH/Temperature/Conductivity Meter - Portable
- Hewlett Packard (HP) 1000 computer with RTE-6 operating system; and HP 9144 computer with RTE-4 operating system equipped with Aquarius software for control and data acquisition from gas chromatograph/mass spectrometer (GC/MS) systems; combined wiley and National Bureau of Standards (NBS) mass spectral library; and data archiving on magnetic tape
- Viriam 6000 and 37000 gas chromatrographs equipped with flame ionization, electron capture, photoionization and wall detectors as appropriate for various analyses,, and interfaced to Variam DS604 or D5634 data systems for processing data.
- Spectra-Physics Model SP 4100 and SP 4270 and Variam 4270 cam puting integrators
- Perkin Eimer (PE) 3000% and 3030% fully Automated Atomic Absorption Spectrophotometers (AAS) with Furnace Atomizer and background correction system
- PE Plasma II Inductively Coupled Argon Plasma (ICAP) Spectre meter with PE7500 laboratory computer
- Dionex 20001 ion chromatograph with conductivity detector for anion analysis, with integrating recorder

12.0 Sample Custody

This section describes standard operating procedures for sample identification and chain-of-custody to be utilized for all field activities. The purpose of these procedures is to ensure that the quality of the samples is maintained during their collection, transportation, and storage through analysis. All chain-of-custody requirements comply with standard operating procedures indicated in USEPA sample handling protocol.

Sample identification documents must be carefully prepared so that sample identification and chain-of-custody can be maintained and sample disposition controlled. Sample identification documents include:

- Field notebooks,
- Sample label,
- Custody seals, and
- Chain-of-custody records.

12.1 Chain-of-Custody

The primary objective of the chain-of-custody procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from collection to completion of all required analyses. A sample is in custody if it is:

- In someone's physical possession;
- In someone's view;
- Locked up; or
- Kept in a secured area that is restricted to authorized personnel.

12.2 Field Custody Procedures

- As few persons as possible should handle samples.
- Sample bottles will be obtained pre-cleaned from a source such as I-Chem. Coolers or boxes containing cleaned bottles should be sealed with a custody tape seal during transport to the field or while in storage prior to use.
- The sample collector is personally responsible for the care and custody of samples collected until they are transferred to another person or dispatched properly under chain-of-custody rules.
- The sample collector will record sample data in the notebook.
- The site manager will determine whether proper custody procedures were followed during the fieldwork and decide if additional samples are required.

12.3 Sample Tags

Sample tags attached to or affixed around the sample container must be used to properly identify all samples collected in the field. The sample tags are to be placed on the bottles so as not to obscure any QC lot numbers on the bottles; sample information must be printed in a legible manner using waterproof ink. Field identification must be sufficient to enable cross-reference with the logbook.

For chain-of-custody purposes, all QC samples are subject to exactly the same custodial procedures and documentation as "real" samples.

12.4 Transfer of Custody and Shipment

- The coolers in which the samples are packed must be accompanied by a chain-of-custody record. When transferring samples, the individuals relinquishing and receiving them must sign, date, and note the time on the chain-of-custody record. This record documents sample custody transfer
- Shipping containers must be sealed with custody seals for shipment to the laboratory. The method of shipment, name of courier, and other pertinent information are entered in the "Remarks" section of the chain-of-custody record and traffic reports.
- All shipments must be accompanied by the chain-of-custody record identifying their contents. The original record accompanies the shipment. The other copies are distributed appropriately to the site manager.
- If sent by mail, the package is registered with return receipt requested. If sent by common carrier, a bill of lading is used. Freight bills, Postal Service receipts, and bill of lading are retained as part of the permanent documentation.

12.5 Chain-of-Custody Record

The chain-of-custody record must be fully completed in duplicate, using black carbon paper where possible, by the field technician who has been designated by the project manager as responsible for sample shipment to the appropriate laboratory for analysis. In addition, if samples are known to require rapid turnaround in the laboratory because of project time constraints or analytical concerns (e.g., extraction time or sample retention period limitations, etc.), the person completing the chain-of-custody record should note these constraints in the "Remarks" section of the record.

12.6 Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped samples and verifies that the sample identification number matches that on the chain-of-custody record and traffic reports, if required. Pertinent information as to shipment, pickup, and courier is entered in the "Remarks" section.

12.7 Custody Seals

Custody seals are preprinted adhesive-backed seals with security slots designed to break if the seals are disturbed. Sample shipping containers (coolers, cardboard boxes, etc., as appropriate) are sealed in as many places as necessary to ensure security. Seals must be signed and dated before use. On receipt at the laboratory, the custodian must check (and certify, by completing the package receipt log and LABMIS entries) that seals on boxes and bottles are intact. Strapping tape should be placed over the seals to ensure that seals are not accidentally broken during shipment.

13.0 Laboratory Requirements and Deliverables

This section will describe laboratory requirement and procedures to be followed for laboratory analysis. Samples collected in New York State will be analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. When required, analyses will be conducted in accordance with the most current NYSDEC Analytical Services Protocol (ASP). For example, ASP Category B reports will be completed by the laboratory for samples representing the final delineation of the Remedial Investigation, confirmation samples, samples to determine closure of a system, and correlation samples taken using field testing technologies analyzed by an ELAP-certified laboratory to determine correlation to field results. Data Usability Summary Reports will be completed by a third party for samples requiring ASP Category B format reports. Electronic data deliverables (EDDs) will also be generated by the laboratory in EQUIS format for samples requiring ASP Category B format reports.

14.0 Documentation

14.1 Sample Identification

All containers of samples collected from the project will be identified using the following format on a label or tag fixed to the sample container:

XX-ZZ-O/D-DDMMYYYY

XX:	This set of initials indicates the Site from which the sample was collected.
ZZ:	These initials identify the sample location. Actual sample locations will be recorded in the task log.
O/D:	An "O" designates an original sample; "D" identifies it as a duplicate.
DDMMYYYY:	This set of initials indicates the date the sample was collected

Each sample will be labeled, chemically preserved (if required) and sealed immediately after collection. To minimize handling of sample containers, labels will be filled out prior to sample collection when possible. The sample label will be filled out using waterproof ink and will be firmly affixed to the sample containers. The sample label will give the following information:

- Date and time of collection
- Sample identification
- Analysis required
- Project name/number
- Preservation

14.2 Daily Logs

Daily logs and data forms are necessary to provide sufficient data and observations to enable participants to reconstruct events that occurred during the project and to refresh the memory of the field personnel if called upon to give testimony during legal proceedings.

The site log is the responsibility of the site manager and will include a complete summary of the day's activity at the site.

The **Task Log** will include:

- Name of person making entry (signature).
- Names of team members on-site.
- Levels of personnel protection:
  - Level of protection originally used;
  - Changes in protection, if required; and
  - Reasons for changes.
- Documentation on samples taken, including:
  - Sampling location and depth station numbers;
  - Sampling date and time, sampling personnel;
  - Type of sample (grab, composite, etc.); and
  - Sample matrix.
- On-site measurement data.
- Field observations and remarks.
- Weather conditions, wind direction, etc.
- Unusual circumstances or difficulties.
- Initials of person recording the information.

15.0 Corrections to Documentation

15.1 Notebook

As with any data logbooks, no pages will be removed for any reason. If corrections are necessary, these must be made by drawing a single line through the original entry (so that the original entry can still be read) and writing the corrected entry alongside. The correction must be initialed and dated. Most corrected errors will require a footnote explaining the correction.

15.2 Sampling Forms

As previously stated, all sample identification tags, chain-of-custody records, and other forms must be written in waterproof ink. None of these documents are to be destroyed or thrown away, even if they are illegible or contain inaccuracies that require a replacement document.

If an error is made on a document assigned to one individual, that individual may make corrections simply by crossing a line through the error and entering the corrected information. The incorrect information should not be obliterated. Any subsequent error discovered on a document should be corrected by the person who made the entry. All corrections must be initialed and dated.

15.3 Photographs

Photographs will be taken as directed by the site manager. Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the task log concerning photographs:

- Date, time, location photograph was taken;
- Photographer
- Description of photograph taken;

16.0 Sample Handling, Packaging, and Shipping

The transportation and handling of samples must be accomplished in a manner that not only protects the integrity of the sample, but also prevents any detrimental effects due to the possible hazardous nature of samples. Regulations for packaging, marking, labeling, and shipping hazardous materials are promulgated by the United States DOT in the Code of Federal Regulation, 49 CFR 171 through 177. All samples will be delivered to the laboratory and analyzed within the holding times specified by the analytical method for that particular analyte.

All chain-of-custody requirements must comply with standard operating procedures in the USEPA sample handling protocol.

16.1 Sample Packaging

Samples must be packaged carefully to avoid breakage or contamination and must be shipped to the laboratory at proper temperatures. The following sample packaging requirements will be followed:

- Sample bottle lids must never be mixed. All sample lids must stay with the original containers.
- The sample volume level can be marked by placing the top of the label at the appropriate sample height, or with a grease pencil. This procedure will help the laboratory to determine if any leakage occurred during shipment. The label should not cover any bottle preparation QC lot numbers.
- All sample bottles are placed in a plastic bag to minimize the potential for cross-contamination.
- Shipping coolers must be partially filled with packing materials and ice when required, to prevent the bottles from moving during shipment.
- The sample bottles must be placed in the cooler in such a way as to ensure that they do not touch one another. Ice will be added to the cooler to ensure that the samples reach the laboratory at temperatures no greater than 4°C.
- The environmental samples are to be placed in plastic bags. Ice is not to be used as a substitute for packing materials.
- Any remaining space in the cooler should be filled with inert packing material. Under no circumstances should material such as sawdust, sand, etc., be used.
- A duplicate custody record and traffic reports, if required must be placed in a plastic bag and taped to the bottom of the cooler lid. Custody seals are affixed to the sample cooler.

16.2 Shipping Containers

Shipping containers are to be custody-sealed for shipment as appropriate. The container custody seal will consist of filament tape wrapped around the package and custody seals affixed in such a way that access to the container can be gained only by cutting the filament tape and breaking a seal.

Field personnel will make arrangements for transportation of samples to the lab. The lab must be notified as early in the week as possible regarding samples intended for Saturday delivery.

16.3 Marking and Labeling

- Chain of custody seals shall be placed on the container, signed, and dated prior to taping the container to ensure the chain of custody seals will not be destroyed during shipment.
- If samples are designated as medium or high hazard, they must be sealed in metal paint cans, placed in the cooler with vermiculite and labeled and placarded in accordance with DOT regulations.
- In addition, the coolers must also be labeled and placarded in accordance with DOT regulations if shipping medium and high hazard samples.

17.0 Calibration Procedures and Frequency

All instruments and equipment used during sampling and analysis will be operated, calibrated, and maintained according to the manufacturer's guidelines and recommendations as well as criteria set forth in the applicable analytical methodology references. Operation, calibration, and maintenance will be performed by personnel properly trained in these procedures. Section 11 lists the major instruments to be used for sampling and analysis. In addition, brief descriptions of calibration procedures for major field and laboratory instruments follow.

18.0 Field Instrumentation

18.1 Photovac/MiniRae Photoionization Detector (PID)

Standard operating procedures for the PID require that routine maintenance and calibration be performed every six months. The packages used for calibration are non-toxic analyzed gas mixtures available in pressurized containers.

18.2 Organic Vapor Analyzer

Organic vapor analyzers (OVAs) are calibrated and routine maintenance performed every six months when the units are not in use. Calibration is performed and the major system checks are performed prior to the instrument being released for field use.

Calibration of the OVA 128 GC must be performed by a factory-authorized service representative. The instrument is removed from its protective case and the probe is connected to the base unit. After checking for an airtight seal in the sample line (plugging the sample inlet to stop the pump), the hydrogen supply is turned on and the pressure is set to 10 psi. The electronics are turned on and the instrument is allowed to warm up for at least 5 minutes. After warm up, the instrument is zeroed on the "X10" scale using the adjust knob. The flame is then lit and a gas-tight sample bag is filled with a mixture of 100 ppm methane in air. The sample bag is then attached to the probe inlet and the internal pump is allowed to draw in as much sample as is needed. R32 on the control board is adjusted to read 100 ppm on the "X10" scale and then the hydrogen supply is shut down. The pump can now be turned off and the sample bag removed. Using the adjust knob, the meter is set to read 4 ppm on the "X1" scale. Switching back to the "X10" scale the adjust knob is again used to set the meter to 40 ppm. The scale is then set to "X100" and R33 is adjusted until the meter reads 40 ppm on the "X100" scale.

The OVA has a detection limit of 0.1 ppm in methane equivalents and a working range of 0 to 1,000 ppm. During daily field use, system checks are performed which involve calibration and maintenance of the pump systems, gases, and filters. Care is taken to check for and prevent clogging or leaks. Quad rings and the burner chamber are examined on a weekly basis. Routine biannual maintenance includes a thorough cleaning as well as a re-examination of the pump system for leaks and wear. Parts are replaced as necessary. Instrument operation is verified by calibrating and running the OVA for 4 to 6 hours. An instrument specific logbook is maintained with the OVA to document its use and maintenance.

18.3 Conductance, Temperature, and pH Tester

Temperature and conductance instruments are factory calibrated. Temperature accuracy can be checked against an NBS certified thermometer prior to field use if necessary. Conductance accuracy may be checked with a solution of known conductance and recalibration can be instituted, if necessary.

18.4 Turbidity Meter

LaMotte 2020WE Turbidity Meter is calibrated before each use. The default units are set to NTU and the default calibration curve is formazin. A 0 NTU Standard (Code 1480) is included with the meter. To calibrate, rinse a clean tube three times with the blank. Fill the tube to the fill line with the blank. Insert the tube into the chamber, close the lid, and select “scan blank”.

19.0 Internal Quality Control Checks

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of field equipment. Field-based QC will comprise at least 10% of each data set generated and will consist of standards, replicates, spikes, and blanks. Field duplicates and field blanks will be analyzed by the laboratory as samples and will not necessarily be identified to the laboratory as duplicates or blanks. For each matrix, field duplicates will be provided at a rate of one per 20 samples collected or one per shipment, whichever is greater. Field blanks which consist of trip, routine field, and/or rinsate blanks will be provided at a rate of one per 20 samples collected for each parameter group, or one per shipment, whichever is greater.

Calculations will be performed for recoveries and standard deviations along with review of retention times, response factors, chromatograms, calibration, tuning, and all other QC information generated. All QC data, including split samples, will be documented in the site logbook. QC records will be retained and results reported with sample data.

19.1 Blank Samples

Blank samples are analyzed in order to assess possible contamination from the field and/or laboratory so that corrective measures may be taken, if necessary. Field samples are discussed in the following subsection:

19.2 Field Blanks

Various types of blanks are used to check the cleanliness of field handling methods. The following types of blanks may be used: the trip blank, the routine field blank, and the field equipment blank. They are analyzed in the laboratory as samples, and their purpose is to assess the sampling and transport procedures as possible sources of sample contamination. Field staff may add blanks if field circumstances are such that they consider normal procedures are not sufficient to prevent or control sample contamination, or at the direction of the project manager. Rigorous documentation of all blanks in the site logbooks is mandatory.

- Routine Field Blanks or bottle blanks are blank samples prepared in the field to access ambient field conditions. They will be prepared by filling empty sample containers with deionized water and any necessary preservatives. They will be handled like a sample and shipped to the laboratory for analysis.
- Trip Blanks are similar to routine field blanks with the exception that they are **not** exposed to field conditions. Their analytical results give the overall level of contamination from everything except ambient field conditions. For the RI/FS, one trip blank will be collected with every batch of water samples for VOC analysis. Each trip blank will be prepared by filling a 40-ml vial with deionized water prior to the sampling trip, transported to the site, handled like a sample, and returned to the laboratory for analysis without being opened in the field.
- Field Equipment Blanks are blank samples (sometimes called transfer blanks or rinsate blanks) designed to demonstrate that sampling equipment has been properly prepared and cleaned before field use, and that cleaning procedures between samples are sufficient to minimize cross contamination. If a sampling team is familiar with a particular site, they may be able to predict which areas or samples are likely to have the highest concentration of contaminants. Unless other constraints apply, these samples should be taken last to avoid excessive contamination of sampling equipment.

19.3 Field Duplicates

Field duplicate samples consist of a set of two samples collected independently at a sampling location during a single sampling event. In some instances the field duplicate can be a blind duplicate, i.e., indistinguishable from other analytical samples so that personnel performing the analyses are not able to determine which samples are field duplicates. Field duplicates are designed to assess the consistency of the overall sampling and analytical system.

19.4 Quality Control Check Samples

Inorganic and organic control check samples are available from EPA free of charge and are used as a means of evaluating analytical techniques of the analyst. Control check samples are subjected to the entire sample procedure, including extraction, digestion, etc., as appropriate for the analytical method utilized.

Attachment 1 – NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), October 2020

NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Under NYSDEC's Part 375 Remedial Programs

October 2020

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October 2020

Department of Environmental Conservation

ERRATA SHEET for

SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) Under NYSDEC's Part 375 Remedial Programs Issued January 17, 2020

Citation and Page Number	Current Text	Corrected Text	Date
Title of Appendix I, page 32	Appendix H	Appendix I	2/25/2020
Document Cover, page 1	Guidelines for Sampling and Analysis of PFAS	Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs	9/15/2020
Routine Analysis, page 9	"However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1 or ISO 25101."	"However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1, ISO 25101, or Method 533."	9/15/2020
Additional Analysis, page 9, new paragraph regarding soil parameters	None	"In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (EPA Method 9060), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils."	9/15/2020
Data Assessment and Application to Site Cleanup Page 10	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFAS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Target levels for cleanup of PFAS in other media, including biota and sediment, have not yet been established by the DEC.	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC.	9/15/2020
Water Sample Results Page 10	PFAS should be further assessed and considered as a potential contaminant of concern in groundwater or surface water (…) If PFAS are identified as a contaminant of concern for a site, they should be assessed as	PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water (…) If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
	part of the remedy selection process in accordance with Part 375 and DER-10.		
Soil Sample Results, page 10	"The extent of soil contamination for purposes of delineation and remedy selection should be determined by having certain soil samples tested by Synthetic Precipitation Leaching Procedure (SPLP) and the leachate analyzed for PFAS. Soil exhibiting SPLP results above 70 ppt for either PFOA or PFOS (individually or combined) are to be evaluated during the cleanup phase."	"Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values. " [Guidance Value Table] "PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP. As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf. "	9/15/2020
Testing for Imported Soil Page 11	Soil imported to a site for use in a soil cap, soil cover, or as backfill is to be tested for PFAS in general conformance with DER-10, Section 5.4(e) for the PFAS Analyte List (Appendix F) using the analytical procedures discussed below and the criteria in DER-10 associated with SVOCs.	Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable.	9/15/2020

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Citation and Page Number	Current Text	Corrected Text	Date
	If PFOA or PFOS is detected in any sample at or above 1 µg/kg, then soil should be tested by SPLP and the leachate analyzed for PFAS. If the SPLP results exceed 10 ppt for either PFOA or PFOS (individually) then the source of backfill should be rejected, unless a site-specific exemption is provided by DER. SPLP leachate criteria is based on the Maximum Contaminant Levels proposed for drinking water by New York State's Department of Health, this value may be updated based on future Federal or State promulgated regulatory standards. Remedial parties have the option of analyzing samples concurrently for both PFAS in soil and in the SPLP leachate to minimize project delays. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.	PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.	
Footnotes	None	[1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances. [2] The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the soil cleanup objective for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).	9/15/2020

Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs

Objective

New York State Department of Environmental Conservation's Division of Environmental Remediation (DER) performs or oversees sampling of environmental media and subsequent analysis of PFAS as part of remedial programs implemented under 6 NYCRR Part 375. To ensure consistency in sampling, analysis, reporting, and assessment of PFAS, DER has developed this document which summarizes currently accepted procedures and updates previous DER technical guidance pertaining to PFAS.

Applicability

All work plans submitted to DEC pursuant to one of the remedial programs under Part 375 shall include PFAS sampling and analysis procedures that conform to the guidelines provided herein.

As part of a site investigation or remedial action compliance program, whenever samples of potentially affected media are collected and analyzed for the standard Target Analyte List/Target Compound List (TAL/TCL), PFAS analysis should also be performed. Potentially affected media can include soil, groundwater, surface water, and sediment. Based upon the potential for biota to be affected, biota sampling and analysis for PFAS may also be warranted as determined pursuant to a Fish and Wildlife Impact Analysis. Soil vapor sampling for PFAS is not required.

Field Sampling Procedures

DER-10 specifies technical guidance applicable to DER's remedial programs. Given the prevalence and use of PFAS, DER has developed "best management practices" specific to sampling for PFAS. As specified in DER-10 Chapter 2, quality assurance procedures are to be submitted with investigation work plans. Typically, these procedures are incorporated into a work plan, or submitted as a stand-alone document (e.g., a Quality Assurance Project Plan). Quality assurance guidelines for PFAS are listed in Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS.

Field sampling for PFAS performed under DER remedial programs should follow the appropriate procedures outlined for soils, sediments or other solids (Appendix B), non-potable groundwater (Appendix C), surface water (Appendix D), public or private water supply wells (Appendix E), and fish tissue (Appendix F).

QA/QC samples (e.g. duplicates, MS/MSD) should be collected as specified in DER-10, Section 2.3(c). For sampling equipment coming in contact with aqueous samples only, rinsate or equipment blanks should be collected.

Equipment blanks should be collected at a minimum frequency of one per day per site or one per twenty samples, whichever is more frequent.

Analysis and Reporting

As of October 2020, the United States Environmental Protection Agency (EPA) does not have a validated method for analysis of PFAS for media commonly analyzed under DER remedial programs (non-potable waters, solids). DER has developed the following guidelines to ensure consistency in analysis and reporting of PFAS.

The investigation work plan should describe analysis and reporting procedures, including laboratory analytical procedures for the methods discussed below. As specified in DER-10 Section 2.2, laboratories should provide a full Category B deliverable. In addition, a Data Usability Summary Report (DUSR) should be prepared by an independent, third party data validator. Electronic data submissions should meet the requirements provided at: https://www.dec.ny.gov/chemical/62440.html.

DER has developed a *PFAS Analyte List* (Appendix F) for remedial programs to understand the nature of contamination at sites. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. If lab and/or matrix specific issues are encountered for any analytes, the DER project manager, in consultation with the DER chemist, will make case-by-case decisions as to whether certain analytes may be temporarily or permanently discontinued from analysis at each site. As with other contaminants that are analyzed for at a site, the *PFAS Analyte List* may be refined for future sampling events based on investigative findings.

Routine Analysis

Currently, New York State Department of Health's Environmental Laboratory Approval Program (ELAP) does not offer certification for PFAS in matrices other than finished drinking water. However, laboratories analyzing environmental samples for PFAS (e.g., soil, sediments, and groundwater) under DER's Part 375 remedial programs need to hold ELAP certification for PFOA and PFOS in drinking water by EPA Method 537, 537.1, ISO 25101, or Method 533. Laboratories should adhere to the guidelines and criteria set forth in the DER's laboratory guidelines for PFAS in non-potable water and solids (Appendix H - Laboratory Guidelines for Analysis of PFAS in Non-Potable Water and Solids). Data review guidelines were developed by DER to ensure data comparability and usability (Appendix H - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids).

LC-MS/MS analysis for PFAS using methodologies based on EPA Method 537.1 is the procedure to use for environmental samples. Isotope dilution techniques should be utilized for the analysis of PFAS in all media. Reporting limits for PFOA and PFOS in aqueous samples should not exceed 2 ng/L. Reporting limits for PFOA and PFOS in solid samples should not exceed 0.5 µg/kg. Reporting limits for all other PFAS in aqueous and solid media should be as close to these limits as possible. If laboratories indicate that they are not able to achieve these reporting limits for the entire *PFAS Analyte List*, site-specific decisions regarding acceptance of elevated reporting limits for specific PFAS can be made by the DER project manager in consultation with the DER chemist.

Additional Analysis

Additional laboratory methods for analysis of PFAS may be warranted at a site, such as the Synthetic Precipitation Leaching Procedure (SPLP) and Total Oxidizable Precursor Assay (TOP Assay).

In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (EPA Method 9060), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils.

SPLP is a technique used to determine the mobility of chemicals in liquids, soils and wastes, and may be useful in determining the need for addressing PFAS-containing material as part of the remedy. SPLP by EPA Method 1312 should be used unless otherwise specified by the DER project manager in consultation with the DER chemist.

Impacted materials can be made up of PFAS that are not analyzable by routine analytical methodology. A TOP Assay can be utilized to conceptualize the amount and type of oxidizable PFAS which could be liberated in the environment, which approximates the maximum concentration of perfluoroalkyl substances that could be generated if all polyfluoroalkyl substances were oxidized. For example, some polyfluoroalkyl substances may degrade or transform to form perfluoroalkyl substances (such as PFOA or PFOS), resulting in an increase in perfluoroalkyl substance concentrations as contaminated groundwater moves away from a source. The TOP Assay converts, through oxidation, polyfluoroalkyl substances (precursors) into perfluoroalkyl substances that can be detected by routine analytical methodology.[1]

Commercial laboratories have adopted methods which allow for the quantification of targeted PFAS in air and biota. The EPA's Office of Research and Development (ORD) is currently developing methods which allow for air emissions characterization of PFAS, including both targeted and non-targeted analysis of PFAS. Consult with the DER project manager and the DER chemist for assistance on analyzing biota/tissue and air samples.

Data Assessment and Application to Site Cleanup

Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC.

Water Sample Results

PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water if PFOA or PFOS is detected in any water sample at or above 10 ng/L (ppt) and is determined to be attributable to the site, either by a comparison of upgradient and downgradient levels, or the presence of soil source areas, as defined below. In addition, further assessment of water may be warranted if either of the following screening levels are met:

a. any other individual PFAS (not PFOA or PFOS) is detected in water at or above 100 ng/L; or
b. total concentration of PFAS (including PFOA and PFOS) is detected in water at or above 500 ng/L

If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.

Soil Sample Results

Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values.

[1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances.

Guidance Values for Anticipated Site Use	PFOA (ppb)	PFOS (ppb)
Unrestricted	0.66	0.88
Residential	6.6	8.8
Restricted Residential	33	44
Commercial	500	440
Industrial	600	440
Protection of Groundwater[2]	1.1	3.7

PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP.

As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf.

Testing for Imported Soil

Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable.

PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.

[2] The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).

Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS

The following guidelines (general and PFAS-specific) can be used to assist with the development of a QAPP for projects within DER involving sampling and analysis of PFAS.

General Guidelines in Accordance with DER-10

- Document/work plan section title – Quality Assurance Project Plan
- Summarize project scope, goals, and objectives
- Provide project organization including names and resumes of the project manager, Quality Assurance Officer (QAO), field staff, and Data Validator
    - The QAO should not have another position on the project, such as project or task manager, that involves project productivity or profitability as a job performance criterion
- List the ELAP-approved lab(s) to be used for analysis of samples
- Include a site map showing sample locations
- Provide detailed sampling procedures for each matrix
- Include Data Quality Usability Objectives
- List equipment decontamination procedures
- Include an "Analytical Methods/Quality Assurance Summary Table" specifying:
    - Matrix type
    - Number or frequency of samples to be collected per matrix
    - Number of field and trip blanks per matrix
    - Analytical parameters to be measured per matrix
    - Analytical methods to be used per matrix with minimum reporting limits
    - Number and type of matrix spike and matrix spike duplicate samples to be collected
    - Number and type of duplicate samples to be collected
    - Sample preservation to be used per analytical method and sample matrix
    - Sample container volume and type to be used per analytical method and sample matrix
    - Sample holding time to be used per analytical method and sample matrix
- Specify Category B laboratory data deliverables and preparation of a DUSR

Specific Guidelines for PFAS

- Include in the text that sampling for PFAS will take place
- Include in the text that PFAS will be analyzed by LC-MS/MS for PFAS using methodologies based on EPA Method 537.1
- Include the list of PFAS compounds to be analyzed (*PFAS Analyte List*)
- Include the laboratory SOP for PFAS analysis
- List the minimum method-achievable Reporting Limits for PFAS
    - Reporting Limits should be less than or equal to:
        - Aqueous – 2 ng/L (ppt)
        - Solids – 0.5 µg/kg (ppb)
- Include the laboratory Method Detection Limits for the PFAS compounds to be analyzed
- Laboratory should have ELAP certification for PFOA and PFOS in drinking water by EPA Method 537, 537.1, EPA Method 533, or ISO 25101
- Include detailed sampling procedures
    - Precautions to be taken
    - Pump and equipment types
    - Decontamination procedures
    - Approved materials only to be used
- Specify that regular ice only will be used for sample shipment

- Specify that equipment blanks should be collected at a minimum frequency of 1 per day per site for each matrix

Appendix B - Sampling Protocols for PFAS in Soils, Sediments and Solids

General

The objective of this protocol is to give general guidelines for the collection of soil, sediment and other solid samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Containers

Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in to contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel spoon
- stainless steel bowl
- steel hand auger or shovel without any coatings

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Sampling is often conducted in areas where a vegetative turf has been established. In these cases, a pre-cleaned trowel or shovel should be used to carefully remove the turf so that it may be replaced at the conclusion of sampling. Surface soil samples (e.g. 0 to 6 inches below surface) should then be collected using a pre-cleaned, stainless steel spoon. Shallow subsurface soil samples (e.g. 6 to ~36 inches below surface) may be collected by digging a hole using a pre-cleaned hand auger or shovel. When the desired subsurface depth is reached, a pre-cleaned hand auger or spoon shall be used to obtain the sample.

When the sample is obtained, it should be deposited into a stainless steel bowl for mixing prior to filling the sample containers. The soil should be placed directly into the bowl and mixed thoroughly by rolling the material into the middle until the material is homogenized. At this point the material within the bowl can be placed into the laboratory provided container.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A soil log or sample log shall document the location of the sample/borehole, depth of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix C - Sampling Protocols for PFAS in Monitoring Wells

General

The objective of this protocol is to give general guidelines for the collection of groundwater samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including plumbers tape and sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel inertia pump with HDPE tubing
- peristaltic pump equipped with HDPE tubing and silicone tubing
- stainless steel bailer with stainless steel ball
- bladder pump (identified as PFAS-free) with HDPE tubing

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Monitoring wells should be purged in accordance with the sampling procedure (standard/volume purge or low flow purge) identified in the site work plan, which will determine the appropriate time to collect the sample. If sampling using standard purge techniques, additional purging may be needed to reduce turbidity levels, so samples contain a limited amount of sediment within the sample containers. Sample containers that contain sediment may cause issues at the laboratory, which may result in elevated reporting limits and other issues during the sample preparation that can compromise data usability. Sampling personnel should don new nitrile gloves prior to sample collection due to the potential to contact PFAS containing items (not related to the sampling equipment) during the purging activities.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Additional equipment blank samples may be collected to assess other equipment that is utilized at the monitoring well
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A purge log shall document the location of the sample, sampling equipment, groundwater parameters, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix D - Sampling Protocols for PFAS in Surface Water

General

The objective of this protocol is to give general guidelines for the collection of surface water samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel cup

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Where conditions permit, (e.g. creek or pond) sampling devices (e.g. stainless steel cup) should be rinsed with site medium to be sampled prior to collection of the sample. At this point the sample can be collected and poured into the sample container.

If site conditions permit, samples can be collected directly into the laboratory container.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A sample log shall document the location of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

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Appendix E - Sampling Protocols for PFAS in Private Water Supply Wells

General

The objective of this protocol is to give general guidelines for the collection of water samples from private water supply wells (with a functioning pump) for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Drinking water samples collected using this protocol are intended to be analyzed for PFAS by ISO Method 25101. The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials (e.g. plumbers tape), including sample bottle cap liners with a PTFE layer.

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Locate and assess the pressure tank and determine if any filter units are present within the building. Establish the sample location as close to the well pump as possible, which is typically the spigot at the pressure tank. Ensure sampling equipment is kept clean during sampling as access to the pressure tank spigot, which is likely located close to the ground, may be obstructed and may hinder sample collection.

Prior to sampling, a faucet downstream of the pressure tank (e.g., washroom sink) should be run until the well pump comes on and a decrease in water temperature is noted which indicates that the water is coming from the well. If the homeowner is amenable, staff should run the water longer to purge the well (15+ minutes) to provide a sample representative of the water in the formation rather than standing water in the well and piping system including the pressure tank. At this point a new pair of nitrile gloves should be donned and the sample can be collected from the sample point at the pressure tank.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- If equipment was used, collect one equipment blank per day per site and a minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers.
- A field reagent blank (FRB) should be collected at a rate of one per 20 samples. The lab will provide a FRB bottle containing PFAS free water and one empty FRB bottle. In the field, pour the water from the one bottle into the empty FRB bottle and label appropriately.
- Request appropriate data deliverable (Category B) and an electronic data deliverable
- For sampling events where multiple private wells (homes or sites) are to be sampled per day, it is acceptable to collect QC samples at a rate of one per 20 across multiple sites or days.

Documentation

A sample log shall document the location of the private well, sample point location, owner contact information, sampling equipment, purge duration, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate and available (e.g. well construction, pump type and location, yield, installation date). Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appendix F - Sampling Protocols for PFAS in Fish

This appendix contains a copy of the latest guidelines developed by the Division of Fish and Wildlife (DFW) entitled "General Fish Handling Procedures for Contaminant Analysis" (Ver. 8).

Procedure Name: General Fish Handling Procedures for Contaminant Analysis

Number: FW-005

Purpose: This procedure describes data collection, fish processing and delivery of fish collected for contaminant monitoring. It contains the chain of custody and collection record forms that should be used for the collections.

Organization: Environmental Monitoring Section
Bureau of Ecosystem Health
Division of Fish and Wildlife (DFW)
New York State Department of Environmental Conservation (NYSDEC)
625 Broadway
Albany, New York 12233-4756

Version: 8

Previous Version Date: 21 March 2018

Summary of Changes to this Version: Updated bureau name to Bureau of Ecosystem Health. Added direction to list the names of all field crew on the collection record. Minor formatting changes on chain of custody and collection records.

Originator or Revised by: Wayne Richter, Jesse Becker

Date: 26 April 2019

Quality Assurance Officer and Approval Date: Jesse Becker, 26 April 2019

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GENERAL FISH HANDLING PROCEDURES FOR CONTAMINANT ANALYSES

A. Original copies of all continuity of evidence (i.e., Chain of Custody) and collection record forms must accompany delivery of fish to the lab. A copy shall be directed to the Project Leader or as appropriate, Wayne Richter. All necessary forms will be supplied by the Bureau of Ecosystem Health. Because some samples may be used in legal cases, it is critical that each section is filled out completely. Each Chain of Custody form has three main sections:

1. The top box is to be filled out **and signed** by the person responsible for the fish collection (e.g., crew leader, field biologist, researcher). This person is responsible for delivery of the samples to DEC facilities or personnel (e.g., regional office or biologist).

2. The second section is to be filled out **and signed** by the person responsible for the collections while being stored at DEC, before delivery to the analytical lab. This may be the same person as in (1), but it is still required that they complete the section. Also important is the **range of identification numbers** (i.e., tag numbers) included in the sample batch.

3. Finally, the bottom box is to record any transfers between DEC personnel and facilities. Each subsequent transfer should be **identified, signed, and dated**, until laboratory personnel take possession of the fish.

B. The following data are required on each **Fish Collection Record** form:

1. Project and Site Name.

2. DEC Region.

3. All personnel (and affiliation) involved in the collection.

4. Method of collection (gill net, hook and line, etc.)

5. Preservation Method.

C. The following data are to be taken on each fish collected and recorded on the **Fish Collection Record** form:

1. Tag number - Each specimen is to be individually jaw tagged at time of collection with a unique number. Make sure the tag is turned out so that the number can be read without opening the bag. Use tags in sequential order. For small fish or composite samples place the tag inside the bag with the samples. The Bureau of Ecosystem Health can supply the tags.

2. Species identification (please be explicit enough to enable assigning genus and species). Group fish by species when processing.

3. Date collected.

4. Sample location (waterway and nearest prominent identifiable landmark).

5. Total length (nearest mm or smallest sub-unit on measuring instrument) and weight (nearest g or

smallest sub-unit of weight on weighing instrument). Take all measures as soon as possible with calibrated, protected instruments (e.g. from wind and upsets) and prior to freezing.

6. Sex - fish may be cut enough to allow sexing or other internal investigation, but do not eviscerate. Make any incision on the right side of the belly flap or exactly down the midline so that a left-side fillet can be removed.

D. General data collection recommendations:

1. It is helpful to use an ID or tag number that will be unique. It is best to use metal striped bass or other uniquely numbered metal tags. If uniquely numbered tags are unavailable, values based on the region, water body and year are likely to be unique: for example, R7CAY11001 for Region 7, Cayuga Lake, 2011, fish 1. If the fish are just numbered 1 through 20, we have to give them new numbers for our database, making it more difficult to trace your fish to their analytical results and creating an additional possibility for errors.

2. Process and record fish of the same species sequentially. Recording mistakes are less likely when all fish from a species are processed together. Starting with the bigger fish species helps avoid missing an individual.

3. If using Bureau of Ecosystem Health supplied tags or other numbered tags, use tags in sequence so that fish are recorded with sequential Tag Numbers. This makes data entry and login at the lab and use of the data in the future easier and reduces keypunch errors.

4. Record length and weight as soon as possible after collection and before freezing. Other data are recorded in the field upon collection. An age determination of each fish is optional, but if done, it is recorded in the appropriate “Age” column.

5. For composite samples of small fish, record the number of fish in the composite in the Remarks column. Record the length and weight of each individual in a composite. All fish in a composite sample should be of the same species and members of a composite should be visually matched for size.

6. Please submit photocopies of topographic maps or good quality navigation charts indicating sampling locations. GPS coordinates can be entered in the Location column of the collection record form in addition to or instead for providing a map. These records are of immense help to us (and hopefully you) in providing documented location records which are not dependent on memory and/or the same collection crew. In addition, they may be helpful for contaminant source trackdown and remediation/control efforts of the Department.

7. When recording data on fish measurements, it will help to ensure correct data recording for the data recorder to call back the numbers to the person making the measurements.

E. Each fish is to be placed in its own individual plastic bag. For small fish to be analyzed as a composite, put all of the fish for one composite in the same bag but use a separate bag for each composite. It is important to individually bag the fish to avoid difficulties or cross contamination when processing the fish for chemical analysis. Be sure to include the fish’s tag number inside the bag, preferably attached to the fish with the tag number turned out so it can be read. Tie or otherwise secure the bag closed. **<u>The Bureau of Ecosystem Health will supply the bags.</u>** If necessary, food grade bags may be procured from a suitable vendor (e.g., grocery store). It is preferable to redundantly label each bag with a manila tag tied between the knot and the body of the bag. This tag should be labeled with the project name, collection location, tag number, collection date, and fish species. If scales are collected, the scale envelope should be labeled with the same information.

F. Groups of fish, by species, are to be placed in one large plastic bag per sampling location. **The Bureau of Ecosystem Health will supply the larger bags.** Tie or otherwise secure the bag closed. Label the site bag with a manila tag tied between the knot and the body of the bag. The tag should contain: project, collection location, collection date, species and **tag number ranges**. Having this information on the manila tag enables lab staff to know what is in the bag without opening it.

G. Do not eviscerate, fillet or otherwise dissect the fish unless specifically asked to. If evisceration or dissection is specified, the fish must be cut along the exact midline or on the right side so that the left side fillet can be removed intact at the laboratory. If filleting is specified, the procedure for taking a standard fillet (SOP PREPLAB 4) must be followed, including removing scales.

H. Special procedures for PFAS: Unlike legacy contaminants such as PCBs, which are rarely found in day to day life, PFAS are widely used and frequently encountered. Practices that avoid sample contamination are therefore necessary. While no standard practices have been established for fish, procedures for water quality sampling can provide guidance. The following practices should be used for collections when fish are to be analyzed for PFAS:

    No materials containing Teflon.
    No Post-it notes.
    No ice packs; only water ice or dry ice.
    Any gloves worn must be powder free nitrile.
    No Gore-Tex or similar materials (Gore-Tex is a PFC with PFOA used in its manufacture).
    No stain repellent or waterproof treated clothing; these are likely to contain PFCs.
    Avoid plastic materials, other than HDPE, including clipboards and waterproof notebooks.
    Wash hands after handling any food containers or packages as these may contain PFCs. Keep pre-wrapped food containers and wrappers isolated from fish handling.
    Wear clothing washed at least six times since purchase.
    Wear clothing washed without fabric softener.
    Staff should avoid cosmetics, moisturizers, hand creams and similar products on the day of sampling as many of these products contain PFCs (Fujii et al. 2013). Sunscreen or insect repellent should not contain ingredients with “fluor” in their name. Apply any sunscreen or insect repellent well downwind from all materials. Hands must be washed after touching any of these products.

I. All fish must be kept at a temperature <45° F (<8° C) immediately following data processing. As soon as possible, freeze at -20° C ± 5° C. Due to occasional freezer failures, daily freezer temperature logs are required. The freezer should be locked or otherwise secured to maintain chain of custody.

J. In most cases, samples should be delivered to the Analytical Services Unit at the Hale Creek field station. Coordinate delivery with field station staff and send copies of the collection records, continuity of evidence forms and freezer temperature logs to the field station. For samples to be analyzed elsewhere, non-routine collections or other questions, contact Wayne Richter, Bureau of Ecosystem Health, NYSDEC, 625 Broadway, Albany, New York 12233-4756, 518-402-8974, or the project leader about sample transfer. Samples will then be directed to the analytical facility and personnel noted on specific project descriptions.

K. A recommended equipment list is at the end of this document.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF FISH AND WILDLIFE
FISH COLLECTION RECORD

Project and Site Name ________________________________ DEC Region ____________

Collections made by (include all crew) ________________________________

Sampling Method: ☐Electrofishing ☐Gill netting ☐Trap netting ☐Trawling ☐Seining ☐Angling ☐Other ____________

Preservation Method: ☐Freezing ☐Other ____________ Notes (SWFDB survey number): ____________

FOR LAB USE ONLY- LAB ENTRY NO.	COLLECTION OR TAG NO.	SPECIES	DATE TAKEN	LOCATION	AGE	SEX &/OR REPROD. CONDIT	LENGTH ( )	WEIGHT ( )	REMARKS

richter: revised 2011, 5/7/15, 10/4/16, 3/20/17; becker: 3/23/17, 4/26/19

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CHAIN OF CUSTODY

I, ______________________________, of ____ collected the
(Print Name) (Print Business Address)

following on ___________________, 20____ from ____
(Date) (Water Body)

in the vicinity of ____
(Landmark, Village, Road, etc.)

Town of ______________________________________, in _________________________________ County.

Item(s) ____

____

Said sample(s) were in my possession and handled according to standard procedures provided to me prior to collection. The sample(s) were placed in the custody of a representative of the New York State Department of Environmental Conservation on ___________________________________, 20______.

____ ___________________________
Signature Date

I, _________________________________, received the above mentioned sample(s) on the date specified and assigned identification number(s) ____ to the sample(s). I have recorded pertinent data for the sample(s) on the attached collection records. The sample(s) remained in my custody until subsequently transferred, prepared or shipped at times and on dates as attested to below.

_____________________________________ ___________________
Signature Date

SECOND RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
THIRD RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
FOURTH RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
RECEIVED IN LABORATORY BY (Print Name)	TIME & DATE	REMARKS
SIGNATURE	UNIT	
LOGGED IN BY (Print Name)	TIME & DATE	ACCESSION NUMBERS
SIGNATURE	UNIT	

richter: revised 21 April 2014; becker: 23 March 2017, 26 April, 2019

NOTICE OF WARRANTY

By signature to the chain of custody (reverse), the signatory warrants that the information provided is truthful and accurate to the best of his/her ability. The signatory affirms that he/she is willing to testify to those facts provided and the circumstances surrounding the same. Nothing in this warranty or chain of custody negates responsibility nor liability of the signatories for the truthfulness and accuracy of the statements provided.

HANDLING INSTRUCTIONS

On day of collection, collector(s) name(s), address(es), date, geographic location of capture (attach a copy of topographic map or navigation chart), species, number kept of each species, and description of capture vicinity (proper noun, if possible) along with name of Town and County must be indicated on reverse.

Retain organisms in manila tagged plastic bags to avoid mixing capture locations. Note appropriate information on each bag tag.

Keep samples as cool as possible. Put on ice if fish cannot be frozen within 12 hours. If fish are held more than 24 hours without freezing, they will not be retained or analyzed.

Initial recipient (either DEC or designated agent) of samples from collector(s) is responsible for obtaining and recording information on the collection record forms which will accompany the chain of custody. This person will seal the container using packing tape and writing his signature, the time and the date across the tape onto the container with indelible marker. Any time a seal is broken, for whatever purpose, the incident must be recorded on the Chain of Custody (reason, time, and date) in the purpose of transfer block. Container then is resealed using new tape and rewriting signature, with time and date.

EQUIPMENT LIST

Scale or balance of appropriate capacity for the fish to be collected.

Fish measuring board.

Plastic bags of an appropriate size for the fish to be collected and for site bags.

Individually numbered metal tags for fish.

Manila tags to label bags.

Small envelops, approximately 2” x 3.5”, if fish scales are to be collected.

Knife for removing scales.

Chain of custody and fish collection forms.

Clipboard.

Pens or markers.

Paper towels.

Dish soap and brush.

Bucket.

Cooler.

Ice.

Duct tape.

Appendix G – PFAS Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	Perfluorobutanesulfonic acid	PFBS	375-73-5
	Perfluorohexanesulfonic acid	PFHxS	355-46-4
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanesulfonic acid	PFOS	1763-23-1
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	PFHpA	375-85-9
	Perfluorooctanoic acid	PFOA	335-67-1
	Perfluorononanoic acid	PFNA	375-95-1
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane-sulfonamides	Perfluroroctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoacetic acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

Appendix H - Laboratory Guidelines for Analysis of PFAS in Non-Potable Water and Solids

General

New York State Department of Environmental Conservation's Division of Environmental Remediation (DER) developed the following guidelines for laboratories analyzing environmental samples for PFAS under DER programs. If laboratories cannot adhere to the following guidelines, they should contact DER's Quality Assurance Officer, Dana Barbarossa, at dana.barbarossa@dec.ny.gov prior to analysis of samples.

Isotope Dilution

Isotope dilution techniques should be utilized for the analysis of PFAS in all media.

Extraction

For water samples, the entire sample bottle should be extracted, and the sample bottle rinsed with appropriate solvent to remove any residual PFAS.

For samples with high particulates, the samples should be handled in one of the following ways:

1. Spike the entire sample bottle with isotope dilution analytes (IDAs) prior to any sample manipulation. The sample can be passed through the SPE and if it clogs, record the volume that passed through.
2. If the sample contains too much sediment to attempt passing it through the SPE cartridge, the sample should be spiked with isotope dilution analytes, centrifuged and decanted.
3. If higher reporting limits are acceptable for the project, the sample can be diluted by taking a representative aliquot of the sample. If isotope dilution analytes will be diluted out of the sample, they can be added after the dilution. The sample should be homogenized prior to taking an aliquot.

If alternate sample extraction procedures are used, please contact the DER remedial program chemist prior to employing. Any deviations in sample preparation procedures should be clearly noted in the case narrative.

Signal to Noise Ratio

For all target analyte ions used for quantification, signal to noise ratio should be 3:1 or greater.

Blanks

There should be no detections in the method blanks above the reporting limits.

Ion Transitions

The ion transitions listed below should be used for the following PFAS:

PFOA	413 > 369
PFOS	499 > 80
PFHxS	399 > 80
PFBS	299 > 80
6:2 FTS	427 > 407
8:2 FTS	527 > 507
N-EtFOSAA	584 > 419
N-MeFOSAA	570 > 419

Branched and Linear Isomers

Standards containing both branched and linear isomers should be used when standards are commercially available. Currently, quantitative standards are available for PFHxS, PFOS, NMeFOSAA, and NEtFOSAA. As more standards become available, they should be incorporated in to the method. All isomer peaks present in the standard should be integrated and the areas summed. Samples should be integrated in the same manner as the standards.

Since a quantitative standard does not exist for branched isomers of PFOA, the instrument should be calibrated using just the linear isomer and a technical (qualitative) PFOA standard should be used to identify the retention time of the branched PFOA isomers in the sample. The total response of PFOA branched and linear isomers should be integrated in the samples and quantitated using the calibration curve of the linear standard.

Secondary Ion Transition Monitoring

Quantifier and qualifier ions should be monitored for all target analytes (PFBA and PFPeA are exceptions). The ratio of quantifier ion response to qualifier ion response should be calculated for each target analyte and the ratio compared to standards. Lab derived criteria should be used to determine if the ratios are acceptable.

Reporting

Detections below the reporting limit should be reported and qualified with a J qualifier.

The acid form of PFAS analytes should be reported. If the salt form of the PFAS was used as a stock standard, the measured mass should be corrected to report the acid form of the analyte.

Appendix I - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids

General

These guidelines are intended to be used for the validation of PFAS analytical results for projects within the Division of Environmental Remediation (DER) as well as aid in the preparation of a data usability summary report. Data reviewers should understand the methodology and techniques utilized in the analysis. Consultation with the end user of the data may be necessary to assist in determining data usability based on the data quality objectives in the Quality Assurance Project Plan. A familiarity with the laboratory's Standard Operating Procedure may also be needed to fully evaluate the data. If you have any questions, please contact DER's Quality Assurance Officer, Dana Barbarossa, at dana.barbarossa@dec.ny.gov.

Preservation and Holding Time

Samples should be preserved with ice to a temperature of less than 6°C upon arrival at the lab. The holding time is 14 days to extraction for aqueous and solid samples. The time from extraction to analysis for aqueous samples is 28 days and 40 days for solids.

Temperature greatly exceeds 6ºC upon arrival at the lab*	Use professional judgement to qualify detects and non-detects as estimated or rejected
Holding time exceeding 28 days to extraction	Use professional judgement to qualify detects and non-detects as estimated or rejected if holding time is grossly exceeded

*Samples that are delivered to the lab immediately after sampling may not meet the thermal preservation guidelines. Samples are considered acceptable if they arrive on ice or an attempt to chill the samples is observed.

Initial Calibration

The initial calibration should contain a minimum of five standards for linear fit and six standards for a quadratic fit. The relative standard deviation (RSD) for a quadratic fit calibration should be less than 20%. Linear fit calibration curves should have an R^2 value greater than 0.990.

The low-level calibration standard should be within 50% - 150% of the true value, and the mid-level calibration standard within 70% - 130% of the true value.

%RSD >20%	J flag detects and UJ non detects
R^2 >0.990	J flag detects and UJ non detects
Low-level calibration check <50% or >150%	J flag detects and UJ non detects
Mid-level calibration check <70% or >130%	J flag detects and UJ non detects

Initial Calibration Verification

An initial calibration verification (ICV) standard should be from a second source (if available). The ICV should be at the same concentration as the mid-level standard of the calibration curve.

ICV recovery <70% or >130%	J flag detects and non-detects

Continuing Calibration Verification

Continuing calibration verification (CCV) checks should be analyzed at a frequency of one per ten field samples. If CCV recovery is very low, where detection of the analyte could be in question, ensure a low level CCV was analyzed and use to determine data quality.

CCV recovery <70 or >130%	J flag results

Blanks

There should be no detections in the method blanks above the reporting limits. Equipment blanks, field blanks, rinse blanks etc. should be evaluated in the same manner as method blanks. Use the most contaminated blank to evaluate the sample results.

Blank Result	Sample Result	Qualification
Any detection	<Reporting limit	Qualify as ND at reporting limit
Any detection	>Reporting Limit and >10x the blank result	No qualification
>Reporting limit	>Reporting limit and <10x blank result	J+ biased high

Field Duplicates

A blind field duplicate should be collected at rate of one per twenty samples. The relative percent difference (RPD) should be less than 30% for analyte concentrations greater than two times the reporting limit. Use the higher result for final reporting.

RPD >30%	Apply J qualifier to parent sample

Lab Control Spike

Lab control spikes should be analyzed with each extraction batch or one for every twenty samples. In the absence of lab derived criteria, use 70% - 130% recovery criteria to evaluate the data.

Recovery <70% or >130% (lab derived criteria can also be used)	Apply J qualifier to detects and UJ qualifier to non detects

Matrix Spike/Matrix Spike Duplicate

One matrix spike and matrix spike duplicate should be collected at a rate of one per twenty samples. Use professional judgement to reject results based on out of control MS/MSD recoveries.

Recovery <70% or >130% (lab derived criteria can also be used)	Apply J qualifier to detects and UJ qualifier to non detects of parent sample only
RPD >30%	Apply J qualifier to detects and UJ qualifier to non detects of parent sample only

Extracted Internal Standards (Isotope Dilution Analytes)

Problematic analytes (e.g. PFBA, PFPeA, fluorotelomer sulfonates) can have wider recoveries without qualification. Qualify corresponding native compounds with a J flag if outside of the range.

Recovery <50% or >150%	Apply J qualifier
Recovery <25% or >150% for poor responding analytes	Apply J qualifier
Isotope Dilution Analyte (IDA) Recovery <10%	Reject results

Secondary Ion Transition Monitoring

Quantifier and qualifier ions should be monitored for all target analytes (PFBA and PFPeA are exceptions). The ratio of quantifier ion response to qualifier ion response should be calculated from the standards for each target analyte. Lab derived criteria should be used to determine if the ratios are acceptable. If the ratios fall outside of the laboratory criteria, qualify results as an estimated maximum concentration.

Signal to Noise Ratio

The signal to noise ratio for the quantifier ion should be at least 3:1. If the ratio is less than 3:1, the peak is discernable from the baseline noise and symmetrical, the result can be reported. If the peak appears to be baseline noise and/or the shape is irregular, qualify the result as tentatively identified.

Branched and Linear Isomers

Observed branched isomers in the sample that do not have a qualitative or quantitative standard should be noted and the analyte should be qualified as biased low in the final data review summary report. Note: The branched isomer peak should also be present in the secondary ion transition.

Reporting Limits

If project-specific reporting limits were not met, please indicate that in the report along with the reason (e.g. over dilution, dilution for non-target analytes, high sediment in aqueous samples).

Peak Integrations

Target analyte peaks should be integrated properly and consistently when compared to standards. Ensure branched isomer peaks are included for PFAS where standards are available. Inconsistencies should be brought to the attention of the laboratory or identified in the data review summary report.

APPENDIX G

HEALTH AND SAFETY PLAN

Site Health and Safety Plan

Location:

Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York

Prepared For:

Highland Grove, LLC
301 Exchange Street
Rochester, New York 14608

LaBella Project No. 2172056

November 2020

Site Health and Safety Plan

Location:

Former Sherwood Shoe Company
625 South Goodman Street
Rochester, New York

Prepared For:

Highland Grove, LLC
301 Exchange Street
Rochester, New York 14608

LaBella Project No. 2172056

November 2020

Table of Contents

SITE HEALTH AND SAFETY PLAN

Project Title:	Former Sherwood Shoe Factory - Brownfield Cleanup Program
Project Number:	2172056
Project Location (Site):	625 South Goodman Street, Rochester, NY 14607
Environmental Director:	Gregory Senecal, CHMM
Project Manager:	Jennifer Gillen, PG
Plan Review Date:	February 13, 2020
Plan Approval Date:	
Plan Approved By:	Mr. Richard Rote, CIH
Site Safety Supervisor:	To Be Determined
Site Contact:	Mr. Steve DiMarzo
Safety Director:	To Be Determined
Proposed Date(s) of Field Activities:	To Be Determined
Site Conditions:	1.798± acres; Site is currently undeveloped.
Site Environmental Information Provided By:	❑ *Phase I Environmental Site Assessment (ESA)*, completed by Stantec, December 2012; ❑ *Phase II ESA*, completed by Stantec, October 2016 ❑ *Remedial Investigation Report*, completed by LaBella, March 2020
Air Monitoring Provided By:	To Be Determined
Site Control Provided By:	Contractor(s)

EMERGENCY CONTACTS

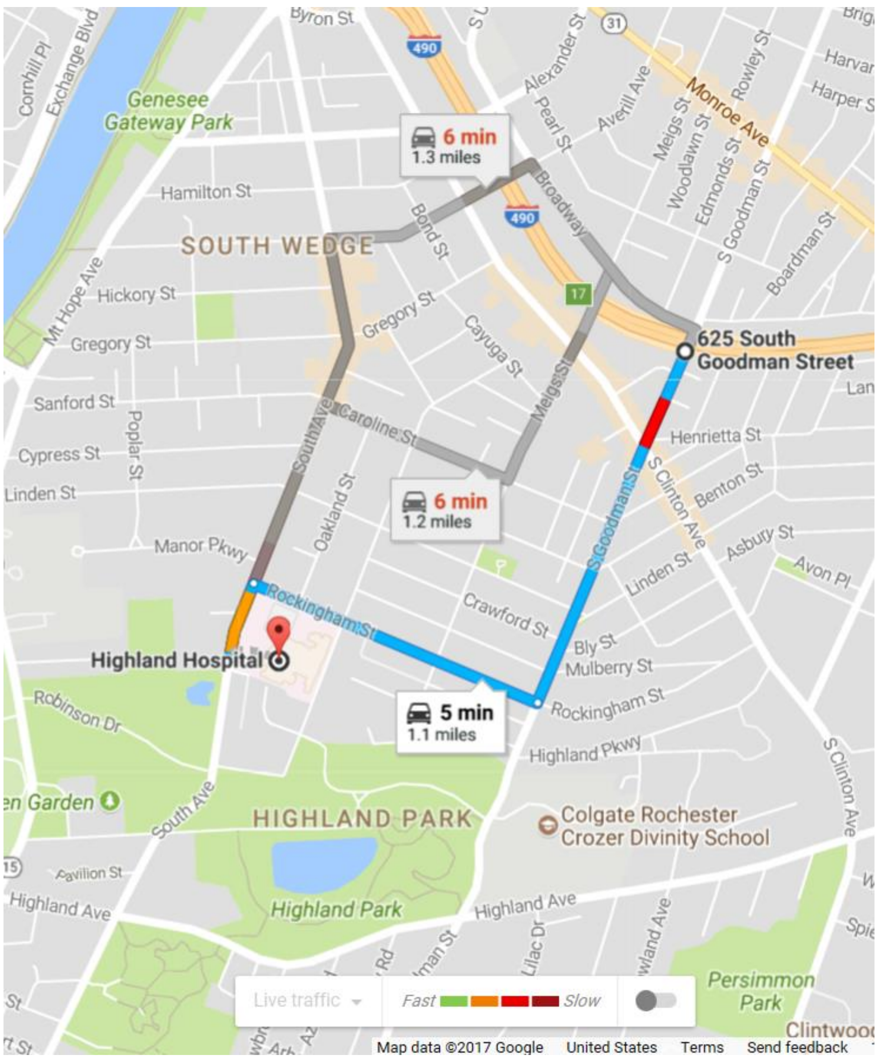
	Name	Phone Number
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	Highland Hospital	585-473-2200
Poison Control Center:	Finger Lakes Poison Control	716-275-5151
Police (local, state):	Rochester Police Department	911
Fire Department:	Rochester Fire Department	911
Site Contact:	Mr. Steve DiMarzo	585-232-1760
Agency Contact:	NYSDEC – Ms. Charlotte Theobald NYSDOH – Mr. Daniel Tucholski	585-226-5354 518-402-7860
Environmental Director:	Greg Senecal, CHMM	585-295-6243
Project Manager:	Jennifer Gillen, PG	585-295-6648
Site Safety Supervisor:	To Be Determined	To Be Determined
Safety Director	To Be Determined	To Be Determined

MAP AND DIRECTIONS TO THE MEDICAL FACILITY - HIGHLAND HOSPITAL

Total Est. Time: 5 minutes **Total Est. Distance:** 1.1 miles

1:	Start out going SOUTHWEST on SOUTH GOODMAN ST toward EISENBERG PLACE	0.5 miles
2:	Turn RIGHT onto ROCKINGHAM STREET	0.4 miles
3:	Turn LEFT onto SOUTH AVENUE	0.1 miles

End at **1000 South Avenue**
Rochester, NY 14620



Source: Google Maps 2017

1.0 Introduction

The purpose of this Health and Safety Plan (HASP) is to provide guidelines for responding to potential health and safety issues that may be encountered during the Remedial Investigation (RI) at the Former Sherwood Shoe Company, 625 South Goodman Street in the City of Rochester, Monroe County, New York (Site). This HASP only reflects the policies of LaBella Associates D.P.C. The requirements of this HASP are applicable to all approved LaBella personnel at the work site. This document's project specifications, and the Community Air Monitoring Plan (CAMP), are to be consulted for guidance in preventing and quickly abating any threat to human safety or the environment. The provisions of the HASP do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or other regulatory bodies.

2.0 Responsibilities

This HASP presents guidelines to minimize the risk of injury to project personnel, and to provide rapid response in the event of injury. The HASP is applicable only to activities of approved LaBella personnel and their authorized visitors. The Project Manager shall implement the provisions of this HASP for the duration of the project. It is the responsibility of LaBella employees to follow the requirements of this HASP, and all applicable company safety procedures.

3.0 Activities Covered

The activities covered under this HASP are limited to the following:

- Management of environmental investigation and remediation activities
- Environmental Monitoring
- Collection of samples
- Management of excavated soil and fill

4.0 Work Area Access and Site Control

The contractor(s) will have primary responsibility for work area access and site control.

5.0 Potential Health and Safety Hazards

This section lists some potential health and safety hazards that project personnel may encounter at the project site and some actions to be implemented by approved personnel to control and reduce the associated risk to health and safety. This is not intended to be a complete listing of any and all potential health and safety hazards. New or different hazards may be encountered as site environmental and site work conditions change. The suggested actions to be taken under this plan are not to be substituted for good judgment on the part of project personnel. At all times, the Site Safety Officer has responsibility for site safety and his instructions must be followed.

5.1 Hazards Due to Heavy Machinery

Potential Hazard:
Heavy machinery including trucks, drilling rigs, trailers, etc. will be in operation at the site. The presence of such equipment presents the danger of being struck or crushed. Use caution when working near heavy machinery.

Protective Action:
Make sure that operators are aware of your activities, and heed operator's instructions and warnings. Wear bright colored clothing and walk safe distances from heavy equipment. A hard hat, safety glasses and steel toe shoes are required.

5.2 Excavation Hazards

Potential Hazard:
Excavations and trenches can collapse, causing injury or death. Edges of excavations can be unstable and collapse. Toxic and asphyxiant gases can accumulate in confined spaces and trenches. Excavations that require working within the excavation will require air monitoring in the breathing zone (refer to Section 9.0).

Excavations left open create a fall hazard which can cause injury or death.

Protective Action:
Personnel must receive approval from the Project Manager to enter an excavation for any reason. Subsequently, approved personnel are to receive authorization for entry from the Site Safety Officer. Approved personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped. Additional personal protective equipment may be required based on the air monitoring.

Personnel should exercise caution near all excavations at the site as it is expected that excavation sidewalls will be unstable. Do not proceed closer than 3 feet to an unsupported or non-sloped excavation side wall.

Fencing and/or barriers accompanied by "no trespassing" signs should be placed around all excavations when left open for any period of time when work is not being conducted.

5.3 Cuts, Punctures and Other Injuries

Potential Hazard:
In any excavation and construction work site there is the potential for the presence of sharp or jagged edges on rock, metal materials, and other sharp objects. Serious cuts and punctures can result in loss of blood and infection.

Protective Action:
The Project Manager is responsible for making First Aid supplies available at the work site to treat minor injuries. The Site Safety Officer is responsible for arranging the transportation of authorized on-site personnel to medical facilities when First Aid treatment in not sufficient. Do not move seriously injured workers. All injuries requiring treatment are to be reported to the Project Manager. Serious injuries are to be reported immediately to the Site Safety Officer

5.4 Injury Due to Exposure of Chemical Hazards

Potential Hazards:
Contaminants identified in testing locations at the Site include various petroleum-related volatile organic compounds (VOCs). Volatile organic vapors, chlorinated solvents or other chemicals may be encountered during subsurface activities at the project work site. Inhalation of high concentrations of volatile organic vapors can cause headache, stupor, drowsiness, confusion and other health effects. Skin contact can cause irritation, chemical burn, or dermatitis.

Protective Action:
The presence of organic vapors may be detected by their odor and by monitoring instrumentation. Approved employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring (refer to Section 9.0) of the work area will be performed at least every 60 minutes or more often using a Photoionization Detector (PID). Personnel are to leave the work area whenever PID measurements of ambient air exceed 25 ppm consistently for a 5 minute period. In the event that sustained total volatile organic compound (VOC) readings of 25 ppm are encountered personnel should upgrade personal protective equipment to Level C (refer to Section 8.0) and an Exclusion Zone should be established around the work area to limit and monitor access to this area (refer to Section 6.0).

5.5 Injuries due to extreme hot or cold weather conditions

Potential Hazards:
Extreme hot weather conditions can cause heat exhaustion, heat stress and heat stroke or extreme cold weather conditions can cause hypothermia.

Protective Action:
Precaution measures should be taken such as dress appropriately for the weather conditions and drink plenty of fluid. If personnel should suffer from any of the above conditions, proper techniques should be taken to cool down or heat up the body and taken to the nearest hospital if needed.

6.0 Work Zones

In the event that conditions warrant establishing various work zones (i.e., based on hazards - Section 5.0), the following work zones should be established:

Exclusion Zone (EZ):
The EZ will be established in the immediate vicinity and adjacent downwind direction of site activities that elevate breathing zone VOC concentrations to unacceptable levels based on field screening. These site activities include contaminated soil excavation and soil sampling activities. If access to the site is required to accommodate non-project related personnel then an EZ will be established by constructing a barrier around the work area (yellow caution tape and/or construction fencing). The EZ barrier shall encompass the work area and any equipment staging/soil staging areas necessary to perform the associated work. The contractor(s) will be responsible for establishing the EZ and limiting access to approved personnel. Depending on the condition for establishing the EZ, access to the EZ may require adequate PPE (e.g., Level C).

Contaminant Reduction Zone (CRZ):

The CRZ will be the area where personnel entering the EZ will don proper PPE prior to entering the EZ and the area where PPE may be removed. The CRZ will also be the area where decontamination of equipment and personnel will be conducted as necessary.

7.0 Decontamination Procedures

Upon leaving the work area, approved personnel shall decontaminate footwear as needed. Under normal work conditions, detailed personal decontamination procedures will not be necessary. Work clothing may become contaminated in the event of an unexpected splash or spill or contact with a contaminated substance. Minor splashes on clothing and footwear can be rinsed with clean water. Heavily contaminated clothing should be removed if it cannot be rinsed with water. Personnel assigned to this project should be prepared with a change of clothing whenever on site.

Personnel will use the contractor's disposal container for disposal of PPE.

8.0 Personal Protective Equipment

Generally, site conditions at this work site require level of protection of Level D or modified Level D; however, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 9.0). Descriptions of the typical safety equipment associated with Level D and Level C are provided below:

Level D:
Hard hat, safety glasses, rubber nitrile sampling gloves, steel toe construction grade boots, etc.

Level C:
Level D PPE and full or ½-face respirator and tyvek suit (if necessary). [*Note: Organic vapor cartridges are to be changed after each 8-hours of use or more frequently.*]

9.0 Air Monitoring

According to 29 CFR 1910.120(h), air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection required for personnel working onsite. Air monitoring will consist at a minimum of the procedure listed below. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications.

The Air Monitor will utilize a photoionization detector (PID) to screen the ambient air in the work areas (drilling, excavation, soil staging, and soil grading areas) for total Volatile Organic Compounds (VOCs) and a DustTrak tm Model 8520 aerosol monitor or equivalent for measuring particulates. Work area ambient air will generally be monitored in the work area and downwind of the work area. Air monitoring of the work areas and downwind of the work areas will be performed at least every 60 minutes using a PID and the DustTrak meter.

If sustained PID readings of greater than 25 ppm are recorded in the breathing zone, either personnel are to leave the work area until satisfactory readings are obtained or approved personnel may re-enter the work areas wearing at a minimum a ½ face respirator with organic vapor cartridges for an 8-hour duration (i.e., upgrade to Level C PPE). Organic vapor cartridges are to be changed after each 8-hour use or more frequently, if necessary. If PID readings are sustained, in the work area, at levels above 50 ppm for a 5 minute average, work will be stopped immediately until safe levels of VOCs are encountered or additional PPE will be required (i.e., Level B).

If downwind PID measurements reach or exceed 25 ppm consistently for a 5 minute period downwind of the work area, PID readings will be taken within the buildings (if occupied) on Site to ensure that the vapors are not penetrating any occupied building and effecting the personnel working within. If the PID measurements reach or exceed 25 ppm within the nearby buildings, the personnel should be evacuated via a route in which they would not encounter the work area. The building should then be ventilated until the PID measurements within the building are at or below background levels. It should be noted that the site buildings are currently vacant.

10.0 Emergency Action Plan

In the event of an emergency, employees are to turn off and shut down all powered equipment and leave the work areas immediately. Employees are to walk or drive out of the Site as quickly as possible, wait at the assigned 'safe area' and follow the instructions of the Site Safety Officer.

Employees are not authorized or trained to provide rescue and medical efforts. Rescue and medical efforts will be provided by local authorities.

11.0 Medical Surveillance

Medical surveillance will be provided to all employees who are injured due to overexposure from an emergency incident involving hazardous substances at this site.

12.0 Employee Training

Personnel who are not familiar with this site plan will receive training on its entire content and organization before working at the Site.

Individuals involved with the remedial investigation must be 40-hour OSHA HAZWOPER trained with current 8-hour refresher certification.

Table 1
Exposure Limits and Recognition Qualities

Compound	PEL-TWA (ppm)(b)(d)	TLV-TWA (ppm)(c)(d)	STEL (ppm)(b)	LEL (%)(e)	UEL (%)(f)	IDLH (ppm)(g)(d)	Odor	Odor Threshold (ppm)	Ionization Potential
Acetone	750	500	NA	2.15	13.2	20,000	Sweet	4.58	9.69
Anthracene	.2	.2	NA	NA	NA	NA	Faint aromatic	NA	NA
Benzene	1	0.5	5	1.3	7.9	3000	Pleasant	8.65	9.24
Benzo (a) pyrene (coal tar pitch volatiles)	0.2	0.1	NA	NA	NA	700	NA	NA	NA
Benzo (a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (b) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (k) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	10.88
Carbon Disulfide	20	1	NA	1.3	50	500	Odorless or strong garlic type	.096	10.07
Chlorobenzene	75	10	NA	1.3	9.6	2,400	Faint almond	0.741	9.07
Chloroform	50	2	NA	NA	NA	1,000	ethereal odor	11.7	11.42
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethylene	200	200	NA	9.7	12.8	400	Acrid	NA	9.65
1,2-Dichlorobenzene	50	25	NA	2.2	9.2		Pleasant		9.07
Ethyl Alcohol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	100	NA	1.0	6.7	2,000	Ether	2.3	8.76
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropyl Alcohol	400	200	500	2.0	12.7	2,000	Rubbing alcohol	3	10.10
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	500	50	NA	12	23	5,000	Chloroform-like	10.2	11.35
Naphthalene	10, Skin	10	NA	0.9	5.9	250	Moth Balls	0.3	8.12
n-propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphoric Acid	1	1	3	NA	NA	10,000	NA	NA	NA
Polychlorinated Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium Hydroxide	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	Sweet	NA	NA
Toluene	100	100	NA	0.9	9.5	2,000	Sweet	2.1	8.82
Trichloroethylene	100	50	NA	8	12.5	1,000	Chloroform	1.36	9.45
1,2,4-Trimethylbenzene	NA	25	NA	0.9	6.4	NA	Distinct	2.4	NA
1,3,5-Trimethylbenzene	NA	25	NA	NA	NA	NA	Distinct	2.4	NA
Vinyl Chloride	1	1	NA	NA	NA	NA	NA	NA	NA
Xylenes (o,m,p)	100	100	NA	1	7	1,000	Sweet	1.1	8.56
Metals									
Arsenic	0.01	0.2	NA	NA	NA	100, Ca	NA	NA	NA
Cadmium	0.2	0.5	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1	0.5	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.05	0.15	NA	NA	NA	700	NA	NA	NA
Mercury	0.05	0.05	NA	NA	NA	28	NA	NA	NA
Selenium	0.2	0.02	NA	NA	NA	Unknown	NA	NA	NA

(a) Skin = Skin Absorption
(b) OSHA-PEL Permissible Exposure Limit (flame weighted average, 8-hour): NIOSH Guide, June 1990
(c) ACGIH – 8 hour time weighted average from Threshold Limit Values and Biological Exposure Indices for 2003.
(d) Metal compounds in mg/m3
(e) Lower Exposure Limit (%)
(f) Upper Exposure Limit (%)
(g) Immediately Dangerous to Life or Health Level: NIOSH Guide, June 1990.

Notes:
1. All values are given in parts per million (PPM) unless otherwise indicated.
2. Ca = Possible Human Carcinogen, no IDLH information.

Attachment 1: COVID-19 HASP Addendum

SITE MANAGEMENT PLAN – 625 SOUTH GOODMAN, ROCHESTER, NY
FORMER SHERWOOD SHOE COMPANY – NYSDEC BCP SITE NO. C828201
COVID-19 HEALTH & SAFETY PLAN ADDENDUM (NOVEMBER 24, 2020)

BACKGROUND AND PURPOSE

This document is intended to supplement LaBella's Health and Safety Plan (HASP).

The purpose of this HASP addendum is to address additional health and safety pre-cautions and procedures to be implemented during the implementation of the Site Management Plan and all related activities to address potential health threats associated with the COVID-19 virus. The guidelines and procedures detailed in this addendum are intended to minimize COVID-19 health risks for LaBella employees and related contractors, regulatory officials, Site occupants and the general public during the project. Note that this HASP addendum is subject to change pending the Site Management Plan implementation timeframe and COVID-19 virus infection rates at that time.

Procedures and guidelines set forth in the original HASP will continue to be adhered to during work, and will be supplemented by the measures detailed herein. This addendum will be updated as necessary to reflect new developments and/or information related to the COVID-19 virus.

ABOUT COVID-19

SARS-CoV-2, the novel coronavirus disease, commonly referred to as COVID-19, is a respiratory illness that can spread from person to person. Infection with COVID-19 can cause mild to severe illness and, in some cases, death. Typical symptoms include fever, cough and shortness of breath, but other non-respiratory symptoms have been reported. Asymptomatic cases, or cases with no symptoms at all, have also been documented. According to the U.S. Department of Health and Human Services' Centers for Disease Control and Prevention (CDC), symptoms of COVID-19 may appear in as few as 2 days or as long as 14 days after exposure.

Information posted by the CDC indicates that COVID-19 is a new disease and, therefore, we are still learning about how it spreads and the severity of the illness it causes. Per the CDC, the virus is thought to spread mainly from person-to-person in the following ways:

- Between people who are in close contact with one another (within about 6 feet); and
- Through respiratory droplets produced when an infected person coughs, sneezes or talks that can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

For these reasons, maintaining a good social distance of at least 6 feet is recommended by the CDC. Furthermore, it is important to note that some people without symptoms may be able to spread the virus.

Contact with surfaces or objects that have been contaminated by the virus followed by touching of the mouth, nose or possibly eyes is another potential means of contracting the virus. Consequently, the CDC recommends that people practice frequent hand washing or disinfection, and that frequently touched surfaces/objects be regularly cleaned or disinfected.

The CDC has determined that older adults and people of any age that have underlying medical conditions, such as Asthma, autoimmune deficiencies, chronic lung disease, serious heart conditions etc., might be at a higher risk for severe illness from COVID-19. A list of underlying medical conditions that could place persons at a higher risk are included in Attachment A.

More information concerning COVID-19 is available at the CDC website: www.cdc.gov/coronavirus/2019-ncov.

SELF MONITORING

All project staff shall conduct self-monitoring and shall adhere to the following directives:

- **Do not** report to the job site if you feel ill;
- If you have COVID-19 symptoms (i.e., fever, cough or shortness of breath), **do not** report to work and notify your supervisor at the immediate onset of symptoms;
- Sick employees should follow CDC-recommended steps, and **should not** return to work until the criteria to discontinue home isolation are met, in consultation with healthcare providers and state and local health departments. Prior to reporting to work, the employee must discuss re-admittance with your supervisor; and
- Employees who are well but who have a sick family member at home with COVID-19 or have been in close contact with a person that has contracted COVID-19 **should not** report to work, and should notify their supervisor and follow CDC recommendations.

Additionally, any person working on the job site that becomes ill during the course of a work day shall remotely notify their supervisor and return home. Under the Occupational Safety and Health Administration (OSHA) recordkeeping requirements, COVID-19 is a recordable illness and employers are responsible for recording confirmed cases of COVID-19 that are work-related. LaBella shall comply with the OSHA recordkeeping requirements as it relates to COVID-19 should a member of the project staff contract COVID-19 as a result of exposure at work.

Site managers will continue to evaluate the continuity of operations should personnel experience symptoms, come into contact with those exhibiting symptoms or test positive for the COVID-19 disease.

TRAVEL TO/FROM THE WORK SITE

All staff shall travel to/from the job site each day (no overnight hotel stays will be allowed). Additionally, project staff shall adhere to the following travel guidelines:

- Limit vehicle occupancy to one person;
- Limit time spent at locations between the work site and residence;
- Avoid un-necessary stops or diversions; and
- If more than one employee operates a vehicle, wipe down commonly touched vehicle components (i.e., steering wheel, gear shift, radio and climate control buttons, door handles. etc.) with disinfectant wipes before each use by different individuals.

SOCIAL DISTANCING REQUIREMENT

All project staff shall comply with the CDC's social distancing guideline of maintaining a minimum of 6 feet of separation between individuals during the performance of all project activities, including job site meetings, communications with co-workers, hand excavation/raking, laying sod, equipment maintenance, etc. If necessary, manual labor shall be conducted in shifts to avoid project staff working in close proximity.

Additionally, project staff shall comply with the following guidelines relating to field office use and breaks:

- No more than one person shall occupy the field office at any time;
- Personnel shall practice good hygiene prior to taking breaks and/or consuming food;
- Social distancing requirements shall be adhered to during all breaks (i.e., coffee, lunch, etc.); and
- Group meals shall be prohibited.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All necessary PPE will be supplied to workers by the employer. In addition to the PPE specified in the HASP, the following additional PPE shall be utilized by project staff:

- Face Coverings – Face coverings (e.g., masks, cloth, etc.) over the nose and mouth shall be worn at all times on the project site; and,
- Gloves – nitrile or latex gloves shall be worn at all times while outside the exclusion zone on the project site.

Do not share PPE under any circumstances. Used PPE shall be placed in garbage bags, sealed and secured each day until proper disposal is facilitated. Un-used PPE will be continuously secured to prevent theft.

PERSONAL HYGIENE & DISINFECTION

All project staff shall practice good personal hygiene while working on the job site. This shall include the following safe work practices:

- Wash hands frequently with soap and water for at least 20 seconds. A hand washing station will be provided at the job site to enable this practice;
- Use hand sanitizer containing at least 60% alcohol when hand washing is not practical;
- Avoid touching your mouth, nose or eyes; and
- Cover coughs and sneezes with the inside of your elbow.

Additionally, commonly used surfaces within the field office shall be wiped down with alcohol or disinfectant wipes at the beginning of each work day.

DEDICATED TOOLS AND EQUIPMENT

To the extent possible, hand tools and equipment shall be dedicated for use by a single individual. To facilitate this practice, hand tools shall be labeled with the initials of the individual to which they have been designated and shall not be used by others without disinfection.

Similarly, the heavy equipment shall be dedicated to one operator to the extent possible. All project staff shall be informed each day of the operator designated for each piece of equipment during the morning tailgate meeting. Should project conditions dictate the use of heavy equipment by multiple operators, commonly used surfaces of the equipment (i.e., door handles, controls, safety levers, etc.) shall be wiped down with disinfectant wipes before use by each different individual.

Attachment 2: Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

CAMP Special Requirements

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under “Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures” except that in this instance “nearby/occupied structures” would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g., weekends or evenings) when building occupancy is at a minimum.

APPENDIX H

SITE MANAGEMENT FORMS

MONITORING WELL INSPECTION FORM

300 STATE STREET, SUITE 201
ROCHESTER, NEW YORK 14614
PHONE: (585) 454-6110
FAX: (585-454-3066

PROJECT NAME: NYSDEC BCP SITE NO. C828201
LOCTION: 625 SOUTH GOODMAN ST, NEW YORK
PROJECT NO.: 2172056
INSPECTED BY: ______
DATE: ______
WEATHER: ______

WELL ID	EVIDENCE OF DAMAGE	EVIDENCE OF FROST HEAVING	EVIDENCE OF CASING DAMAGE OR WEAR	LOCK IN PLACE	EVIDENCE OF WELL SUBSIDENCE	STANDING OR PONDING WATER	CORRECTIVE ACTION MEASURES TAKEN	COMMENTS
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	

SOIL COVER SYSTEM (OR CAP) INSPECTION FORM

LaBella
Powered by partnership.

300 STATE STREET, SUITE 201
ROCHESTER, NEW YORK 14614
PHONE: (585) 454-6110
FAX: (585-454-3066

PROJECT NAME: NYSDEC BCP SITE NO. C828201
LOCTION: 625 SOUTH GOODMAN ST, NEW YORK
PROJECT NO.: 2172056
INSPECTED BY: ______
DATE: ______
WEATHER: ______

COVER TYPE	OVERALL CONDITION	ANY LOCATIONS REQUIRE REPAIR OR MAINTENANCE	PHOTOS TAKEN	COMMENTS
SOIL COVER*		YES / NO	YES / NO	
ASPHALT SURFACE		YES / NO	YES / NO	
CONCRETE SURFACE		YES / NO	YES / NO	
BUILDING SLAB		YES / NO	YES / NO	

Additional Notes:

NAPL INSPECTION FORM

300 STATE STREET, SUITE 201
ROCHESTER, NEW YORK 14614
PHONE: (585) 454-6110
FAX: (585-454-3066

PROJECT NAME: NYSDEC BCP SITE NO. C828201
LOCTION: 625 SOUTH GOODMAN ST, NEW YORK
PROJECT NO.: 2172056
INSPECTED BY: ______
DATE: ______
WEATHER: ______

INSPECTION EVENT / ANNUAL	WELL ID	DEVICE USED TO MEASURE LNAPL	LNAPL OBSERVED	ESTIMATED THICKNESS OF LNAPL LAYER [INCHES]	ABSORBENT SOCK INSTALLED	VACUUM TRUCK REQUIRED	COMMENTS
	RIBW-01	BAILER / OIL-WATER PROBE	YES / NO		YES / NO	YES / NO	
	RIWB-02	BAILER / OIL-WATER PROBE	YES / NO		YES / NO	YES / NO	

SUB SLAB DEPRESSURIZATION SYSTEM INSPECTION FORM

300 STATE STREET, SUITE 201
ROCHESTER, NEW YORK 14614
PHONE: (585) 454-6110
FAX: (585-454-3066

PROJECT NAME: NYSDEC BCP SITE NO. C828201
LOCTION: 625 SOUTH GOODMAN ST, NEW YORK
PROJECT NO.: 2172056
INSPECTED BY:
DATE:
WEATHER:

COMPONENT			COMMENTS
	EAST SYSTEM	WEST SYSTEM	
OPERATIONAL	YES / NO	YES / NO	
VACUUM GAUGE READING (IN. H20)			
ALARM CHECK	YES / NO	YES / NO	
SSDS PIPING CHECK	YES / NO	YES / NO	
SSDS FAN CHECK	YES / NO	YES / NO	
CONDENSATE WATER CHECK	YES / NO	YES / NO	

Additional Information/Notes:

GROUNDWATER SAMPLING LOG

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

Project Name: NYSDEC BCP SITE NO. C828201
Location: 625 SOUTH GOODMAN ST, NEW YORK
Project No.: 2172056
Sampled By:
Date:
Weather:

WELL I.D.:

WELL SAMPLING INFORMATION

Well Diameter:
Depth of Well:
Measuring Point:
Pump Type:
Static Water Level:
Length of Well Screen:
Depth to Top of Pump:
Tubing Type:

FIELD PARAMETER MEASUREMENT

Time	Pump Rate	Gallons Purged	Temp °C	Dissolved O_2 (mg/L)	Conductivity (mS/cm)	pH	Redox (mV)	Turbidity (NTU)			Comments
				+ 10%	+/- 3%	+/- 0.1	+/- 10 mV	+ 10%			

Total ________ Gallons Purged

Purge Time Start:
Purge Time End:
Final Static Water Level:

OBSERVATIONS

Summary of Green Remediation Metrics for Site Management

Site Name: ______________________________ Site Code: ____________________
Address: ________________________________ City: ________________________
State: ____________ Zip Code: _________ County: _______________________

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: ____________________

Current Reporting Period
Reporting Period From: ____________________ To: _________________________

Contact Information
Preparer's Name: __________________________ Phone No.: ___________________
Preparer's Affiliation: __________________________________

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

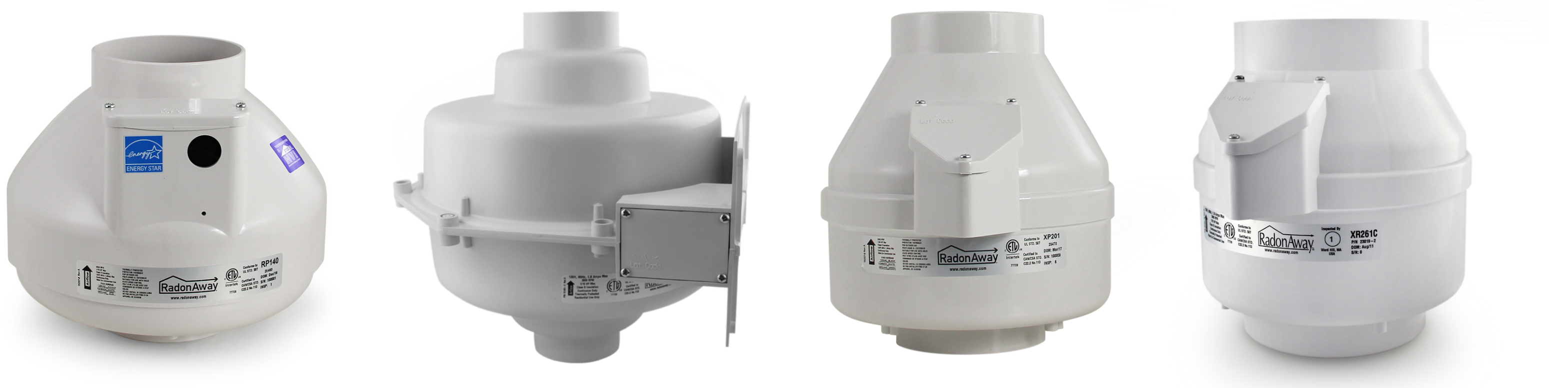
Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CERTIFICATION BY CONTRACTOR
I, ___________________________ (**Name**) do hereby certify that I am ______________________ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including that last day of the period covered by this application. ____ **Date** **Contractor**

APPENDIX I

O&M MANUAL (FOR EACH ACTIVE EC)

The world's leading radon fan manufacturer



RPc, GPc, XPc, XR Series Installation Instructions

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** For General Ventilating Use Only. Do Not Use to Exhaust Hazardous, Corrosive or Explosive Materials, Gases or Vapors. See Vapor Intrusion Application Note #AN001 for important information on VI Applications. RadonAway.com/vapor-intrusion

2. **NOTE:** Fan is suitable for use with solid state speed controls; however, use of speed controls is not generally recommended.

2. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.

3. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.

4. **NOTICE!** There are no user serviceable parts located inside the fan unit.
Do NOT attempt to open. Return unit to the factory. (See Warranty, p. 8, for details.)

5. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.

6. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer. (See p. 8.)

   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

   c) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire rated construction.

   d) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent backdrafting. Follow the heating equipment manufacturers' guidelines and safety standards such as those published by any National Fire Protection Association, and the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and the local code authorities.

   e) When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.

   f) Ducted fans must always be vented to outdoors.

   g) If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) protected branch circuit.

RPc Series	GPc Series	XPc / XR Series
RP140c |P/N 23029-1	GP301c | P/N 23006-1	XP201c | P/N 23011-1
RP145c | P/N 23030-1	GP501c | P/N 23005-1	XR261 | P/N 23019-1
RP260c | P/N 23032-1		
RP265c | P/N 23033-1		

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The RPc, GPc, XPc and XR Series Radon Fans are intended for use by trained, professional, certified/licensed radon mitigators. The purpose of these instructions is to provide additional guidance for the most effective use of RPc, GPc, XPc and XR Series Fans. These instructions should be considered supplemental to EPA/radon industry standard practices, state and local building codes and regulations. In the event of a conflict, those codes, practices and regulations take precedence over these instructions.

1.2 FAN SEALING

The RPc, GPc, XPc and XR Series Fans are factory sealed; no additional caulk or other materials are required to inhibit air leakage.

1.3 ENVIRONMENTALS

The RPc, GPc, XPc and XR Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F or more than 100 degrees F.

1.4 ACOUSTICS

The RPc, GPc, XPc and XR Series Fans, when installed properly, operate with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the “rushing” sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

(To ensure quiet operation of inline and remote fans, each fan shall be installed using sound attenuation techniques appropriate for the installation. For bathroom and general ventilation applications, at least 8 feet of insulated flexible duct shall be installed between the exhaust or supply grille(s) and the fan(s). RPc, GPc, XPc and XR Series Fans are not suitable for kitchen range hood remote ventilation applications.)

1.5 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes, thus blocking air flow to the RPc, GPc, XPc and XR Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes, allowing for return to normal operation.

1.6 SLAB COVERAGE

The RPc, GPc, XPc and XR Series Fans can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RPc, GPc, XPc and XR Series Fan best suited for the sub-slab material can improve the slab coverage. The RPc, GPc, XPc and XR Series have a wide range of models to choose from to cover a wide range of sub-slab materials. The RP140c and 145c are best suited for general purpose use. The RP260c can be used where additional airflow is required, and the RP265c is best suited for large slab, high airflow applications. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.7 CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The RPc, GPc, XPc and XR Series Fan MUST be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The RPc, GPc, XPc and XR Series Fans are NOT suitable for underground burial.

For RPc, GPc, XPc and XR Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Diameter	Minimum Rise per Ft of Run*		
	@25 CFM	@50 CFM	@100 CFM
4”	1/8”	1/4”	3/8”
3”	1/4”	3/8”	1 1/2”

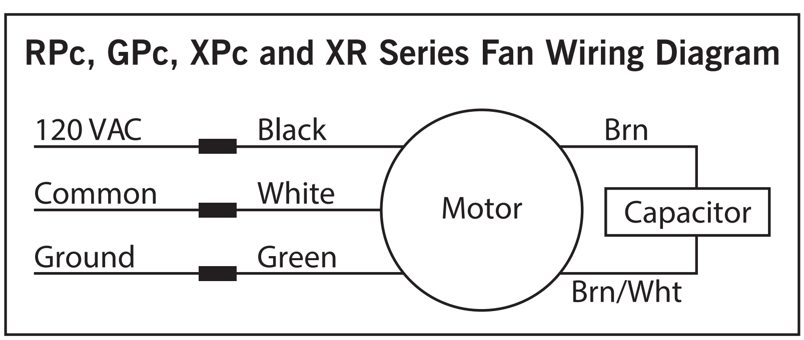
See p. 7 for detailed specifications.

1.8 SYSTEM MONITOR & LABEL

A System Monitor, such as a manometer (P/N 50017) or audible alarm (P/N 28001-2, 28001-4 or 28421), is required to notify the occupants of a fan system malfunction. A System Label (provided with Manometer P/N 50017) with instructions for contacting the installing contractor for service and identifying the necessity for regular radon tests to be conducted by the building occupants must be conspicuously placed in a location where the occupants frequent and can see the label.

1.9 ELECTRICAL WIRING

The RPc, GPc, XPc and XR Series Fans operate on standard 120V, 60Hz AC. All wiring must be performed in accordance with National Fire Protection (NFPA) National Electrical Code, Standard #70, current edition, for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a UL Listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.



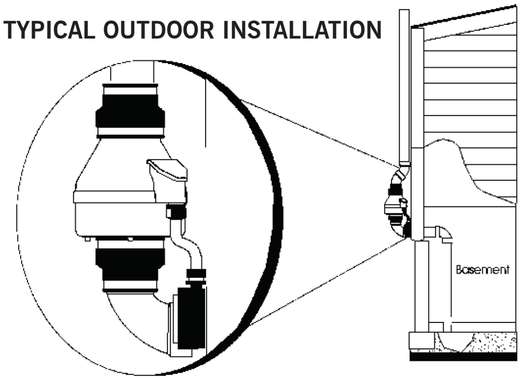
1.10 SPEED CONTROLS

The RPc, GPc, XPc and XR Series Fans are rated for use with electronic speed controls; however, speed controls are generally not recommended. If used, the recommended speed control is Pass & Seymour Solid State Speed Control (Cat. No. 94601-1).

2.0 INSTALLATION

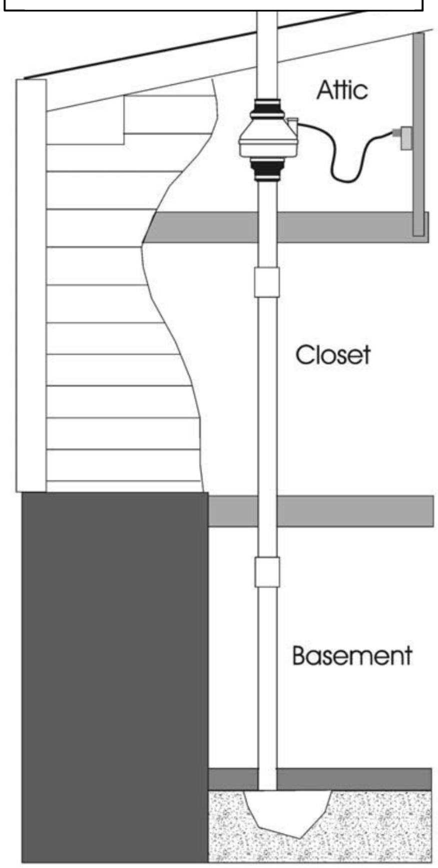
The RPc, GPc, XPc and XR Series Fans can be mounted indoors or outdoors. (It is suggested that EPA and radon mitigation standards recommendations be followed in choosing the fan location.) The GPc fans have an integrated mounting bracket; RPc, XPc and XR Series Fans may be mounted directly on the system piping or fastened to a supporting structure by means of an optional mounting bracket.
The ducting from the fan to the outside of the building has a strong effect on noise and fan energy use. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated airflow.

TYPICAL OUTDOOR INSTALLATION



2.1 MOUNTING
Mount the RPc, GPc, XPc and XR Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.

TYPICAL INDOOR INSTALLATION



2.2 MOUNTING BRACKET (optional)
The RPc, XPc and XR Series Fans may be optionally secured with the RadonAway P/N 25007 mounting bracket. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING
Complete piping run, using flexible couplings as a means of disconnect for servicing the unit and for vibration isolation. As the fan is typically outside of the building thermal boundary and is venting to the outside, installation of insulation around the fan is not required.

2.4 ELECTRICAL CONNECTION
Connect wiring with wire nuts provided, observing proper connections (See Section 1.9). Note that the fan is not intended for connection to rigid metal conduit.

2.5 VENT MUFFLER (optional)
Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

______ **Verify** all connections are tight and **leak-free**.

______ **Ensure** the RPc, GPc, XPc and XR Series Fan and all ducting are **secure and vibration-free**.

______ **Verify system vacuum pressure** with manometer. **Insure** vacuum pressure is within normal operating range and **less than** the maximum recommended operating pressure.
(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 feet)
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments.)
See Product Specifications. If this is exceeded, increase the number of suction points.

______ **Verify Radon levels** by testing to EPA Protocol and applicable testing standards.

THE FOLLOWING CHARTS SHOW THE PERFORMANCE OF THE RPc, GPc, XPc and XR SERIES FANS

RPc Series Product Specifications

Typical CFM Vs. Static Pressure "WC									
Model	**0"**	**.25"**	**.5"**	**.75"**	**1.0"**	**1.25"**	**1.5"**	**1.75"**	**2.0"**
RP140c	135	103	70	14	-	-	-	-	
RP145c	166	146	126	104	82	61	41	21	3
RP260c	251	209	157	117	70	26	-	-	-
RP265c	334	291	247	210	176	142	116	87	52

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
RP140c	15 - 21 watts	0.7" WC
RP145c	41 - 72 watts	1.7" WC
RP260c	47-65 watts	1.3" WC
RP265c	91-129 watts	2.2" WC

**Reduce by 10% for High Temperature Operation **Reduce by 4% per 1000 ft. of altitude.*

Model	Size	Weight	Inlet/Outlet	L.2
RP140c	8.5"H x 9.7" Dia.	5.5 lbs	4.5"OD (4.0" PVC Sched 40 size compatible)	25
RP145c	8.5"H x 9.7" Dia.	5.5 lbs	4,5" OD	15
RP260c	8.6"H x 11.75" Dia.	5.5 lbs	6.0" OD	48
RP265c	8.6"H x 11.75" Dia.	6.5 lbs	6.0" OD	30

L.2 = Estimated Equivalent Length of Rigid Metal Ducting resulting in .2" WC pressure loss for Duct Size listed. Longer Equivalent Lengths can be accommodated at Flows Lower than that at .2" WC pressure loss (see CFM Vs Static Pressure "WC Table).

XPc and XR Series Product Specifications

Typical CFM Vs. Static Pressure "WC						
	0"	**.5"**	**1.0"**	**1.5"**	**1.75"**	**2.0"**
XP201c	112	95	70	40	-	-
XR261	217	149	87	27	-	-

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
XP201c	45 - 66 watts	1.7" WC
XR261	67 - 117 watts	1.6" WC

**Reduce by 10% for High Temperature Operation **Reduce by 4% per 1000 ft. of altitude.*

Model	Size	Weight	Inlet/Outlet
XP201c	9.5"H x 8.5" Dia.	6 lbs	4.5" OD
XR261	9.5"H x 8.5" Dia.	7 lbs	6" OD

GPc Series Product Specifications

Typical CFM Vs. Static Pressure “WC							
	1.0”	**1.5”**	**2.0”**	**2.5”**	**3.0”**	**3.5”**	**4.0”**
GP301c	64	54	41	4	-	-	-
GP501c	-	-	66	58	50	27	4

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
GP301c	56-100 watts	2.3” WC
GP501c	68 - 146 watts	3.8” WC

**Reduce by 10% for High Temperature Operation **Reduce by 4% per 1000 ft. of altitude.*

Model	Size	Weight	Inlet/Outlet
GP301c	13”H x 12.5” Dia.	12 lbs	3.5” OD
GP501c	13”H x 12.5” Dia.	12 lbs	3.5” OD

RPc, XPc, XR and GPc Series Additional Specifications

Model	Recommended Duct	PVC Pipe Mounting	Thermal Cutout	Insulation Class
RP140c	3” or 4” Schedule 20/40 PVC	Mount on the duct pipe or with optional mounting bracket. For Ventilation: 4”, 6” or 8” Rigid or Flexible Ducting.	130°C/266°F	Class B Insulation
RP145c			130°C/266°F	Class F Insulation
RP260c			150°C/302°F	
RP265c			150°C/302°F	
XP201c	3” or 4” Schedule 20/40 PVC	Fan may be mounted on the duct pipe or with integral flanges.	120°C/248°F	Class B Insulation
XR261				
GP301c	3” or 4” Schedule 20/40 PVC	Fan may be mounted on the duct pipe or with integral flanges.	120°C/248°F	Class B Insulation
GP501c				

Continuous Duty
3000 RPM
Thermally Protected
RPc, GPc Residential and Commercial
XPc, XR Residential Only
Rated for Indoor or Outdoor Use

LISTED
Electric Fan

Intertek
77728

Conforms to
UL STD. 507
Certified to
CAN/CSA STD.
C22.2 No.113

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the RadonAway® RPc, GPc, XPc and XR Series Fan for shipping damage within 15 days of receipt. **Notify RadonAway of any damages immediately.** RadonAway is not responsible for damages incurred during shipping. However, for your benefit, RadonAway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open the housing.** Return unit to factory. (See Warranty below).

Install the RPc, GPc, XPc and XR Series Fan in accordance with all EPA, ANSI/AARST standard practices, and state and local building codes and regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

Warranty

RadonAway® warrants that the RPc, GPc, XPc and XR Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner (the "Warranty Term").

RadonAway® will replace any fan which fails due to defects in materials or workmanship during the Warranty Term. This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway®.

The Fan must be returned (at Owner's cost) to the RadonAway® factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

5-YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway® will extend the Warranty Term of the fan to 60 months (5 years) from date of purchase or 66 months from date of manufacture, whichever is sooner, provided that the fan is installed by a professional radon mitigation contractor. Proof of purchase and/or proof of professional installation may be required for service under this warranty. No extended warranty is offered outside the Continental United States and Canada beyond the standard 12 months from the date of purchase or18 months from the date of manufacture, whichever is sooner.

RadonAway® is not responsible for installation, removal or delivery costs associated with this Warranty.

LIMITATION OF WARRANTY

EXCEPT AS STATED ABOVE, THE RPc, GPc, XPc and XR SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULARPURPOSE.

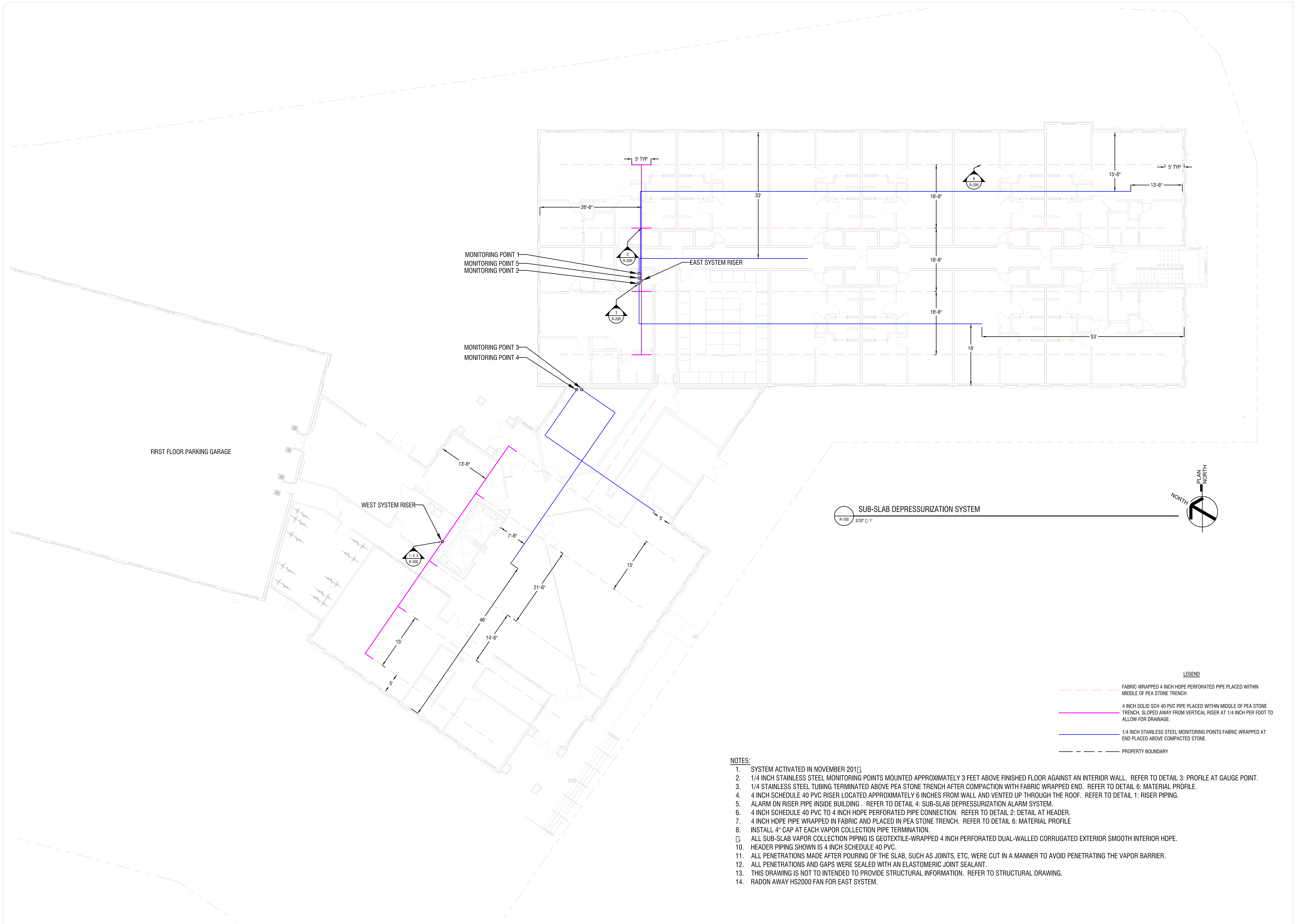
IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs, including insurance, to and from factory.

RadonAway® 3 Saber Way
Ward Hill, MA 01835 USA TEL (978) 521-3703
FAX (978) 521-3964
Email to: Returns@RadonAway.com

Record the following information for your records:

Serial Number: ______________________ Purchase Date: ______________



LEGEND

- - - - -	FABRIC WRAPPED 4 INCH HDPE PERFORATED PIPE PLACED WITHIN MIDDLE OF PEA STONE TRENCH
——— (magenta)	4 INCH SOLID SCH 40 PVC PIPE PLACED WITHIN MIDDLE OF PEA STONE TRENCH, SLOPED AWAY FROM VERTICAL RISER AT 1/4 INCH PER FOOT TO ALLOW FOR DRAINAGE.
——— (blue)	1/4 INCH STAINLESS STEEL MONITORING POINTS FABRIC WRAPPED AT END PLACED ABOVE COMPACTED STONE.
— - —	PROPERTY BOUNDARY

NOTES:

1. SYSTEM ACTIVATED IN NOVEMBER 201□.
2. 1/4 INCH STAINLESS STEEL MONITORING POINTS MOUNTED APPROXIMATELY 3 FEET ABOVE FINISHED FLOOR AGAINST AN INTERIOR WALL. REFER TO DETAIL 3: PROFILE AT GAUGE POINT.
3. 1/4 STAINLESS STEEL TUBING TERMINATED ABOVE PEA STONE TRENCH AFTER COMPACTION WITH FABRIC WRAPPED END. REFER TO DETAIL 6: MATERIAL PROFILE.
4. 4 INCH SCHEDULE 40 PVC RISER LOCATED APPROXIMATELY 6 INCHES FROM WALL AND VENTED UP THROUGH THE ROOF. REFER TO DETAIL 1: RISER PIPING.
5. ALARM ON RISER PIPE INSIDE BUILDING . REFER TO DETAIL 4: SUB-SLAB DEPRESSURIZATION ALARM SYSTEM.
6. 4 INCH SCHEDULE 40 PVC TO 4 INCH HDPE PERFORATED PIPE CONNECTION. REFER TO DETAIL 2: DETAIL AT HEADER.
7. 4 INCH HDPE PIPE WRAPPED IN FABRIC AND PLACED IN PEA STONE TRENCH. REFER TO DETAIL 6: MATERIAL PROFILE
8. INSTALL 4" CAP AT EACH VAPOR COLLECTION PIPE TERMINATION.

□. ALL SUB-SLAB VAPOR COLLECTION PIPING IS GEOTEXTILE-WRAPPED 4 INCH PERFORATED DUAL-WALLED CORRUGATED EXTERIOR SMOOTH INTERIOR HDPE.

10. HEADER PIPING SHOWN IS 4 INCH SCHEDULE 40 PVC.
11. ALL PENETRATIONS MADE AFTER POURING OF THE SLAB, SUCH AS JOINTS, ETC, WERE CUT IN A MANNER TO AVOID PENETRATING THE VAPOR BARRIER.
12. ALL PENETRATIONS AND GAPS WERE SEALED WITH AN ELASTOMERIC JOINT SEALANT.
13. THIS DRAWING IS NOT TO INTENDED TO PROVIDE STRUCTURAL INFORMATION. REFER TO STRUCTURAL DRAWING.
14. RADON AWAY HS2000 FAN FOR EAST SYSTEM.

NO.	REVISION	BY	DATE

STATE OF NEW YORK
DANIEL P. NOLL
No. 081696
LICENSED PROFESSIONAL ENGINEER

LaBella
Powered by partnership.

PROJECT/CLIENT

HIGHLAND GROVE, LLC

FORMER SHERWOOD SHOE FACTORY
625 GOODMAN STREET
ROCHESTER, NEW YORK
NYSDEC BCP #C828201

DRAWING TITLE

SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

ISSUED FOR: AS-BUILT

DATE: 12-3-2018

DESIGNED BY: AA

DRAWN BY: DRP

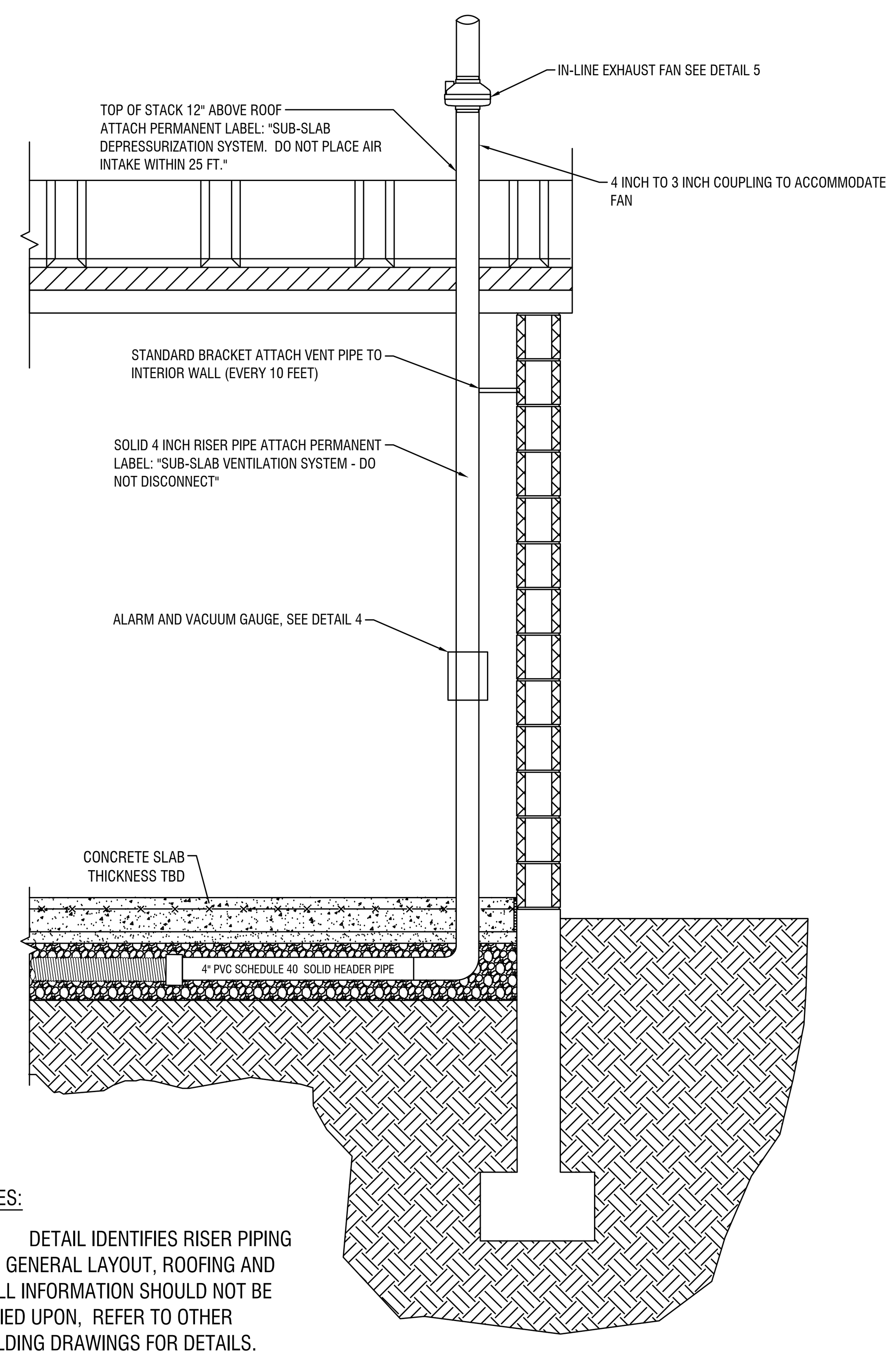
REVIEWED BY: AA

SCALE: 3/32" □ 1'

PROJECT/DRAWING NUMBER

2172056

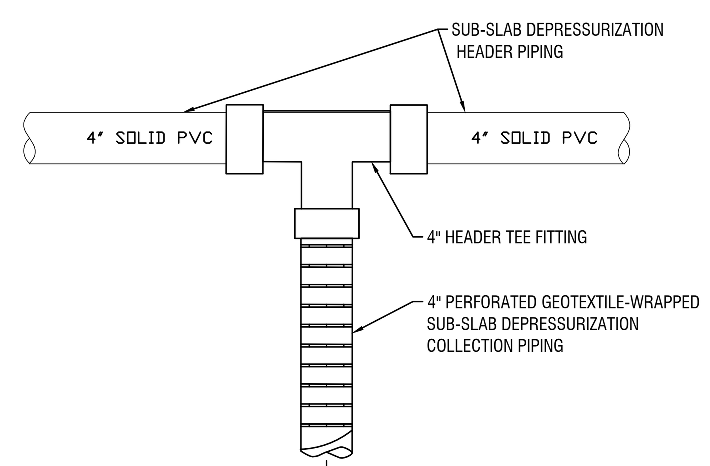
R-□00



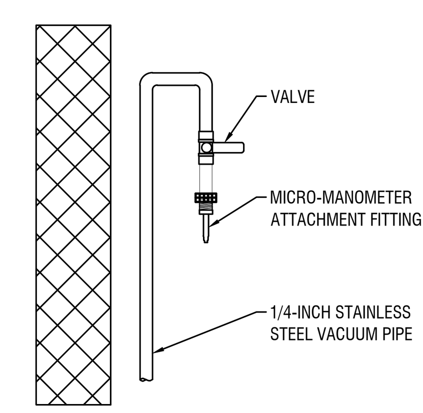
NOTES:

1. DETAIL IDENTIFIES RISER PIPING FOR GENERAL LAYOUT, ROOFING AND WALL INFORMATION SHOULD NOT BE RELIED UPON, REFER TO OTHER BUILDING DRAWINGS FOR DETAILS.

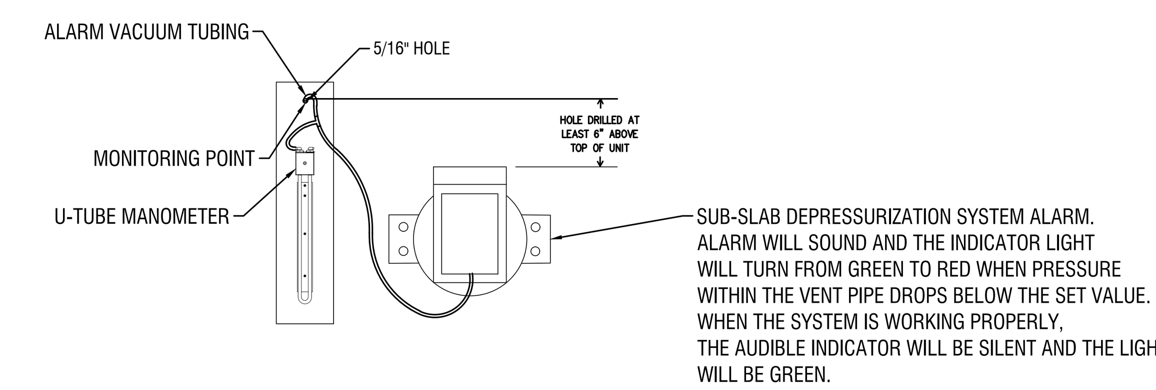
1 RISER PIPING
SCALE: NONE



2 DETAIL AT HEADER
SCALE: NONE



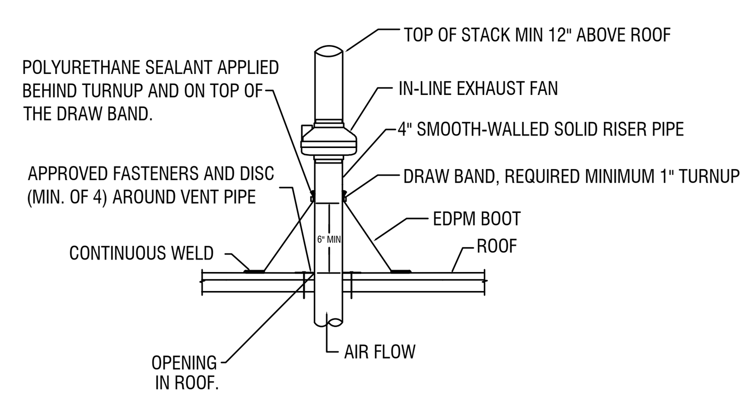
3 PROFILE AT GAUGE POINT
SCALE: NONE



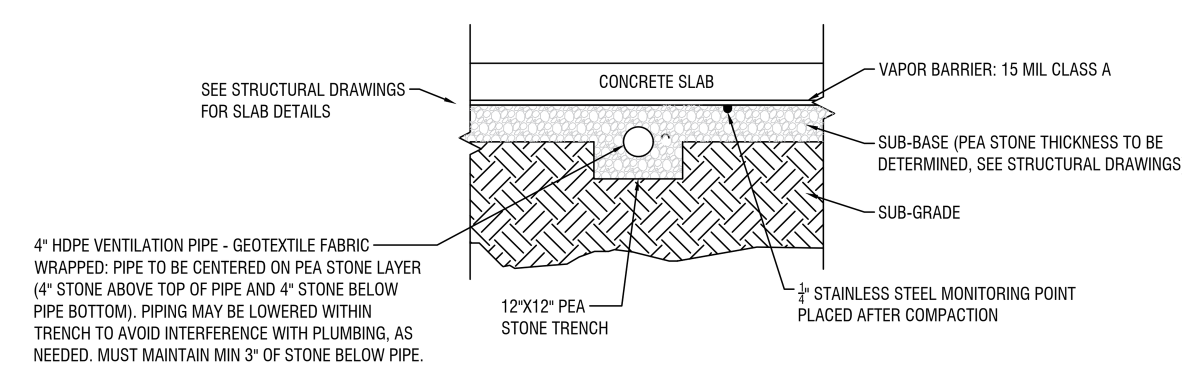
NOTES:

1. ALARM INSTALLED ON SEPARATE CIRCUIT FROM VENT FAN.

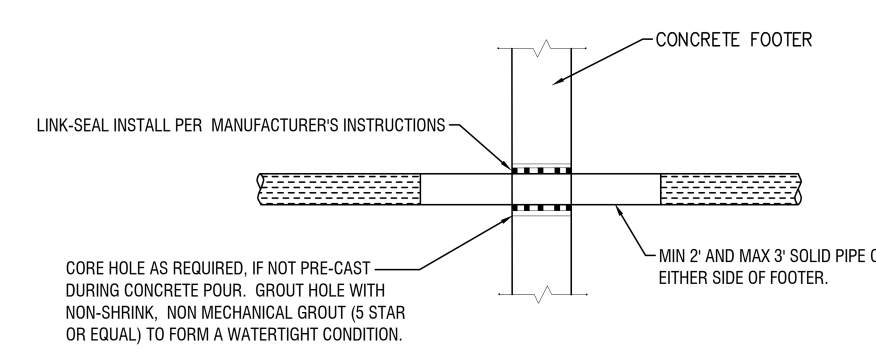
4 SUB-SLAB DEPRESSURIZATION SYSTEM ALARM
SCALE: NONE



5 DETAIL AT ROOF
SCALE: NONE



6 MATERIAL PROFILE
SCALE: NONE



7 PROFILE AT PENETRATION
SCALE: NONE

NO.	REVISION	BY	DATE
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It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered, the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

LaBella
Powered by partnership.

PROJECT/CLIENT

HIGHLAND GROVE, LLC

FORMER SHERWOOD SHOE FACTORY
625 GOODMAN STREET
ROCHESTER, NEW YORK
NYSDEC BCP #C828201

DRAWING TITLE

SUB-SLAB DEPRESSURIZATION SYSTEM DETAILS

ISSUED FOR
AS-BUILT

DATE: 12-3-2018

DESIGNED BY: AA
DRAWN BY: DRP
REVIEWED BY: AA

PROJECT/DRAWING NUMBER

2172056

R-200

SECTION 071100 – SUB-SLAB VAPOR MITIGATION SYSTEM

PART 1 - VAPOR BARRIER

1.1 GAS PERMEABLE LAYER

A layer of gas permeable material shall be placed under all concrete floor slabs and other floor systems that directly contact the ground and are within the walls of the interior spaces of the building, to facilitate installation of a Sub-Slab Depressurization System (SSDS). The gas permeable material shall consist of a uniform layer of clean aggregate, a minimum of 6-inches thick.

1.2 VAPOR RETARDER

A minimum 15-mil polyethylene or approved equivalent flexible sheeting material shall be placed above (on top of) the Gas Permeable Layer prior to pouring the slab or placing the floor assembly to serve as a soil-vapor-barrier, by bridging any cracks that develop in the slab or floor assembly. The sheeting should cover the entire floor area, and separate sections of sheeting should be overlapped at least 12 inches. The sheeting shall be sealed around any pipe, wire or other penetrations of the material, per the manufacturer's instructions. All punctures or tears in the material repaired according to the manufacturer's instructions. The sheeting shall meet the following requirements (e.g., Stego Wrap 15-mil Class A Vapor Barrier or approved equivalent):

Property and ASTM Standard	**Performance Standard**
Underslab Vapor Retarders, ASTM E 1745 Class A	Meet or Exceed
Water Vapor Permeance, ASTM F1249	0.0086 perms (0.0036 water vapor transmission rate)
Tensile Strength, ASTM D 882	70.6 lbf./in.
Puncture Resistance, ASTM D 1709	2266 grams
Methane Transmission Rate, ASTM D1434	192.8 GTR mL(STP)/m^2*day
Radon Diffusion Coefficient K124/02/95	8.8 x 10^{-12} m^2/second
Chemical Resistance, ASTM E 154	Unaffected
Life Expectancy, ASTM E 154	Indefinite

A. Seams in the vapor barrier shall be sealed with a product designed to be compatible with the vapor barrier (e.g., Stego Tape for Stego Wrap products).

B. Follow all manufacturer's instructions and specifications.

C. As an alternative to flexible sheeting material, a spray-on application membrane (e.g., liquid boot, or other) may be used for the entire vapor barrier or for select areas where significant sealing against footer walls and penetrations are needed. Any proposed spray-on application must be approved by the Engineer.

PREVENTION OF SOIL VAPOR ENTRY

A. All concrete floor slabs shall be designed, mixed, placed, reinforced, consolidated, finished, and cured to minimize the formation of cracks in accordance with standards set forth in the Model Building Codes.

B. Large openings, if any, through the concrete floor slab, grade beams, or other foundation components in contact with the soil (e.g., spaces around storm sewer piping, etc.) shall be filled or closed with materials that provide a permanent airtight seal such as non-shrink mortar, grouts, expanding foam, or similar materials designed for such application.

C. Smaller gaps around all pipe, wire, or other objects, if any, that penetrate concrete floor slab or other floor assemblies shall be made air-tight with an elastomeric joint sealant, as defined in ASTM C920-87, and applied in accordance with the manufacturer's recommendations.

D. All control joints, isolation joints, construction joints, and any other joints in the concrete floor slab or between the floor slab and the building's walls shall be sealed. A continuous formed gap (for example, a "tooled edge") which allows the application of a sealant that will provide a continuous, airtight seal shall be created along all joints. When the slab has cured, the gap shall be cleared of loose material and filled with an elastomeric joint sealant, as defined in ASTM C920-97, and applied in accordance with the manufacturer's recommendations.

E. Joints, cracks, or other openings around all penetrations of both exterior and interior surfaces of masonry block or poured concrete foundation components below the ground surface shall be sealed with an elastomeric sealant that provides an air-tight seal. Penetrations of poured concrete walls should also be sealed on the exterior surface. This includes sealing of wall tie penetrations, if applicable.

PART 2 – VAPOR COLLECTION AND VENT SYSTEM

A. Lengths of sub-slab vapor collection piping shall be installed beneath the vapor barrier as depicted on R-100. Sub-slab vapor collection piping shall be geotextile-wrapped, 4-inch diameter, perforated, dual-walled, corrugated exterior, smooth interior high density polyethylene (HDPE).

B. Vapor collection piping shall be installed in the center of 12" x 12" pipe trenches as depicted on Drawing R-100. Pipe trenches shall be backfilled with a washed PEA STONE, which shall consist of material that will pass through a 2-inch sieve and be retained by a ¼-inch sieve.

C. Install perforated cap at each vapor collection pipe termination, and slope all solid PVC pipe up ¼-inch per foot from connection with vapor collection piping.

D. The collection piping shall be connected via the appropriate fittings to 4-inch, schedule 40, polyvinyl chloride (PVC) header pipe. The header pipes shall penetrate the building envelope, through the concrete floor slab, as depicted on drawings R-100 and R-200.

E. The header pipes shall daylight above the floor slab with vertical pipes that are installed within the interior Electric Room, as depicted on R-100. The vertical pipes shall extend through the roof and terminate at least 12 inches above the surface of the roof, in a location that is: at least 25 feet from any air intakes, any window, or other opening into the conditioned spaces of the building that is less than 2 feet below the exhaust point; and at least 10 feet from any adjoining or adjacent buildings. All roof penetrations must be properly sealed and completed in accordance with other related specifications.

F. All exposed and visible interior and exterior vent pipes shall be identified with labels placed at least every 25 feet. The labels shall read: "Sub-Slab Depressurization System."

G. Vent pipes shall be installed in a configuration and supported in a manner that ensures that any rain water or condensation accumulating within the pipes drains downward into the ground beneath the vapor barrier.

H. Completion is subject to owner/environmental consultant approval. The owner and environmental consultant shall be provided 48-hour notice to inspect the system prior to any portion being covered. Inspections will include at least (but not limited to) the following:

a. Below Grade Portions of Sub-Slab Depressurization System Piping – prior to covering any piping with stone

b. Soil Vapor Barrier – after sealing all penetrations, foundations edges and seams and prior to pouring of concrete

c. Above Grade Portions of Sub-Slab Depressurization System – Prior to any portions being sealed behind walls, pipe chases, etc.

In addition, the contractor shall provide photo documentation for all piping prior to covering.

PART 3 – FANS (IF REQUIRED)

3.1 GENERAL

A. “Activation” of the SSDS (if required) shall be completed by adding exhaust fans in the vertical stand pipes, as shown on R-200.

B. The fans shall meet the following requirements (in-line exhaust fans, such as the “RadonAway HS2000” or approved equivalent for the East System and “RadonAway GP-501” or equivalent for the West System):

East System Fan Specifications

Watts	Recommended Max Pres. "wc	Typical flow [ft^3/min (cfm)] vs. static pressure [water column inches ("wc)]		
159-318	14	0.0" wc	10" wc	15" wc
		63 cfm	37 cfm	12 cfm

West System Fan Specifications

Watts	Max Pres. "wc	Typical flow [ft^3/min (cfm)] vs. static pressure [water column inches ("wc)]								
60-140	4.2	0.0" wc	0.5" wc	1.0" wc	1.5" wc	2.0" wc	2.5" wc	3.0" wc	3.5" wc	4.0" wc
		-- cfm	-- cfm	95 cfm	87 cfm	80 cfm	70 cfm	57 cfm	30 cfm	10 cfm

C. The fans in the vent pipes and all positively-pressurized portions of the vent pipes shall be located outside the habitable space of the building or within interior mechanical pipe chases if open to the atmosphere and closed to interior spaces.

D. The fans in the vent pipes shall be installed in vertical runs of the vent pipes, at an approximate height of at least 1-ft. above the roofline to facilitate maintenance and repair.

3.2 WARNING SYSTEMS (IF REQUIRED)

A. Each vertical standpipe (regardless of if a fan is required or not) shall be equipped with a U-tube type manometer or approved equivalent below the fan and within the Electric Rooms as depicted on R-100 in a visible location, to demonstrate that pressure within the pipe is below atmospheric pressure.

B. Each fan (if required) shall be equipped with a prominently positioned visible or audible warning system (e.g., RadonAway Checkpoint IIA Mitigation Alarm or approved equivalent) to alert the building occupant if there is loss of pressure or air flow in the vent pipe, or if the fan ceases operation. Location of the warning system shall be subject to owner/Environmental Project Monitor approval. The Contractor will connect the alarm and fan on separate breakers and provide that information to the Environmental Project Monitor. The Contractor will clearly label the breakers “SSDS Fan” and “SSDS Alarm”.

PART 4 – TEST POINTS

A. Test Points, consisting of an open length of stainless steel vacuum tubing, shall be installed beneath the slab as depicted on R-200. The open end of the stainless steel vacuum tubing shall be fabric-wrapped at its sub-slab termination as shown on R-100. The vacuum tubing shall be routed to the Electric Room and terminate in a barbed ¼-inch hose fitting mounted at an approximate height of three (3) feet above the local grade and fitted with a stop valve beneath the barbed fitting as depicted in R-200.

B. The Test Points will be installed after all other utilities are installed, gas permeable layer is placed and vapor collection piping is installed and immediately before placing the vapor barrier. No equipment shall be driven over the Test Points and associated steel tubing. The Test Point tubing shall not be bent at any angle greater than 45 degrees. If located in a high-traffic area, each gauge/test point will be protected by the Contractor until the floor slab is poured.

PART 5 – MISCELLANEOUS

A. Heating, Ventilating, and Air Conditioning (HVAC) systems shall be designed and installed to avoid depressurization of the building relative to underlying and surrounding soil. Specifically, joints in air ducts and plenums passing through unconditioned spaces shall be sealed.

B. The Contractor will conduct a backdraft test to ensure the operation of the SSDS system does not create backdraft when the HVAC system is in operation. The Contractor will complete the backdraft test per the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York dated October 2016. The Contractor will provide a letter or report documenting the backdraft test to the Environmental Project Monitor.

C. The Contractor will label each vertical riser within Electric Room with the appropriate system (i.e., “East System” and “West System”) and label each monitoring point 1, 2, and 3 as shown on R-100.

END OF SECTION 071100

APPENDIX J

REMEDIAL SYSTEM OPTIMIZATION TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR FORMER SHERWOOD SHOE COMPANY

TABLE OF CONTENTS

APPENDIX K

DER-10 APPENDIX 5 – ALLOWABLE CONSTITUENT LEVELS FOR IMPORTED FILL OR SOIL SUBDIVISION 5.4(E)

&

Summary of PFAS Guidance Values

Appendix 5
Allowable Constituent Levels for Imported Fill or Soil
Subdivision 5.4(e)

Source: This table is derived from soil cleanup objective (SCO) tables in 6 NYCRR 375. Table 375-6.8(a) is the source for unrestricted use and Table 375-6.8(b) is the source for restricted use.

Note: For constituents not included in this table, refer to the contaminant for supplemental soil cleanup objectives (SSCOs) in the Commissioner Policy on *Soil Cleanup Guidance*. If an SSCO is not provided for a constituent, contact the DER PM to determine a site-specific level.

Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Metals					
Arsenic	13	16	16	16	13
Barium	350	350	400	400	433
Beryllium	7.2	14	47	47	10
Cadmium	2.5	2.5	4.3	7.5	4
Chromium, Hexavalent[1]	1 [3]	19	19	19	1 [3]
Chromium, Trivalent[1]	30	36	180	1500	41
Copper	50	270	270	270	50
Cyanide	27	27	27	27	NS
Lead	63	400	400	450	63
Manganese	1600	2000	2000	2000	1600
Mercury (total)	0.18	0.73	0.73	0.73	0.18
Nickel	30	130	130	130	30
Selenium	3.9	4	4	4	3.9
Silver	2	8.3	8.3	8.3	2
Zinc	109	2200	2480	2480	109
PCBs/Pesticides					
2,4,5-TP Acid (Silvex)	3.8	3.8	3.8	3.8	NS
4,4'-DDE	0.0033 [3]	1.8	8.9	17	0.0033 [3]
4,4'-DDT	0.0033 [3]	1.7	7.9	47	0.0033 [3]
4,4'-DDD	0.0033 [3]	2.6	13	14	0.0033 [3]
Aldrin	0.005	0.019	0.097	0.19	0.14
Alpha-BHC	0.02	0.02	0.02	0.02	0.04 [4]
Beta-BHC	0.036	0.072	0.09	0.09	0.6
Chlordane (alpha)	0.094	0.91	2.9	2.9	1.3
Delta-BHC	0.04	0.25	0.25	0.25	0.04 [4]
Dibenzofuran	7	14	59	210	NS
Dieldrin	0.005	0.039	0.1	0.1	0.006
Endosulfan I	2.4[2]	4.8	24	102	NS
Endosulfan II	2.4[2]	4.8	24	102	NS
Endosulfan sulfate	2.4[2]	4.8	24	200	NS
Endrin	0.014	0.06	0.06	0.06	0.014
Heptachlor	0.042	0.38	0.38	0.38	0.14
Lindane	0.1	0.1	0.1	0.1	6
Polychlorinated biphenyls	0.1	1	1	1	1

Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Semi-volatile Organic Compounds					
Acenaphthene	20	98	98	98	20
Acenaphthylene	100	100	100	107	NS
Anthracene	100	100	100	500	NS
Benzo(a)anthracene	1	1	1	1	NS
Benzo(a)pyrene	1	1	1	1	2.6
Benzo(b)fluoranthene	1	1	1	1.7	NS
Benzo(g,h,i)perylene	100	100	100	500	NS
Benzo(k)fluoranthene	0.8	1	1.7	1.7	NS
Chrysene	1	1	1	1	NS
Dibenz(a,h)anthracene	0.33 [3]	0.33 [3]	0.33 [3]	0.56	NS
Fluoranthene	100	100	100	500	NS
Fluorene	30	100	100	386	30
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	NS
m-Cresol(s)	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	NS
Naphthalene	12	12	12	12	NS
o-Cresol(s)	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	NS
p-Cresol(s)	0.33	0.33	0.33	0.33	NS
Pentachlorophenol	0.8 [3]	0.8 [3]	0.8 [3]	0.8 [3]	0.8 [3]
Phenanthrene	100	100	100	500	NS
Phenol	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	30
Pyrene	100	100	100	500	NS
Volatile Organic Compounds					
1,1,1-Trichloroethane	0.68	0.68	0.68	0.68	NS
1,1-Dichloroethane	0.27	0.27	0.27	0.27	NS
1,1-Dichloroethene	0.33	0.33	0.33	0.33	NS
1,2-Dichlorobenzene	1.1	1.1	1.1	1.1	NS
1,2-Dichloroethane	0.02	0.02	0.02	0.02	10
1,2-Dichloroethene(cis)	0.25	0.25	0.25	0.25	NS
1,2-Dichloroethene(trans)	0.19	0.19	0.19	0.19	NS
1,3-Dichlorobenzene	2.4	2.4	2.4	2.4	NS
1,4-Dichlorobenzene	1.8	1.8	1.8	1.8	20
1,4-Dioxane	0.1 [3]	0.1 [3]	0.1 [3]	0.1 [3]	0.1
Acetone	0.05	0.05	0.05	0.05	2.2
Benzene	0.06	0.06	0.06	0.06	70
Butylbenzene	12	12	12	12	NS
Carbon tetrachloride	0.76	0.76	0.76	0.76	NS
Chlorobenzene	1.1	1.1	1.1	1.1	40
Chloroform	0.37	0.37	0.37	0.37	12
Ethylbenzene	1	1	1	1	NS
Hexachlorobenzene	0.33 [3]	0.33 [3]	1.2	3.2	NS
Methyl ethyl ketone	0.12	0.12	0.12	0.12	100
Methyl tert-butyl ether	0.93	0.93	0.93	0.93	NS
Methylene chloride	0.05	0.05	0.05	0.05	12

Volatile Organic Compounds (continued)					
Propylbenzene-n	3.9	3.9	3.9	3.9	NS
Sec-Butylbenzene	11	11	11	11	NS
Tert-Butylbenzene	5.9	5.9	5.9	5.9	NS
Tetrachloroethene	1.3	1.3	1.3	1.3	2
Toluene	0.7	0.7	0.7	0.7	36
Trichloroethene	0.47	0.47	0.47	0.47	2
Trimethylbenzene-1,2,4	3.6	3.6	3.6	3.6	NS
Trimethylbenzene-1,3,5	8.4	8.4	8.4	8.4	NS
Vinyl chloride	0.02	0.02	0.02	0.02	NS
Xylene (mixed)	0.26	1.6	1.6	1.6	0.26

All concentrations are in parts per million (ppm)
NS = Not Specified

Footnotes:
[1] The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.
[2] The SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.
[3] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
[4] This SCO is derived from data on mixed isomers of BHC.

Summary of PFAS Guidance Values
NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), October 2020
SCOs and Imported Soil Guidance Values

Guidance Values for Anticipated Site Use	PFOA (ppb)	PFOS (ppb)
Unrestricted	0.66	0.88
Residential	6.6	8.8
Restricted Residential	33	44
Commercial	500	440
Industrial	600	440
Protection of Groundwater	1.1	3.7

Notes: (Text taken directly from the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS))
"Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to applicable guidance values.
If PFOA or PFOS is detected in any sample at or above the guidance values then the source of the backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example.
If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable."