Soil and Groundwater Management Plan
NYSDEC Spill #1112926
PIN #08170

Location:

540 Jefferson Avenue
Rochester, New York

Prepared for:

New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, New York 14414

LaBella Project No. 2161937-040

June 25, 2021

LaBella
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1.0 INTRODUCTION

This Soil and Groundwater Management Plan (SGMP) has been prepared by LaBella Associates, D.P.C. (LaBella) at the request of the New York State Department of Environmental Conservation (NYSDEC) for the property located at 540 Jefferson Avenue in the City of Rochester, Monroe County, New York (Site, see Figure 1).

This SGMP is intended to be implemented in the event that future ground-intrusive work encounters petroleum-impacted soil or groundwater. This SGMP meets the requirements of the SGMP Criteria of the New York State Department of Environmental Conservation (NYSDEC) Region 8 Spills Unit and is being submitted to support inactivation of NYSDEC Spill #1112926.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 Site Description & History

The Site is approximately 0.4 acres in size and consists of the combined properties at 540 Jefferson Avenue and 348 Frost Avenue. Both sites are currently vacant (no structures present). The 540 Jefferson Avenue is zoned as a commercial property that contained an automotive-related facility until it was demolished by the City of Rochester in 2012. The 348 Frost Avenue contained a vacant residential structure until it was demolished by the City of Rochester.

The Jefferson Avenue portion of the Site formerly consisted of two parcels, 540 and 546 Jefferson Avenue that in 2012 were merged by the City of Rochester into one parcel with the address of 540 Jefferson Avenue. The 540 Jefferson Avenue parcel is currently classified as Vacant Commercial land and the zoning code is Neighborhood Commercial (C-1). The 348 Frost Ave. is zoned R-1, Low Density Residential. Both parcels are currently owned by the City of Rochester.

Site historical use of 540 Jefferson Avenue included a gas station as early as 1933, and an auto service station from as early as 1945 until 2006 or later. Other commercial enterprises were intermittently listed for the Site. Sanborn Fire insurance maps indicated six gasoline tanks existed in the northwestern corner of the Site. No records found were available in detail to determine if the tanks had ever been removed. The 348 Frost Avenue appears to have been historically limited to residential use. When the City of Rochester demolished the structures on the 540 Jefferson Avenue parcel, two basement areas were reportedly infilled with demolition materials and other fill soils. The concrete slab that existed at-grade through most of the remainder of the building was left in place.

Three underground storage tanks (USTs) were discovered in the northern portion of the site; these were removed in 2013 along with approximately 2,846 gallons of waste fluid transported to Industrial Oil for disposal, and approximately 185 tons of petroleum-contaminated soil which was disposed of off-site at a permitted landfill. A Phase II ESA was completed at the Site in 2015, and a Supplemental Phase II ESA in 2017. These investigations included: a geophysical survey to assess the potential presence of underground tanks, piping or other subsurface structures; test pits; soil and bedrock test borings; overburden and bedrock monitoring wells; and laboratory analysis of soil and groundwater samples. The previous environmental work is discussed in further detail in Section 1.2.

The Site is bordered by the following properties:

Table 1.1 – Adjacent Properties

Direction	Land Use
North	Ruff Alley ROW , Vacant Residential Lot
East	Residential
South	Commercial and Residential
West	Jefferson Avenue ROW, Vacant Lot and Auto Repair

2.2 Previous Investigations

The following environmental reports were prepared and reviewed for the Site:

- *Underground Storage Tank and Impacted Soil Removal, 540 Jefferson Avenue, Rochester, New York* dated October 25, 2013 by Stantec
- *Phase II Environmental Site Assessment, 540 Jefferson Avenue and 348 Frost Avenue, Rochester, New York* dated April 2016 by Stantec
- *Draft Supplemental Phase II Environmental Site Assessment, 540 Jefferson Avenue and 348 Frost Avenue, Rochester, New York* dated May 2017 by Stantec

These aforementioned reports are on file with the NYSDEC and are summarized below.

2.2.1 Underground Storage Tank and Impacted Soil Removal, 540 Jefferson Avenue, Rochester, New York dated October 25, 2013 by Stantec

Three underground storage tanks (USTs) (two 3,000-gallon capacity and one 1,000-gallon capacity) and their contents were removed from 540 Jefferson Avenue on July 29 and July 30, 2013. Approximately 185 tons of petroleum impacted soil was excavated during and after tank removal and removed from the Site on August 15, 2013. Based on photoionization detector (PID) readings and confirmatory soil sample analytical results of the bottom and sidewall samples, significant petroleum impacts were identified at the limits of the tank removal excavation.

2.2.2 *Phase II Environmental Site Assessment, 540 Jefferson Avenue and 348 Frost Avenue, Rochester, New York dated April 2016 by Stantec*

The purpose of this Phase II Environmental Site Assessment (ESA) was to investigate potential contamination from the historical gasoline station and auto repair shops. The Phase II ESA scope of work consisted of nine test pits, 17 soil test borings, and eight monitoring wells which were installed for the purposes of collecting soil and groundwater samples on the Site. The sampling locations included locations near the identified historical features on the property that represented environmental concerns and were identified in a geophysical survey conducted prior to the UST removals discussed above. The locations are shown on Figure 2. The results of the Phase II ESA indicate the presence of primarily petroleum related VOC impacts in both soil and groundwater. The highest concentrations of total VOCs in soil are found in the northwest corner of the Site where several former gasoline USTs were identified on historical maps and the northeast corner of the Site where USTs were removed by Stantec in 2013.

Soil impacts have been identified on the south end of the Site at boring/well B/MW-11 which is approximately 5 feet (ft) north of the adjoining property line with 554 Jefferson Avenue. Soil impacts have also been identified on the easterly 348 Frost Avenue parcel. The vertical extent of contamination is greatest in the northwest corner of the Site where several former gasoline USTs were located. In this area elevated PID readings in the 'smear zone' were observed as shallow as 2 to 4 ft below ground surface (bgs). Grossly impacted soil (PID response greater than 500 parts per million (ppm)) in the northwest corner of the Site ranged from as shallow as 2.5 ft bgs in test pit TP-3 to 7.5 ft bgs in boring B-2. In other areas of the Site the top of the smear zone is typically below 5.5 to 7.5 ft bgs and grossly impacted soil tends to be constrained to approximately one foot above bedrock. In the southeastern most subsurface investigations, test pit TP-8 and boring B-14, no PID readings over 500 ppm were observed in overburden soils.

The highest concentrations of total VOCs in groundwater are also found in the vicinity of several former gasoline USTs in the northwest corner of the Site and where the USTs were removed from the northeast corner of the Site. Wells downgradient of the several former gasoline USTs in the northwest corner of the Site also appear to be impacted. The wells downgradient of the removed USTs in the northeast corner of the Site, including the wells located on the adjacent 348 Frost Avenue parcel to the east, were less impacted as lower VOC concentrations were detected in these wells. The VOC-impacted groundwater plume may extend off-site onto a portion of the property located adjacent to the south at 554 Jefferson Avenue, and a portion of the property located adjacent to the east at 344 Frost Avenue.

2.2.3 *Draft Supplemental Phase II Environmental Site Assessment, 540 Jefferson Avenue and 348 Frost Avenue, Rochester, New York dated May 2017 by Stantec*

The Supplemental Phase II ESA scope of work consisted of:

- Drilling of 17 soil test borings (B-201 through B-217);
- Analysis of eight soil samples from the borings for volatile and semi-volatile organic compounds (VOCs and SVOCs);
- Installation of two bedrock monitoring wells (MW-101 and MW-102);
- Analysis of eight groundwater samples: two from the new bedrock wells and six from previously-installed overburden wells.

The primary findings of the Initial and Supplemental Phase II ESA are as follows:

- The Supplemental investigation sampling results indicated conditions similar to the Initial Phase II ESA in terms of contaminant types and concentration ranges;
- The primary source area of grossly-impacted soils covers roughly the northern half of the site. A smaller, secondary area of significant impact exists along the southern property boundary. The soil in approximately the upper 6 ft appears to be typically impacted at levels that are below NYSDEC Commissioner Policy 51 (CP-51) Soil Cleanup Levels (SCLs). Some exceptions to this are possible, most notably in the northern border of the Site.
- Heavily-impacted soil likely to require remediation is generally located in a 3 to 4 ft thick zone immediately overlying bedrock. The top of bedrock was encountered at an average of approximately 10 ft below existing grade. Groundwater samples from the bedrock wells indicated minimal detection of VOCs, with no exceedances of groundwater standards in MW-102; MW-101 contained Benzene at 8.3 micrograms per liter (µg/l), which exceeds the groundwater standard of 1 µg/contaminant concentrations in the re-sampled overburden wells generally remained similar or dropped significantly between the initial sampling in October 2015 and the supplemental sampling in January 2017. In some cases concentrations decreased by an order of magnitude. No sheen or light non-aqueous phase liquid has been present in any of the wells.
- Impacts to soil may extend beyond the Site boundaries in some locations.
- Based on contaminant concentrations in groundwater and the general southeast groundwater flow direction, it is possible that impacted groundwater is migrating off-site toward the residential and commercial structures located immediately adjacent to the east and south, respectively.

2.2.4 *Remedial Action Work Plan, NYSDEC Spill #1112926, 540 Jefferson Avenue and 348 Frost Avenue, Rochester, New York* dated January 22, 2020 by LaBella

This Remedial Action Work Plan (RAWP) has been prepared by LaBella Associates, D.P.C. (LaBella) at the request of the NYSDEC. The objective of this RAWP is to detail proposed remedial activities necessary to address petroleum impacts to soil and groundwater at the Site. The objective of the RAWP was to remove source area soils impacted with petroleum at concentrations above CP-51 SCLs to the extent feasible from the approximate two areas of concern (AOC) shown on Figure 2 and dispose at a NYSDEC Part 360 permitted landfill.

2.2.5 *Remedial Action Report, NYSDEC Spill #1112926, 540 Jefferson Avenue and 348 Frost Avenue, Rochester, New York* dated March 25, 2021 by LaBella

The Remedial Action Report (RAR) summarized remedial activities that addressed source area petroleum impacts at two AOCs at the Site.

The majority of the remedial actions that include the remedial excavation, disposal of impacted, and backfilling were conducted from February 4, 2020 to March 6, 2020. Evidence of impacts consisted of gray and black stained soil, nuisance characteristics, and photoionization detector (PID) readings ranging up to 900 parts per million (ppm).

At each remedial AOC, an overburden soil and fill layer was encountered above the cohesive bedrock layer. The depths of clean soil and fill were generally observed to be approximately 5 to 7 feet (ft) below the ground surface (bgs), but varied at other locations at about 5 ft bgs at AOC #1. This material screened generally less than 5 ppm on the PID and was segregated for reuse as backfill within the excavations. Bedrock was generally observed at approximately 10.5 ft bgs. Bedrock was generally competent (i.e. not easily rippable with excavation equipment) and appeared free of staining or odors.

The elevated PID readings and stained soil was generally located overlying the bedrock throughout each AOC excavation, with the greatest evidence of impairment being located in the vicinity of the former USTs, as well as beneath the foundations of the former Site buildings. A total of 4,456.74 tons of non-hazardous source area petroleum-impacted soils were removed from the site. Approximately 4,052.50 tons of petroleum-impacted soils were removed from AOC #1 and 404.24 tons of petroleum-impacted soils were removed from AOC #2. The excavated impacted soil was loaded into NYSDEC Part 364-permitted dump trucks and transported to High Acres Land Fill and Mill Seat Landfill, NYSDEC Part 360 Permitted facilities, for disposal.

Subsequent to the completion of the source area impacted soil removal, a total of 17 confirmatory soil samples were collected in accordance with the RAWP from the sidewalls of the excavation only. No confirmatory soil samples were collected from the bottom of the excavation as soil removal was completed to top of rock. [*Note: Confirmation samples AOC1-NSW-1, AOC1-ESW-1, AOC1-WSW-1, and AOC1-NSW-2 were broken during shipment to the testing laboratory. All samples were recollected, with the exception of sample AOC1-WSW-1 as there was a concern due to proximity of the excavation sidewall and stabilization to the Jefferson Avenue right-of way and underground utilities.*] Samples were submitted under chain-of-custody procedures to Test America/Eurofins for analysis of CP-51 list VOCs by United States Environmental Protection Agency (USEPA) Method 8260.

Laboratory results are summarized in Table 1 (attached). Five of the 17 confirmatory soil samples (i.e. AOC1-WSW-2, AOC1-NSW-2, AOC1-NSW-3, AOC1-ESW-1, and AOC1-ESW-2) detected concentrations of VOCs above the CP-51 SCLs. Sample AOC1-WSW-2 was collected adjacent to the Jefferson Road right-of-way where the excavation could not be advanced further; samples AOC1-NSW-2 and AOC1-NSW-3 were collected adjacent to the Ruff Alley right-of-way where the excavation could not be advanced further; AOC1-ESW-1 and AOC1-ESW-2 were collected along the east property boundary where the excavation could not be advanced further. PID readings for each confirmation samples are included on Figure 3 and Table 1.

3.0 OBJECTIVE

This SGMP is intended to provide guidance for the identification and management of residual petroleum-impacted soil and groundwater that may be encountered during construction-related excavations (e.g., subsurface utility work, etc.) at the Site. The development of this SGMP was required based on the identification of soil with concentrations of petroleum compounds above their respective NYSDEC CP-51 SCLs. The SGMP applies to the entire Site as shown on Figures 2 and 3.

This SGMP has been prepared in general accordance with current United States Environmental Protection Agency (USEPA) and NYSDEC non-hazardous waste disposal regulations and guidelines. In addition, this SGMP has been designed to satisfy the requirements of the "Soil and Groundwater Management Plan Criteria" of the NYSDEC Region 8 Spills Unit and to satisfy the requirements established by the NYSDEC regarding the handling of petroleum-impacted media generated during construction.

Responsibility for implementation of this SGMP will belong to the current owner of the Site at the time of subsurface disturbance as well as parties conducting the subsurface work. This SGMP has been provided to the property owner, and should be provided to contractors or future owners whose activities may disturb the subsurface at the Site. Additional parties to which the SGMP has been distributed are listed in Section 3.3.

3.1 Applicability of the Plan

This SGMP applies to any activity that disturbs the subsurface at the Site.

3.2 Notification

Upon discovery of any petroleum-impacted media the NYSDEC Spills Hotline should be called (800-457-7362) and Spill No. 1112926 should be referenced on the call. Notification to the NYSDEC will be the responsibility of the Owner of the Site at the time when the petroleum-impacted media is discovered, but notification may be made by third-party representatives of the Owner (such as the contractor who encountered the contamination, the Owner's legal counsel and/or an environmental consultant who has been retained by the Owner) after they have received authorization by the Owner to make such notification.

The DEC requests prior notification of any planned subsurface work at least a week in advance to provide time for file review, site work review, etc., if deemed necessary by the Department. DEC will be responsible for the characterization and disposal of any petroleum-impacted soil and/or groundwater encountered in the subject area that is determined by the Department to have been associated with past petroleum storage and dispensing operations at this parcel. As required by law, any contractor/developer who encounters suspect petroleum-impacted soil and/or groundwater must immediately contact the NYSDEC Spills Hotline at 800-457-7362. The contractor/developer will suspend work involving the handling and staging of impacted soils until discussions with the DEC Project Manager occur. Work will be performed in accordance with current Department environmental policies and procedures.

Any DEC approved site work involving impacted materials performed by the contractor/developer must be properly handled and staged with oversight by an environmental professional, including, but not limited to, having a site specific health and safety plan, a soil screening plan, and a temporary staging area for impacted materials at a pre-designated/pre-approved area. A DEC standby contractor will be responsible for having the material characterized for offsite disposal, and ultimately for transportation and offsite disposal. Based on site conditions, levels of impacts observed, the scope of work and the anticipated amount of impacted materials to be handled, the DEC project manager will determine if a DEC standby contractor will be hired to perform all work associated with the delineation, soil screening, excavating and handling of the impacted materials.

In the possibility that impacts are determined to be NOT associated with past petroleum storage and dispensing operations at this parcel, normal reporting, handling, characterization, and disposal efforts must be performed by the Responsible Party, following all Department environmental policies and procedures. Additional investigation, delineation, and remedial work may be required by the Department, to be performed by the Responsible Party.

The NYSDEC representative as of June 2021 is:

Mr. Michael Zamiarski, P.E.
Spill Prevention and Response Section
NYSDEC - Region 8
6274 East Avon-Lima Road
Avon, New York 14414
mike.zamiarski@dec.ny.gov
585-226-5438

3.3 Distribution

One (1) electronic copy of this SGMP will be distributed to the following parties following approval of the plan by the NYSDEC:

NYSDEC:
Mr. Michael Zamiarski, P.E.
Spill Prevention and Response Section
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Avon, New York 14414
mike.zamiarski@dec.ny.gov
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4.0 SOIL AND GROUNDWATER MANAGEMENT PLAN

This section of the SGMP details remaining contamination at the Site, field screening and the classification system to be used to segregate excavated soil during potential future subsurface work at the Site. The method to screen and segregate soil will rely on visual evidence of impairment, olfactory evidence of impairment, and PID readings.

NOTE: Responsibility for implementation of this SGMP will belong to both the owner of the Site and to the parties conducting the subsurface work. Any petroleum-impacted soil or groundwater encountered must be managed in accordance with all applicable Federal, State, and Local laws/regulations. The following is a general guidance for the handling and disposal of materials impacted by residual petroleum that may be encountered during future work at the Site.

Petroleum related soil and groundwater petroleum impacts remain at the Site with concentrations of petroleum related VOCs detected in soil samples along the north, east and west property lines of the Site as shown on Figure 3. Petroleum related VOCs in groundwater were detected in post remedial groundwater samples collected from wells MW-A and MW-B. The locations are shown on Figure 3.

4.1 Development of Screening Procedures for Excavated Soil

Upon encountering potentially impacted soil, on-site contractors should follow their own company's Health and Safety Plan (HASP) to provide for worker protection. Three (3) classes of soil have been defined for the Site and will be managed and handled in a manner dictated by evidence of environmental impairment. The classes of material are to be applied to all material removed from excavations at the Site. The Three (3) classes of material are described in Table 4.1 below.

Table 4.1 - Material Classifications

Class of Material	Description	Screening Parameter	Management/ Re-use of Material
Class 1	Soil and fill materials free of petroleum impacts.	No discernable odor or staining and PID Readings ≤25 ppm;	Unrestricted use anywhere on the Site. Sampling per 6NYCRR Part 360 regulations to determine potential off-site re-use, or off-site disposal at 6NYCRR Part 360 landfill.
Class 2	Soil and fill materials with low to moderate petroleum impacts.	PID Readings 25 to 100 ppm without significant nuisance odors	Sample in accordance with the NYSDEC CP-51 guidance document. Depending on sampling results, use on-site as fill, placed under at least 1 ft of Class 1 material or imported 'clean' material, or off-site disposal at 6NYCRR Part 360 landfill. Requires authorization by NYSDEC prior to reuse.
Class 3	Soil and fill material with petroleum impacts.	PID readings ≥ 100 ppm and PID readings greater than 25 ppm with significant nuisance odors	Restricted off-site disposal per 6NYCRR Part 360 requirements. May only be reused on Site with NYSDEC authorization. Requires authorization by NYSDEC prior to reuse.

Note: CP-51 denotes NYSDEC Commissioner Policy 51 Guidance Document

4.2 Cover Thickness and Procedures for Class 1, 2, and 3 Materials

<u>Class 1 Material</u>
All Class 1 materials deemed acceptable for reuse on-site only by visual inspection and PID readings ≤25 ppm. Sampling per 6NYCRR Part 360 shall be conducted to determine potential off-site reuse or disposed at a 6 NYCRR Part 360 landfill.

<u>Class 2 Material</u>
Class 2 materials deemed acceptable for reuse on-site based on visual inspection, PID readings between 25 to 100 ppm, and sampling results in accordance with CP-51 guidance document will require a minimum of 1-ft thickness of topsoil or other clean soil if the area is not to be paved. Alternatively, no soil cover is required if the area is to be paved or covered with other impervious building materials (e.g., concrete). Also requires, NYSDEC approval prior to reuse.

Class 3 Material

Class 3 materials deemed acceptable for reuse by the NYSDEC based on laboratory analytical data and visual inspection can be permanently placed on-site. Placement of Class 3 materials will require a minimum of 1-ft thickness of topsoil or other clean soil if the area is not to be paved. Alternatively, no soil cover is required if area is to be paved or covered with other impervious building materials (e.g., concrete).

4.3 Waste Disposal and Tracking

All Treatment, Storage and Disposal (TSD) facilities and waste transporters must provide evidence of applicable NYSDEC permits prior to handling, transporting, and/or receiving petroleum impacted media.

All operators necessary for the removal and disposal of contaminated media shall comply with the applicable Federal, State, and local laws, regulations, and policies. The Contractor shall provide the owner with documentation that the receiving facility is permitted to receive the accepted waste and the waste transporter is permitted to haul such wastes. Waste Disposal procedures are categorized below.

Non-Impacted Soil and Fill Material

This category is anticipated to include Class 1 material as described in Section 4.1. Non-impacted soil and fill material will be sampled in accordance with 6NYCRR Part 360 regulations in the event that this material is proposed to be moved off-site. No material shall be moved for off-site reuse prior to the receipt of the sampling results and authorization from the Site owner. If the sampling results indicate this material can be re-used off-site, the material shall be managed in accordance with 6NYCRR Part 360 regulations.

Non-Hazardous Petroleum Impacted Soil

This category is anticipated to include Class 2 and 3 materials as listed in Section 4.1 pending sample results. Non-hazardous waste may be disposed of at a NYSDEC Part 360 landfill and transported by a NYSDEC Part 364 permitted waste hauler. Waste characterization sampling and analysis will be conducted in accordance with the accepting NYSDEC Part 360 landfill. This material must be removed from the Site within 60-days of generation.

Petroleum Impacted Water

In the event that groundwater exhibiting a petroleum odor and/or sheen is encountered, the water will be sampled in place or pumped to a holding tank pending waste characterization. Waste characterization analysis parameters will be dependent upon the accepting waste disposal facility. Upon characterization and NYSDEC approval, this water may be managed in one of the following ways:

1. Disposal to sanitary sewer under permit with the local municipality; or
2. Transportation and off-site disposal at an approved facility.

4.4 Waste Disposal Documentation

Documentation of proper disposal, including copies of all waste disposal manifests and disposal facility receipts shall be submitted to the NYSDEC and Site owner in a reasonable timeframe subsequent to removal of petroleum impacted media from the Site.

4.5 Follow-up Sampling

Subsequent to removal of any Class 2 and 3 Material, post-excavation confirmatory soil samples will be collected in accordance with the requirements of DER-10.

5.0 DECONTAMINATION OF EQUIPMENT

It is recommended that all equipment used on the work site and that comes in contact with impacted soil be decontaminated using manual methods to scrape off residual soil from construction activities. Extreme petroleum residue may require steam cleaning or other methods.

6.0 AIR MONITORING

In the event that subsurface work is to be completed in the area of known petroleum impacts or petroleum impacts are identified in other areas of the Site, 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. Refer to the HASP included in Appendix 1 for a description of personal protective equipment (PPE).

The Air Monitor will utilize a PID to screen the ambient air in the work areas for total VOCs. Work area ambient air will generally be monitored within 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.

If sustained PID readings of greater than 25 ppm are recorded in the breathing zone, then 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-hours of use or more frequently, if necessary. If PID readings are sustained in the work area at levels above 25 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).

7.0 HEALTH AND SAFETY PLAN

This SGMP contains a Site Specific HASP for the Site as required by the NYSDEC Region 8 SGMP guidance. The included HASP has been developed by LaBella Associates, D.P.C. is designated for **LaBella personnel only** should they be involved in future intrusive site work. A copy of this HASP is included in Appendix 1.

The LaBella Associates, D.P.C. HASP is included as an example. Contactor(s) will need to develop and rely on their own HASP to manage health and safety issues associated with potential exposure to site chemicals of concern and any other potential issues. LaBella Associates, D.P.C. assumes no liability for the health and safety of personnel not employed or subcontracted by LaBella Associates, D.P.C.

8.0 ENGINEERING CONTROLS

Engineering controls may be warranted as part of the future redevelopment conducted in the vicinity of NYSDEC Spill #1112926. These engineering controls may include (but are not limited to) measures to mitigate the potential for petroleum-impacted soil vapor intrusion into future buildings planned in the area of NYSDEC Spill #1112926, such as inclusion of a vapor barrier or sub-slab depressurization system into the building design. In the event that engineering controls are deemed necessary, the appropriate regulatory agencies (i.e., the NYSDEC) should be consulted to approve proposed controls.

FIGURES

N
W E
S

0 500 1,000
Feet

1 inch = 1,000 feet

Site

Legend

Approximate Site Boundary

NOTES:
1) Property boundaries obtained from Monroe County GIS and are considered approximate.
2) USGS Topographic Map obtained from NYS GIS Clearinghouse website.
3) All locations should be considered approximate.

J:\NYSDEC\2161937 - Investigation & Remediation\040 - 540 Jefferson Ave UG Tanks\Drawings\SGMP Drawings\Figure 1 - Site Location 540 Jefferson Ave.mxd

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PROJECT/CLIENT

Client:
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

Project:
SOIL AND GROUNDWATER
MANAGEMENT PLAN
540 JEFFERSON AVE / 348 FROST AVE
ROCHESTER, NEW YORK

DRAWING TITLE

SITE LOCATION MAP

ISSUED FOR: DRAFT
DESIGNED BY: MFP
DRAWN BY: SMR
REVIEWED BY: MM
DATE: 5/26/2021
INTENDED TO PRINT AS: 11" X 17"

PROJECT/DRAWING NUMBER

2161937-040

FIGURE 1

NOTES:
1) Property boundaries obtained from Monroe County GIS and are considered approximate.
2) Aerial image obtained from Pictometry Inc. (2018) and may not represent current conditions.
3) All locations should be considered approximate.

J:\NYSDEC\2161937 - Investigation & Remediation\040 - 540 Jefferson Ave UG Tanks\Drawings\SGMP Drawings\Figure 2 - Previous Testing Locations.mxd

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PROJECT/CLIENT
Client:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

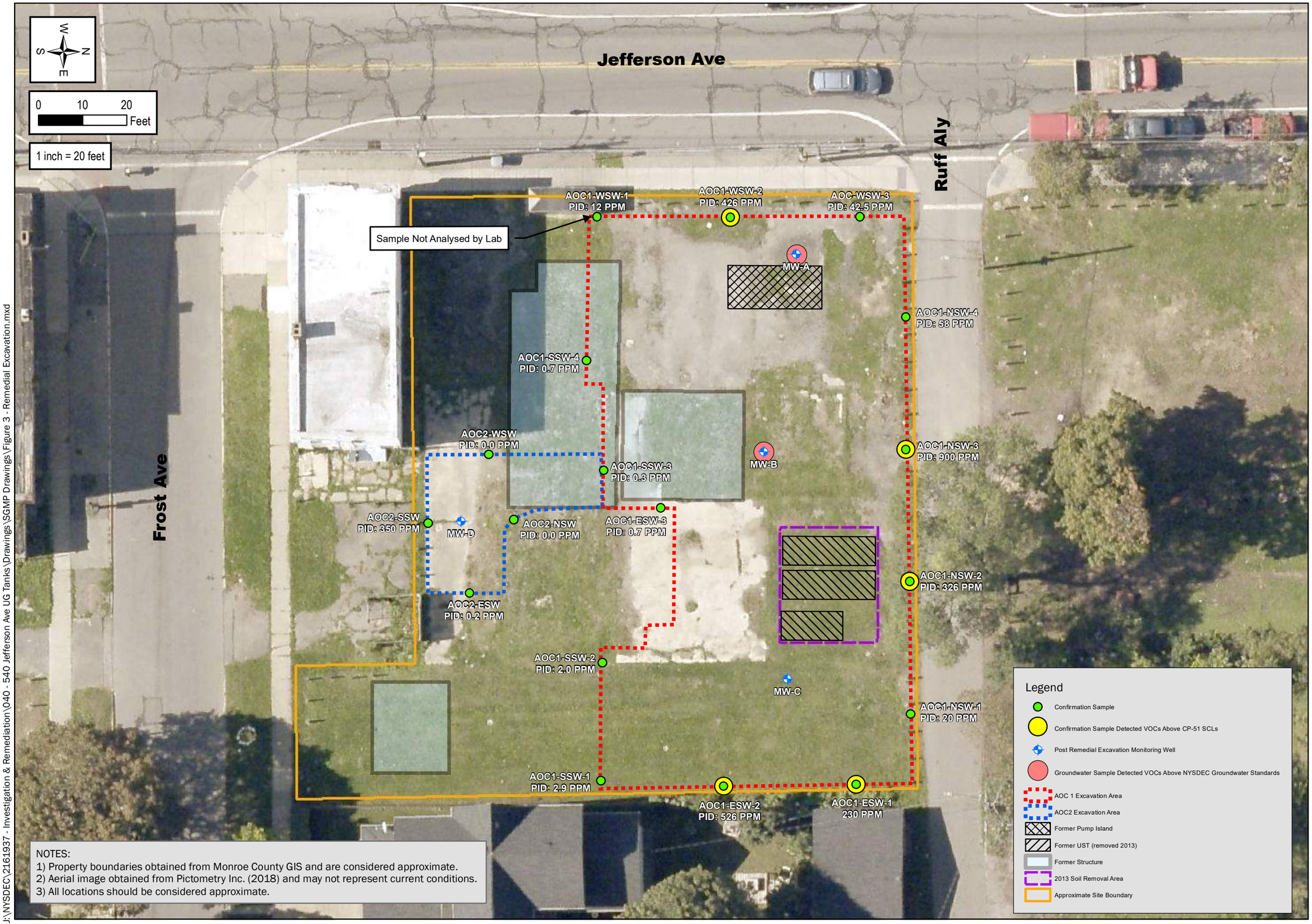
Project:
SOIL AND GROUNDWATER MANAGEMENT PLAN
540 JEFFERSON AVE / 348 FROST AVE
ROCHESTER, NEW YORK

DRAWING TITLE
PREVIOUS TESTING LOCATIONS

ISSUED FOR: DRAFT
DESIGNED BY: MFP
DRAWN BY: SMR
REVIEWED BY: MM
DATE: 8/1/2019
INTENDED TO PRINT AS: 11" X 17"

PROJECT/DRAWING NUMBER
2161937-040

FIGURE 2



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PROJECT/CLIENT

Client:
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

Project:
SOIL AND GROUNDWATER
MANAGEMENT PLAN
540 JEFFERSON AVE / 348 FROST AVE
ROCHESTER, NEW YORK

DRAWING TITLE

REMEDIAL EXCAVATION AREAS

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DATE: 8/1/2019
DESIGNED BY: MFP
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2161937-040

FIGURE 3

J:\NYSDEC\2161937 - Investigation & Remediation\040 - 540 Jefferson Ave UG Tanks\Drawings\SGMP Drawings\Figure 3 - Remedial Excavation.mxd

TABLES

Table 1

540 Jefferson Avenue, Rochester, New York

Remedial Excavation Confirmation Soil Sample Results

Summary of Detected Volatile Organic Compounds (VOCs) in Soil

			Area of Concern #1												
Parameter	**Units**	**NYSDEC Commisioner Policy CP-51 Soil Cleanup Level**	**AOC1 - ESW-2**	**AOC1 - SSW-1**	**AOC1 - SSW-2**	**AOC1 - NSW-3**	**AOC1 - SSW-3**	**AOC1 - SSW-4**	**AOC1 - ESW-3**	**AOC1 - NSW-4**	**AOC1 - WSW-2**	**AOC1 - WSW-3**	**AOC1 - NSW-1**	**AOC1 - NSW-2**	**AOC1 - ESW-1**
			2/14/20	**2/17/20**	**2/17/20**	**2/20/20**	**2/21/20**	**2/21/20**	**2/21/20**	**3/3/20**	**3/3/20**	**3/3/20**	**3/6/20**	**3/6/20**	**3/6/20**
PID Reading	**ppm**	**Not Applicable**	**23**	**2.9**	**2.0**	**58**	**0.3**	**0.7**	**0.7**	**58**	**426**	**43**	**20**	**326**	**230**
Benzene	ug/kg	60	**430** J	ND<0.28	ND<0.28	ND<200	ND<0.28	ND<0.27	ND<0.29	ND<0.27	ND<23	ND<0.26	ND<0.28	ND<230	ND<470
n-Butylbenzene	ug/kg	12,000	**25,000**	ND<0.50	ND<0.50	5,300	ND<0.50	ND<0.48	ND<0.51 F1	ND<0.48	360	ND<0.47	ND<0.49	7,000	**26,000**
sec-Butylbenzene	ug/kg	11,000	5,800	ND<0.50	ND<0.50	1,300	ND<0.50	ND<0.48	ND<0.51 F1	ND<0.48	76 J	ND<0.47	ND<0.49	1,200	5,200 F1
Ethylbenzene	ug/kg	1,000	**31,000**	0.47 J	ND<0.39	**4,800**	ND<0.40	ND<0.38	ND<0.41 F1	ND<0.38	650	ND<0.37	ND<0.39	**18,000**	**21,000**
N-Propylbenzene	ug/kg	390	**33,000**	ND<0.46	ND<0.46	**7,100**	ND<0.46	ND<0.44	ND<0.47	ND<0.44	**490**	ND<0.43	ND<0.45	**9,500**	**26,000**
Isopropylbenzene	ug/kg	2,300	**8,500**	ND<0.87	ND<0.86	**2,600**	ND<0.86	ND<0.83	ND<0.89	ND<0.83	160	ND<0.81	ND<0.86	**2,900**	**6,200** F1
4-Isopropyltoluene	ug/kg	10,000	4,800	ND<0.46	ND<0.46	1,700	ND<0.46	ND<0.44	ND<0.47 F1	ND<0.44	83 J	ND<0.43	ND<0.46	1,200	3,400 F1
Naphthalene	ug/kg	12,000	**21,000**	0.95 J	ND<0.76	4,200	ND<0.77	ND<0.73	ND<0.79	3.7 J	600	ND<0.72	ND<0.76	9,400	**15,000**
Toluene	ug/kg	700	ND<330	ND<0.44	ND<0.43	ND<290	ND<0.43	ND<0.41	ND<0.45	ND<0.42	ND<32	ND<0.41	ND<0.43	ND<320	ND<670
1,2,4-Trimethylbenzene	ug/kg	3,600	**170,000**	ND<1.1	ND<1.1	**34,000**	ND<1.1	ND<1.1	ND<1.1 F1	ND<1.1	**3,600**	ND<1.0	ND<1.1	**64,000**	**130,000**
1,3,5-Trimethylbenzene	ug/kg	8,400	**52,000**	0.67 J	ND<0.37	**14,000**	ND<0.37	ND<0.35	ND<0.38 F1	ND<0.35	1,100	ND<0.35	ND<0.37	**21,000**	**40,000**
Total Xylenes	ug/kg	260	**94,000**	ND<0.97	ND<0.96	**18,000**	ND<0.96	ND<0.92	ND<0.99 F1	ND<0.92	**4,200**	ND<0.90	ND<0.95	**82,000**	**76,000**

			Area of Concern #2			
Parameter	**Units**	**NYSDEC Commisioner Policy CP-51 Soil Cleanup Level**	**AOC2 - NSW**	**AOC2 - ESW**	**AOC2 - SSW**	**AOC2 - WSW**
			2/7/20	**2/4/20**	**2/4/20**	**2/4/20**
PID Reading	**ppm**	**Not Applicable**	**0.0**	**0.2**	**350**	**0.0**
Benzene	ug/kg	60	ND<0.26	ND<0.27	ND<0.25	ND<0.27
n-Butylbenzene	ug/kg	12,000	ND<0.46	ND<0.49	ND<0.44	ND<0.49
sec-Butylbenzene	ug/kg	11,000	ND<0.46	ND<0.49	ND<0.44	ND<0.49
Ethylbenzene	ug/kg	1,000	ND<0.37	ND<0.39	ND<0.35	ND<0.39
N-Propylbenzene	ug/kg	390	ND<0.43	ND<0.45	1.4 J	ND<0.45
Isopropylbenzene	ug/kg	2,300	ND<0.81	ND<0.85	ND<0.77	ND<0.85
4-Isopropyltoluene	ug/kg	10,000	ND<0.43	ND<0.45	2.0 J	ND<0.45
Naphthalene	ug/kg	12,000	ND<0.72	ND<0.75	4.8 J	ND<0.75
Toluene	ug/kg	700	ND<0.40	ND<0.42	ND<0.38	ND<0.42
1,2,4-Trimethylbenzene	ug/kg	3,600	ND<1.0	ND<1.1	12	ND<1.1
1,3,5-Trimethylbenzene	ug/kg	8,400	ND<0.34	ND<0.36	2.1 J	ND<0.36
Total Xylenes	ug/kg	260	ND<0.90	ND<0.94	ND<0.85	ND<0.94

Notes:
VOC analysis by United States Environmental Protection Agency (USEPA) Method 8260C
ND denotes compound not detected above the identified method detection limit.
Yellow Highlight type denotes concentration that exceeds NYSDEC CP-51 Soil Cleanup Objective.
J denotes result is less than the reporting limit but greater than or equal to the method detection limit and is an approximate value.
F1 denotes MS and/or MSD Recovery are outside acceptance limits.
F2 denotes MS/MSD RPD exceeds control limits.
ppm denoted parts per million

Table 2

540 Jefferson Avenue, Rochester, New York

Groundwater Sample Results

Parameter	CAS #	Units	NYSDEC Part 703 Groundwater Standards	MW-A	MW-B	MW-C	MW-D
				5/5/2021	5/5/2021	5/5/2021	5/5/2021
1,2,4-Trimethylbenzene	95-63-6	ug/L	5	4.4 J	**8.2 J**	ND	ND
1,3,5-Trimethylbenzene	108-67-8	ug/L	5	ND	ND	ND	ND
4-Isopropyltoluene	99-87-6	ug/L	5	ND	ND	ND	ND
Benzene	71-43-2	ug/L	1	**25**	**6.4 J**	ND	ND
Ethylbenzene	100-41-4	ug/L	5	ND	**11**	ND	ND
Isopropylbenzene	98-82-8	ug/L	5	ND	ND	ND	ND
Methyl tert-butyl ether	1634-04-4	ug/L	10	1.1 J	ND	ND	ND
m-Xylene & p-Xylene	179601-23-1	ug/L	5	**7.5 J**	**28**	ND	ND
Naphthalene	91-20-3	ug/L	10	ND	ND	ND	ND
n-Butylbenzene	104-51-8	ug/L	5	ND	ND	ND	ND
N-Propylbenzene	103-65-1	ug/L	5	ND	ND	ND	ND
o-Xylene	95-47-6	ug/L	5	ND	ND	ND	ND
sec-Butylbenzene	135-98-8	ug/L	5	ND	ND	ND	ND
tert-Butylbenzene	98-06-6	ug/L	5	ND	ND	ND	ND
Toluene	108-88-3	ug/L	5	**42**	ND	ND	ND
Xylenes, Total	1330-20-7	ug/L	5	**7.5 J**	**28**	ND	ND

Notes:

VOC analysis by United States Environmental Protection Agency (USEPA) Method 8260C

ND denotes compound not detected above the identified method detection limit.

Yellow Highlight type denotes concentration that exceeds NYSDEC Part 703 Groundwater Standards

J denotes result is less than the reporting limit but greater than or equal to the method detection limit and is an approximate value.

ug/L - denotes micrograms per liter

APPENDIX 1

Health and Safety Plan

Health and Safety Plan
NYSDEC Spill #1112926
PIN #08170

Location:

540 Jefferson Avenue
Rochester, New York

LaBella Project No. 2161937-040

May 26, 2021

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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 work associated with subsurface excavation activities located at 540 Jefferson Avenue in the City of Rochester, Monroe County, New York. 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 are to be consulted for guidance in preventing and quickly abating any threat to human safety or the environment. The provisions of the HASP were developed in general accordance with 29 CFR 1910 and 29 CFR 1926 and do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or and other regulatory body.

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.

2.0 ACTIVITIES COVERED

This HASP addresses all general activities listed below:

- Mobilization/Demobilization
  - Mobilization/demobilization of equipment and supplies
  - Establishment of work zone

- Investigation Activities
  - Subsurface soil boring installation
  - Soil sample collection
  - Environmental monitoring

3.0 PROJECT ORGANIZATION

This section includes the project organization and structures and establishes specific chain of command responsibilities and communications. The organizational structure shall be reviewed and updated as necessary to reflect the status of project operations.

The LaBella Site Safety Officer will provide general health and safety oversight of the work and conduct work area air monitoring during the soil boring and sampling activities. The health and safety roles for this project include:

- Project Manager
- Site Safety Officer
- Environmental Safety Manager

LaBella's health and safety roles and responsibilities are presented below in Section 3.1.

3.1 Roles and Responsibilities

LaBella is responsible for all work detailed in the project work plan and is also responsible for the health and safety of LaBella employees and will conduct work zone monitoring. Sub-contractors are not anticipated to be utilized for this project. However, specific health and safety roles include:

Project Manager (PM) – responsibilities include the following:

- Ensures implementation of this program
- Conducts periodic inspections
- Participates in incident investigations
- Ensures the HASP has all of the required approvals before any site work is conducted
- Ensures that the Site Safety Officer (SSO) is informed of project changes which require modifications of the site health and safety plan
- Has overall project responsibility for Project Health and Safety.

Site Safety Officer (SSO) - responsibilities include the following:

- Ensures that the HASP is implemented and that all health-and-safety activities identified in site safety plans are conducted and/or implemented
- Ensures that field work is conducted safely and enforces site health and safety rules
- Ensures that adequate communication between field crews and emergency response personnel is maintained
- Ensures that field site personnel have and use proper personal protective equipment
- Investigate and report all accidents/incidents to the PM and to the Environmental Safety Manager (ESM)
- Conducts and documents daily safety briefings
- Stops work if necessary
- Identifies operational changes which require modifications to health-and safety procedures and site safety plans, and ensures that the procedure modifications are implemented and documented through changes to the HASP, with ESM approval.
- Directs and coordinates health-and-safety monitoring activities
- Evaluates air monitoring data relative to site and activity-specific action levels
- Ensures that monitoring instruments are calibrated
- Reports to the ESM to provide summaries of field operations and progress
- Conducts routine safety inspections of the work areas
- Maintains files on all personal monitoring results, laboratory reports, calculations, and air sampling data sheets
- Ensure that all necessary information including emergency phone numbers, hospital directions, and warning signs are kept posted in an area accessible to all site employees
- Maintain a daily list of LaBella workers present on the site

Environmental and Safety Manager (ESM) - responsibilities include the following:

- Provides for the development and approval of the HASP
- Serves as the primary contact to review health and safety matters that may arise
- Approves revised or new safety protocols for field operations
- Coordinates revisions of this HASP with field personnel
- Coordinates upgrading or downgrading of personal protective equipment with the SSO

- Assists in the investigation of all accidents/incidents.

Site Personnel - responsibilities include the following:

- Reports any unsafe or potentially hazardous conditions to the SSO
- Maintains knowledge of the information, instructions and emergency response actions contained in the HASP
- Complies with rules, regulations and procedures as set forth in the HASP and any revisions
- Prevents admittance to work sites by unauthorized personnel
- Inspect all tools and equipment, including personal protective equipment (PPE), prior to use.

A copy of the Site Contact List and Emergency Contacts is provided in Appendix 1.

4.0 PROJECT DESCRIPTION

The purpose of the investigation program is to preliminary evaluate the nature and extent of polychlorinated biphenyls (PCBs) within soils that were identified during a previous geotechnical investigation completed by others. A summary of the investigation will include the following tasks:

- Site Mobilization/Demobilization
- Subsurface Soil Boring Installation and Soil Sample Collection
- Subsurface excavation and decontamination of equipment

5.0 POTENTIAL HAZARDS

This section presents an assessment of potential chemical, physical, and biological hazards that may be encountered during the project work tasks.

5.1 Chemical Hazards

The characteristics of compounds that may be encountered at the Site are discussed below in the following subsections for informational purposes. Adherence to the safety and health guidelines in this HASP should reduce the potential for exposure to the compounds discussed below.

5.1.1 Volatile Organic Compounds

Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. VOCs are emitted by a wide array of products numbering in the thousands. Health effects may include eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. Key signs or symptoms associated with exposure to VOCs include conjunctival irritation, nose and throat discomfort, headache, allergic skin reaction, dyspnea, declines in serum cholinesterase levels, nausea, emesis, epistaxis, fatigue, dizziness. The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic, to those with no known health effect. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. Eye and

respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics. Many organic compounds are known to cause cancer in animals; some are suspected of causing, or are known to cause, cancer in humans.

Nitrile line gloves (or equivalent) and safety glasses should be worn by workers at all times when they are expected to come into contact with subsurface soil in the work area.

5.2 Physical Hazards

5.2.1 Heavy Equipment Operation

Heavy/drilling equipment operation will be operated under the following conditions:

- The operation of heavy equipment will be limited to authorized personnel specifically trained in its operation.
- Equipment shall be inspected daily to ensure that there are no exposed belts, fans, etc.
- When not in use, hydraulic and pneumatic components shall be left in down or “dead” position.
- Maintain all emergency shut-offs in sound working condition.
- The operator will use the safety devices provided with the equipment, including seat belts. Backup warning indicators and horns will be operable at all times.
- While in operation, all personnel not directly required in the area will keep a safe distance from the equipment.
- Personnel directly involved in activity will avoid moving in the path of operating equipment or any portion thereof. Areas blinded from the operator's vision will be avoided. Spotters will be used when personnel may be in areas where the operator’s view is obstructed.
- Additional riders will not be allowed on equipment unless it is specifically designed for that purpose.
- Construction tape or fence should be placed around the equipment/work area during operation.

5.2.2 Excavation and Trenching

This program outlines procedures and guidelines for the protection of LaBella employees working in and around excavations and trenches. One of the reasons LaBella requires a competent person on-site during excavation and trenching are the numerous potential hazardous that may be encountered or created. Hazards include:

- Electrocution
- Gas Explosion
- Entrapment
- Struck by equipment
- Suffocation

Before any work is performed and before any employees enter the excavation, a number of items must be checked and insured:

1. Before any excavation, underground installations must be determined. This can be accomplished by either contacting the local utility companies or the local "one-call' center for the area. All underground utility locations must be documented on the proper forms. All

overhead hazards (surface encumbrances) that create a hazard to employees must be removed or supported to eliminate the hazard.

2. If the excavation is to be over 20 feet deep, it must be designed by a registered professional engineer who is registered in the state where work will be performed.
3. Adequate protective systems will be utilized to protect employees. This can be accomplished through sloping, shoring, or shielding.
4. The worksite must be analyzed in order to design adequate protection systems and prevent cave-ins.
5. Workers must be supplied with and wear any personal protective equipment deemed necessary to assure their protection.
6. All spoil piles will be stored a minimum of four (4) feet from the sides of the excavation. The spoil pile must not block the safe means of egress.
7. If a trench or excavation is 4 feet or deeper, stairways, ramps, or ladders will be used as a safe means of access and egress. For trenches, the employee must not have to travel any more than 25 feet of lateral travel to reach the stairway, ramp, or ladder.
8. No employee will work in an excavation where water is accumulating unless adequate measures are used to protect the employees.
9. A competent person will inspect all excavations and trenches daily, prior to employee exposure or entry, and after any rainfall, soil change, or any other time needed during the shift. The competent person must take prompt measures to eliminate any and all hazards.
10. Excavations and trenches 4 feet or deeper that have the potential for toxic substances or hazardous atmospheres will be tested at least daily. If the atmosphere is inadequate, protective systems will be utilized.
11. If work is in or around traffic, employees must be supplied with and wear orange reflective vests. Signs and barricades must be utilized to ensure the safety of employees, vehicular traffic, and pedestrians.

Competent Person Responsibilities

The OSHA Standards require that the competent person must be capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and have authorization to take prompt corrective measures to eliminate them and, if necessary, to stop the work.

A competent person is required to:

- Have a complete understanding of the applicable safety standards and any other data provided.
- Assure the proper locations of underground installations or utilities, and that the proper utility companies have been contacted.
- Conduct soil classification tests and reclassify soil after any condition changes.
- Determine adequate protective systems (sloping, shoring, or shielding systems) for employee protection.
- Conduct all air monitoring for potential hazardous atmospheres.
- Conduct daily and periodic inspections of excavations and trenches.

Approve design of structural ramps, if used.

Excavation Safety Plan Factors

- Utilization of the local one-call system
- Determination of locations of all underground utilities

- Consideration of confined space atmosphere potential
- Proper soil protection systems and personal protective equipment and clothing
- Determination of soil composition and classification
- Determination of surface and subsurface water
- Depth of excavation and length of time it will remain open
- Proper adherence to all OSHA Standards, this excavation and trenching safety program, and any other coinciding safety programs.

Excavation Protection Systems

- The three basic protective systems for excavations and trenches are sloping and benching systems, shoring, and shields.
- The protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to or transmitted to the system. Every employee in an excavation shall be protected from cave-ins by an adequate protective system.
- Exceptions to using protective system:
- Excavations are made entirely in stable rock
- Excavations are less than 5 feet deep and declared safe by a competent person

Sloping and Benching Systems

- Slope to the angle required by the Standard for Type C, which is the most unstable soil type.
- The table provided in Appendix B of the Standard may be used to determine the maximum allowable angle (after determining the soil type).
- Tabulated data prepared by a registered professional engineer can be utilized.
- A registered professional engineer can design a sloping plan for a specific job.
- Sloping and benching systems for excavations five (5) to twenty (20) feet in depth must be constructed under the instruction of a designated competent person.
- Sloping and benching systems for excavations greater than twenty (20) feet must be designed and stamped by a registered professional engineer.
- Sloping and benching specifications can be found in Appendix B of the OSHA Standard (Subpart P).

Shield Systems (Trench Boxes)

- Shielding is the third method of providing a safe workplace.
- Unlike sloping and shoring, shielding does not prevent a cave-in.
- Shields are designed to withstand the soil forces caused by a cave-in and protect the employees inside the structure.
- Most shields consist of two flat, parallel metal walls that are held apart by metal cross braces.
- Shielding design and construction is not covered in the OSHA Standards.
- Shields must be certified in design by a registered professional engineer and must have either a registration plate on the shield or registration papers from the manufacturer on file at the jobsite office.
- Repairs & modifications must be approved by manufacturer.

Safety Precautions for Shield Systems

- Shields must not have any lateral movement when installed.
- Employees will be protected from cave-ins when entering and exiting the shield (examples - ladder within the shield or a properly sloped ramp at the end).

- Employees are not allowed in the shield during installation, removal, or during any vertical movement.
- Shields can be 2 ft. above the bottom of an excavation if they are designed to resist loads at the full depth and if there are no indications of caving under or behind the shield.
- The shield must extend at least 18 inches above the point where proper sloping begins (the height of the shield must be greater than the depth of the excavation).
- The open end of the shield must be protected from the exposed excavation wall. The wall must be sloped, shored, or shielded. Engineer designed end plates can be mounted on the ends of the shield to prevent cave-ins.

Inspections

- Daily inspection of excavations, the adjacent areas and protective systems shall be made by the competent person for evidence of a situation that could result in a cave-in, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions.
- All inspections shall be conducted by the competent person prior to the start of work and as needed throughout the shift.
- Inspections will be made after every rainstorm or any other increasing hazard.
- All documented inspections will be kept on file in the jobsite safety files and forwarded to the Manager weekly.
- A copy of the Daily Trenching Inspection Form, refer to Appendix 3 of this HASP, can be used for this purpose.

5.2.3 *Extreme Hot or Cold Weather Conditions*

Extreme weather conditions can cause hypothermia or hyperthermia. To reduce these risks, precautionary measures shall be taken such as dressing appropriately, drinking plenty of fluid, and taking time to warm up or cool down as needed. Personnel are trained to recognize and report symptoms of either condition. Should symptoms persist or worsen, victim(s) shall be transported to a medical facility.

5.2.4 *Loading of Soil and Truck Traffic Control*

During certain work tasks, the establishment of traffic control to adequately protect workers and the public may be required on-site. Site specific requirements will be determined by the site supervisor/SSO on a case-by-case basis. When using cones or other devices to modify traffic flow, ensure use of the proper taper length and device spacing to provide adequate warning distance to other vehicles. In addition, proper PPE is to be worn during traffic operations, to include hardhat and high-visibility vests.

Loading of soil shall not be done over the heads of workers. If deemed necessary, a SSO shall utilize a spotter when loading soil to prevent personnel from entering the loading area. Truck drivers will remain in the truck during loading or a safe distance away from the loading area. Truck drivers should don high visibility vests, hard hats, and safety boots when on-site and outside of their vehicle.

5.2.5 Noise

Noise is a potential hazard associated with the operation of heavy equipment, power tools, pumps and generators. Site workers who will perform suspected high noise tasks shall wear hearing protection. If deemed necessary by the SSO, the ESM will be consulted on the need for additional hearing protection and the need to monitor sound levels for site activities. Other workers who do not need to be in proximity of the noise should distance themselves from the equipment generating the noise.

5.2.6 Hand and Power Tools

In order to complete the various tasks for the project, personnel may utilize hand and power tools. The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire, and electrocution. Work gloves, safety glasses, and hard hats will be worn by the operating personnel at all times when utilizing hand and power tools and Ground Fault Circuit Interrupter GFCI-equipped circuits will be used for all power tools.

5.2.7 Slips, Trips, and Falls

Working in and around the Site will pose slip, trip, and fall hazards due to rain, snow, oil or ice. Excavations (if present) at the Site will cause uneven footing in the trenches and around the spoil piles. Workers shall employ good work practice and housekeeping procedures to reduce risk.

5.2.8 Manual Lifting

Manual lifting of heavy objects such as drilling rods or other equipment may be required. Failure to follow proper lifting technique can result in back injuries and strains. Site workers should evaluate loads before trying to lift them (i.e., they should be able to easily tip the load and then return it to its original position). Carrying heavy loads with a buddy and proper lifting techniques include: 1) make sure footing is solid, 2) make back straight with no curving or slouching, 3) center body over feet, 4) grasp the object firmly and as close to your body as possible, 5) lift with legs, and 6) turn with your feet, don't twist. In addition, hand digging may present lifting/ergonomic hazards.

5.2.9 Confined Space Entry Program

Confined space entries are managed and implemented only by LaBella employees trained as such, and therefore shall be completed in accordance with OSHA standards for Confined Space Entry CFR 1910.146. **This Confined Space Entry Program only applies to entering and cleaning Frac tanks.**

Pre-Entry Hazard Assessment
A pre-entry hazard assessment will determine whether the entry will be a confined space entry or a permit required confined space entry.

The hazard assessment should include:

1. The scope of work to be performed in the confined space;
2. Air testing (4 gas meter)
3. Hazards created as a result of the scope of work
4. The control measures to be implemented to eliminate or reduce each of the hazards to an acceptable level for entry

In addition, an entry permit included in Appendix 4 should be completed as part of safe practices for each entry regardless if the space is not considered a Permit Confined Space.

No entry shall be permitted until the hazard assessment has been reviewed and discussed by all workers engaged in the activity.

All entries shall be performed by workers trained in accordance with OSHA standards CFR 1910.146

If applicable, all Permit Confined Space entry should adhere to the following procedures as outlined below.

PERMIT SPACE ALTERNATE ENTRY PROCEDURES

General

Unlike a space that contains only physical hazards, a space containing an atmospheric hazard cannot be reclassified as a non-permit space. However, if the atmospheric hazard in a permit space can be controlled by forced air ventilation, less stringent procedures instead of full permit space procedures when workers enter the space. The alternate procedures may be used if:

- All physical hazards are eliminated or isolated
- The only hazard is an actual or potential hazardous atmosphere that can be and is made safe for entry using continuous forced air ventilation
- In the event the ventilation system stops working, entrants can exit the space safely.

Alternate procedures must document the reasons, and the supporting data, for concluding that these criteria are met. The documentation must be made available to each worker who enters the space or to that worker's authorized representative.

Procedure

Alternate entry procedures may be used to enter a permit required confined space if specific criteria are met as outlined under OSHA 1926.1203(e). Your manager must be informed of the intent to enter a permit space under alternate procedures. Alternate entry relieves the employer of performing a permit entry.

1. Before an alternate entry can be performed the complete requirements listed in OSHA 1926.1203(e) must be reviewed.
2. Your manager must be informed of the intent to enter a permit space under alternate procedures.
3. Alternate entry must be documented on the Alternate Entry Form, see Appendix 4 of this manual. The form must be available to employees entering the space and be located at the space for the duration of entry.
4. Alternate Entry must be documented and updated on the confined space evaluation & inventory form, see Appendix 4 of this manual. Documentation must be available to employees entering the space and be located at the space for the duration of entry.

PERMIT SPACE RECLASSIFICATION PROCEDURES

General

A permit space that contains only physical hazards may be reclassified as a non-permit space if (1) the physical hazards are eliminated or isolated without entering the space; or (2) the physical hazards are eliminated or isolated by entering the space using permit space procedures. Physical hazards include all hazards that are not atmospheric hazards, including: explosives (other than explosive atmospheres); mechanical, electrical, hydraulic and pneumatic energy; radiation; temperature extremes; engulfment; noise; inwardly converging surfaces; and chemicals that can cause death or serious physical harm through skin or eye contact (rather than through inhalation).

Procedure

A permit required confined space may be reclassified to a non-permit confined space if specific criteria are met as outlined under OSHA 1926.1203(g). Your Manager must be informed of the intent to reclassify a space. Reclassification relieves the employer of performing a permit entry.

1. Before a reclassification can be performed the complete requirements listed in OSHA 1926.1203(g) must be reviewed.
2. Your Manager must be informed of the intent to reclassify a space.
3. Reclassification must be documented on the Permit Space Reclassification form confined space evaluation & inventory form, see Appendix 4 of this manual. Documentation must be available to employees entering the space and be located at the space for the duration of entry.

Permit Space Entry Process

The following procedures will be followed when entry into a Permit Required Confined Space is required:

Issuing an Entry Permit

1. No employee or other authorized entity will be allowed to enter a permit required confined space without first obtaining and completing an entry permit.
2. The entry permit must be completed in its entirety before entry is authorized.
3. The entry permit may be issued only for the duration of the work involved.
4. The permit must be completed in its entirety.
5. The permit must be reviewed with all entrants, attendants, and other affected employees.
6. The entry supervisor must authorize (sign) the permit to authorize entry. No entry is to occur before authorization.
7. Additional permits and/or SDS should be attached to the permit as necessary.

Canceling an Entry Permit

1. The entry supervisor must cancel the entry permit when an assignment is completed or when new condition arises. The permit should not be canceled until the space is once again secure and entry has completely ceased.
2. Once a permit is cancelled, entry under the permit is no longer permitted.
3. New conditions must be noted on the canceled permit and used in revising the permit space program.

Suspending an Entry Permit

1. An entry supervisor may suspend an entry permit instead of cancelling it if a temporary condition has occurred in or near the space that, once corrected, is not expected to reoccur.
2. The permit may be reinstated and entry may occur under the permit if the entry supervisor has determined that the conditions in the space match the allowable conditions listed on the permit.

Retaining Canceled Entry Permits

1. Completed permits must be sent to your Manager for review and file at the termination of the entry.
2. Permits will be reviewed annually by the safety committee to determine if program changes are required.
3. Canceled entry permits must be kept of file for a minimum of 1 year per OSHA recordkeeping requirements.

Permit Space Entry Preparation

Preparing to enter a permit space involves meeting all the conditions and requirements of the Entry Permit. The following are general procedures and may be performed in another order or multiple times before entry to meet the requirements of a specific permit entry.

1. Collect information: Collect all of the information you need to enter the space from the Host, Controlling, and other contractors. Determine if the work in the space is going to create additional hazards. Arrange coordination meetings. Collect materials.
2. Isolate the confined space: Isolate the space to eliminate hazards. When applicable:
   a. ***Identify all energy sources*** and hazards. Determine isolation controls related to the hazards.
   b. ***Isolate energy sources*** - Pipelines and other accessories must be either disconnected, misaligned or removed, blanked, or by double block and bleed the
   c. system (closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves);
   d. ***Utilize lockout/tagout*** procedures to isolate all potentially hazardous energy sources;
   e. ***Block or disconnect*** all mechanical linkages;
   f. ***Establish early warning systems*** and controls to monitor engulfment hazards;
   g. Placement of barriers to eliminate the potential for employees contact with a physical hazard.
3. Clean the space: If the confined space contained a hazardous liquid or solid, it must be thoroughly purged, cleaned, flushed and/or rinsed. Make sure all sludge's and residue have been effectively removed. This is especially important if "hot work" is to be done.
4. Eliminate: any conditions that could make it unsafe to remove an entrance cover.
5. Test the atmosphere: See air monitoring section of this program.
6. Purge, inert, flush or ventilate: If the confined space contains a hazardous atmosphere, it must be properly purged, inerted, flushed and/or ventilated. Inerting may result in an Immediately Dangerous to Life and Health (IDLH) oxygen-deficient atmosphere.

   WARNING Purging or inerting a space may create an IDLH atmosphere.

7. Ventilate the Space: See ventilation section of this program.

8. Safe Access and Egress: A ladder or other suitable equipment must be used and remain in place or be readily available for entering and exiting the confined space. If a ladder or hoist system is provided, it must be inspected for defects and secured or anchored in place. If a ladder is a permanent part of the space, check for defects, especially in manholes and vaults. If vertical entry is necessary, entrant is to wear a full body harness with retrieval/life line to arrest a fall or perform non-entry rescue.
9. Barricading and Traffic Control: When the opening to a confined space is located in a floor, street or other location subject to vehicular or pedestrian traffic, adequate protective barricades and, if necessary, warning signs, lights or cones, must be provided. The opening is to be barricaded or guarded to protect against a fall into the confined space opening and to protect the entrant from external hazards.
10. Personal Protective Equipment (PPE): The PPE either required by the entry permit or appropriate for the hazard must be provided and used by all entrants. When entrants are required to use respiratory protection or escape respirators, they must receive respirator training including proper fit testing. All entrants are required to wear a full body or chest harness. Appropriate retrieval equipment must be provided which may include a tripod, hoist or equivalent, and/or a retrieval line.
11. Tools and Equipment: The tools and equipment brought into confined space should be kept to a minimum. Under no circumstances will compressed gas cylinders be taken into a confined space except as follows: self-contained breathing apparatus, 5 minute escape cylinder, air horn or small pressurized cans for testing purposes. Under no circumstances will gasoline powered equipment be brought into or used in a confined space. Explosion proof or other special equipment will be required if flammable/combustible gases, vapors or dusts are present. If “hot work” is involved, or flammable/combustible materials are present, have a fire extinguisher readily available. Obtain a “hot work” permit if “hot work” will be performed.
12. Communications: Positive communication between the entrants and the attendant must be maintained. Communication may be in the form of audible or visual. A portable radio, intercom or other suitable equipment must be used when entrants are out of voice range or line of sight. An entrant may be staged in the confined space to provide positive communication between other entrants and the attendant. A means of communication between attendant and rescue services must be available and maintained.
13. Complete Permit: Complete permit in entirety, review with attendants/entrants, entry supervisor authorizes permit, and then entry is authorized to begin.

Permit Space Entry – Pre-Entry Briefing

1. Before allowing any worker to enter a permit required confined space, a pre-entry briefing must be conducted by the entry supervisor issuing the permit. This briefing is a conference between affected employees, entrants, attendants, safety staff, and the entry supervisor.
2. The briefing will review the nature of the work, hazards of the space, hazard controls, safe work practices, non-entry rescue procedures and emergency rescue procedures, use of personal protective equipment, use of other safety equipment, and any other appropriate information.
3. The briefing will include a review of pre-entry air monitoring results.

Permit Space Entry – Attendant Duties

When an employee is assigned to enter a permit-required confined space, a trained attendant must be assigned to remain at the opening to the confined space for the entire entry operation. The attendant must have no other duties that would require him to leave his position. The attendant must be trained in the use of non-entry rescue procedures and equipment. The attendant must never enter the confined space to affect a rescue. If an emergency situation arises the entrant must be removed by non-entry means; that is, with the use of emergency retrieval systems. The attend duties are but not limited to:

1. Participate in the pre-entry briefing.
2. Is familiar with and understands the hazards that may be faced during entry into the confined space.
3. Is aware of possible behavioral changes and effects of hazard exposures to entrants.
4. Continuously maintains an accurate count of entrants.
5. Remains outside the space until relieved by another attendant or all entrants have exited the confined space.
6. Assists and communicates with entrants.
7. Assesses activities inside and outside the space to determine if it is safe for entrants to remain in the space.
8. Alerts entrants of the need to evacuate the space.
9. Summons rescue and other emergency services as soon as the attendant determines that the entrants may need assistants to escape the confined space.
10. Performs non-entry rescue when possible using the tripod and retrieval systems.
11. Prevents unauthorized entry into the confined space while entry is underway.
12. Performs no duties that might interfere with the attendant's primary duty to assess and protect the entrants.
13. Under no circumstances enter into a confined space to perform a rescue unless properly trained to perform confined space rescue and until properly relieved by another authorized attendant.
14. Performs non-entry rescue of entrants from the confined space using the confined space retrieval system.

Permit Space Entry – Entrant Duties

Only trained and authorized entrants are allowed to enter a permit required confined space. The entrant must be trained in entry techniques. Entrants perform the work in the space. The entrant duties are but not limited to:

1. Participate in the pre-entry briefing.
2. Be familiar with and understand the hazards they may face during entry into a confined space.
3. Know how to properly use the safety equipment provided for entry into the space.
4. Communicate with the attendant on a regular and as needed basis to allow the attendant to assess the entrant's status and to alert the entrant of the need to evacuate the space if needed.
5. Alert the attendant of any hazardous conditions or situations identified within the space.
6. Evacuate the space immediately when ordered by the attendant or entry supervisor, or if the entrant detects a prohibited condition.
7. Report any deficiencies or malfunctions of equipment to the attendant or entry supervisor.

8. Understand emergency procedures in case of an accident in a confined space.
9. Wear appropriate PPE and non-entry rescue retrieval equipment

Permit Space Entry – Entry Supervisor Duties

Only trained and authorized entry supervisors are allowed to supervise an entry. The entry supervisor's duties are but not limited to:

1. Lead the pre-entry briefing.
2. Identify and evaluate the hazards of permit spaces before employees enter them.
3. Classify confined spaces as "permit required", "alternate procedure", or "non-permit required."
4. Take the necessary measures to prevent unauthorized entry into confined spaces by posting danger signs, notifying other employers and employees onsite or their authorized representative of the existence, location, and hazards of the confined spaces.
5. Check that the permit has been completed properly and that gas monitoring and other tests have been conducted before permitting entry and signing the permit.
6. Identify personnel who are authorized to enter the confined space.
7. Identify the employees under their supervision who are required to wear respirators.
8. Implement isolation/lockout program procedures for the confined space hazards.
9. Verify all permit-required and alternative entry confined spaces are continuously monitoring utilizing a gas monitor.
10. Verify forced air ventilation is continuously used in all permit-required and alternative entry confined spaces.
11. Provide instructions and necessary additional training to employees who may enter confined spaces if conditions or hazards exist for which employees have not been trained.
12. Provide instruction to personnel on the proper use of equipment required for confined space entry.
13. Inform personnel about respiratory hazards in confined spaces.
14. Verify a rescue plan has been prepared and rescue services are available for all permit-required confined space(s).
15. Conduct a pre-entry briefing to inform attendants and entrants of possible hazards that may be encountered.
16. Maintain equipment that is used to enter confined spaces.
17. Maintain records of equipment maintenance and employee training.
18. Conduct work site inspections to verify compliance with confined space entry procedures.
19. Removes unauthorized individuals who enter or attempt to enter the confined space.
20. Issue and cancel entry permits.

AIR MONITORING

General

1 The air within the confined space and permit space should be tested from outside of the confined space before entry into the confined space. All confined space testing procedures must begin by inserting the instrument probe into the area through a vent hole or some other opening. Where no openings exist, the entrance cover should be pried open on the downwind side just enough to allow insertion of the probe.

3. The atmosphere in a confined space and permit space must be checked with a suitable detector before entry is permitted and continuously during the work.
4. The air must be checked at minimum for oxygen content, flammable or combustible gases explosive limits, and toxic gases. At minimum the two toxic gases that must always be monitored for are hydrogen sulfide and carbon monoxide.
5. Atmospheric testing should be conducted at all levels of the confined space and permit space. This is necessary because air contaminants may be at different concentrations at various levels in the tank.
6. The results of all testing must be recorded on the entry permit or if used alternate entry form(s).

Order of Testing

1. A test for oxygen is performed first because most combustible gas meters are oxygen dependent and will not provide reliable readings in an oxygen deficient atmosphere. Combustible gases are tested for next because the threat of fire or explosion is both more immediate and more life threatening, in most cases, than exposure to toxic gases and vapors. If tests for toxic gases and vapors are necessary, they are performed last.

Air Monitor Devices

1. The instrument used for air monitoring must be calibrated, designed for confined space air monitoring, and in good working order.
2. The instrument used for air monitoring must be calibrated per manufacture specifications.
3. The instrument used for air monitoring must be “bumped” before use to ensure proper operation.
4. The instrument used for air monitoring must be zeroed in fresh air prior to conducting tests in the confined space.
5. Persons using the air monitor must be trained in its use and interpretation of results.

Allowable Atmospheric Limits

1. Oxygen (O2) - Oxygen content must be at least 19.5% and no greater than 23.5% in the confined space to perform work. Measurements must be taken at all levels in the confined space. No entry may be allowed into a space containing less than 19.5% oxygen. No entry may be authorized into a space containing greater than 23.5% oxygen due to the serious risk of fire or explosion.
2. Lower Explosive Limit (LEL) – Lower Explosion Limit must be 10% or less in the confined space to permit work. Gas readings are measured in terms of the lower explosive limit, (LEL). This is the smallest concentration of a gas in air that will explode when it contacts a spark or open flame. Measurements must be taken at all level in the confined space. Entrants must stop all activities, immediately evacuate the space, and identify the source of the problem if the reading exceeds 10% of the LEL.
3. Carbon Monoxide (CO) – Carbon monoxide content must be 35 (STEL) or 25 PPM (ACGIH) or less in the confined space to perform work. Measurements must be taken at all level in the confined space. Entrants must stop all activities, immediately evacuate the space, and identify the source of the problem if the CO reading exceeds 25 PPM.

4. Hydrogen Sulfide (H2S) – Hydrogen sulfide content must be 10 PPM or less in the confined space to permit entry. Measurements must be taken at all levels in the confined space. Entrants must stop all activities, immediately evacuate the space, and identify the source of the problem if the H2S reading exceeds 10 PPM.
5. Other Toxics - The atmosphere also must be tested for toxic gases that are immediately dangerous to life and health (IDLH) before entry into a confined space may be authorized. If the space previously contained a known toxic gas, (i.e., chlorine), the atmosphere must be tested for the specific gas involved. This testing will usually involve additional air monitors. Entry limits should be established through the use of SDS, OSHA PEL, and AGCIH TLV data.

Ventilation

1. Confined space ventilation blowers and ducting shall be used for space ventilation.
2. Alternate entry procedures require the use of constant ventilation.
3. Where applicable air ducting saddles will be used at manhole openings to maintain safe access and egress.
4. In general, ventilation should produce approximately 10 air exchanges per hour. The amount of time required for one exchange can be determined by dividing the volume of the space by the flow rate of the blower, (flow rate is stated on the blower's label). Note that turns in blower duct reduce CFM flow rates. These reduced rates must be used in the calculation for air exchange.
5. Mechanical ventilation may be required to maintain a safe working environment inside a permit required confined space. The requirements for maintaining proper ventilation are based on many factors involving theoretical air velocity parameters. Therefore, ventilation requirements will usually be determined by qualified industrial hygienists, engineers, or other highly trained individuals.

Basic Procedure

1. Select a blower with enough capacity to quickly replace the volume of air in the space.
2. Use only blowers in good working order.
3. Observe safety and warning labels on blower.
4. Position blower where it will take in clean, fresh air. Be very careful about automobile and generator exhaust fumes.
5. Use a flexible duct to deliver air into all areas of the space. (Generally, the duct must be at least 3 feet into the space.)
6. Ventilate for a minimum of 5 minutes before verifying, through air monitoring, acceptable entry conditions are present and entering.
7. Continue to ventilate throughout the entry operation.

SAFETY EQUIPMENT CONSIDERATIONS

General

1. Non-entry rescue equipment and air monitoring equipment (at minimum) are required for permit space entry. This equipment might include a full body harnesses, lifeline(s), ladders, retrieval equipment, tri-pods, ventilation equipment, and fall protection equipment.
2. Subcontractors are required to provide their own safety equipment.
3. Our safety equipment should not be used by the subcontractor.

Equipment Inspection
All entry equipment must be inspected per manufactures requirements before use and must be in good working order.

Lighting Considerations

1. When natural lighting in the work area is insufficient for safe operations, auxiliary lighting must be provided. This lighting must be intrinsically safe (non-sparking) if a potential for flammable gases or vapors or combustible dusts in the atmosphere exists.
2. If auxiliary lighting is used workers should be provided with approved flash lights or other approved portable lighting so they can safely exit the confined space in an emergency or lighting outage

Special Tools and Equipment Considerations

1. Only approved, low-voltage electric tools, air tools, and hand tools that are intrinsically safe (non-sparking) may be used if the atmosphere in the confined space contain or have the potential for containing flammable gases or vapors or combustible dusts. In these situations all electric circuits must be provided with ground fault circuit protection.
2. All tools and power cords must be visually inspected before use to assure that cords with frayed or damaged insulation, broken wires, or other defects are not used. In spaces confirmed as containing flammable gases or vapors or combustible dusts non-sparking hand tools should be used.
3. GFCI protection must be used for all electrical tools.

RESCUE AND EMERGENCY CONSIDERATIONS

General
Whenever an entrant is in a permit space, the attendant must remain outside the space and must maintain communication with all entrants and keep track of their condition. If one or more entrants suffers an injury or illness and is unable to exit the space without help, the attendant must initiate a non-entry rescue.

Non Entry Rescue

1. The entrant(s) entering a permit-required confined space must (at minimum) be equipped with and use non entry rescue equipment. Emergency assistance (rescue team) availability must be confirmed in the event that non-entry rescue fails.
2. Each entrant must wear a chest or full body harness, with a retrieval line attached at the D-ring in the center of the back or another point which positions the entrant so that he or she is small enough to be pulled out of the space. The other end of the retrieval line must be attached to a mechanical device or a fixed point outside the permit space. In cases were the use of a harness is infeasible or more hazardous wristlets or anklets may be used in lieu of a harness.
3. In those cases where an employee must enter a confined space through a top opening 5 feet or more in depth, the entrants harness must be attached to a mechanical retrieval system designed and rated for entrant rescue.

4. If mechanical retrieval equipment cannot be used, as in the case of a side entry to a confined space, an adequate number of additional employees must be on hand to assist the attendant in the removal of the worker without entering the space.
5. When the use of non-entry rescue equipment becomes infeasible due to specific hazards then alternate entry rescue provisions must be made. This may include the use of a rescue service located onsite.

Entry Rescue

OSHA requires that the entry employer must make sure that the rescue service is able to respond in time to enable the injured worker to receive needed medical attention in light of the hazards present in the permit space.

- The permit space hazards, the work being performed, and whether non entry rescue is employed will be used to determine the level of entry rescue assigned to the permit entry.
- In some cases, entry may require an on-site standby rescue team, such as when the entrant is working in an atmosphere that is immediately dangerous to life or health and is wearing an airline respirator or a self-contained breathing apparatus. Another example is when a rescue service could not respond in a timely manner. Consult the LABELLA Safety Manager for rescue team information.
- For entry rescue, pre-planning will be required to determine who and how of the entry rescue. Provided rescue services must meet specific OSHA training requirements outlined in OSHA 1926.1211(a).

Options for entry rescue teams include:

- LaBella employees specifically trained and equipped to perform rescue. Our company does not currently maintain an entry rescue team and this option currently is not available.
- A host employers team (facility team) who has agreed to perform the service, is available during the entry, and can respond timely
- A qualified contracted trained stand by rescue service located on site. This team is pre-arranged to be on site.
- An emergency service agency (fire department) that provides confined space rescue and can respond timely. The department must be able to respond timely and be trained in permit required confined space rescue.

If the entry employer designates an off-site rescue service, it must determine that the service has the ability and equipment to carry out a rescue in the particular permit space or type of permit space in which the entrant is working. It must contact the rescue service and make sure that it will be able to respond in a timely manner whenever an entrant is in the permit space.

Specific Rescue Procedure

- Procedures for summoning rescue services will be developed for each permit space entry, reviewed with authorized entrants and attendants, and posted at the permit entry site.

Basic Procedure

1. Attendant notifies rescue services
2. Under no circumstances is the attendant to enter the confined space

3. If appropriate, emergency service back-up is notified
4. Attendant takes the following actions:
5. Use rescue equipment for non-entry rescue
6. Activate ventilation system to help clear confined space atmosphere
7. Do not allow anyone except rescue team in confined space
8. Advise rescue team of all information known
9. Barricade off area around confined space for staging rescue
10. Assist rescue team
11. Rescue team tests atmosphere before and during rescue.

Responsibilities
Safety Representatives along with Safety Committee

1. Prepare and maintain the LaBella Confined Space Program.
2. Coordinate training programs for initial and refresher training.
3. Perform an annual review of the program using cancelled entry permits and other information.
4. Maintain cancelled permits for a period of 3 years.

Mangers
1. Be knowledgeable about the requirements of the Confined Space in Construction Program.
2. Perform and/or coordinate the identification and inventory of confined spaces and permit spaces on a project as outlined in the information & evaluation coordination section of this program.
3. Debrief entry employers and communication hazard information to host employers as outlined in the information & evaluation coordination section of this program.
4. Ensure that employees in their area(s) of concern participate in training programs related to the Confined Space Program.
5. Ensure that appropriate Confined Space Program related work practices are followed.

Employees
1. Be knowledgeable about the requirements of the Confined Space in Construction Program.
2. Assist in the identification and inventory of confined spaces and permit spaces on a project as outlined in the information & evaluation coordination section of this program.
3. Understand your responsibility on the team.

Training
1. Confined Space Awareness Training will be provided for LaBella affected employees.
2. Confined Space Evaluation Training will be provided for all employees required to evaluate and inventory confined spaces.
3. Confined Space Entrant, Attendant, and Entry Supervisor training meeting OSHA requirements is required for all employees who perform permit entries.
4. Confined Space Rescue training is required for all persons who make up a confined space rescue team. Annual retraining and drills are required for rescue personnel.

Annual Review
The safety committee will review the program and permits annually. Revisions shall be made on determination of annual review

5.3 Biological Hazards

During the course of the project, there is a potential for workers to come into contact with biological hazards such as insects, plants, and sewage. Workers should be aware of these potential hazards that are discussed below.

5.3.1 Insects

Insects, including bees, wasps, hornets, mosquitoes, ticks, and spiders, may be present at the Site making the chance of a bite possible. Some individuals may have a severe allergic reaction to an insect bite or sting that can result in a life threatening condition. Some insect bites can transmit diseases such as Lyme disease or a virus such as West Nile; any individuals who have been bitten or stung by an insect should notify the SSO. The following is a list of preventive measures:

- Apply insect repellent prior to performing any field work and as often as needed throughout the work shift
- Wear proper protective clothing (work boots, socks and light colored pants)
- When walking in wooded areas, avoid contact with bushes, tall grass, or brush as much as possible
- Field personnel who may have insect allergies shall have bee sting allergy medication on site and should provide this information to the SSO prior to commencing work.

Lyme Disease
Lyme disease is caused by infection from a deer tick that carries a spirochete. During the painless tick bite, the spirochete may be transmitted into the bloodstream often after feeding on the host for 2 to 24 hours. The ticks that cause the disease are often no bigger than a poppy seed or a comma in newsprint. The peak months for human infection are from May to September.

Symptoms appear in three stages. First symptoms usually appear from 2 days to a few weeks after a person is bitten by an infected tick. Symptoms usually consist of a ring-like red rash on the skin where the tick was attached. The rash is often bulls-eye like with red on the outside and clear in the center. The rash may be warm, itchy, tender, and/or "doughy." Unfortunately, this rash appears in only 60 to 80% of infected persons. An infected person also has flu-like symptoms of a stiff neck, chills, fever, sore throat, headache, fatigue and joint pain. These symptoms often disappear after a few weeks. The second stage symptoms, which occur weeks to months later include meningitis, severe headache, drooping of the muscles on the face, called Bell's Palsy, encephalitis, numbness, withdrawal and lethargy. These symptoms may last for several weeks to several months. Third stage symptoms, which occur months or years later include arthritis, heart problems, and loss of memory. The third stage symptoms may mimic multiple sclerosis and Alzheimer's disease.

It is recommended that personnel check themselves when in areas that could harbor deer ticks, wear light color clothing and visually check themselves and their buddy when coming from wooded or vegetated areas. If a tick is found biting an individual, the SSO should be contacted immediately. The tick can be removed by pulling gently at the head with tweezers. If tweezers are not available, cover your fingers (e.g., tissue paper) and use to grasp the tick. It is important to grasp the tick as close to the site of attachment and use a firm steady pull to remove it. Wash hands immediately after with soap and water. The affected area should then be disinfected with an antiseptic wipe. All

mouth parts must be removed from the skin. If the tick is removed with breaking off the mouth parts, an irritation or infection may occur. Also, the organism that is causing the disease can still enter the body through the skin. The employee will be offered the option for medical treatment by a physician, which typically involves antibiotics.

If personnel feel sick or have signs similar to those above, they should notify the SSO immediately. Treatment with antibiotics is effective and recovery is usually complete. In the first stage antibiotics are usually given orally. Second and third stage treatment, however is prolonged and recovery may take longer. Antibiotic treatment is usually provided intravenously for second and third stage Lyme disease.

West Nile Virus

West Nile Virus (WNV) is a mosquito-borne infection transmitted through the bite of an infected mosquito. The symptoms of WNV can be asymptomatic (no symptoms) or in more serious cases can lead to West Nile fever. West Nile Fever can include fever, headache, tiredness, body ache, an occasional rash on the trunk of the body, and swollen lymph glands. In severe cases, people have developed West Nile encephalitis or meningitis which symptoms include fever, headache, neck stiffness, tremors, coma and in some cases death. The incubation period for the disease is usually 2 to 15 days. The symptoms can range from a few days to several weeks. Since the initial outbreak in 1999, the virus has spread rapidly throughout New York State. There are about 65 different species of mosquitoes in New York State, but only a small percentage has been associated with the WNV. Most mosquitoes are not infected and the chance of infection from a mosquito bite of an on-site worker is very small. All residents of areas where virus activity has been identified are at risk of getting WNV, but those of the highest risk for becoming seriously ill from WNV are people over 50 and individuals with some immunocompromised condition (transplant patients).

The following precautions will be used to help reduce the risk of mosquito bites:

- Reduce mosquito-breeding areas by making sure wheelbarrows, buckets, and other containers are turned upside down when not used so that they do not collect standing water.
- Wear shoes, long pants with bottoms tucked into boots or socks, and a long-sleeved shirt when outdoors for long periods of time, or when many mosquitoes are most active (between dawn and dusk).
- Use mosquito repellant according to the manufacturer's directions when outdoors for long periods of time and when mosquitoes are most active.

5.3.2 Plants

The potential for contact with poisonous plants exists when performing fieldwork in undeveloped and wooded areas. Poison ivy, sumac, and oak may be present on site. Poison ivy can be found as vines on tree trunks or as upright bushes. Poison ivy consists of three leaflets with notched edges. Two leaflets form a pair on opposite sides of the stalk, and the third leaflet stands by itself at the tip. Poison ivy is red in the early spring and turns shiny green later in the spring. Poison sumac can be present in the form of a flat-topped shrub or tree. It has fern-like leaves, which are velvet "down." Poison sumac has white, "hairy" berry clusters. Poison oak can be present as a sparingly branched shrub. Poison oak is similar to poison ivy in that it has the same leaflet configuration; however, the leaves have slightly deeper notches. Prophylactic application of Tecnu® may prevent the occurrence of exposure symptoms. Post exposure over the counter products are available and should be identified at the local pharmacist. Susceptible individuals should identify themselves to the SSO.

Contact with poison ivy, sumac, or oak may lead to a skin rash, characterized by reddened, itchy, blistering skin which needs first aid treatment. If you believe you have contacted one of these plants, immediately wash skin thoroughly with soap and water, taking care not to touch your face or other body parts.

5.4 Hazard Analysis

This section includes an active hazard analysis (AHA) to assess and control potential site hazards for each general project task.

WORK TASK	POTENTIAL HAZARDS	CONTROLS
Activity: Site Mobilization/Demobilization		
Site Mobilization/Demobilization	Biological hazards	Proper clothes, body inspection, repellant
	Slip, Trip, and Fall Hazards	Identify and repair potential tripping hazards. Maintain safe and orderly work area.
	Adverse Weather	Monitor weather daily. Discontinue work as necessary based on lightning, limited visibility, impaired mobility, etc.
	Noise	Distance from noise, hearing protection.
	Heat/Cold Stress	Acclimatization, work/rest regimes, drinking warm/cold fluids.
Activity: Excavation, Remediation, Disposal of Waste, and Sample Collection		
Excavation, Remediation, Disposal of Waste, Environmental Monitoring, and Sample Collection	Proximity to heavy/drilling equipment	Distancing, safe work practices, inspections, wear hearing protection.
	Trenching and Excavation	Place soil stockpiles away from edge of excavation. Identify depth of excavation and slope of excavation sidewalls to determine potential hazards.
	Slip, Trip, and Fall Hazards	Identify and repair potential tripping hazards. Maintain safe and orderly work area.
	Adverse Weather	Monitor weather daily. Discontinue work as necessary based on lightning, limited visibility, impaired mobility, etc.
	Noise	Distance from noise, hearing protection.
	Heat/Cold Stress	Acclimatization, work/rest regimes, drinking warm/cold fluids.
	Contaminant contact	Wear protective coveralls (e.g., Tyvek®) (only if deemed needed by SSO) with shoe covers, nitrile gloves, and safety glasses when handling samples. Dispose of gloves after sampling.
	Exposure to PCBs	Avoid direct contact by use of PPE. If dust generation is anticipated, specific controls will be in place to prevent dust generation. Dust control measures (water spray, soil covers, slower work pace, or change in work activities) will be deployed prior to resuming work.
	Underground Utilities	Call in *Dig Safely* utility mark-out, conduct private utility mark-out, review utility layout prior to digging, hand clear utilities, hand dig soil near electric, use GPS to mark out utilities.

WORK TASK	POTENTIAL HAZARDS	CONTROLS
	Loading of Soil and Truck Traffic Control	Use spotter to keep loading area clear, wear high visibility vest, place cones around loading area, direct traffic flow.
	Subsurface hazards	Call in Dig Safely Stakeout, review available utility plans.
	Contact with equipment, especially moving parts. Overhead hazard (rods).	Stay alert and maintain suitable clearance from moving and overhead equipment and power lines. Do not wear loose clothing, jewelry, or equipment, which could get caught by moving equipment. Inspect equipment daily. Train all personnel on use of emergency shutoff switches
	Manual lifting	Use proper lifting technique.
	Biological hazards	Proper clothes, body inspection, repellant
	Confined Space	Review potential hazards and complete entry permit included in Appendix 4.

6.0 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.

Prior to commencement of field activities, the SSO will ensure all field personnel assigned to the project will have completed training that will specifically address the activities, procedures, monitoring, and equipment used in the site operations. This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity. LaBella personnel that have not received site-specific training will not be allowed on site.

Project personnel and visitors will be given health and safety briefings daily by the SSO to assist site personnel in safely conducting work activities. The briefings will include information on new operations to be conducted, changes in work practices or changes in the site's environmental conditions, as well as periodic reinforcement of previously discussed topics. The briefings will also provide a forum to facilitate conformance with safety requirements and to identify performance deficiencies related to safety during daily activities or as a result of safety inspections. The meetings will also be an opportunity to periodically update the crews on monitoring results.

7.0 PERSONAL PROTECTIVE EQUIPMENT

Generally, site conditions at this work site require protection Level D PPE, or modified Level D PPE. However, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 8.0). Descriptions of the personal protective 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:
Includes Level D PPE and also full or ½-face respirator and Tyvek suit (if necessary). [*Note: Organic vapor and HEPA filter cartridges are to be changed after each 8-hours of use or more frequently.*]

8.0 AIR MONITORING

VOC and Dust monitoring will be conducted in accordance with New York State Department of Health (NYSDOH) Community Air Monitoring protocol outlined in DER-10 Technical Guidance for Site Investigation and Remediation
.

9.0 EQUIPMENT DECONTAMINATION

PPE helps prevent the wearer from becoming contaminated or inhaling contaminants, and good work practices help reduce contamination on protective clothing, instruments, and equipment. Even with these safeguards, contamination may occur. Harmful materials can be transferred to clean areas, exposing unprotected personnel. To prevent such occurrences, the following contamination reduction and decontamination procedures have been developed.

9.1 Minimization of Contact with Contaminants

During completion of all site activities, personnel should attempt to minimize the degree of contact with contaminated materials. This involves a conscientious effort to keep "clean" during site activities. All personnel should minimize kneeling, splash generation, and other physical contact with contamination. This may ultimately minimize the degree of decontamination required and the generation of waste materials from site operations.

9.2 Personnel Decontamination

Personnel hygiene, coupled with diligent decontamination, will significantly reduce the potential for exposure. Consideration will be given to prevailing wind directions so that the decontamination line, the support zone, and contamination reduction zone exit is upwind from the exclusion zone and the first station of the decontamination line. Decontamination will be performed by removing all PPE used in EZ and placing in drums/trash cans at CRZ. Disinfecting hand wipes shall be available for wiping hands and face. For Level D Decontamination, personnel should wash and rinse gloves, and use anti-bacterial wipes/gel and wash and rinse hands and face with potable water. For Level C Decontamination, personnel should wash and rinse gloves and over boots, remove boot covers, remove outer gloves, remove Tyvek® splash-resistant suit or chemical resistant clothing, wash inner gloves, remove respirator, rinse inner gloves, remove inner gloves and wash and rinse hands and face.

If exposed to subsurface soils, wash with soap and water.

9.3 Hand Held Equipment Decontamination

Hand held equipment includes all monitoring instruments, samples, hand tools, and notebooks. The hand held equipment is dropped at the first decontamination station to be decontaminated by one of the decontamination team members. These items must be decontaminated or discarded as waste prior to removal from the exclusion zone.

To aid in decontamination, monitoring instruments can be sealed in plastic bags or wrapped in polyethylene. This will also protect the instruments against contaminants. The instruments will be wiped clean using antibacterial wipes and paper towels if contamination is visually evident.

Decontamination procedures for sampling equipment, hand tools, etc., shall include the use of steam cleaning or a detergent wash, as appropriate for the site conditions. All liquids generated in the decontamination will be stored at the Site in drums and then disposed of at an approved facility in accordance with federal, state and local regulations. Personnel performing this task will wear the proper PPE.

9.4 Heavy Equipment Decontamination

Decontamination of chemically contaminated heavy equipment will be accomplished using high - pressure steam or dry decontaminated with brushes and shovels. Decontamination shall take place on a decontamination pad and all liquids used in the decontamination procedure will be collected. Vehicles or equipment brought into an exclusion zone will be treated as contaminated, and will be decontaminated prior to removal. All liquids used in the decontamination procedure will be stored at the Site in drums and then disposed of at an approved facility in accordance with federal, state and local regulations. Personnel performing this task will wear the proper PPE.

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 and wait at the assigned 'safe area'. 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.

APPENDIX 1

Site Contact List

SITE CONTACTS AND EMERGENCY CONTACTS LIST

LaBella Associates, DPC Personnel		
Environmental BCP and Phase II Manager	Dan Noll, PE	Office: 585-295-6611
Project Manager	Michael Pelychaty, PG	Office: 585-295-6253
Site Safety Officer	To Be Determined	
Environmental Safety Manager	To Be Determined	
Safety Coordinator	Steve Szymanski	Office: 585-295-6633
Emergency Contacts		
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	Strong Memorial Hospital	585-275-4551
Poison Control Center:	Finger Lakes Poison Control	585-273-4621
Police (local, state):	Monroe County Sheriff	911
Fire Department:	City of Rochester Fire Department	911

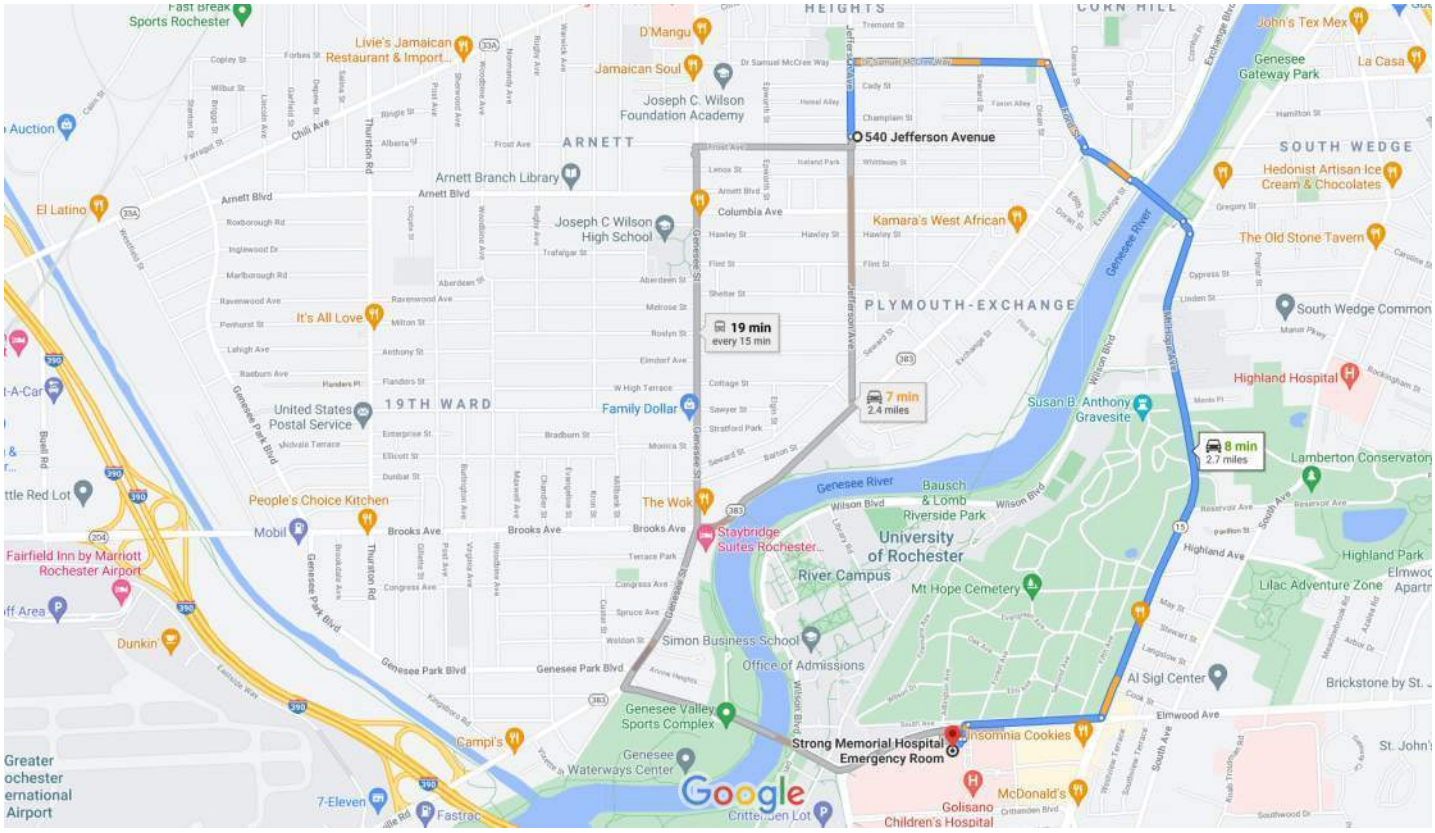
APPENDIX 2

Directions to Hospital

Google Maps

540 Jefferson Ave, Rochester, NY 14611 to Strong Memorial Hospital Emergency Room

Drive 2.7 miles, 8 min



Map data ©2021 1000 ft

540 Jefferson Ave

Rochester, NY 14611

1. Head north on Jefferson Ave toward Ruff Alley

   29 s (0.2 mi)

2. Turn right onto Dr Samuel McCree Way

   2 min (0.5 mi)

Continue on Ford St. Take Mt Hope Ave to Thomas H Jackson Drive

5 min (2.0 mi)

3. Turn right onto Ford St

   0.2 mi

4. At the traffic circle, continue straight to stay on Ford St

   0.1 mi

5. Continue straight to stay on Ford St

   0.2 mi

6. Turn right toward Mt Hope Ave

   187 ft

7. Turn right onto Mt Hope Ave

1.2 mi

8. Turn right onto Elmwood Ave

0.3 mi

Continue on Thomas H Jackson Drive to your destination

54 s (348 ft)

9. Turn left onto Thomas H Jackson Drive

213 ft

10. Turn right

49 ft

11. Turn left

Destination will be on the left

85 ft

Strong Memorial Hospital Emergency Room

601 Elmwood Ave, Rochester, NY 14642

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

APPENDIX 3

Daily Trench Inspection Form

DAILY TRENCHING INSPECTION FORM

LOCATION:	DATE:
TIME OF INSPECTION(S)	
WEATHER CONDITIONS:	APPROX. TEMP.:
SUPERVISOR/FOREMAN:	SUPERVISOR:

DIMENSIONS:	DEPTH =		
	TOP =	W	L
	BOTTOM =	W	L

SOIL TYPE:	TESTED:
❑ Solid rock (most stable)	❑ Yes
❑ Average soil	❑ No
❑ Fill material	
❑ Loose sand	

PROTECTION METHODS:

(Walls MUST be vertical—NO voids)

SHORING

- ❑ Timber
- ❑ Pneumatic
- ❑ Hydraulic
- ❑ Screw Jacks
- ❑ Trench Shield

UNEVEN, IRREGULAR WALLS

- ❑ Trench Box
- Sloping: q 1:1 (45˚) q 1 ½:1 (34˚)

Yes	No	HAZARDOUS CONDITIONS
❑	❑	Saturated soil / standing or seeping water
❑	❑	Cracked or fissured wall(s)
❑	❑	Bulging wall(s)
❑	❑	Floor heaving
❑	❑	Frozen soil
❑	❑	Super-imposed loads
❑	❑	Vibration
❑	❑	Depth greater than 5'

PLACEMENT OF SPOILS & EQUIPMENT

❑	❑	Spoils at least 2 feet from edge of trench
❑	❑	Equipment at least 2 feet from edge
❑	❑	Backhoe at end of trench
❑	❑	Compressor, etc. at remote location

LADDER LOCATION

❑	❑	Located in protected area
❑	❑	Within 25 feet of safe travel
❑	❑	Secured
❑	❑	Extends 36 inches above the landing
❑	❑	Leads to safe landing

Yes	No	ENVIRONMENTAL CONDITIONS:
❑	❑	Potential hazardous atmosphere?
❑	❑	Gas detector used?

		OTHER:
❑	❑	Shoring equip.& materials inspected prior to use?
❑	❑	Is trench SAFE to enter?

COMMENTS:

NOTE All unsafe conditions must be corrected prior to trench entry. If any hazardous conditions are observed, the trench must be immediately evacuated and no one allowed to re-enter until corrective action has been taken.

To be completed prior to each shift and after each rain storm.

TO BE FILLED OUT BY SUPERVISOR/FOREMAN

Excavation Entry Authorized By:

_____

Supervisor/Foreman

APPENDIX 4

Confined Space Entry Permit

ENTRY PERMIT

Project Name:			
Permit Confined Space Description:			
Location of Permit Required Confined Space:			
Purpose of Entry:			
Date of Entry:		Permit Expiration Time:	
Entry Time:		Exit Time:	

Permit Space Hazards
(Indicate specific hazards with checkmark)

_____Oxygen deficiency (less than 19.5 %)
_____Oxygen enrichment (greater than 23.5 %)
_____Flammable gases/vapors (greater than 10 % of LEL)
_____Carbon Monoxide greater or = to 25 ppm
_____Hydrogen Sulfide greater or = to 10ppm
_____Mechanical hazards
_____Electrical hazards
_____Engulfment hazards
_____Other hazards: _____

Equipment Required For Entry and Work
(Specify as required)

{ } Hardhat { } Face Shield
{ } Safety Glasses { } Gloves
{ } Goggles { } Other _____

Respiratory protection: _____
Atmospheric testing/monitoring: _____
Communication: _____
Non Entry/Rescue Equipment: _____

Preparation for Entry
(Check after steps have been taken)

_____Notification of affected departments of service interruption

_____Isolation methods

{ } Lockout/tagout { } Barriers
{ } Blank/blind { } Ventilate
{ } Purge/clean { } Atmospheric Test
{ } Inert { } Other _____

_____Personal awareness

{ } Pre-entry briefing on specific hazards & control methods
{ } Notify contractors of permit & hazard conditions
{ } Other Permits: _____
{ } Hot work
{ } Line breaking
{ } Other: _____

Communication/Alarm Procedures
(To be used by attendants and entrants)

Entry Supervisor
(List by name)

Authorized Entrants
(List by name or attach roster)

Rescue Services

Name of Service	Phone Number	Method of Contact

Authorized Attendants
(List by name)

Testing Record

PRE-ENTRY

	Acceptable Conditions	Result ___: ___ AM/PM	Result ___: ___ AM/PM	Result ___: ___ AM/PM	Result ___: ___ AM/PM	Result ___: ___ AM/PM	Result ___: ___ AM/PM
Oxygen-min.	> 19.5% - < 23.5%						
Flammability	<10% LEL/LFL						
CO	<25ppm						
H2S	<10ppm						
Other (list below)							
Tester Initials							

Monitor Make/Model:_____

Monitor Serial Number:_____ Monitor Calibration Date:_____

Additional Comments:_____

_____

_____

Authorization By Entry Supervisor: Authorization below indicates that the appropriate steps have been taken to minimize the risk associated with confined space entry and all persons related to this entry have been trained on the nature of the hazards and controls involved with this entry.

_____ _____ _____

Printed Name Signature Date/Time

Permit Terminated: Date/Time: _____

Note:

1. Permit must be completed before entry.
2. Permit must be posted at location of entry.
3. Permit valid for 8 hours only.
4. Return permit to project file and your manager when terminated.